INDEX

OF THE

Mycological Notes

OF

C. G. LLOYD

VOLUME VII

1922 - 1925

CINCINNATI, OHIO
1929

CONTENTS

MYCOLOGICAL NOTES

ARRANGEMENT

(Binding in the following order is suggested.)

Index to Vol. VII.
Pages 1105 to 1364.
Plates 186 to 344.

CORRECTIONS

Page 1129, Note 1067. See page 1167.
Page 1218. First line, first column. See page 1268.
Page 1218. First line, second column. Read **Polyporus squamosus.**
Page 1234. Second paragraph, first column. Read **Trichocoma paradoxa.** See correction page 1291.
Page 1363. Third paragraph, first column. Read **Tremella carneocolor.**
Fig. 2550. Change title to **Aleurodiscus australiensis.**

This index to Volume 7 of the Mycological Writings of Mr. C. G. Lloyd has been prepared on a somewhat simpler plan than that followed by Mr. Lloyd for preceding volumes, but it is felt that it will be none the less useable. References to illustrations in particular have been omitted, but can be readily located by referring to the text covering any desired fungus species.

JOHN A. STEVENSON,
Custodian,
The C. G. Lloyd Mycological Collection.
Washington, D. C.

Index to Mycological Notes of C. G. Lloyd

Volume VII

INDEX TO MYCOLOGICAL NOTES

INDEX TO MYCOLOGICAL NOTES

INDEX TO MYCOLOGICAL NOTES

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 66 (Vol. 7 No. 1) FEBRUARY, 1922

BACK TO THE PRINTERS AGAIN

Our readers will probably be pleased to note that with this issue (the first of Volume 7), we have abandoned the mimeograph and gone back to the printers. The mimeograph served a useful purpose when printing was so high it was prohibitive, but under normal conditions printing is more satisfactory. We shall not change the size back, however, for we find the present much more convenient in making up the plates than the smaller size.

The last issue (65) completed Volume 6 of our writings. The index has not yet been issued, but is now in the printer's hands, and will be mailed shortly. Please note that this issue (66) is not to be included in binding Volume 6.

We have recently reprinted several of the back numbers and can now supply missing numbers to complete sets for those who wish to bind their sets. We can not undertake, however, to supply complete sets for those that do not have most of the back numbers.

PROFESSOR W. A. SETCHELL

We are pleased to present in this issue the photograph of Professor W. A. Setchell who holds the Chair of Botany in the University of California. We solicited the photograph of Professor Setchell several years ago, but it was only recently that he consented to send it, his previous refusal being due doubtless to motives of modesty.

Professor Setchell has paid considerable attention to mycology, particularly to the hypogeal fungi, and one of his students has issued what we judge is a very valuable paper on this subject.

We are especially pleased to present Professor Setchell's photograph to our readers, as it has developed recently that he is not in sympathy with our views as expressed in the Myths of Mycology. We, of course, accord to Professor Setchell the right to entertain his own views on the subject, and as a matter of truth, the pamphlet has not been indorsed by many mycologists (other than the author), although most of them in correspondence have expressed themselves as having secured considerable amusement from it and have taken it in good humor.

We append herewith copy of a letter received from the late Professor Tracy, the receipt of which afforded me considerable pleasure although as will be noted, Professor Tracy did not fully indorse my views.

"I have just read your 'Myths of Mycology, Part 1 for the 'steenth' time, and every time I read it I get madder and enjoy it more. You say many things which are pitiably true—and other things in which I wholly disagree with you. I specially object to what you call 'advertising' by placing one's name after the description of a species. To me, the name is half the value of the description. If a new species of rust is published by Arthur, or a new smut by Clinton, both of whom have studied these groups many years, and have material, conveniences and ability for discriminating species in their respective groups, I have implicit confidence that they are describing something heretofore unrecognized; but if a similar description is published by J. Alphonso Montmorenci, a sophomore in Siwash College, I give it no attention. He may be all right but I do not know him or his work. 'The man behind the gun' is the man who counts. I can judge the value of a publication only by knowing the author. You are certainly wrong in wanting such signatures abolished.

Pardon this unasked criticism, and please send me all your future publications."

PROFESSOR A. YASUDA

We have presented many photographs of mycological workers in the past but this is the first time we have had the pleasure of reproducing the photograph of one of our Japanese friends. As the readers of Mycological Notes know, Professor Yasuda is a most active student of mycology in Japan, and our museum has been enriched by many rare specimens of his collection. Professor Yasuda is evidently a close student of the subject and we hope will some day issue a systematic work on Japanese fungi. He occupies the position of Professor of Botany in the Botanical Institute of Second Higher School, Sendai, Japan, and has a practical knowledge of both English and German. Indeed it has always been a mystery to me the facility and accuracy with which our Japanese correspondents handle the English. We are the more impressed with it because in our own case we have so much trouble with languages.

Panus conglomeratus from W. A. Archer, New Mexico.—(Fig. 2018.) Pileus growing conglomerate from a hard, sclerotoid base. Color of dried plant brown. Surface glabrous. Gills close with entire edges. Spores hyaline, smooth, cylindrical, straight, 4 x 12.

There is widely distributed and much named in the tropics a Lentinus (L. Tuber-regium, Myc. Notes page 666, fig. 959) which is produced from a sclerotium but that is the only plant similar to this known. This has no resemblance to it except in having a sclerotoid base, and from its more brittle texture and entire gills must be classed in Panus instead of Lentinus. It is the second agaric with a large sclerotium that is known. The sclerotium is of pale context, no doubt white when fresh, brittle texture and composed of branched, hyaline hyphae. We presume the presence of a sclerotium in this plant is an adaptation for the semi-arid region in which it is developed. Our photograph does not bring out the sclerotium as plainly as we would wish as it merges into the background.

Lenzites Huensis from H. H. Hu, China.—(Fig. 2020.) We get so many specimens of Lenzites repanda and its hymenial form is rather constant as shown. (Fig. 2019.) This specimen from Prof. Hu impressed us at once as different, but the difference is best shown in contrast by our enlarged figures of the pores. Lenzites Huensis (Fig. 2020) is probably the Chinese expression of Lenzites repanda but does not occur elsewhere as far as known. It is close also to Lenzites Japonica of Japan but of quite different hymenium. Rarely Lenzites repanda takes varying forms in same collection. Cfr. Myc. Notes page 1004.

Lentinus Elmeri from Otto A. Reinking, Philippines.—(Fig. 2022.) This was named from the Philippines and we have a co-type. It belongs in Section 9 (scaly pileus) and a section with but few species. The main characters are the dense, small scales on the pileus. The gills and general color of the plant are yellowish.

Lentinus Elmerianus from Otto A. Reinking, Philippines.—(Fig. 2021.) This species has a yellow pileus covered with small appressed scales and a mesopodial black stem. It is a plant of a different statute and black stem, otherwise so close to the preceding which we name a similar name to indicate its relation. Lentini with scaly pilei are rare.

Lenzites ochracea from Rev. J. Rick, Brazil.—(Fig. 2023.) While this is a form of Lenzites flaccida for me and the latter a pale form of Lenzites betulina I think this is entitled to a name and surely does not occur in Europe. It is thin, context not a mm. thick and gills narrow 2 mm. The surface is pubescent with indistinct zones and the color yellow. Gills are white with yellowish cast. It only differs from Lenzites furcata and Lenzites tenuis in its color.

Lentinus fusco-exactus from H. A. Lee. Collected by Peter Nelson in Guam.—(Fig. 2024.) Yellow-brown, infundibuliform, glabrous, the margin (of one specimen) striate. Stem short, mesopodial, concolorous. Gills rather broad, yellow-brown with a narrow dark edge and under a glass serrate. No spores nor cystidia seen.

This plant to the eye is so close to Lentinus scleropus (Cfr. Letter 47) named by Persoon from Brazil that I hesitate to propose it as different. However, the gill differences seem to me to be of sufficient importance.

Lentinus revelatus from H. A. Lee, Philippines.—(Fig. 2025.) Infundibuliform, with smooth surface and close, narrow gills. Stipe and pileus top disposed to blackening, no doubt in drying.

This is the first collection from the Philippines and it seems to be rare in the East. I collected it, however, in Samoa.

Pterula Luzonensis from Otto A. Reinking, Philippines.—(Fig. 2026.) Grew in the ground with a deep rooting base. Stem slender, rigid, terminating in a few spreading branches. Hairs or cystidia none. Spores globose, 8 mic., hyaline, smooth.

Our figure will show this so well that it can not be confused. I find no basidia and the spores cling to the branches in masses, hence it is doubtful to my mind if it is really a Basidiomycete. Based on Reinking 10511 collected on Mt. Maquiling, Luzon, by T. Dadufalza.

Lachnocladium Jansenianum from H. A. Lee, Philippines. Collected in North Borneo by J. Agama.—(Fig. 2027.) There is an evident figure of this on plate 11 of Holterman's Java from which I get the name. It was published as Clavaria but compiled in Saccardo as Lachnocladium which is better for it is not fleshy like a Clavaria. The peculiarity of a thick stem with small branches I have not noted elsewhere. A section of the branches shows a pithy center of loose, hyaline hyphae. A peripheral zone, more dense (about 200 mic. thick), with parallel hyphae from pith to surface and a hymenial zone of palisade basidia. Spores not surely found by me. The surface is dull to the eye and the hairs are more like projecting hyphae. While the specimen has not such a thick trunk as Holterman shows I do not question it is the same thing.

Lenzites pertenuis from H. A. Lee, Philippines.—(Fig. 2028.) Surface greyish brown, minutely pubescent. Context very thin, white. Gills narrow, distant, white.

This is on the same order as Lenzites betulina but very thin and reduced gills. A section shows the gills about ½ mm. thick and broad with about same interspaces.

Lenzites furcata.—(Fig. 2029.) In connection with this species from the Philippines we present photographs of the old (and rare) Lenzites furcata which was published by Fries (as Daedalea) among the first foreign species. It came from Beyrich, Brazil, and is preserved in good condition to this day at Berlin in Herb. Link. The context is white and the photograph tells the remainder. The main feature is the close,

narrow, furcate gills. Excepting the type I only recall one other collection, Mexico. C. T. Smith, which was named Lenzites betuliniformis by Murrill, but nearly eighty years too late.

Rimbachia spadicea from Nelson A. Nunez Valdez, Ecuador.—(Fig. 2030 and Fig. 2031, hymenium enlarged.) This is quite close to Rimbachia cyphelloides (Myc. Notes page 802), but differs in having a long stem and light, reddish-brown color. In other respects the hymenium, etc., seems to me exactly the same. There are two points about this "genus" that are not clear to me. First is it sure that the hymenium is "superior"? That is the case, of course, if it grows on the upper side of the host, but it may grow from the lower side. Second I have spent considerable time in sectioning and I am not sure it has clavate basidia. I do not find them but abundant, globose bodies which are either basidia or conidial spores. My first impression was basidia, and I wrote a long account of a "new genus," but afterwards concluded it was too uncertain to print.

Grandinia cervina from Nelson A. Nunez Valdez, Ecuador.—(Fig. 2032.) Resupinate, cervine to our mind but about isabelline of Ridgway. Margin even. When dry the warts are permanent, rather distant and darker than interspaces. Soaked (Fig. 2033 enlarged) they appear closer and concolorous. Context concolorous. Hymenium a palisade layer of narrow, hyaline basidia which extends uniformly over the warts and interspaces. Cystidia none. Spores allantoid, hyaline.

A hand glass examination shows warts of a different appearance from any I have seen. A section (Fig. 2034 diagram) shows the hymenium extends over the granules and between them, thus demonstrating that its relations are closer to Thelephoraceae than to Hydnaceae where Grandinia is usually classed. Most Grandinias, however, have the apices of the warts with projecting hyphae and belong to Hydnaceae. It would be folly for us to propose this as a new species as we know nothing of value about the named species of resupinate foreign Thelephoraceae or Hydnaceae and we do not believe any one else does. The named "species" are simply named collections, same as this and that is all any one knows about them.

Hydnum singaporensis from T. F. Chipp, Singapore.—(Fig. 2035.) This impressed me as something unusual, gelatinous I thought before I soaked it. As received it was a brown plant, but Mr. Chipp's notes are "Pileus and context white." Gelatinous Hydnum suggests Tremellodon at once but I find the basidia forming a palisade layer and not different from other Hydnums. Excepting the sub-gelatinous and soft texture the plant could be compared to Hydnum Rawakense, the usual dimidiate species of the tropics. Mr. Chipp records the spores as hyaline, oblong, smooth, 3 x 5 mic. I do not find these but unusually minute, hyaline spores, 1 x 2. I presume conidial only. This is a single specimen but I am convinced it is out of the ordinary. Berkeley named so many foreign collections I presume he thought he had them all and he did have all the common ones, and most of them named several times. But a good collector in the tropics will find a lot that are not named and a lot of rare things that probably no one will ever find again and the chances are would not know if they did. This species should be compared if one should find a Hydnum similar to the common Hydnum Rawakense but with sub-gelatinous texture.

Mucronella ramosa from Dr. R. P. Burke, Alabama.—(Fig. 2036 enlarged.) No doubt white when fresh, growing gregarious on decorticate wood, small, 2-3 mm. Plants growing together at the base it appears as if it consists of branched individuals. Subiculum none. Basidia club-shaped, palisade, hyaline. Cystidia none. Spores 3 x 6, hyaline, smooth. To the eye it is similar to Mucronella aggregata (Myc. Notes page 531) but separate plants appear as if branched and this is the only Mucronella that grows in this manner. It has no subiculum which is fortunate as it can be put in Mucronella on this feature. If it had a subiculum a "new genus" would have to be made for it which would be unfortunate.

Clavaria capitata from E. J. Semmens, Australia.—(Fig. 2037.) Color pale tan, unicolorous. Stem slightly sulcate, few branched. Branches terminating in subglobose heads, bearing the hymenium. Spores 7 x 14-16, if colored very pale, smooth, lateral apiculate at base. This evidently grows from the ground. Color, which Mr. Semmens states "has not changed much" is the isabelline color that most white plants take in drying, nothing distinctive. The idea, however, of a Clavaria not having the hymenium over stems or branches, but confined to terminal heads is a new one, I think, in Clavarias, hence could be made a "new genus" (Capitoclavaria capitata, McGinty) or for jugglers of the Quélet type could be called Ramaria capitata.

Hydnum pygmaeum from A. Yasuda, Japan.—(Fig. 2038.) Plant very small, about 1 cm. tall, growing in the ground. Pileus mesopodial, infundibuliform. Surface pubescent (under a lens) greyish purple (teste Yasuda) when fresh, dark when dry. Stipe short, smooth, black. Spines light color, regular under a lens. Spores globose, tubercular, hyaline, about 4 mic.

This diminutive little plant is best characterized by its small size. Nothing similar in Europe or with us (or described as far as I know). We present (Fig. 2038) a photograph of the dried plant, but of course it does not show much detail of this little species excepting the general size.

Phlebia castanea from L. Rodway, Tasmania.—(Fig. 2039.) Resupinate, chestnut brown when soaked, with a narrow growing white margin. Surface when soaked with adpressed ridges close to Phlebia radiata but not so arranged. Subiculum white. Hymenial surface in section variegated white and colored but I do not understand it exactly. Basidia palisade, hyaline. Spores hyaline, smooth, 3 x 6.

Men formulate their ideas of genera in fungi but Nature does not pay much attention to their schemes. I am in doubt whether to classify this as Phlebia, Radulum or Merulius and it is not exactly either. The same question came up as to Phlebia meruloides (Myc. Notes page 537). The dried plant, however, has the same general hymenial appearance as the common Phlebia radiata and I think best so classed. The color, however, is distinctive. I first received this plant from E. J. Semmens, Australia, and named it in mss. Merulius dubuis, but it was such a doubtful Merulius I never published it.

Eucronartium muscicola from A. R. Bechtel, New York.—(Fig. 2041.) These little white clubs growing on Sphagnum are probably not rare but are rarely collected. It is an old well-known species and was called Typhula muscicola by Fries. Fries alleged that it is the same that Persoon named Clavaria muscicola, but referring to Persoon's figure and account it is certainly not correct, though as far as I have any record "Clavaria muscicola" has never been collected since Persoon illustrated it (1799). Before the days of the basidia experts, it was a Typhula, but Atkinson discovered that it had circinate basidia, on the order of Septobasidium, and exploited it at great length. He also discovered it was a "new species" and called it Eucronartium typhuloides. Professor Fitzpatrick also had an extended article on it and was the first to refer it to the old species of Fries. Mr. Bechtel's specimen is young and no basidia yet found. We should be glad to have mature specimens.

Lenzites Yoshinagae from T. Yoshinaga, Japan.—(Fig. 2042.) If our figure be compared with that of Lenzites stryacina (page 860, Fig. 1443), one would suppose them to be the same. But there is a marked difference. This is a white plant with white, minutely pubescent surface. The top looks like the common Schizophyllum commune. Lenzites stryacina has a chestnut brown, smooth surface. Both have same gills, which are white, distant and rigid and exceptional in this genus. Both have pale context and yet I can not believe there is any connection between them. Both species are only known from Japan. This is based on collection of Professor Yoshinaga (No. 15), made on Mt. None, Tosa, Japan.

Myxomycidium pendulum from L. Rodway, Tasmania.—(Fig. 2043.) This is part of the original collection which was published as above and it is evident that Massee named it, hence they write "Massee" after it, but he added nothing to the original notes from Mr. Rodway, as follows:

"On rotten wood. Pendulous, very watery and delicate. Stipitate, clavate, 1-1½ mm. Hyaline, the base tinged with ochre. Basidia tetrasporus. Spores reniform, oval, colorless, 5-6 x 10 mic. Always watery and consistency much more watery than any Clavaria we have."

We reproduce Mr. Rodway's original sketch (Fig. 2044) which is more characteristic than the photographic (Fig. 2043) we made from alcoholic material. The plant is a true Clavariaceae as Mr. Rodway decided and has no analogy to the Tremellaceae as suggested when compiled in Saccardo. No similar plant has since been discovered or at least published. We made the spores to be subglobose 5-6 mic. but they may have been changed by the liquid.

Polyporus aureofulvus from G. H. Cunningham, New Zealand.—(Fig. 2045.) Color orange rufous (Ridgway). Pileus soft, subglobose, irregular, incrusting grass stems. Pores medium shallow. Spores hyaline, 3 x 4, smooth. When we wrote our Apus pamphlet but two orange species were known. This is the fourth to be added to the section (No. 92.) Polyporus lateritius from Australia (Letter 67, Note 656), Polyporus aureus from Chile (Letter 66, Note 591) and Polyporus Shiraianus named by Hennings from Japan. In reference to the latter an error was made in our writings and also by Murrill. Hennings described Polyporus Shiraianus from Japan and left a specimen of Polyporus aurantiacus from Japan so labeled which was the only one either Mr. Murrill or I found at Berlin and we both took it for the type and a synonym. On my last visit to Berlin, however, I found the type of Polyporus Shiraianus and it is a different plant from Polyporus aurantiacus and a valid species. The custom in vogue at Berlin of lending historical specimens leads to just such errors as this. Polyporus aureofulvus (G. H. Cunningham, New Zealand No. 27) "grew on the ground amongst grass under a hollow log." It is evidently incrusting in its nature and irregular in form, so that our photograph will not tell much.

Fomes atro-albus from E. D. Merrill, Philippines.—(Fig. 2046.) I believe the only other collections known are from Java where it is rare. We illustrated it, Fomes Synopsis, page 219, from the type, but as the Philippine collection is more characteristic and is an evident Fomes, we give a figure from these specimens. The context is pale isabelline. It has no cystidia and I do not find the spores. The plant is very close to Fomes Clelandii of Australia and Fomes scutellatus with us in the States.

Daedalea Boseii from Professor S. R. Bose, India.—(Fig. 2047.) This has the yellow coloration of Daedalea flavida and Daedalea Dregeana and the configuration of Daedalea quercina. We compared it with many specimens of the polymorphic Daedalea flavida before deciding that it could not be a form of this plant. As to Daedalea quercina which the photograph suggests there is never anything yellow about our common species. (Section 146.)

Polyporus propinquus from L. J. K. Brace, Bahamas.—(Fig. 2048.) Pileus of several confluent pilei from a common stem, about a foot in diameter. Context brittle, isabelline, both in texture and color, similar to Polyporus Berkeleyi. Pores minute, concolorous. Cystidia none. Spores hyaline, smooth, 4 x 5 mic.

This plant is so close to Polyporus Talpae that our figure 449 (Stipitate Polyporoids page 149) could be taken for either. It is a lighter plant (both color and texture) than Polyporus Talpae and has pale subhyaline hyphae which (some at least) are deep colored in Polyporus Talpae. The stem of this specimen is short and thick. There appears to have been a reddish brown cuticle on the young plant which has disappeared excepting a few patches. The cuticle in color suggests section Ganodermus but the spores forbid.

Sclerotium of Polyporus tuberaster from Burtt Leeper, Ohio.—(Fig. 2049.) This was found by Mr. Leeper on the roots of a linn tree that had blown over. While Polyporus tuberaster is not known from the States we believe on comparison that this is the same tuber (called Pietra in Italy) that produces the celebrated Polyporus used as food in Italy and figured by old Micheli (1729). We gave an account and figure of it in our Ovinus pamphlet. As we now compare this tuber with the Italian tuber it appears to be exactly the same. If so, is it not strange that we have the tuber and no one ever found the sporophore. Only a few months ago we recorded probably the same thing from Manitoba (Cfr. Myc. Notes, page 954) but outside of this record and one from Australia and one (not confirmed) from Japan, Polyporus tuberaster is only known from Italy and neighboring countries, and Professor Mattirolo wrote me it is now quite rare there. The photograph (Fig. 2049) that we present of a section of the sclerotium was made by Mr. Leeper, and any photograph that Mr. Leeper makes is always fine.

Polyporus minuto-durus from Nelson A. Nunez Valdez, Ecuador.—(Fig. 2050.) Small 8-10 mm. sessile, thick (4 mm.), white (or pale), rigid with thin edges. Surface smooth. Pores minute, long, white. Context practically none. Cystidia none. Spores globose, smooth, white, opaque, 4-5 mic.

This belongs in Section 82 but not represented with us and I know no other such small species in this section. The pores are so minute that until soaked up and sectioned I thought it was a Stereum. I can not find any species description of Spegazzini which seems to apply.

Polystictus versatilis from E. D. Merrill, Philippines.—(Fig. 2051.) Although we have figured this plant before (Cfr. Myc. Notes, page 703, Figs. 1049-50) this is such a fine characteristic collection we give another figure. It was named from the Philippines and is quite common there, particularly on railroad ties. The plant varies as to coloration of the pores, sometimes it has a decidedly purplish cast, at other times brown with no tinge of purple.

Polyporus hiascens from Rev. J. Rick, Brazil.—(Fig. 2052.) Pileus rudimentary, soft with soft surface. Color dries isabelline, probably white when fresh. Pores large, splitting in drying. Cystidia none. Spores 5-6, hyaline smooth.

We would enter it in Section 87. Our photograph will give an idea of it by which it can not be mistaken. If we are correct a similar or the same plant occurs in the United States as a Poria. We have no name for it, but it has been referred to Poria aneirina of Europe which I think is an error.

Merulius aurantius from L. Rodway, Tasmania.—(Fig. 2053.) Mostly resupinate with a narrow, pileate margin. Fleshy. Subiculum white of hyaline, septate, non-incrusted hyphae. Hymenium orange (vinaceous rufous, Ridgway) retaining its bright color in drying. Pores shallow, meruloid, not changing in drying. Cystidia none. Spores 4 x 8, hyaline, smooth, opaque.

A bright colored species, not comparable to any with us, but close to Merulius Corium from which it differs in color and larger spores. This must not be confused with Merulius aurantiacus (the name at least) known from England. But I do not believe any one knows any species to correspond to the English name.

Polyporus opacus from Rev. J. Rick, Brazil.—(Fig. 2054.) This is the sixth time we have recorded this unique species in the American tropics. Cfr. preceding article. All previous specimens were mesopodial but Father Rick sends three specimens (one collection), two pleuropodial (auricularaeform) and one mesopodial. We present (Fig. 2054) a photograph of an auricularaeform specimen. In addition to general form the species varies in other features, but the following are its salient characters. The oval (with short, hyaline apiculus) strongly rough, pale spores, about 8-10 mic. The dull brown non-laccate stem and pileus surface. The pale (white in these specimens) or yellowish context. The minute pale or yellowish pores, the mouths (yellow) or pale and concolorous. Father Rick reports that it grew in the earth but "certainly attached to buried sticks." It is a question whether it is a Ganodermus or Amaurodermus. I have classed it with the former, but the general features are more the latter. The large

"type" specimen (10 inches in diameter and an inch thick) of Polyporus angustus (named by Berkeley from Brazil, Cfr. Stip. Polyporoids, page 114, Fig. 410), appears at first view to be quite different, but it may turn out to be the same thing.

Polyporus camerarius from Rev. J. Rick, Brazil.—(Fig. 2055.) There is a group of plants in Brazil, probably all the same species, characterized by brown, dull surface, more or less zoned. Mesopodial or pleuropodial stipe. White context and pore tissue. Minute white pores with white pore mouths mostly as to the specimens preserved, but I believe in nature (young) they are orange and pale out with age and possibly in the old plants. I received a specimen in 1907, beautifully orange, but there is hardly a tint to it now. Spores globose, pale colored, 8 mic. with a small apiculus, smooth. They are not always found. It was named Polyporus camerarius, Polyporus pansus, Polyporus pallidus, Polyporus hemibaphus by Berkeley, Polyporus paulensis by Hennings and Polyporus dubiopansus by Lloyd. The two latter may be different as the plants have a blackish crust not found on others and the spores of those we have found are hyaline. In our pamphlet we place most of these species in Lignosus on account of the white tissue and (supposed) hyaline spores, but its proper place is in the section Amaurodermus, next to Polyporus opacus. As to the eye it is practically the same as Polyporus opacus but differs markedly in its spores. The plant seems to grow in the ground but no doubt attached to buried sticks. We present a figure of the type of Polyporus camerarius but we do not hold (now) that mesopodial specimens are different.

Polyporus rugatus from J. T. Paul, Australia.—(Fig. 2056.) Pleuropodial, growing apparently from wood. Pileus 5-6 inches in diameter, smooth but strongly wrinkled or corrugated, light brown, about "Saccardo umber" (R.). Stipe 2-3 inches long, an inch thick, tapering down. Stipe surface dull, bright cinnamon brown, contrasting with the dark pore mouths. Context and pore tissue brown. Pores small, round, the mouths (drying) dark, almost black. Setae none. Spores abundant, globose, 10 mic., smooth, deep colored. This plant is quite different from any species I have seen before. It is related to Polyporus sideroides, Albertinii and close to Puiggarianus as found in Section 35b of our Stipitate Polyporoid pamphlet. Our photograph is reduced about one-half diameter as it would make a large plate natural size. Mr. Paul also sends another specimen, surely the same species, but this is either sessile or has had the stem broken off. The surface is not so strongly rugulose and is not smooth but dull and minutely velvety.

Polyporus Musashiensis from T. Yoshinaga, Japan.—(Fig. 2057.) Cfr. Stipitate Polyporoids, page 135, Fig. 436. This was named from Japan by Hennings as Fomes (sic) and while the type was never found when we were in Berlin we have now no doubt. It reached me from S. Kawamura, J. Umemura and T. Yoshinaga, and only from Japan. It is quite close to Polyporus Cumingii which seems to differ only in its surface and absence of setae. While we have not found spores they are probably pale colored and we would move it from Section 17 to Section 36 on account of its evidently close relationship to Polyporus Cumingii which is also found in Japan. We are not sure but they are the same species but at present would restrict Polyporus Musashiensis to tomentose specimens.

Fomes scalaris from E. D. Merrill, Philippines.—(Fig. 2058.) This was named by Berkeley from Brazil, and this one Philippine collection (Weber 1270), is the only other collection known to me. It is the same on comparison as that of the type, although to the eye it appears different. (Cfr. Fig. 2058, and that of the type, Syn. Fomes, Fig. 585.) The features of it are the hard, dark (mummy brown) context and abundant coloring matter in potash solution. The spores I do not find, although I question now if they are white. It has no setae. The similarity of shape of this to Fomes angularis as I named from Japan (Fomes Synopsis, page 239, Fig. 586) and somewhat similar context, suggested a comparison. They are not the same, the latter does not dissolve at all coloring matter in potash solution and they differ otherwise.

Fomes pectinatus from E. D. Merrill, Philippines.—(Fig. 2059.) Growing on the branches of a living tree (Pandaeaqua). It is unusal, I think, for this species to grow on living branches and I believe it is the only polypore (excepting Polyporus fruticum) that ever grows in this way. It is a new feature to me as to Fomes pectinatus (tropical) although the little Fomes Jasminii of Europe, which is only a diminutive Fomes pectinatus is only known on living branches. In looking through our specimens of Fomes pectinatus, we note several that appear to have grown in this way though we never suspected it before. On the Philippine sheets there is with Fomes pectinatus (Fig. 2059) a piece of evidently a living branch (Fig. 2060) showing the disease spots due, it was supposed, to this fungus. It would be an interesting line of work for some tree pathologist in the tropics to further investigate the subject.

Polystictus immaculatus from Nelson A. Nunez Valdez, Ecuador.—(Fig. 2061.) Entire plant pure white, not discoloring in drying, very light weight when dry, petaloid with a lateral stipe (on side of log), pendulose with a dorsal stipe (on under side). Surface glabrous. Context pure white. Pores small, white. Cystidia none. Spores not found. An exceptional species in its light weight, pure white, glabrous

surface. We have nothing similar with us. We would enter it in Section 26 Stipitate Polyporoids. We have but scanty knowledge of South American species proposed by Spegazzini excepting a few distributed in Balansa's sets, but we note no description that can possibly apply to this characteristic species.

Polyporus podlachicus from Rev. H. Bourdot, France.—(Fig. 2062.) This was described from France and is very rare in Europe. It can be best designated as being Polyporus elegans as to color, texture, context and every feature excepting larger pores and shorter rudimentary stipe. The pores while larger than those of elegans are really small and the plant should be entered in Section 49 instead of 50 as found in our pamphlet. From the description alone this might be taken for the next but this is far closer to Polyporus elegans than the next is to this.

Polyporus magnoporus from Rev. James Wilson, Australia.—(Fig. 2063.) Pileus orbicular, glabrous, bay (I should say about buckthorn brown of Ridgway). Context white, firm. Stipe lateral, black. Pores large (for this class of plants), a mm. long, irregular. Cystidia none. Spores cylindrical, 4 x 12, hyaline, smooth.

Were it not for the large pores this would be Polyporus elegans, exactly same natured plant, color, size, form, hard, firm flesh and similar spores. We would enter it in Section 50. It might be held as a large-pored form of Polyporus elegans, but in Europe the "type locality" no such large-pored form occurs.

Fomes intertextus from Rev. J. Rick, Brazil.—(Fig. 2064.) Sessile, ungulate, with dull brown surface. Context stuppeus, Verona brown. Pores minute, in distinct layers with interposed context layers. Setae none. Spores abundant, small, subhyaline, 3 x 4.

It is not assured that Fomes with context layers between the pore layers are always so characterized. Fomes rubritinctus was originally named Fomes laminatus by Ellis from this feature, but has different context color. The abundant, small, subhyaline spores suggest Polyporus caliginosus but I do not believe that it is a true Fomes as this is. We would enter it in Section 69.

Hydnum aspratum from A. Yasuda, Japan.—(Fig. 2065.) This was named from Japan. With dark, suberect scales, color, texture, form, spines and spores as Hydnum imbricatum, surely it is only a geographical form. In the scale nature Hydnum imbricatum varies as much as this in our country. (Cfr. Hydnum adpressum, Myc. Notes, page 552.) They write "Berk." after Hydnum aspratum but it was really Cooke who was responsible for it.

Polystictus (or Hexagona) flexibilis from Rev. Torrend, Brazil.—(Fig. 2066.) Sessile, thin, pliant. Color (surface, context and pores) pale brownish. Surface with appressed fibrils. Pores large hexagonal, regular, concolorous with thick walls. No cystidia, basidia or spores found. This is a thin plant that could be referred to either Hexagona or Polystictus. The pores are of Hexagona but the pliant nature for me indicates Polystictus. I do not match the color in Ridgway but "clay color" approximates. It was sent to me as Hexagona cyclophora as determined for Father Torrend. The type of this was not in the cover when I wrote my Hexagona pamphlet but surely this is not "albus." I would class it in Section 113 with Polystictus Dybowski. No similar plant was ever before collected in South America.

"Polystictus" dubitativus from E. D. Merrill, Philippines.—(Fig. 2067.) Pileus infundibuliform, coriaceous, brown, tapering to a short stipe. Surface brown, appressed fibrillose. Hymenium brown, coarse, tubercular, disposed to become irpicoid. Cystidia none. Spores globose, hyaline, 4 mic., smooth.

Based on Yates 36036. It apparently grew on a log. The Friesian genera based on the plants of Europe do not always apply to those of the tropics, and it is a question whether to stretch the limits and include the plant in an "old genus" or to make a new genus for it. There is a somewhat similar plant called Polystictus fimbriatus (Stip. Polyporoids, page 152, Fig. 453) in our American tropics. The hymenial configuration like this does not enter it into any genus, although it has been referred to six different genera and agrees with one about as well as with another. If some one would only help out by calling it a "new genus" the question would be solved. But since the flood of new genera proposed by Karsten, Quèlet, Murrill, Banker, Hennings, McGinty and others of that type, some people are getting a little cautious of the "new genus" question.

Dendrocladium Peckoltii from Dr. Gustavo Peckolt, Brazil.—(Fig. 2068.) Feruginous brown, clavariaeform. Stem dichotomous branched above, rigid. Surface pubescent with rigid, branched, brown, projecting hyphae and scattered setae. Setae intense, brown, large, projecting 60-80 mic., typically the setae of Hymenochaete. Spores (washed off on the slide) are sub-globose, deep colored, 8 mic., but they do not appear to be ordinary basidial spores for one seen had a long, attached pedicel which is evidently the hyphae on which it grew.

The more specimens received from tropical countries the more difficult it is to enter them in established genera. This is a Clavaria as to form, a Lachnocladium as to surface and texture, a Coniophora as to spores, a Hymenochaete as to setae and the first similar plant known with typical Hymenochaete setae. A new genus could be based on it and my friend McGinty proposes Clavariachaeta.

Polystictus stereinoides from H. S. Yates, Sumatra.—(Fig. 2069.) We use Hennings' name (and photograph of his type) for this although it is quite close to Polystictus petaliformis from Brazil and probably the same as we published in our pamphlet. It is also quite close to but a more robust plant than Polystictus obovatus (Cfr. Stipitate Polyporoids, Fig. 445) which is not rare in the East. It is the first time we have noted this robust plant from an Eastern station, though a smaller plant we so referred from Africa. The spores in this collection are very abundant, globose, 4 mic.

Polyporus fusco-dresdensis from L. Rodway, Tasmania.—(Fig. 2070.) Sessile, ungulate with a broad base, the pores decurrent. Surface dull, at first brown, becoming black. Context Dresden brown, soft, dry, not brittle. Pores very minute with concolorous or pale mouths. Pore tissue concolorous with context. Cystidia none. Spores very abundant, hyaline, 3½ x 5.

This belongs in Section 94 with a softer texture and different color from others in this section. I trust the Latin purists will overlook the unconventional name, intended to suggest its context color.

Polystictus argenteus from A. M. Bottomley, South Africa.—(Fig. 2071.) Pileus sessile, thin, rigid. Surface with coarse matted brown hairs, or smooth and silvery white on margin where hairs apparently are detersive. Context brown. Pores medium, silvery white. Spores not found. This is an addition to Section 113. It impresses me as being best included in this section although the pores are small. The silvery pores are similar to those found on some Hexagonas and are probably due to the hymenium being formed. There are Hexagonas that have this feature at times and at others not.

Polyporus Hollicksii from Rev. Johan Rick, Brazil.—(Fig. 2072.) This is the first collection we have gotten and an addition to Section 24. The only other collection is at New York from Mexico and was named by Murrill. The plant is very close to Polyporus subfulvus and it is a question if it is really distinct. The spores are quite minute, about 1 x 3 as I see them. Cystidia none.

Daedalea Eatoni from Miss A. V. Duthie, South Africa.—(Fig. 2073.) We have gotten this before quite frequently from I. B. Pole Evans, South Africa, but only from this region. It reminds one of Daedalea ochracea in color and surface hairs but the rigid pores are different. Also this is no form of Daedalea unicolor as Daedalea ochracea is. We get also from South Africa a thick "Fomes" form of this same plant, Daedalea Dregeana. (Cfr. Notes 342 and 343, Letter 60.) Our photograph (Fig. 2073). will show the characters of this peculiar South African species. The color is aniline yellow.

Daedalea sinensis from H. H. Hu, China.—(Fig. 2074.) Sessile, ungulate. Surface dull, rough, appears minutely pubescent. Context and pore tissue isabelline. Pores thin, daedaloid. Hymenium persisting, a palisade layer of hyaline basidia. Cystidia none. Spores globose, hyaline, 4 mm. To the eye somewhat suggestive of our Daedalea quercina (Section 149) but quite different. We never noted a Daedalea before where the basidia persist on the dried specimen.

Laschia favoloides from Otto A. Reinking, Philippines.—(Fig. 2075.) Pileus white, thin, smooth, discolored in drying, spathulate to a short stem. Context hyaline, thin, gelatinous. Hymenium reticulate with large, shallow pores, the dissepiments being mere vein-like. Basidia clavate, in a palisade layer. Cystidia none. Spores subglobose, hyaline, 6-7 mic. We hardly know whether to classify this as a Laschia or a Favolus. We decide on the former on account of the truly gelatinous tissue. At the same time we are not sure it is distinct from Favolus tenuissimus, also found in the Philippines, but it appears distinct to us in its larger, more shallow and more rounded pores. It could also be included in Merulius on the technical difference recently proposed.

Polyporus retro-ater from T. F. Chipp, Singapore.—(Fig. 2076.) Pileus effuso-reflexed, with obtuse margin. Surface smooth, black behind, the margin grey. Context punky, pecan brown, thin. Pores not visible to me without lens. Pore tissue grey. Cystidia none. Spores not found. Imbedded in the pore tissue are irregular bodies, I presume crystals. A strongly marked species from the contrast of the black (behind) pileus and the grey margin. (No. 5650 Kanching Forest Reserve, T. F. Chipp.) Add to Section 91.

While to the beginner this would have no suggestion however remote to Polyporus Rhizophorae (Cfr. Stip. Polyporoids, page 128, Fig. 425) in my belief it is only a form of it. We have previously noted what we consider a sessile form (Cfr. Myc. Notes, page 996, Fig. 1794), in error as Polyporus Rhizomorphae due to our relying on our treacherous memory instead of looking up the name. Truly the classification of polyporoids is not a question of "shape" or "memory."

Polyporus Fijii from J. Burton Cleland. Collected in Fiji.—(Fig. 2077.) Pileus thin, 1-2 cm. thick, hard, subligneous. Surface glabrous or brown zonate when the glaucous covering has disappeared. Context hard but punky, Dresden brown, thin. Pores minute, concolorous as to mouths and tissue but some paler than the context. Cystidia none. Spores not found. Although the context is brown it is a different brown from those of the gilvus alliance. We would enter it in Section 95 although its closest affinity appears to me to be with Polyporus supinus in Section 94.

Since the above was written the plant reaches me from H. A. Lee (Philippines), collected by Peter Nelson (471) in Guam. The surface is much paler and smoother than the previous collection but on comparison I believe the same. The plant has never been collected in the Philippines.

Trametes roseola from H. A. Lee. Collected in North Borneo by J. Agama.—This differs from the African specimens in having raised zones on the pileus, but it is not practical to base a name on this feature. There are three species of Trametes with this peculiar context color (pale salmon). Trametes semitosta, about the same as this but thinner and a different surface. We have several collections from the Philippines. Trametes Dickinsii, known only from Japan but common there. It has same context color but distinctly larger pores.

In addition Trametes plebeia, Trametes pruinata and Trametes avellanea are so close to the above plants it is difficult to say how they differ. The above all belong to the same group if not the same species.

Trametes nigro-plebeia from H. A. Lee. Collected in North Borneo by J. Agama.—(Fig. 2078.) This has exactly the same context color as Trametes roseola, Trametes semitosta, Trametes Dickinsii and no doubt the "species" mentioned in the previous note, as well as this, are all practically the same. Still they differ much to the eye and are easily characterized so that the names are convenient anyway. Trametes nigro-plebeia is exactly same in size, context color, texture, pores as to size, as Trametes plebeia (Cfr. Synopsis Fomes, page 227), but the surface is fuliginous (black) and in plebeia it is rose color. But one of our specimens of plebeia does have a black spot near the base, and this feature as in the very frequent (in Africa) Trametes cingulatum, may not be constant. Also the pores silvery white in nigro-plebeia and rose in plebeia, seem at first sight to be a marked difference. We do not place much stress on it, however, for similar conditions are well known and common in Hexagona tenuis and other species of Hexagona. We present photograph (Fig. 2078) of Trametes nigro-plebeia and (Fig. 2079) Trametes plebeia. The difference is mainly of color and the camera does not well show it.

Polyporus Kanehirae from A. Yasuda, Japan.—(Fig. 2080.) As named by Professor Yasuda. Thin, 6-8 mm. thick, sessile, of a tough texture. Surface brown, mat, with raised zones. Context dark, bay brown. Pores minute, round, the tissue light color but the mouths dark like the context. Setae none. Spores very numerous, small, globose, 2½-3 mic., deeply colored.

A very distinct species which goes in Section 100. The feature is the numerous, minute, dark-colored spores. Also the context color which I do not recall in any other Polyporus but same as that of the common Fomes applanatus. It was collected in Formosa by R. Kanehira. (Yasuda, No. 615.)

Trametes retropicta from T. F. Chipp, Singapore.—(Fig. 2081.) Pileus thin, rigid, glabrous, sayal brown, with a dark stain near the attachment. Context brown, thin. Pores very minute, round, rigid, regular, 1-2 mm. deep. Pore tissue paler than the context. Mouths dark grey.

In surface texture, thickness and general appearance excepting pores this is the same as Hexagona tricolor and has the same dark stain on back of pileus. The minute pores are much smaller and deeper and yet it is about the same thing (excepting pores) as Hexagona tricolor. Truly Nature must get a lot of amusement out of the puny endeavors of men to classify into "genera" her handiwork. Based on T. F. Chipp (5554), Singapore.

Polyporus maculatissimus from L. Rodway, Tasmania.—(Fig. 2082.) This may be only a form of the Australian Polyporus Eucalyptorum (Cfr. Apus Polyporus, page 636), and when first received from Mr. Rodway, I so referred it, as a scaly form. The receipt of additional specimens shows it is not accidental but characteristic, hence to my view is now entitled to a distinctive name. The surface is most peculiarly marked, a type of "scales" unique I believe. No drawing could do them as well as the photograph, and further collectors in Tasmania will have no trouble to recognize it. Outside the "scales" it appears to me to have every feature of Polyporus Eucalyptorum. The spores mostly 4 x 6, are smaller, but they vary much in size in Polyporus Eucalyptorum, some as large as 5 x 8-10. The pores of both specimens received from Mr. Rodway are darker and more shallow than the Australian plant.

Polyporus granulatus from Rev. Hyac. Vanderyst, Congo Belge.—(Fig. 2083.) Pileus hard, sessile, wedge shaped, with thin edges. Surface pale, isabelline, rough with granular protuberances. Context white, hard, about a cm. thick. Pores white, minute, round, shallow, about ½ mm. deep. Cystidia none. Spores not found.

Its hard texture and shape reminds one of a wedge. The granular surface to the eye looks like agglutinate sand but is composed of vegetable tissue that develops a greenish color in potash solution. It is a question where to put this. We include it in Section 12 although neither soft nor stipitate. It more properly should be made a section of Lignosus from its hard texture.

Trametes Borneoensis from H. A. Lee. Collected in North Borneo by J. Agama.—(Fig. 2084.) Thin, about a cm. thick, hard, rigid, woody, sessile, dimidiate. Surface dull, dark brown (almost black)

with raised zones. Context and pore tissue very exceptional color, Morocco red (Ridgway). Pores very minute, not visible to the naked eye. Pore mouths glaucous, reddish when bruised. Cystidia none. Spores not found. While this was sent under same number, 1016A, and it is similar excepting color to Trametes roseola (sent as 1016B), I can not believe they are the same. I never saw another fungus with Morocco red context. We present a photograph (Fig. 2084) of the surface, but a colored figure of a section would have to be made to show the feature on which it is based. Collected by J. Agama in North Borneo (No. 1016A.)

Laschia Tonkinensis from Otto A. Reinking, Philippines.—(Fig. 2085.) This was named from China and we gave an enlarged figure (Myc. Notes, page 835). It is one of the larger Laschias, white, strongly tessellate, and departs from many species of Laschia in having no color glands or crested cells. Spores are globose, 10-12. This is the first collection we have received and we figure it natural size. Compare also enlarged figure (Myc. Notes, page 835).

Trametes insularis from E. D. Merrill, Philippines.—(Fig. 2086.) We received this some years ago, determined by Graff as "Fomes annosus-Trametes insularis." We were doubtful about it, in fact we thought Trametes insularis closer to Trametes Persoonii. But on a comparison now with both species, we believe Mr. Graff was right, or at least much nearer right than we were. On comparing it with many collections of the common Trametes Persoonii, while it has the same coloration it has long pores, a cm. or more, and the pores of Trametes Persoonii are always shallow. On comparing it with the annual form of Fomes annosus from the States, the general effect is similar, but the pores and context are reddish in the Philippine plant and white with us. In addition only the Trametes form is known in the Philippines, not the Fomes form. We believe Trametes insularis is a convenient name to use in Philippine mycology, though nearly the same as Fomes annosus in reality.

Stereum ceriferum from Leonard Rodway, Tasmania.—(Fig. 2087.) We published this, Myc. Notes, page 786, Fig. 1180, as Stereum deceptivum, but have since noted Miss Wakefield's publication (Kew Bulletin, 1915, page 370), which is surely the same plant. It is a very distinct and peculiar species. The hymenium of the young plant is strongly white glaucous, and when old it is peculiar bluish grey, none other similar that I ever noted. I am unable to make out basidia, certainly it has not the palisade layer so usual in Stereums. It does not have any "emergencies." Spores if correctly seen are 5 x 16, hyaline, cylindrical, straight. We are pleased to give another figure of the fine specimen from Mr. Rodway which is much better than the figure we formerly gave.

Trametes quercina from Alfred H. W. Povah, New York.—(Fig. 2088.) Pileus sessile, dimidiate-imbricate. Surface velutinate with pale brownish hairs. Context white, punky, soft to feel. Pores small or medium, round or somewhat irregular, rigid, white, drying slightly alutaceous. Spores 2 x 6-8, hyaline, straight, rarely slightly curved. Collected by A. H. W. Povah on bark of dead oak tree, Whitmore Lake, Michigan (No. 770).

Trametes varia from L. Rodway, Tasmania.—(Fig. 2089.) Sessile, an inch or more wide and a cm. thick. Color clay (R). Surface fibrillose rugulose. Context white, firm. Pores rigid, medium, about the color of the pileus. Mouths paler. Cystidia none. Spores abundant, cylindrical, 5-6 x 12, hyaline, smooth. It grew evidently on a branch and in general appearance except pores reminds one of Daedalea confragosa. As to color like Polyporus varius but texture and pores and spores are different.

Thelephora dubia from Carlos E. Chardon, Porto Rico.—(Fig. 2090.) Pilei caespitose, confluent in a roseate cluster from a common stem. Surface fibrillose, not zonate. Hymenium even, dark brown. Cystidia none. Spores globose, somewhat irregular, 6-7 mic., smooth. Very pale colored if indeed colored at all.

This is thicker but reminds one of Stereum elegans from which it differs in spores and habitat. It grew on a stump. The spores are mostly hyaline, smooth, typically that of a Stereum but some are faintly colored. The plant to the eye has hymenium color of Thelephora and is one of those intermediate species that refuses to conform to the arbitrary classification that men propose. It is between Thelephora and Stereum, probably closer to the latter. There is an old Thelephora dubia of Persoon, a hundred years ago since it was used, as no one knows what it is. No doubt, however, some future juggler will use it as an excuse to change this name.

Stereum involutum from H. A. Lee, Philippines.—(Fig. 2091.) Stereum involutum, a frequent plant in the Eastern tropics, is easily known when learned by a peculiar, reddish bay (waxy) hymenial face. It has metuloids, hence it is Lloydella for those who use the genus. There is a surface variation as to different collections and our specimens could be sorted out to six "species" but all better called Stereum involutum. There is not a hundredth part as much variation in these various collections of Stereum involutum as can be noted at any canine show. But practical people call them all dogs. And mycologists call them "new species," dub them with so-called Latin names and then write their own names after them.

Stereum involutum (Fig. 2091 type) and (Fig. 2092), specimen from Mr. Lee. (Ramos 37152.) It is the

closest to the type of any I have seen although much more lobed. Light color, slight pubescence, zoned.

Stereum Gossweilerii.—(Fig. 2093.) With very narrow, rugulose zones.

Stereum vespilloneum.—(Fig. 2094.) Dark color, strong pubescence, faint zones.

Stereum Bresadoleanum.—(Fig. 2095.) Thin, light color, slight pubescence, faint zones. This is the usual and common form. It is Stereum bellum as found named in various museums (not the original). It is Stereum Friesii (Elmer 7216) not the original. I found this Philippine collection determined as Stereum Kalchbrenneri at Berlin but when published it was under the name Stereum Friesii. It is Stereum proximum of my Stereum pamphlet (supposed not to have metuloids, but probably only not found).

Stereum Fenixii.—(Fig. 2096.) A collection that has a dense, pale, nonzonate pubescence, based on Fenix 28281, Philippines.

Stereum Philippense.—(Fig. 2097.) Surface strongly zoned, faintly pubescent. Graff 21020.

I believe as these differences are obvious to the eye they will be shown by our figures. In addition Stereum phalanarum, named by Kalchbrenner from Australia and Stereum prolificans by Berkeley from Australia are synonymous, not distinguished even as forms.

Stereum obliquum from H. S. Yates, Sumatra.—(Fig. 2098.) As this specimen shows the habits we present another figure. (Cfr. Stip. Stereums, Fig. 562.) Stereum obliquum as we have published is practically the same as Stereum affine, only smaller, longer stalk, and more slender.

Tremella anomala from Rev. J. Rick, Brazil.—(Fig. 2099.) Growing on bark. Cushion shape, cerebrine. Color white when young, sordid or light fuliginous when old. Basidia globose, cruciate parted, 12 mic., pale, almost hyaline. Spores globose, 4-5 mic., hyaline. Portions of the specimens when freshly soaked are white but soon become discolored, slightly fuliginous. The feature of the species is this color. We refer it to Moeller's name with doubt. We have not confirmed the exceptionally long "Hefesprosszellen" on which the name was based, but the general description seems to apply except we would call it "schmutzig" amber instead of "schmutzig" yellowish. As to photograph it does not differ from any other little cushion-shaped Tremella. It dries down to a thin, black film somewhat like Exidia glandulosa.

Trogia Borneoensis from H. A. Lee. Collected by J. Agama in Northern Borneo.—(Figs. 2100 and 2101, gills enlarged.) The genus Trogia was proposed by Fries for Trogia Koenigii from Ceylon and defined as having gills longitudinally channeled. This feature does not occur in any European or States' species, although we have a little species called Trogia crispa and well established under this name. Its gills (Cfr. Myc. Notes, old species, page 2, fig. 212) are not channeled but crisped, an essentially different idea. The true Trogia of the tropics (only) appear to be rare. At least this is the first specimen I have ever received or seen. Our photograph of the plant pressed and of the gills (enlarged) are so different from the gills of other agarics that they will show the original character of the genus Trogia.

In Saccardo, Trogia is divided into two sections, Eu-Trogia with channeled gills and Plicatura with crisped gills. They are really different genera but it is difficult to change old customs. Of the five species given as Eu-Trogia only one, I think, Trogia Koenigii really has the gills channeled. The other four where I have seen the specimens or figures, show gills entire, obtuse and better Cantharellus.

Trogia Montagnei and Trogia infundibuliformis appear to be what is better known as Cantharellus buccinalis which is frequent in the Philippines (Cfr. Myc. Notes, page 881, Fig. 1514) and Trogia Belangeri has entire gills, in the picture at least. While we have not seen Trogia Koenigii it is no doubt an "Eu-Trogia" and Trogia Borneoensis appears to be the second species known.

Stereum sinense from H. H. Hu, China.—(Fig. 2102.) Imbricate, merismatoid, the segments convolute and confluent. White, yellowish in drying. Surface smooth. Hymenium exterior. Basidia club-shaped, hyaline, loosely palisade. Spores not found. This grew in the ground with a thick, rooting base. It does not suggest any species we have ever seen before but we would enter it in Section 6 of our Synopsis. It is more fleshy than a Stereum should be. On scraping, what I take to be spores are 6 x 8, hyaline, smooth, but they are not sure.

Bovistella nigrica from G. H. Cunningham, New Zealand.—(Fig. 2103.) Peridium very dark color, flaccid, with short, scabrous, black cortex remains, subglobose, about an inch in diameter. Sterile base well developed of large cells. Gleba dark umber. Capillitium of separate threads, the main stem about 12 mic. thick and running out into slender branches. Spores globose, slightly rough, 4 mic. in diameter or slightly larger, with long, slender, hyaline pedicels.

This evidently grew in the sand as it has a ball of mycelium-bound sand at the base. We noted it at once as exceptional in its dark color. It is a "True Bovistella" and belongs in Section 1 of our resume. (Myc. Notes, No. 23.)

Stereum sclerotioides from Rev. C. Torrend, Brazil.—(Fig. 2104.) Growing attached to a sclerotium. This was sent with Cladoderris dendritica but I

can not believe it has any connection with it. It has same shape and same hymenium as Stereum caperatum and had it been sent separately I should probably have so referred it. On comparison, however, it has a different, velutinate stipe like that of Lentinus velutinus and I think must be held different on stipe and character of growing on a sclerotium. All fungi that grow from sclerotia like Polyporus sacre, Lentinus tuber-regius, always grow from sclerotia, and I can not conceive that Stereum caperatum known from so many specimens direct from wood would in one instance develop a sclerotium. This is a true sclerotium, composed of fungal tissue only, under the microscope, variegated white and dark areas. (See Fig. 2105, section enlarged.) It is not a "pseudo-sclerotium" which some Lentinus develop as considered in Myc. Notes, page 796. I believe Father Torrend has made a very rare and a very distinct find. It is the first Stereum ever known from a sclerotium.

Polyporus (Amaur.) salebrosus, conidial, from John Gossweiler, Angola Africa.—(Fig. 2106.) When we worked over a shipment from Mr. Gossweiler some time ago, there was a collection that puzzled us. It had the same characters as salebrosus, same context and pore color but we found no spores. When one does not find spores in an Amaurodermus he should be on his guard. The surface, as shown by a comparison of our figures, was also not the same. When working with the plant recently, I found abundant spores but not where I had looked for them in the pores but in the context. The plant is evidently a condition of Polyporus salebrosus that has conidial spores on the hyphae tissue and sterile as to normal spores. At Kew there is a specimen from Africa that I figured (Stip. Polyporoids, Fig. 417) and named Polyporus sericatus. I hunted in vain for its spores and while I did not hunt the context, I suspect it is the same conidial form. Truly, the moods Nature takes when she grows the specimens men try to classify are very varied, and if we did not know it was done with some other object, we might conclude it was done to confuse the taxonomist.

Stereum diaphanum from W. C. Muenscher, New York.—(Fig. 2107.) We present a figure of these beautiful specimens for they are the nicest we have ever received. It is a rather rare species.

The genus Bovistoides.—This genus was proposed less than a year ago for a South African plant. Compare Mycological Notes, page 883, where its relations and peculiarities were discussed in full. We are therefore much gratified to get another species from Brazil. As stated (l. c.) it is peculiar in its capillitium which consists of simple threads (Fig. 2109) pointed at both ends. No puff ball either in Europe or the States has such threads.

Bovistoides Torrendii from Rev. C. Torrend, Brazil.—(Fig. 2108.) Plant globose, about two inches in diameter. Exoperidium smooth, thin, glabrous. Endoperidium rather firm and rigid. Gleba dark, black in mass with a purplish tinge. Sterile base none. Capillitium of simple, straight, short threads, deeply colored, 12 mic. in diameter at the thickest part, sharp, tapering to both ends. Spores globose, deep colored, not apiculate, smooth, or rather very minutely rough. I noted this as something unusual as soon as I saw it. My first impression was a plant with Scleroderma peridium and Lycoperdon gleba. It grew on a stump, an unusual habitat for a puff ball as large as this, and there are only a few species (chiefly the common Lycoperdon piriforme) that occur on wood. Our Fig. 2109 of capillitium and spores shows the simple threads on which the genus is based. We take pleasure in naming it for Rev. Torrend who has done so much good work on Portuguese and Brazilian fungi.

Trametes roseoporus from Rev. J. Rick, Brazil.—(Fig. 2110.) Pileus dimidiate, light weight. Surface smooth, glabrous, not zoned, brown, somewhat marmolate. Context uniform, stupeous, Roods brown. Pores minute, tissue concolorous, but mouths when fresh "rose color" teste Rick. When dry rather chestnut brown (more reddish than the tissue). Setae none. Spores in greatest abundance, pale colored, elliptical, 3 x 4. The salient feature is the great abundance of small, pale spores, recalling in this respect Fomes caliginosus of the Philippines. The latter while classed as Fomes is a better Polyporus or perhaps a Trametes. We would enter this in Section 133, the pink section, as there is a reddish cast to it, though it would probably be classed as brown context. To the eye the plant looks something like Fomes marmoratus, but to the "heft" it is much lighter.

Secotium melanosporum from Dr. J. Burton Cleland, Australia.—(Fig. 2111.) Originally collected by Gunn in Australia about eighty years ago and only known from this one collection until Dr. Cleland found it again recently. Fragments of the gleba are found at Paris and New York, the latter sent out by Massee. It is an exceptional species, the only one that has a dark, almost black gleba, and in addition the gleba cells are much smaller than any other. In our Australian puff ball pamphlet we gave a figure of the type at Kew, but from Dr. Cleland's collection that specimen at Kew (Plate 26, Fig. 11) does not well represent the plant. The inner gleba mass is not so distant from the stem. In fact the species is the usual form of Secotium. Spores are 6 x 10, elliptical, smooth, with minute apiculus. Our figure (Fig. 2111) from Dr. Cleland's collection shows the exterior of a small specimen, and a section, the latter plainly showing where the stem has been torn out. We congratulate Dr. Cleland on refinding this rare species.

Tremellaceous plants from Otto A. Reinking, Philippines.—In the last shipment from Mr. Reinking there were a number of tremellaceous plants including some rare species, as follows:

Auricularia peltata from Otto A. Reinking, Philippines.—(Fig. 2112.) Resupinate, forming small confluent patches, attached to the wood by white mycelial hairs that exceed and form a narrow margin to the plant. Surface even, with slightly raised margin, drab or light drab when wet. Neither spores nor basidia found by me but plant appears to be young. We get many Auriculariaes from our correspondents and believe we know the genus even when we do not find the basidia or spores. This impressed us as exceptional in the color, resupinate habits and general appearance which we believe will be shown in a characteristic manner by our photograph.

Tremella Samoensis from Otto A. Reinking, Philippines.—(Fig. 2113.) We considered this plant before (Myc. Notes, page 875), but these are very fine specimens and we give another figure. It is different appearing from any of our yellow foliaceous Tremellas.

Tremella Philippiensis from Otto A. Reinking, Philippines.—(Fig. 2114.) Pileus white, cerebrine, small, about a cm. Basidia globose, imbedded, pale colored, unusually large, 20-24 mic. Spores globose, hyaline, 8 mic.

White Tremellas are all very much the same as to the microscope. The best way to recognize them is to look up the figures. This is the third white species to my notice (not counting the Exidias). Cfr. Tremella candida, page 851, Fig. 1425, Japan; Tremella fuciformis, page 790, Fig. 1188, tropics general.

Stereum vellereum from Geo. L. Moxley, California.—(Fig. 2115.) This is thicker and to the eye more strongly hirsute than the usual plant I receive from the Pacific coast. At first I thought it was different but when I came to section it I did not note any material difference. The species is, quite close to Stereum hirsutum but the surface hairs are pale and under the lens are hyaline. Stereum vellereum is distributed as far as I know only from Australia, South Africa, Japan and our Pacific coast.

Thelephora radicans from T. F. Chipp, Singapore.—(Fig. 2116.) This is neither a Thelephora nor a Stereum but an intermediate. The hymenium dark brown is of a Thelephora. The spores are irregular, globose, mostly hyaline, but some colored are smooth and in fact are Coniophora spores. We believe that Stereum Bolleanum is very much the same thing. As the plant can not be consistently classed as either Thelephora or Stereum some of the "new genus" discoverers ought to discover a new genus for it.

Stereum Sowerbyi from O. M. Oleson, Iowa.—(Fig. 2117.) This is a very rare plant (Cfr. Stipitate Stereums, page 20) and the best specimen we have seen. It is white or nearly white and very close to Stereum diaphanum. Both are thin but this differs it appears to me in being not so slender and with appressed fibrils.

Aseroe rubra from W. M. Carne, Australia.—(Fig. 2118.) Professor Carne sends in addition to fine, dried specimen a beautiful colored photograph which we reproduce. (Fig. 2118.) He also favored us with interesting notes on the fresh plant as follows:

"Volva ovoid one to 1½ inches greatest diameter. Color pinkish white. Found in grass, Cynodon dactylon. Rhizomorphs attached to living grass rhizomes, parasitic. Stem white below, becoming pink above, tubular. Horizontal limb with 7 or 8 segments. Each segment bifid into slender points. Points united in younger stages. Length over all 3 inches in largest specimen. Width of tubular stem ¾ to 1 inch. Width of limb excluding segments 1½ to 1⅞ inches. Length of segments 1⅞ to 2 inches. Length of slender points 1 to 1¼ inches. Color of limb orange-red. Gleba olive black on solid portion of disk and on base of segments. In two specimens seen two and three stems emerged from a single volva."

There are two points that are new in the above notes. First, "that Aseroe rubra is attached to living grass rhizomes. Parasitic?" Second, that "two or three plants sometimes emerge from a single volva.

Hymenogaster gautierioides from C. W. Dodge. Collected in California.—(Fig. 2120 and Fig. 2119 enlarged.) As a minute description was given of this under the name Gautieria Trabuti in the recent paper by Zeller and Dodge, we will not dwell on it here. The genus Gautieria has always been held to differ from Hymenogaster by the absence of a peridium, and in this view plants with a peridium should be placed in the genus Hymenogaster. While it has been shown (Fitzpatrick) that Gautieria has an evanescent peridium at a very early stage, we feel this should not vitiate the time-honored distinction between these genera. The spores of the plant have longitudinal striations as in Gautieria but that it will be practicable to confine Gautieria to such spores is not assured. If, however, this is held as of first importance then the plant becomes a Chamonixia, a recently proposed and to my mind superfluous genus. The plant differs from Gautieria Trabuti as figured, in the presence of a distinct peridium, the nontubercular spores (as we see them) and the presence of a columella. The latter feature may not be marked and we do not note a columella in any of our specimens of Gautieria, though columellas are indicated in the original figure of Vittadini, not as exaggerated however as the E. & P. copy, and are

shown in the figures of Hesse, Bucholtz and perhaps others, we do not find them in any collections we have (six) of either Gautieria species of Europe.

Crucibulum albosaccum from Nelson A. Nunez Valdez, Argentine.—(Fig. 2121.) We worked over and published on the bird nest fungi fifteen years ago, and while we have received a number of collections since, this is the first one requiring a name. We noticed at once that it was unusual for the large peridioles were white (white tunica) and the common Crucibulum vulgare is the only species heretofore with white tunica. It has a different cup from Crucibulum vulgare and the peridioles are twice as large. Peridium cup shape, not striate, externally with fine appressed hairs, internally white, even. Peridioles with a white tunica, large, about 2 mm., attached to the cup by a funiculus. Spores subglobose, 9 x 10. In general shape and appearance of the cup it resembles Cyathus vernicosus. The large white peridioles remove it from every other species.

Endogone sphagnicola from Professor Roland Thaxter, Massachusetts.—(Fig. 2122.) We have been anxious to obtain specimens of this which was named by Atkinson, and our best thanks are due to Professor Thaxter. This specimen on Sphagnum grew in Maine. While rarely collected it is probable it is not rare if systematic search were made for it on Sphagnum. As this little tuber on Sphagnum can not be mistaken, I hope someone of Professor Fitzpatrick's class at Ithaca will hunt for it and send me an ample collection.

Tremella fibulifera from Rev. C. Torrend, Brazil.—(Fig. 2123.) We are especially glad to get tremellaceous plants from the tropics. We trust our friends in the tropics will collect and dry every specimen they note. While they may dry away to nothing they are easily revived and we can work with them to good advantage. Excepting from Brazil where Moeller gave a good account of them they are very imperfectly known. Although this specimen when soaked does not agree in all respects with Moeller's account we have no doubt it is the same as he so named. It is a white plant with a slightly yellow tint forming a thin sheet. The thickness is about 600 mic. bearing the basidia imbedded about 30 mic. on both sides. The basidia are oval, pale yellow, and measure 12 x 16. The pale color resides in the basidia. They are arranged about four diameters thick, but not in rows. Spores I did not find, but teste Moeller, 7-10 mic. The plant can not be mistaken from our figure made from Father Torrend's fine specimen. Moeller records it as frequent in his region but Father Torrend states as to specimen sent, "unique."

Secotium Olbium.—(Fig. 2124 taken from Tulasne.) As we have before published this appears to be one of the rarest Gasteromycetes of Europe. It was found by Tulasne and figured in 1845, and it has never been found since. He collected it "circa Olbiam Galloprovinciae" which is in Southern France. Professor Patoniblard wrote me the exact locality but I have mislaid his letter. It was a very diminutive species, about the size of a pea and grew subhypogeal on decaying oak leaves. Neither in size nor habits does it suggest any other species of Secotium. Although known today by only a little piece of gleba about the size of a mustard seed in Tulasne's herbarium, our knowledge of it I feel is perfect, for one can rely on Tulasne's accurate figures and observations.

I have often wondered about the record of Secotium Olbium at "Firenze, Italiae" as found in Saccardo. Professor Mattirolo writes me it was based on a determination of Professor Arcanzeli, October, 1874, which Petri writes him was an error for Secotium Malinvernianum, which has to me as much suggestion of Tulasne's species as a pumpkin has of a pea. And this opens up the question of Secotium Malinvernianum as named by Cesati and described as having "globose spores." I found a specimen in the British Museum and I found also that it was Secotium acuminatum, and that the spores instead of being globose were elliptical. I published (Myc. Notes, page 268) that it was a synonym for Secotium acuminatum, which would have been a rare find in Italy if it had been correctly referred. Petri has since claimed (Flora Ital. Crypt.) that Secotium Malinvernianum differs from Secotium acuminatum in having ovate, sessile spores which in the latter are apiculate. Cesati who is the discoverer of the species did not know that but thought the spores were globose. It is lately claimed that he distributed specimens, partly correctly named and partly Secotium acuminatum. The whole story looks to me very improbable on its face, and if Cesati did not know his own species, how is anyone else to know it, especially as the only claim (as lately emended) to a difference is that one has a minute apiculus to the spore and the other not. Pedanticism is a common curse in mycology.

Cordyceps olivacea from Rev. J. Rick, Brazil.—(Fig. 2125.) As named by Father Rick. This is the same general form and appearance as Cordyceps militaris, but to the eye is smoother and there is no trace of orange on the dried specimen. I think it is entirely different. In this connection I do not catch what difference there is between Cordyceps submilitaris which Hennings named from Brazil and Cordyceps militaris. Moeller shows a figure more robust but that seems to be the only difference. The color (orange) and perithecia imbedded but with prominent ostioles are the same. Hennings described the perithecia as subliberis but he was not very careful as to little matters of this kind.

Ascopolyporus polychrous from Rev. Johan Rick, Brazil.—(Fig. 2126.) The scanty and incom-

plete collections of fungi that had been made in tropical countries was brought into prominence on the appearance of Moeller's works on Brazilian fungi about twenty years ago. These represented his collections in Brazil and brought out several novel genera which had not reached Europe. Among others, Ascopolyporus, curious balls that grew on the living bamboo stems. In consistency when dry they are hard and horny and when soaked are cartilaginous (rather than gelatinous). The hymenium is borne only on the under half of the fruit body, over a well-defined area, as shown in our photograph. To the eye it appears somewhat like a polypore, but under the microscope a section has no suggestion of one. It appears to me to be composed of bundles of asci containing hyaline, filiform spores very much on the order of Cordyceps spores except I can not make out any definite perithecia walls. Moeller states that each ascus contains 8 spores 1 x 300 mic. We gave on page 565 a photograph and account of Mycocitrum aurantium. These two genera are quite close (except as to spores) and no similar genus is known from any other country.

Xylaria Vanderystii from Rev. Hyac. Vanderyst, Congo Belge.—(Fig. 2127.) Clubs cylindrical, obtuse, about an inch long, 3-4 mm. thick, smooth, black, not at all moriform and no indication of veil. Stipe short, slender, glabrous. Stroma white, solid. Spores 8 x 20. While it is quite close to Xylaria bipindensis in general size and shape, the spores are more than twice as large. It grew caespitose on a trunk. We would enter it in Section 16.

Xylaria Hypoxylon from Rev. C. Torrend, Brazil.—(Fig. 2128.) I get from both tropical Africa and America a Xylaria that for me is the tropical form of Xylaria Hypoxylon. Same slender, black, hollow clubs, similar spores (6 x 12) and general size. But it differs in more slender and more even clubs and stem not so hirsute. It is too close I think to hold as different but it is not exactly the same as the European plant. That which we illustrated on page 932, Fig. 1693, as Xylaria biceps, is very near and practically the same.

Xylaria apiculata from Rev. J. Rick, Brazil.—(Fig. 2129.) Rev. Rick writes "the stems of Xylaria apiculata are similar to a sclerotium and persist and produce new clubs." He sends a specimen (Fig. 2129) to show it but whether exceptional or usual he does not state. I imagine it is an unusual occurrence.

Isaria Briquetii from Rev. J. Rick, Brazil.—(Fig. 2130 enlarged.) This is not an Isaria but was named Stilbum Briquetii, but we prefer to so label it to keep all this similar group of plants together. The fungus was found on a beetle (genus Pycnopus) in a collection from Brazil at Paris and was named by Montagne and published in Robin's Vegetaux Parasites (Paris, 1853). I do not know that it has been recorded since or elsewhere. Gray included it in his work (1858) and gave a fine figure of it. The specimens from Father Rick do not seem to be mature and I find no spores, but Robin shows them forming a head; each spore which is elliptical, hyaline, 8 mic. long is borne on the end of a sporophore and the sporophores are arranged in a head on the end of each stipe. Our figure, which is enlarged six-fold, shows these (immature) heads which are paler color than the stipe.

Sirobasidium Brefeldianum from Rev. Johan Rick, Brazil.—(Fig. 2131.) We are glad Rev. Rick gave us the name for this for we should not have been able to make it out. Dried it is little black cushions but soaked small, white, gelatinous cushions appear. We are not sure there is any connection between them but we assume there is. The black appears a kind of subiculum. In the white only "structure" is found. Patouillard proposed the genus but Moeller devoted a plate (6) to it. The figures do not look anything alike to me. Moeller claims that "up to a dozen basidia are behind each other placed." I never saw a dozen but I saw two or three and they were divided into two cells by an oblique wall as Moeller showed, not into four cells by longitudinal walls as Patouillard shows. It is not assured for me that Moeller has the same genus as Patouillard. The spores obovate, straight, 8 x 24, hyaline, smooth and I saw no evidence of septation. I am glad to get an idea of the genus for I never understood it before.

Hysterangium Eucalyptorum from Rev. Louis Mille, Ecuador.—(Fig. 2132.) Growing in dense, confluent clusters, attached to Eucalyptus roots. Peridium thick, even, hard, resembling that of Scleroderma cepa. Gleba when young pale, when ripe greenish. Cells (indistinct to the eye) filled with the spores. Cell walls of gelatinized, slender, hyaline hyphae. Spores 6 x 12, elliptical, smooth, greenish, would make good spores for a phalloid.

Hysterangium have a columella, or rather a thick, branching vein that radiates from the base. This species has a central hollow on the order of Tuber excavatum. It would be most simple to call it a "new genus." As it does not have a columella I presume it would be included in Rhizopogon by those who so class the plant figured (Myc. Notes, page 612), but for me that plant is still a Hysterangium, not a Rhizopogon. Also for me now Rhizopogon cerebrinus (Myc. Notes, page 889, Fig. 1545) is Hysterangium cerebrinum.

Two roads are open for every taxonomist. He can make a new genus for every slight variation he finds or he can enlarge the old-established genera. But if he does the latter then he should bring into the genus those plants that are closely related to it. To my mind the greenish, gelatinous gleba and spores same as

Phalloid spores are the leading features of Hysterangium and not the radiating basal vein which was a feature of the original species.

In this connection Hysterangium australe as named by Spegazzini from South America (co-type at New York) is a typical Hymenogaster, as to its spores at least. I can not tell more from the little frustule I have but it surely is no Hysterangium. But Spegazzini, it appears to me, should not have discovered "new species" in this group until he had learned the general nature of the peculiar spores which occur and only occur in Gautieria and the closely-related genus Hymenogaster.

Catastoma purpurea from G. H. Cunningham, New Zealand.—(Fig. 2133.) This is markedly different from all similar species in the deep purplish color of all the parts. The peridium is so dark purple that it is black.

When we suggested many years ago that the spores of Catastoma juglandaeformis were borne direct on the capillitium it was received with incredulity. In fact, we were incredulous ourselves although we had seen or thought we had seen at least, spores attached to the capillitium. We may have been mistaken. But these spores have a short, blunt apiculus (Fig. 2134) and the question arises how could they be borne on a basidium and why is the apiculus blunt at the base. Surely they are not borne normally on basidia like spores of Geasters, Lycoperdons and most Gasteromycetes such as are known. That would be impossible. But if borne on the ends of the capillitium threads as they possibly may be, they would be naturally blunt where they had separated by a septum from the hyphae. Most genera of fungi have conidial spores. Why not a Gasterromycete? Of course, it is only a theory, but the only theory I can suggest to explain a *short, blunt* apiculus.

Catastoma purpurea was collected by Mr. Cunningham "lying against driftwood in a sandhill." In all probability it is a truly hypogeal fungus in its early stages. The exoperidium is a thick sand case that breaks away in large pieces. The endoperidium about a cm. in diameter is very thin and papery and so dark colored that black would not be a bad term to apply to it. It is attached to the sand case by a rather large hilum which (from analogy to other Catastomas that are known) was located on the upper side of the endoperidium as it grew. I should be glad if Mr. Cunningham would observe this point, in situ, for it has some bearing on the definition of a Catastoma. He writes me, however, that he found no growing specimens. The gleba is very dark purplish. There is no sterile base but Catastomas do not have sterile bases. The capillitium consists of short, curled hyphae with blunt ends which is also a constant character of a Catastoma. The spores unusually large, 10-12 mic., dark colored, are but slightly rough, and have a short, blunt apiculus. There is but one other species, Catastoma juglandaeforme that suggests this species in color and spores, and that is only certainly known from one collection made in South Africa by Drége, long before I was born, and that is a long time. It is the size of a walnut, four or five times as large as Catastoma purpurea.

Scleroderma Cepa from Walter W. Froggatt, Australia.—(Fig. 2135.) This has a soft, perfectly glabrous peridium and the spores are more smooth than the European form. It is probably entitled to a separate name.

Diploderma avellaneum from Rev. James Wilson, Australia.—(Fig. 2136.) We gave an account and figure of this in Myc. Notes No. 46, page 641. But we give another figure of Mr. Wilson's plant for it is larger than the specimen we previously had. In addition Mr. Wilson sends information as to its habits of growth not recorded. The genus Diploderma which is only known from Australasia is a hypogeal fungus. "Found attached to the rootlets of a Eucalytpus in rich humus in a hollow stump." We infer they were buried. But the attachment to roots is a new feature and the specimen shows the rooting base by which they were attached. The "Orders" of Gasteromycetes will some day have to be rearranged. The curious genera Diploderma and Mesophelia, both endemic in Australasia, are both closer in their spores to Phalloids than to "puff balls." Both are probably hypogeal, but none of the European hypogeal fungi have powdery gleba (without cells) barring Elaphomyces which is an Ascomycete in its early stage.

Kretzschmaria apoda from Rev. Johan Rick, Brazil.—(Fig. 2137.) The genus Kretzschmaria which was first defined by Cooke as Rhopalopsis has heads seated on "branches of an intricate stromae." (Cfr. Large Pyrenomycetes, page 19.) We hold this collection a good Kretzschmaria as suggested by Father Rick, although the heads are sessile, confluent, and have no stroma nor stipes at all. Our photograph tells the rest. The perithecia are few and large and the ostioles are indistinct. The narrow spores, 6 x 28, have a feature not noted before in the genus. Not all, but many of them have a distinct septum. Hence, according to Saccardo's artificial classification, it forms a distinct genus in the section "Phaeodidynae." It is the same difference as between Xylobotryum and Xylaria, not a good distinction for me.

Isaria Froggattii from Walter W. Froggatt, Australia.—(Fig. 2138.) This is a beautiful, pure white species and differs from all previously noted in not having the conidial spores borne on clubs but on irregular, tubercular processes. The specimen has not as yet developed the conidial spores. It grew, Mr. Froggatt states, on the "larva of a lamellicorn beetle."

The upper surface, as photographed, is densely covered with these processes and the lower surface with adhering woody fragments. It appears to me that it is a cocoon, but I know nothing of such things.

Xylaria subtrachelina from Rev. Hyacinthe Vanderyst, Congo Belge.—(Fig. 2139.) We use a name proposed by Hennings for a Brazilian collection though doubtful. The plant is about the same as Xylaria gracillima (Myc. Notes, page 771) as to general stature and moniliform porithecia, but spores are much smaller, 4 x 12. The plant is also close to Xylaria scopiformis (Xylaria Notes, page 675) but not so slender. It goes in Section 13.

Haematomyces eximus from Rev. Johan Rick, Brazil.—(Fig. 2140.) This is the first specimen of the genus we ever saw. Without the microscope it would be referred to a Tremella. In fact to the eye, color, and gelatinous nature it is Exidia recisa. The spores in asci (4 x 6-8, pale greenish, teste Rick) remove it to the Discomycetes and it is classed in Bulgariaceae. Four species of Haematomyces have been proposed. The original from Ceylon, this from Brazil and two from the United States. Whether our American species suggests the "type species" or not I do not know. Surely the American plants are misnamed "blood fungus" for there is no suggestion of blood about them. One of them, at least, if our specimens are correctly referred, is not in accord with traditional ideas of the genus. Our photograph is an original, made by Rev. Rick in Brazil from the fresh plant.

Hypoxylon fissum from Dr. Chas. E. Fairman, New York.—(Fig. 2141.) Globose about an inch in diameter, when young, with a conidid growth, reddish brown layer which cracks into areas. Conidial spores globose, hyaline, 6-7 mic. Stroma solid, black, not zonate, or very faintly when mature. Perithecia elongated, forming a periphical layer. Spores deep colored, 8 x 14-18 curved. While we class this in Hypoxylon it is close to Daldinia concentrica, same general appearance but the stroma is a different nature. But in the wintered specimen there is a faint indication of zones and the plant could be considered a Daldinia. It grew on a birch pole.

Polystictus lavendulus from Dr. S. M. Stocker, Minnesota.—(Fig. 2142.) Dr. Stocker has the good fortune to find several novel species of polypores. This I hardly could place at first, even as to section. Growing imbricate on the bark of popular, surface layer white, soft, cottony with incurved margins, when young. Pore tissue more firm and entirely different texture, pale isabelline when dry. Pores large, shallow, angular, "lavender" when fresh (teste Dr. Stocker). Spores large, piriform, tapering to base, 10 x 20 mic.(?), hyaline, smooth. The incurved margins of the young pilei give the young plants the appearance of shells. To the eye it appears same as Polyporus altocedronensis, named by Murrill from Cuba, but this has white, cottony context and the Cuba plant, pale colored. (Cfr. Note 709.) The soft cottony upper layer suggests Polyporus leucospongia (Apus Polyporus, Fig. 665) and we would classify it in the same section (86). Dr. Stocker writes me that it covered a large extent of a fallen poplar. When fresh the spores were "lavender."

As an illustration of how one can be deceived, when we wrote the above we had no suspicion that Polystictus lavendulus had any relation to Polystictus pargamenus, but we are now convinced by subsequent sendings and notes from Dr. Stocker, that it is only a form or probably condition.

It is very curious, the modes of Nature—why plants of this kind should be developed that do not even suggest the usual form, and it is often difficult to interpret them. Polystictus pargamenus seems to delight in taking abnormal forms when it grows on a poplar. A Western thick form called Polyporus chartaceus by Murrill is certainly only a thick trametoid form of Polystictus pargamenus, as this is.

Stereum Xylostroma from Rev. Louis Mille, Ecuador.—(Fig. 2143.) Hard, thick (5-6 mm.), resupinate, with distinct margin but not in these specimens reflexed. Surface dull, pale, cracked. Context light brown when freshly cut but it pales out when exposed to light. Cystidia fusiform, thick walls, dense, pale colored, acute, projecting above the surface but also densely imbedded throughout the context, in buried ones a darker color. Spores abundant, 2½ x 10, cylindrical, hyaline. The general nature of the species is that of Stereum sulcatum, section as illustrated by Burt, but spores and thickness quite different. I believe it quite close to Stereum induratum but that is a pileate species. The plant has a distant suggestion of the sterile pads called Xylostroma.

Aleurodiscus reflexus from Prof. A. Yasuda, Japan.—(Fig. 2144.) Pileus (as Stereum) thick, rigid, mostly applanate with reflexed margin. Color white or rather cream color. Spores globose, 12 mic., smooth. Paraphyses branched, filiform (as shown, Burt, Fig. 5). Cystidia few, hyaline, acute with thin walls.

This is quite close to Aleurodiscus candidus, but the paraphyses are but little involved in crystaline incrustations and no other species of this section (3) has cystidia. It grew on Quercus glauca. There are several closely-related species in this group that differ chiefly under the microscope.

Xylaria Timorensis from Otto A. Reinking, Philippines.—(Fig. 2145.) Cfr. Myc. Notes, pages 896 and 973. This is proving to be a frequent species in Luzon, and Mr. Reinking in recent shipments has sent seventeen collections, mostly on bamboo. We give another figure which is more characteristic than the

one previously given and one (Fig. 2146) where the clubs are unusually large. The thin, brown cuticle sometimes is not prominent in old collections but generally it is the feature of the plant. Spores largest measure 6 x 12 but mostly 5 x 10 or smaller.

Merulius consimilis from Otto A. Reinking, Philippines.—(Fig. 2147.) Specimens with dimidiate pilei, or resupinate. Context thin, white. Surface with distinct orange cuticle. Pores orange when dried (Mars yellow, Ridgway), deep, sinuate. Cystidia none. Spores in great abundance, subglobose, 3½ x 4, deep orange color. It grew on a dead stump of bamboo and is quite close to Merulius similis (Letter 67, Note 685), but the latter is a typical Merulius and this is dubious as to genus and differs from Merulius (typical) in having deep pores. In addition I am frankly dubious as to its being a Basidiomycete. Basidia are not found on the dried specimen which is not surprising, and we are suspicious of any fungus which bears its spores in such great quantities. The plant is so closely allied to Merulius similis that unless proved to the contrary it should be co-classed. And Merulius similis is close to Merulius lacrymans the famous (or infamous) "dry rot."

Report on Specimens Received from Correspondents

My best thanks are extended to those who favor me by forwarding to me their collections of the fungi of their regions, and particularly those who live in the tropics. Every day it becomes easier to determine the specimens for the common species have mostly taken definite form and I recognize the larger part of them at sight. Still each lot received brings considerable work, and though I am behind at present, I hope correspondents will not hesitate to send in their specimens on that account. They will all be worked over in time and those that are rare or of special interest will be published. All the large fungi are desired excepting the Agarics.

At the time this is written I have on hand packages as follows: R. H. Bunting, Gold Coast, Africa—A. V. Duthie, South Africa—Rev. Hyac Vanderyst, Congo Belge—Dr. J. B. Cleland, Australia—L. Rodway, Tasmania—H. Atherton Lee, Philippines—Otto Reinking, Philippines—E. D. Merrill, Philippines—Rev. J. Rick, Brazil (several packages)—P. van der Bijl, South Africa.

I am working the greater part of each day on them, and hope to report on the larger part of them before this gets into print.

In the following list I have put in capitals those plants that on account of rarity or novelty are of especial interest and on which articles have been or will be written and published. But do not get the impression that I only want rarities or unusual things. On the contrary, I am more interested in the "old species," their abundance, distribution and variation, and collections of the most common species, especially from the tropics are always welcome.

In my printed lists I do not give authorities for names, believing that the binomial should represent a plant name, but in acknowledging the specimens to my correspondents I give the "authority" in the event they desire to use it. All specimens are acknowledged by personal letter as soon as I get time to study and report on them. Foreign correspondents may send specimens to my English address and they will reach me promptly, although in countries which have direct parcel post arrangements with the United States it is best to send them by parcel post direct to me. Specimens may be sent to either of the following addresses:

C. G. LLOYD, 309 W. Court Street, Cincinnati, Ohio.

C. G. LLOYD, 95 Cole Park Road, Twickenham, England.

Archer, W. A., New Mexico: Calvatia occidentalis—Calvatia caelata—Lycoperdon stellare—Cyathus vernicosus—Lycoperdon cepaeforme—Polystictus hirsutus.

Ballou, Dr. W. H., New York: Polyporus borealis.

Bechtel, A. R., Indiana: Tremella mesenterica—Tylostoma mammosum.

van der Bijl, P., South Africa: CALVATIA MACROGEMMAE — Trametes hystrix — Ustulina vulgaris—Geaster saccatus—Hexagona phaeophora—Polyporus Emerici—Polystictus gallopavonis—Auricularia delicata—Polystictus proteus—Trametes ochraceus—Polystictus tabacinus—Lentinus stuppeus—Arcyria cinerea — DAEDALEA FUSCO-SPORA — Polyporus Clemensii—Rhizopogon rubescens—Exidia purpureocinerea—Lenzites betulina—Polyporus adustus—Geaster plicatus — Stereum hirsutus — Stereum fasciatum — Trametes sepium — Stereum purpureum — Lenzites Guineesis.

Bilgram, Hugo, Pennsylvania, a fine lot of Myxomycetes embracing practically a complete set as found by Mr. Bilgram, with the exception of a few of the most common species. We are deeply indebted to Mr. Bilgram for this set. While we have never made any study of Myxomycetes we are glad to get specimens for our Museum and hope that others engaged in the study of this interesting group of plants, will forward us a set of specimens of their collection.

Arcyria denudata, globosa, incarnata, insignis, nutans, pomiformis, stipata.
Badhamia rubiginosa.
Ceratiomyxa fruticulosa, porioides.
Clastoderma Debaryanum.
Comatricha pulchella, typhoides irregularis, longa.
Craterium aureum, concinnum, minutum.
Cribraria argillacea, aurantiaca, minutissima, tenella, violacea.
Diachaea leucopoda.
Dictydiaethalium plumbeum.
Dictydium cancellatum.
Diderma hemisphericum, simplex, testaceum.
Didymium Clavus, complanatum, melanospermum, nigripes, squamulosum.
Enerthenema papillatum.
Enteridium Rozeanum.
Fuligo septica.
Hemitrichia clavata, Serpula, Vesparium.
Lamproderma arcyrionema, scintillans.
Leocarpus fragilis.
Licea minima.
Lindbladia effusa.
Lycogala conicum, epidendrum.
Oligonema flavidum.
Perichaena chrysosperma, corticalis, depressa, vermicularis.
Physarella mirabilis.
Physarum atrum, bogoriense, cinereum, citrinellum, compactum, compressum, contextum, didermoides, flavicomum, globuliferum, lateritium, leucopus, melleum, murinum, nucleatum, polycephalum, pulcherrimum, pulchripes, pusillum, rubiginosum, Serpula, sinuosum, straminipes, tenerum, viride.
Stemonitis fenestrata, ferruginea, fusca, herbatica, pallida, splendens.
Trichia Botrytis, contorta, decipiens, favoginea, persimilis, scabra, varia.
Tubulina fragiformis, stipitata.

Bilgram, Hugo, Pennsylvania: Polystictus pargamenus—Polystictus versicolor—Polystictus hirsutus—Lenzites corrugata — Stereum fasciatum — Polyporus gilvus—Polystictus cinnabarinus—Lenzites saepiaria—Stereum rubiginosum.

Bisby, Prof. G. R., Manitoba: Geaster coronatus—Geaster hygrometricus—Bovista plumbea—Lycoperdon polytrichum—Lycoperdon Wrightii—Geaster rufescens — Lycoperdon gemmatum — Lycoperdon piriforme — Lycoperdon cepaeforme—Dacryomyces aurantia—Mycenastrum Corium — Coniophora puteana — Tremella clavarioides—Irpex lacteus—Hydnum Kauffmani—Helotium citrinum — Ptychogaster subiculoides — Clavaria cinerea—Odontia fusco-atra.

Bonansea, Dr. Sylino J., Mexico: TREMELLODENDRON DUBIA—Stereum purpureum.

Bottomley, Miss A. M., South Africa: Podaxon carcinomalis—Lachnea capensis.

Brace, L. J. K., Bahamas: Polystictus sanguinus—Schizophyllum commune—Trametes versatilis—Marasmius siccus—Polystictus sanguineus—Daldinia concentrica—STEREUM DICHROUM—Polystictus pinsitus—POLYPORUS MULTILOBATUS — ENDOGONE FULVA, Det. by Prof. Thaxter.

Brenkle, Dr. J. F., North Dakota: Fomes rimosus—Polyporus obtusus—Polyporus fumosus—Aleurodiscus Oakesii.

Burkill, I. H., Malay: Lenzites repanda — PTERULA SCLERODONTIUM—Ascobolus leiocarpus—Fuligo septica—Thelephora radicans.

Burke, Dr. R. P., Alabama: Cordyceps capitata—Poronia oedipes—Rhizopogon luteolus—Xylaria Berkeleyi—Isaria fulvipes—Xylaria apiculata—Isaria flabelliformis.

Burnham, S. H., New York: Polyporus frondosus.

Butignot, Dr. Ed., Switzerland: Helvella infula—Geaster triple—Polyporus lentus—TUBER EXCAVATUM—POLYPORUS MONTANUS—Sistotrema confluens.

Carne, Prof. W. M., Australia: ASEROE RUBRA.

Chardon, Carlos E., Porto Rico: Xylaria muscula—Xylaria scruposa—Xylaria olobaphe—Xylaria Myosurus—Xylaria multiplex—Xylaria variabilis—Xylaria inaequalis—Xylaria tuberiformis—Xylaria dealbata—Xylaria aemulans—Xylaria obovata—Xylaria Ridleyi—Xylaria Berkeleyi—Xylaria scopoformis.

Chase, E. P., California: Phallus imperialis—Catastoma Johnstonii.

Cox, Miss Elizabeth C., Pennsylvania: Sarcoscypha occidentalis—Polystictus cinnabarinus.

Cunningham, C. H., New Zealand: ISARIA SINCLAIRII.

Dalrymple, Miss Helen K., New Zealand: Crucibulum vulgare—Tremellodon gelatinosum—Stereum vellereum — Clavaria persimilis — Clavaria cristata — Clavaria amethystina—Fomes applanatus—Polystictus imbricatus—OTAGOA COCCINEA—Sarcosoma zelandica—Lycoperdon gemmatum—Daldinia concentrica—Fomes hemitephrus — Peziza rhenana — STEREUM MOLLE—Urnula campylospora—Melanogaster ambiguus—SCLERODERMA CAESPITOSUM—Clitocybe laccata.

Davis, Simon, Idaho: Melanogaster mollis.

Dearness, John, Canada: Hymenochaete borealis Rare. Det. by Burt.

Demetrio, C. H., Missouri: Polyporus rutilans—Fomes applantus—POLYPORUS OBTUSUS—Calvatia caelata—BOVISTELLA OHIENSIS—Polystictus con-

chifer—Auricula reflexa—Polyporus fumosus—Merulius incarnatus—Fomes rimosus—Polyporus picipes—Polyporus elegans—Calvatia caelata—Geaster saccatus.

Ducharme, Le Pere G., Canada: Polyporus adustus—Psalliota arvensis—Daedalea confragosa—Fomes lencophaeus—Polyporus betulinus—Polystictus hirsutus—Merulius tremellosus—Polyporus lucidus—Polyporus cuticularis—Polyporus sulphureus—Polyporus brumalis—Polystictus versicolor—Fomes pinicola—Daedalea unicolor — Polyporus fuscus — Cantharellus floccosus — XYLARIA SQUAMOSA — Trametes suaveolens — Fomes igniarius.

Dupret, Rev. H., Canada: Tuber monticolum.

Duthie, Miss O. V., South Africa: Catastoma magnum — Daedalea Dregeana — Fomes pectinatus — Xylaria Hypoxylon — Battarrea phalloidea — Mutinus bambusinus—Polyporus gilvus—Lycoperdon djurense—Phallus rubicundus — Lenzites trabea — GEASTER HIERONYMII—Stereum hirsutum—Stereum pusillum—Polystictus proteus—Phellorina strobilina—Trametes cingulata—Fomes leucophaeus—Lycoperdon pusillum—Trametes hispida—Geaster saccatus—FOMES CURTISII.

Elliott, John A., Arkansas: Scleroderma Geaster.

Fairman, Dr. Chas. E., New York: HYPOXYLON FISSUM.

Fassett, N. C., Massachusetts: Calopposis nodulosa mss. name which we shall not publish until we can get more material—Tremella frondosa—Daedalea confragosa—Polystictus pergamenus—Lenzites betulina—Tubercularia vulgaris—Nummularia Bulliardii—Peniophora cinerea.

Fink, Prof. Bruce, Ohio: Tylostoma verrucosa.

Fink, Prof. Bruce, Conway, Ky.: Cordyceps capitata—Mitremyces Ravenelii.

Fawcett, H. S., California: Polysaccum crassipes.

Fitzpatrick, Prof. H. M., New York.—The species are all named by Prof. Fitzpatrick. In addition he sends a specimen of each tuberaceous and hypogaeal collection that he has made. He is the only collector in the Eastern States who has hunted much for these difficult plants. Many of his collections are as yet unnamed: RETICULARIA LYCOPERDON—Lycogola flavofuscum—Rhizopogon rubescens—Phallogaster saccatus—Elaphomyces granulatus—Hysterangium stoloniferum—Gauteria graveolens—Rhizopogon luteolus—HAEMATOMYCES FAGINEA—Octaviania asterospora.

Fries, Prof. Thore G., Sweden: Nidularia denudata (as he has labeled it)—Lycoperdon spadiceum.

Grant, J. M., Washington (State): Phlebia radiata — Linbladia effusa — Diatrybe bullata — Poria punctata—Polyporus caesius—Peniophora incarnata—Spumaria alba—Merulius tremellosus—Fomes igniarius—Polyporus fuscus—Hymenochaete tabacina—Stereum complicatum—Stereum spadiceum—Xylaria Hypoxylon — Stereum vellereum — Hymenochaete rugispora — Stereum complicatum—Merulius confluens—Coniophora arida—Clavaria stricta.

Gossweiler, John, Africa: Schizophyllum commune—Lycogala Epidendrum—Polyporus maliensis—Guepinia spathulata—Polystictus occidentalis—Hexagona Gossweileri—Polyporus Oerstedii—Pterula Landelphiae—Hexagona hirta—Hypoxylon haematostroma—Polystictus leoninus—Xylaria obesa.

Hibbard, Ann, Massachusetts: TREMELLODENDRON HIBBARDII.

Hofer, W. B., Ohio: Phallus duplicatus.

Honey, E. E., Adirondacks: Exidia glandulosa—Calocera cornea—Dacryomyces lacrymalis—Hornomyces aurantiaca—Guepinia spathulata—Seismosarca alba.

Hrdlicka, A., Washington, D. C.: Polyporus cristatus.

Humphrey, C. J., Wisconsin and other Northern States: Cyathus striatus—Crucibulum vulgare—Xylaria polymorpha—Daldinia vernicosa—Daldinia concentrica—Hypoxylon atropunctatum—Lycoperdon gemmatum — Lycoperdon piriforme — HYPOXYLON PAPILLATUM—Hypoxylon cohaerens.

Humphrey, C. J., California and Washington: Hypoxylon Thoursianum—Hypoxylon fuscopurpureum.

Humphrey, C. J., Florida and Louisiana: Ustulina vulgaris—Xylaria carpophila—Xylaria corniformis — Hypoxylon marginatum — Daldinia concentrica — Hypoxylon subchlorium—Hypoxylon fuscopurpureum—Hypoxylon crocatum—Hypoxylon rubiginosum—Nummualria punctulatum.

Humphrey, C. J., Cuba: Cyathus Montagnei—Hypoxylon haematostroma—Camillea Sagraena.

Kauffman, Dr. C. H., New York: Endogone sphagnophile (collected in Adirondacks)—Naematelia nucleata.

Kawamura, Dr. S., Japan: Cordyceps nutans.

Lee, H. A. Collected in North Borneo by M. Ramos and C. Domingo and communicated by H. Atherton Lee, Philippines: Trametes acuta—Polystictus affinis—Polyporus rigidus—Lentinus Elmeri—Guepinia fissa—Polystictus sanguineus—Schizophyllum commune—Trametes Persoonii—Laschia Tonkinensis—POLYPORUS RAMOSII—Polystictus microloma—Trametes roseola—POLYPORUS SANDAKANII—Polyporus lignosus—Stereum Mellisii—DAEDALEA ROSEOLA—POLYSTICTUS GLABRO-RIGENS—TRAMETES PERSOONII—POLYPORUS SEMILACCATUS—Cladoderris elegans—AURICULARIA STELLATA.

Lee, H. Atherton. Collected by Peter Nelson in Guam and forwarded by H. A. Lee: Hexagona tenuis — Polyporus rigidus — Hydnum Rawakense — DALDINIA ASPHALTUM—Polystictus occidentalis —Trametes devexa—Lentinus squamulosus—Polyporus Fijii — Trametes glabescens — LENTINUS FUSCO-EXACTUS—Polyporus meleagris—Parmaria pannosa. Determined by Prof. Bruce Fink.

Lee, H. Atherton, Philippines: Polystictus luteus —Trametes cingulata—Guepinia spathularis—SCHIZO-PHYLLUM COMMUNE — Cyathus plicatulus — LAMELLA INSOLATA (too uncertain to publish)— Auricularia polytricha—Trametes amplopora—Trametes Persoonii — Polystictus occidentalis — GUEPINIA SPATHULARIA (Caespitose)—Polyporus zonalis— Lenzites striata — Trametes heteropora — Trametes Meyenii—Polystictus polyzonus—Polystictus vellereus— Trichoscypha Hindsii—Favolus fibrillosus—Auricularia mesenterica — CORTICIUM RIVULOSUM — HEXA-GONA FUSCO-GLABRA—Polystictus sanguineus— HYDNUM DECEPTIVUM—Geaster Scleroderma— Hymenochaete feruginea—Polystictus florideus—Cyathus Montagnei—Stereum (Hymen) tenuissimum—Poria ferruginosa — TRICHOSCYPHA TRICHOLOMA — Stereum Bresadoleanum—Polyporus Menziesii—Xylaria Brasiliensis—XYLARIA TENUIS—Xylaria Hypoxylon — STEREUM CRENATUM — Stereum rimosum — Auricula reflexa — LENTINUS ORINOCENSIS — AURICULA REFLEXA—Hydnochaete Philippensis— LENZITES POLITA—Trametes Muelleri—XYLARIA NUTANS.

Leeper, Burtt, Salem, Ohio: Fomes fomentarius —HYDNUM GLABRESCENS—Thelephora cuticularis — Polyporus sulphureus — Clavaria pistillaris — Poria punctata—Poria tsugina—Polyporus malicola—Fomes applanatus—Stereum fasciatum—Polyporus casealis— Polyporus gilvus—Polyporus corruscans—Fomes rimo-sus — Polyporus graveolens — Polystictus hirsutus — Daedalia confragosa—Tremella vesicaria—Polystictus conchifer — Polyporus fumidiceps — PANLOLUS EPIMYCES.

Lewis, John E. A., Japan: GLOBOSOPYRENO ATER—LYCOPERDOPSIS RETICULATUS— POLYSTICTUS ALBO-REGULARIS—IRPEX CON-SORS—Polystictus azureus—Fomes pinicola—Poly-stictus pergamenus—Polyporus volvatus—Irpex consors —Lenzites saepiaria—Poria punctata.

Longyear, B. O., Colorado: Rhizopogon rubescens.

Lowater, W. R., Ohio: Hydnum aurantiacum— Hydnum velutinum—Fomes connatus—Hydnum zona-tum—Hydnum ferrugineum—Hydnum scobiculatum— Hydnum adustum—Hydnum amicum—Hydnum nigrum —Hydnum compactum—Daedalea confragosa—Poria ferruginosa—Clavaria juncea—Clavaria macrorhiza.

Manning, W. E., New York: Trametes sepium— Trametes malicola.

Martin, Geo. W., Illinois: Calvatia gigantea— Scleroderma flavidum—Aleurodiscus Oakesii—Helvella crispa—Guepinia spathularia.

Marudarajan, D., British India: Trametes cingu lata—Polystictus leoninus—Polyporus grammocephalus— Hexagona apiaria — Trametes versiformis — Daedalea repanda—Auricularia auriculae Judea—Xylaria Timo-rensis—Polyporus Maliensis—Polyporus Ikenoi.

Mattirolo, Prof. Oreste, Italy.—Our museum has been further enriched by a liberal contribution of hypo-geal fungi from Prof. O. Mattirolo, the eminent specialist in this group. Former workers with this group in America have been much handicapped by lack of authen-tic material, and a large part of what has been written is not only wrong, but worse than wrong, for it only introduces confusion into a subject that has been well and accurately worked in Europe. We appreciate to the full extent the value of a set of specimens from Prof. Mattirolo, a man who knows what he is doing.

Rhizopogon rubescens, luteolus, Briardi, provincialis.

Elaphomyces Moretti, Persoonii, echinatus, mutabilis, Leveillei, hirtus, variegatus, asperulus, granulatus, aculeatus, anthracinus, citrinus, decipiens, leucos-porus, cyanosporus.

Merrill, E. D., Philippines.—These specimens have been on hand many months, and there are still a large number that I have not found time to work over: FOMES MIRABILIS—FOMES MARTIUS—Fomes Kermes—Fomes australis—Fomes Robinsoniae—Fomes robustus—FOMES DOCHMIUS—Fomes tornatus— Fomes melanoporus—Fomes senex—Fomes Caryophylli —Fomes cinereus—Fomes pectinatus—Fomes lamaensis —Fomes senex—Fomes fastuosus—Fomes minutulus.

Mille, Rev. L., S. J., Ecuador: POLYPORUS URSINULUS — FAVOLUS PARVIPORUS — Fuligo septica—Geaster limbatus—Geaster saccatus—GUEP-INIA CRENATA—MERULIUS CONCHOIDES— Calocera palmata — STEREUM XYLOSTROMA — Merulius lacrymans.

Mitchell, James, New Zealand: Fomes pomaceus —Poria versipora—Polyporus gilvus—Stereum mem-branaceum—Thelephora terrestris.

Miyabe, Dr. Kingo, Japan.—It has been many a long day since we have received as nice a lot of speci-mens as these from Dr. Miyabe. The specimens were all fine, nicely selected, ample in quantity and represents extensive collections. There are more Japanese collec-tions in this one shipment, than in every museum in Europe today: Fomes connatus—Fomes igniarius— Fomes robustus—Fomes senex—Fomes fomentarius— Fomes pinicola—Fomes applanatus—Polyporus arcu-

larius—Fomes vegetus—Stereum intricatum—Radulum Javanicum—Polystictus abietinus—Trametes hispida——Daedalea confragosa—IRPEX MIYABEI—Stereum cinerescens—Trametes Trogii—Trametes purpurea—Auricularia auriculae Judae—Polystictus conchifer—Lenzites saepiaria—Polystictus illicicola—Exidia glandulosa—Auricularia mesenterica—Stereum fasciatum—Polyporus secernibilis—Polystictus glabratus—Polystictus hirsutus — Polyporus adustus — DAEDALEA MOLLICULA—Lenzites abietis—Polyporus fumosus—Irpex lamelliformis—Polystictus occidentalis—Polystictus versicolor—Polyporus Wilsonii—Lenzites tricolor—Lenzites subferruginea—Polyporus adustus—Lenzites saepiaria—Poria sinuosa—Lenzites murinus—Trametes odorata—Merulius lacrymans—Daedalea unicolor—Polyporus picipes—Daedalea glabrescens—POLYPORUS AURANTIACUS—Polystictus luteus—Merulius tremellosus—Trametes carnea—Polyporus gilvus—Polyporus varius—Polystictus cinnamomeus—Polyporus caesius—Polyporus frondosus—POLYPORUS MONTANUS—Polyporus fumosus—Trametes Dickinsii—Fomes melanoporus—Polyporus subpertusus—Polyporus illicicola—Polyporus radiatus—Polyporus Cumingii—TRAMETES ROSEA-ZONATA—TRAMETES PICTA—Daedalea Kusanoi—Trametes suaveolens—Polystictus hirsutus—Polyporus dryadeus—Lenzites tenuis—Polystictus polyzonus — Polystictus biformis — Hydnum helvolum — Trametes Bulliardii—Septobasidium pedicellatum.

Moxley, Geo. L., California: Tylostoma poculatum—Ciliaria scutellina.

Munz, P. A., California: Polyporus voelvatus—Lenzites betulina—Schizophyllum commune—Trametes hispida.

Noble, Mrs. M. A., Florida: Polystictus versicolor—Xylaria Longiana—Polyporus dichrous—Poria ambiqua.

Odell, W. S., Canada: Geaster coronatus.

Overholts, L .O., Pennsylvania: Calvatia craniiformis—Fomes annosus—Tremellodendron pallidum—Sphaerobolus stellatus — Hymenochaete epichlora — Coryne sarcoides—Dacryomyces deliquescens—Polyporus trabeus—Fomes robustus—Hypoxylon rubiginosum—Hydnum Himantia—Polyporus amorphus—Dictydiaethalium plumbeum—Dacryomyces chrysocoma—Dacryomyces deliquescens—Phallogaster saccatus—Coniophora Kalmiae—Dacryomyces hyalinus—Merulius tremellosus—Solenia villosa—Poria fimbriata—Hymenochaete tenuis (rare)—Corticinum galactinum—TREMELLA LUTESCENS—Pilacre faginea—ISARIA ARENEARUM—Hymenochaete corrugata—Cyphella fasciculata—Stereum purpureum—Hydnum pulcherrimum—Corticium galactinum—Hypomyces rosellus—Calocera dubia—Tremellodon gelatinosum—Hypoxylon coccineum—Hymenochaete badio-ferruginea (tabacina for me)—Peniophora laevis — Corticium investiens — Calocera cornea — Stereum Michenerii—Polyporus albellus—Cyphella conglobata.

Parish, S. B., California: Calvatia sculptum (a fine specimen of a rare species)—Polystictus abietinus — Poria calcea — Gomphidius vinicolor — Polyporus Schweinitzii—Polyporus volvatus—Stereum sanguineolentum.

Paul, J. T., Australia: Polyporus ochroleucus—Trametes lilacino-gilvus—Scleroderma flavidum—Polystictus hirsutus—Stereum elegans—Polystictus cinnabarinus—Polysaccum Pisocarpium—Sepedonium chrysospermum — Clavaria pistillaris? — Stereum elegans — Clavaria cinerea — Scleroderma Cepa — CLAVARIA LAETA—Hydnum scobiculatum—Hydnum zonatum—Polyporus Wilsonii?—POLYPORUS ATROHISPIDUS — Polyporus Hartmanni — Fomes ochrolencus — Fomes leucophaeus—Polystictus sanguineus—Cyathus vernicosus.

Peckolt, Dr. Gustavo, Brazil: DENDROCLADIUM PECKOLTII.

Povah, Alfred H. W., Alabama: Octaviania Ravenelii—Rhizopogon rubescens.

Rajan, Dr. D. Maruda, South India: Fomes rimosus—Polyporus grammocephalus—Trametes semitosta—Polystictus occidentalis—Polyporus Manilaensis—Polystictus tabacinus—Polystictus Meyenii—Polystictus affinis—Polyporus rigidus—Polystictus phocinus—Trametes Persoonii—Trametes Sycomori—Polyporus semilaccatus—Polyporus acervatus—Favolus Jacobaeus—Polyporus arcularius—Polyporus albellus—Hexagona tenuis.

Rapp, S., Florida: Polyporus Schweinitzii—TESTICULARIA CYPERI—Polystictus tabacinus—Nummularia punctulatum—Polystictus Friesii—Polyporus dichrous.

Reinking, Otto A., Philippines.—We continue our list of species forwarded by Mr. Reinking. Mr. Reinking has sent such large numbers of specimens that we have only found time to study a portion of them. We will work over them and report on them as rapidly as possible: Trametes Persoonii — Trametes acuta — PTERULA SCLERODONTIUM — POLYSTICTUS CRENATUS — Polystictus cervino-gilvus — PANUS CORIACEUS—Polystictus affinis—Hexagona cucullata—POLYSTICTUS CLADOPHORUS—POLYPORUS MALIENSIS — POLYPORUS (GANODERMUS) ASPERULATUS—Polyporus Japonicus—POLYPORUS (AMAURODERMUS) RENIDENS—Polyporus longipes—Polyporus costatus—Polystictus gallopavonis—Stereum villosum—Polyporus Rhizophorae—Lenzites repanda—Lenzites Japonica—Lenzites tenuis—Trametes Meyenii—MERULIUS CONSIMILIS—Polystictus microlomus—Auricularia auriculae-Judae—Panus cladophora — Ustulina vulgaris — Xylaria herculea —

Xylaria eucephala—Xylaria Reinkingii—Xylaria apiculata—Xylaria Timorensis—Xylaria luzonensis—Xylaria nigripes—Xylaria faveolis—Xylaria variabilis—Xylaria luteostromata—Xylaria anisopleura—Xylaria multiplex—Daldinia concentrica—Xylaria allantoidea—Xylaria tabacina—Hypoxylon haematostroma—Sarcoxylon compunctum—Hypoxylon rubiginosum—Rosellinia gigantea—Ustulina vulgaris—Kretzschmaria heliscus—Hypoxylon globosum—Hypoxylon Broomeianum—Polystictus Persoonii.

Rhoades, Arthur S., Washington, D. C.: Polyporus glomeratus—Daedalea confragosa—Poria tulipifera — Irpex lacteus — Hydnum ochraceum — Fomes rimosus—Trametes carnea—Polyporus Spraguei—Fomes robustus—Polyporus (Ganodernus) resinaceus—Polyporus galactinus—Polyporus circinatus.

Rick, Rev. Johan, Brazil.—Many of these are listed under names furnished by Rev. Rick. We have many packages through the liberality of Rev. Rick that we have not found time to study: Polyporus opacus—Polyporus rufo-flavus—Xylaria badia—Favolus megaloporus — Xylaria discoidea — Polyporus tricholoma — Nummularia asarcodes—Poria bicolor—Nummularia maculata—Polyporus nephridius—Polyporus brachypus—Hypoxylon chionostromum—Polyporus Blanchetianus—Xylaria Berkeleyii—Polyporus Puttemansii—Polyporus vinosus—Fomes intertextus—Polyporus neofulvus—Polyporus hiascens—Polyporus subfulvus—Polyporus rigidus—ISARIA BUQUETII—Daldinia exsurgens—Cordyceps gracilis—Pterula incarnata—Cordyceps miltinus—Phyllachora Sopographica—Lachnocladium dubiosum—Erenella similis—SIROBASIDIUM BREFELDIANUM — ASCOPOLYPORUS POLYCHROUS — Torrubiella rubra—Cordyceps myrmecophila—Polystictus brachypus — HAEMATOMYCES EXIMIUS — Ceracea Rickii—Hypocrea flavidula—Hypoxylon rubigineo-areolatum—Polyporus varius—Saccardia Durantae—Polyporus dichrous—KRETZSCHMARIA APODA—Hydnochaeta brasiliense—Hydnochaete ferruginea—Xylaria exacuta — Calocera furcata — POLYPORUS HOLLICKSII—Cordyceps militaris.

Rodney, L., Tasmania: Polyporus australiensis—Polystictus flavus—Erinella apala—Auricularia reflexa—Polystictus bruneo-leucus—Polyporus intactilis—Poria ferruginosa—Polyporus atrostrigosus—Polyporus pulcherrimus—Fomes applanatus—POLYPORUS MACULATISSIMUS.

Rosen, H. R., Missouri: Geaster Archeri.

Scarfe, W. A., New Zealand: Polystictus versicolor—Paulocotylis pila—Crucibulum vulgare—Clavaria persimilis—Clavaria cristata—Lycoperdon gemmatum—Polystictus imbricatus—Urnula campylospora—Discinia apiculata.

Seaver, Fred J., Trinidad: CAMILLA BACILLUM—Stereum australe—Fomes endotheius—Fomes rimosus—Hexagona (un-named)—Polyporus Caryophyllaceus.

Semmens, E. J., Victoria: Catastoma pedicellatum—Hexagona Gunnii—LYCOPERDON RETIS—Dacryomyces digressus—Auricularia reflexa—Guepinia pezizaeformis—Geaster saccatus—Geaster floriformis—Geaster striatulus — Calocera cornea — Scleroderma columnare — Fomes pomaceus — Lycoperdon nigrum — Rosellinia aquila.

Siggers, Paul V., Costa Rica: Daldinia concentrica—Xylaria scopiformis—Xylaria dichotoma—Xylaria Schweinitzii — CAMILLEA BOMBA — XYLARIA SCRUPOSA—Stereum pergameneum.

Silveira, Alvaro da, Brazil: Fomes applanatus—Trametes hydnoides—Favolus Braziliensis.

Snell, Walter H., Rhode Island: Reticularia Lycoperdon.

Sterling, E. B., New Jersey: Irpex pachylon — Hydnum septentrionale — Hydnum septentuonale? (tends toward pulcherrimum)—HYDNUM PULCHERRIMUM.

Sterling, E. B., Adirondacks: Hydnum septentrionale.

Stocker, Dr. S. M., Minnesota: Tremella mycetophila—Discina repanda?—Polyporus squamosus—Dermatea furfuracea—Geaster saccatus—Lycoperdon piriforme—Polystictus pergamanus—POLYSTICTUS LAVENDULUS—Irpex lacteus—Merulius tremellosus.

Thaxter, Prof. Roland, Cambridge, Mass: Vibrissea foliorum — Geoglossum atropurpureum — Mitrula cucullata.

Towne, Stewart S., California: Poria crenata—Acarospora xanthophana—Fomes robustus—Fomes applanatus — Trametes malicola — Cyathus pygmaeus — Tylostoma subfuscum—Geaster minimus.

Venter, L. R., South Africa: Trametes cingulata — POLYSTICTUS LEONINUS — Boletus flavus — Psalliota campestris—Lepiota procera—Trametes hispida.

Walker, Kato A. Jones: Lentinus strigosus—Fomes leucophaeus—Trametes carnea—Lenzites betulina—Polyporus dichrous—Daldinia concentrica—Lenzites ochraceus—Fomes roburneus.

Welch, D. S., New York: Dacryomyces aurantia—Dacryomyces deliquescens—Seismosarca alba—Auricularia auricula—Exidia Beardsleei—Exidia recisa—TREMELLA GYROSO-ALBA—Tremella carneo-alba.

Whetstone, Dr. M. S., Minneapolis: Tylostoma campestre.

White, Richard P., New York: Geaster rufescens.

White, Richard P., Kansas: Geaster hygrometricus—Catastoma circumscissum.

Weir, James R., Idaho: Poria Weirii—Fomes pinicola — Poria subacida — Stereum purpureum — Phlebia radiata — Trametes setosa — Aleueodiscus Grantii — Sphaeronaema pruinosum — Diatrype disciformis — Clavaria ligula—Trametes heteromorpha—Dimerosporium Collinsii—Keithia thrynia—Exoasus Johansonii.

Weir, James R., Indiana: Stereum fasciatum—Diatype stigma.

Wier, James R., District of Columbia: Daedalea quercina — Peniophora cinerea — Fomes fomentarius — Lenzites betulina—Stereum bicolor—Daelalea confragosa —Irpex farinaceus—Irpex lacteus—Poria tulipifera—Fomes fraxinophilus.

Wier, James R., Virginia: Poria subacida—Fomes pomaceus.

Wilson, C. L., New York: Merulius tremellosus—Polyporus cuticularis—Dacryomitra dubia—Polyporus sessilis—Polyporus benzoinus—Clavaria fusiformis—Poria subacida—GYROCEPHALUS RUFUS.

Yasuda, Prof. A., Japan: Polystictus tabacinus—Corticium caeruleum—Irpex castaneus—Stereum tabacinum—Panus Tahitensis—Trogia crispa—Lenzites Berkeleyi—Trametes Sendaiensi—Hexagona Deschampsii—Irpex parvulus—Polyporus hirsutus—Fomes igniarius —Polystictus azureus—ALEURODISCUS REFLEXUS — Stereum rugisporum — Xylaria olobapha — Stereum roseum.

Yates, H. S., Sumatra: Polyporus (Ganodermus) nigro-laccatus—Trametes (or Polystictus) badius—Hexagona albida—Fomes (Ganodermus) australis—Trametes roseola—Polystictus ochraceus—STEREUM REFLEXUM—Trametes heteropora—Polystictus cristatus—XYLARIA FISSILIS—Polystictus tenuis—Polyporus fasciatus—Polystictus Blumei—Cladoderris infundibuliformis—Auricula reflexa—Polystictus polyzonus —Polyporus sub-fulvus—Polyporus rubidus—Trametes Persoonii—Polystictus microlomus—Fomes australis—Lenzites adusta—Fomes australis—Hexagona tenuis—Trametes cingulata — Trametes versatilis — Lentinus Sajor-Caju—Polyporus rigidus—Stereum surinamense—Polyporus rubidus—Polystictus microlomus—Lenzites striata — Polystictus sanguineus — AURICULARIA TENUIS—Polystictus occidentalis—Trametes (or Polystictus) Meyenii—Polyporus (Ganodermus) gibbosus—Hexagona tenuis.

Notes on Specimens Received from Correspondents

NOTE 1051—**Polyporus montanus from Dr. E. Butignot, Switzerland.**—A rare plant in Europe which corresponds to our Polyporus Berkeleyi. We have an illustration of it now ready to print. It is rare in Europe, absent from America, and only recently found by Prof. Miyabe in Japan.

NOTE 1052—**Reticularia Lycoperdon from Prof. H. M. Fitzpatrick, New York.**—This is an old and thin peridium, silvery. It is not "bronze" like those I have seen before. It can be told on sight from Lycogola flavo-fuscum by the brown gleba which is grey in the latter species. Also the spores at once distinguish these two species as noted in Myc. Notes, page 1041.

NOTE 1053—**Polyporus Maliensis from Otto A. Reinking, Philippines.**—This specimen is seven mm. thick and I believe I never saw one before more than two mm. thick. Four times the usual thickness makes a vast difference in the appearance of a "species" and it is hard to believe it is the same thing. Still I can not find any other difference. It was collected by Mr. Reinking (No. 11028) on Mt. Maquiling, Luzon.

NOTE 1054—**Fomes Curtisii from Miss O. V. Duthie, South Africa.**—This has same coloration as Polyporus Curtisii but stratified pores and is sessile. It is no doubt a Fomes form. It belongs in Section 73 but is one of the species-forms of Polyporus lucidus.

NOTE 1055—**Fomes sublamaensis from Otto A. Reinking, Philippines.**—Context color is the most uniform character of Fomes. Fomes lamaenensis has bright rhei colored context (yellow ochre of Ridgway). The color of this is Prout's brown. Compare Ridgway's Plate 15 and note what a difference there is. And yet I have an idea that this is an old Fomes form of Fomes lamaenensis. It is same general form, same under the microscope, but quite different context color, and a true Fomes, hard, heavy, distinct pore layers, etc. Nor did I ever note as large a specimen of Fomes lamaenensis as this which measures a foot across. This must be rare. Fomes lamaenensis is common, and recognized on sight by the bright rhei color of its context, and there is rarely any indication of a true Fomes.

NOTE 1056—**Clavaria laeta from J. T. Paul, Australia.**—At least in sense of Letter 63, Note 452 from Florida. It is a question if it is other than Clavaria fusiformis but appears to differ to me in the orange color and colored basidia. Clavaria fusiformis is egg yellow and has hyaline basidia (teste Cotton). Spores globose, 6-7 mic., hyaline. Basidia colored with four prominent sterigmata. The color seems to reside in the basidia.

NOTE 1057—**Polyporus atrohispidus from J. T. Paul, Australia.**—The freshly dried plant has a reddish cast and belongs probably in Section 84 instead of 82 where we have classed it. (Cfr. Myc. Notes, page 823.) It may be a white plant when fresh. It is

evidently closely related to our Polyporus ursinus. We are getting considerable of it from Australia.

NOTE 1058—**Bovistella Ohiensis from Rev. C. H. Demetrio, Missouri.**—A mammouth specimen five inches in diameter. Rev. Demetrio found it growing in his garden. This is our most frequent "puff ball" around Cincinnati but we have never collected more than two inches in diameter. It is also "the most frequent puff ball in the cotton fields of the South." In Europe it is most rare indeed and does not occur in European literature, although we have a collection from Spain and one from Germany. (Cfr. Myc. Notes, page 280.)

NOTE 1059—**Polystictus cristatus from H. S. Yates, Sumatra.**—We have this before from Malay (Cfr., page 1035). It is close but not same as Polystictus zelanicus, which is more frequent in Philippines.

NOTE 1060—**Daldinia concentrica from R. H. Bunting,** who is connected with the Department of Agriculture, Aburi, Gold Coast, Africa, and who has sent me many interesting specimens, writes me that Daldinia concentrica is used by the natives of the Gold Coast as a purgative. "They procure a nearly dry specimen and scrape enough from the outside to half cover a three-penny piece. This is mixed with a little boiled rice and a spoon full of palm oil, and is swallowed." As Daldinia concentrica is a common fungus in every country of the world, this information may be of economic importance. I have never before heard that the fungus had any purgative properties.

NOTE 1061—**Correction.**—Our statement on page 985, that the list of fungi of Day's catalogue was contributed by Judge Clinton is an error, as we note on page 110 of the catalogue. It was prepared by Professor Peck and based on the collections made by Judge Clinton. We got the impression when we went through the herbarium that the determinations were made by Clinton, as the labeling is mostly in his writing, but from the direct statement in the catalogue the determinations and list were all made by Professor Peck. This, of course, gives the collection additional historical value.

NOTE 1062—**Prof. McGinty department.**—One of our correspondents has kindly favored us with a copy of a letter he has received from a farmer with reference to a phalloid.

"Enclosed is a very peculiar insect which the children found while digging potatoes. It had a mate which hid in the ground and we were not able to secure the whole of this one—the feelers were orange, the tail white, but the whole is considerably shriveled. Can you tell us if it is a new pest to infest potatoes, and greatly oblige."

The inquiry has been turned over to Professor McGinty and the answer will appear as soon as we hear from him on the subject.

NOTE 1063—**Polyporus borealis from Dr. W. H. Ballou, New York.**—This form growing upright on a pine stump should have a separate name. (Cfr. letter 60, Note 370.)

NOTE 1064—**Hymenochaete borealis from John Dearness, Canada.**—A rare species of which Burt only cites three collections. This was named by Burt. It does not stand out for me very distinctly however.

NOTE 1065—**Polyporus (Ganodermus) asperulatus from Otto A. Reinking, Philippines.**—We gave an account and figure of this Myc. Notes page 1063, fig. 2000. This rare species is now known to me from five Philippine collections, the original (Copeland in 1907) and four collections sent me by Mr. Reinking, viz: T. Ferrer 9767, 10186, Sison 9729, and Reinking 9931.

NOTE 1066—**Poria crocea from L. Rodney, Tasmania.**—Neither to the eye or under the microscope can I tell any difference between this Tasmania plant and our Polyporus croceus, but our plant is always pileate, never with any resupinate portions, as far as my specimens, yet Mr. Rodney's plant is all resupinate. If the same species, it is strange it should take such different habits in the two countries. Mr. Rodney does not send any collection notes, but if it is our plant, it is a bright orange yellow while fresh, and dries reddish brown. The color change is very marked. The pores of the Tasmania plant are a cm. deep. We have a similar, Poria mutans, with same color change in drying, but our Poria never has pores more than an mm. or two deep, therefore can not be Mr. Rodney's plant.

NOTE 1067—**Corticium investiens from L. O. Overholts, Pennsylvania.**—As named (Radulum) by Schweinstz, I do not know whether Burt or Bresadola first made the reference, but it is not material. It is a common plant peculiar in the component branched spicule-like hyphae. Hoehnel based on this peculiarity the cule-like hyphea. Hoehnel based on this peculiarity the genus, Asterostromella, which would probably have been Surely no more striking character was ever proposed on which to base a genus. Ravenel, and afterwards Ellis, distributed the plant as Corticium epiphyllum, attributed to Persoon. I think neither know anything about Persoon's plant, but it would not make any difference to those who follow the Brussel's conspirators, for Persoon's name would not be adopted, even if it proved both true and prior. In addition to the peculiar hyphae, the plant has most peculiar spores, shaped just like nine-pins. What Fries called the plant, I do not know, but I do know that it is the most abundant resupinate Corticium that grows on Fries collection grounds in the beech woods at Femsjo, and Fries at that time was keen on such things.

NOTE 1068—**Lysurus borealis from Prof. E. A. Bessey, Michigan.**—Prof. E. A. Bessey advises us

that in the latter part of September and October, 1921, he found this plant three times in different sections of Michigan; once in the Southwestern county, once in the vicinity of East Lansing, and once about fifty miles east of Saginaw. He has it also from Clinton from Lenawee county. He adds the following interesting note from fresh plants:

"The stipe and volva are pure white in the younger specimens and dirty white in the older ones. The color of the gleba is chocolate brown without any distinct tinge of green or olive color. It covers the inner side of the arms, and except for the apical fourth extends around on the side of the arm, and for the basal half circles the arm so that only the dorsal one-third is free from the gleba. This free portion is pure white. On washing off the gleba, the transversely rugose inner surface is a pale dirty orange in color."

Lysurus borealis, or more correctly, as I believe, Lysurus australiensis, is probably an introduced plant into the United States, but it has become quite well established in quite a number of the localities. We have listed these in detail in our previous publication, as far as known. It seems to have some connection with grass roots, and is usually found in fields where the sod has been turned under. Our best thanks are due to Prof. Bessey for notes of additional localities.

NOTE 1069—**Fomes rimosus from J. F. Brenckle, North Dakota.**—On oak. It seems there is hardly a locust tree in this neighborhood that does not have Fomes rimosus, and as far as I have noticed, only the locust. But Dr. Brenckle sends it "on oak stump." Morgan always claimed that he had collected it on oak, but I was a little dubious about it. But there is no question about Dr. Brenckle's plant.

NOTE 1070—**Fomes rimosus from Burtt Leeper, Ohio.**—We so refer it, for we are confident that we only have one Fomes with globose colored spores at all similar. Still we never noticed Fomes rimosus with a white (new) growth, and it is not supposed to grow on white oak.

NOTE 1071—**Fomes roburneus from Kate A. Jones Walker, New Hampshire.**—While this is only a form of Fomes igniarius as stated on page 246, Fomes pamphlet, it is a rare form and quite distinct from the usual plant. The exceptional shape may not mean anything, but due perhaps to the pendant position of growth. The features of difference are the narrow, distinct pore layers and a few setae. While this specimen does not accord with the only type known (at Kew), it has this advantage. It does agree exactly with Fries' figure (Icones, 184), while Fries' "type" and other specimens I have seen do not. We have previously commented on this. (Cfr. Fomes Synopsis, page 246.)

NOTE 1072—**Lenzites ochraceus from Kate A. Jones Walker, New Hampshire.**—It may be only a form of Lenzites betulina, but it has the surface coloration and fine unzoned pubescence of Polystictus ochraceus. One could fill a page with the usual pedantic "description" of so-called "new species," and not describe it as well as above sentence. We will let it go at that, though our learned law-makers, who probably would not know Polystictus ochraceus from Lenzites betulina, may protest.

NOTE 1073—**Polystictus hirsutus from W. A. Archer, New Mexico.**—What a foolish thing it is for men to claim that they can define the species of nature! Here is a plant from New Mexico that is surely the same "species" as our common Polystictus hirsutus, but a different color and a finer pubescence. The color and pubescence is that of Polystictus ochraceus, but the plant is not Polystictus ochraceus. How do we know it? We can not tell that, excepting that we recognize it from acquaintance and familiarity with it. We might call it a "new species" and present evidence that another might believe, but we could not believe it ourselves.

NOTE 1074—**Geaster coronatus from W. S. Odell, Canada.**—I think this the finest collection I ever saw; larger and darker than usual. My first impression was Geaster fornicatus, which would have been a rare find in Canada, impossible in pine woods, I believe.

NOTE 1075—**Nummularia cinnabarina from Nelson A. Nunez Valdez, Ecuador.**—As named by Hennings from Brazil, I judge, though I have not worked the foreign Nummularias. It probably has other names. Certainly a remarkable species with the bright (Madder brown of Ridgway) conidial layer, but for me a shade of red rather than brown. These specimens are immature, no perithecia even formed that I can find. If correctly named, however, no suggestion, as suggested, of Nummularia lateritia of Ellis from the United States. No such Nummularia grows either in United States or Europe.

NOTE 1076—**Trametes rugosa-picta from Nelson A. Nunez Valdez, Ecuador.**—As published, page 1039, fig. 1907, from Rev. L. Mille, Ecuador. While surely the same plant, this has an even (not rugulose) surface showing that the name is not always apt.

NOTE 1077—**Polyporus Stuckertianus from Nelson A. Nunez Valdez, Ecuador.**—This is so close to the common little Polyporus pusillus that I mistook it for it until I sectioned it. The most marked difference is this has colored glands on the edge of the pore walls that are absent in the common species. I presume it is the plant that Spegazzini (unfortunately) named as above, although I have heretofore supposed that was based on Polyporus pusillus. The plant is by rights a small pored Favolus and close, if not the same, as discovered in Brazil ninety years ago and called Favolus pusillus, known to this day from a single little specimen

at Upsala, about half as large as a little finger nail. That plant now has a black stipe but otherwise may be the same as this.

NOTE 1078—**Cordyceps Forquignoni.**—Prof. Thaxter advises me that the host of Cordyceps Forquignoni, page 1061, fig. 1993, is not "a fly" as I stated, but a hymenopterous insect.

NOTE 1079—**Polystictus leoninus and Trametes hispida collected by L. R. Venter, South Africa.**—We received two specimens from Mr. Venter under the name Polystictus leoninus and possibly they are the same collection. One we label Polystictus leoninus (with doubt), the other Trametes hispida. Both are intermediate, but one surely could not be told from Trametes hispida of Europe. We have been handling both species for years, and it never occurred to us that they could be confused. The old idea that "species" are definite and immutable is about as wrong as any delusion "scientists" ever accepted.

NOTE 1080—**Polyporus Manilaensis from E. D. Merrill, Philippines.**—Pileus sessile, applanate, about 7-10 mm. thick. Surface rough, dull, greyish. Flesh hard, rigid, tough, greyish white. Pores minute, greyish or alutaceous. Spores 3 x 5. Based on Graff 16795, which had been determined as Polyporus ostreiformis. This was considered under the above name in our (mss.) work on Philippine polypores. A second collection from D. Maruda Rajan, India, accelerates its publication. The spores of the Philippine plant we made as 2 x 8, which is the only difference we note. We have three of these similar plants (Section 82) which we distinguish by the spores:

Polyporus ostreiformis. Spores globose 4-5.
Polyporus griseo-durus. Spores 3-4 x 8-10.
Polyporus Manilaensis. Spores 3 x 5.

NOTE 1081—**Stereum cinericium from Dr. Kingo Miyabe, Japan.**—Of course this is only a variation of Stereum hirsutum with a cinereous hymenium. Typically Stereum hirsutum has a bright yellow hymenium. The surface is same, the section is same and they are the same in all respects save the hymenium color. Stereum cinericium is more common in foreign countries than indicated in the records, for it is usually referred to Stereum hirsutum. I do not think, however, it occurs in Europe or United States.

NOTE 1082—**Polyporus dryadeus from Dr. Kingo Miyabe, Japan.**—To the eye exactly the same as European plant excepting that there are in the context pockets formed of large tubular, flaccid hyphae. These are analogous to the "mycelial core" usually found in Polyporus corruscans. We never noted these "pockets" in the context of Polyporus dryadeus before. The plant also has abundant, inflated curved setae, as we have noted. Since that note was written, however, we find the same peculiar setae on the European plant and they are probably characteristic of the species.

NOTE 1083—**Xylaria obesa from John Gossweiler, Africa.**—These large tropical obese species are puzzling. Mr. Gossweiler sends both immature and ripe specimens. The immature I have gotten several times, but I believe this is the first ripe specimen. It is very close to Xylaria gomphus (Cfr. Xylaria Notes, page 15), but this has smaller spores (8 x 16) and not the strong distinction between head and stem. The surface appearance is much the same, and both have the same cinereous pellicle. Both we would class in section 30.

NOTE 1084—**Lenzites polita from H. Atherton Lee, Philippines.**—This is but a form of the common Lenzites repanda with upper surface smooth and polished as if glazed. It is very rare, however, and this is the first specimen I have gotten.

NOTE 1085—**Vibrissea foliorum from Prof. Roland Thaxter, Massachusetts.**—He kindly advises me I was wrong in concluding that it is a form of Vibrissea truncorum. It differs in its habitat (dead leaves in temporary wood's pond), and also in having shorter spores. (Cfr. Geoglossaceae, page 19.) He finds Vibrissea truncorum always in cool, running water.

NOTE 1086—**Geoglossum atropurpureum from Prof. Roland Thaxter, Massachusetts.**—This rare species (with us) is only known from a single collection made by Prof. Thaxter at Kittery Point, Maine, in 1888, in open rocky pasture.

NOTE 1087—**Cordyceps Thwaitesii.**—Prof. Thaxter advises me that Cordyceps Thwaitesii, as named, page 1060, fig. 1992, is "merely a large and immature specimen of Cordyceps dipterigena, as it has been called, which is common in Brazil, West Indies and Carolinas." We wish that Prof. Thaxter would give us a paper on our species of Cordyceps, for he has accumulated a great quantity of material not mentioned in our literature.

NOTE 1088—**Fomes dochmius from E. D. Merrill, Philippines.**—My first impression was that I would have to name this, for I did not recall seeing it before. I concluded on comparison to refer it to above, although some different from specimens I have of Fomes dochmius. The context is Mikado brown rather than "pinkish cinnamon," and there is a much stronger contrast between the context and pore colors. In addition, the surface is a reddish shade, but appears to turn black on the older portions. I conclude that the brighter shades of color of this specimen is because it is freshly collected, Yates 36119 Sulu Archipelago. I have a feeling that this is entitled to a different name from Fomes dochmius, but on a single collection will so pass it for the present.

NOTE 1089—**Fomes martius from E. D. Merrill, Philippines.**—I believe the first specimen I have got-

ten of this, unless I have referred them to Fomes hornodermus. They seem to be practically the same, excepting that this is thin applanate and hornodermus is thick ungulate.

NOTE 1090—**Fomes mirabilis from E. D. Merrill, Philippines.**—I am convinced now that this is the same as named Fomes fusco-pallens from the Philippines, although I overlooked that fact when I wrote the Fomes pamphlet. On comparison they are exactly the same. The yellow pore mouths of the original, which came from Straits Settlement, disappear from old specimens, though there is an indication of it. This is the fifth collection from the Philippines, and by far the largest specimen. It is three inches thick and nine inches in diameter. None previously collected are over 1½ inches thick, or three or four inches in diameter.

NOTE 1091—**Deceptive Photograph. Podocrea Transvaalii and Podocrea anomala.**—When we went over the proofs of the figures of Podocrea Transvaalii and Podocrea anomala in last issue, we wondered if we had made a bull and named the same plant twice in the same issue. When we read over the description and recalled the plants, they were so different they did not suggest each other when I was working with them. But the figures, when finished, are so close together, they can hardly be told apart.

NOTE 1092—**Dacryomyces aurantia.**—As stated several times in my notes, Schweinitz confused Tremella mesenterica and Dacryomyces aurantia. We have taken the name in the latter sense. Mr. Coker, who adopted the name in the sense in which we had published it, and had advised him, and apparently claimed it was the result of his own investigation, seemed to have known very little about its history. The specimen Schweinitz sent Fries, and the specimen in the Curtis herbarium are Dacryomyces, also the specimens in an envelope in the Schweinitz herbarium, teste Coker, but the type specimen in the Schweinitz herbarium and the specimen from Schweinitz in the herbarium of Hooker at Kew, are Tremella mesenterica. I made a note to that effect when I was in London, but to avoid any possibility of error I wrote Miss Wakefield and asked her to kindly examine Hooker's specimen again, and I am just in receipt of a letter from her with the note that the specimen is a Tremella and not a Dacryomyces.

NOTE 1093—**Polyporus aurantiacus from Dr. Kingo Miyabe, Japan.**—This is a rare plant, but found in the United States, Europe and Japan. We have seventeen collections from the United States, but in Europe it is only known to me from Karsten's old collection. This is the second collection only made in Japan. The former was sent to Hennings and misreferred to Polyporus Shiraianus. (Cfr. Apus Polyporus, page 341.)

NOTE 1094—**Polystictus gallopavonis from Otto A. Reinking, Philippines.**—Section 16 of Stipitate Polyporoids is a puzzling proposition as we considered it in Letter 65. While we refer this to P. gallopavonis, it is not exactly the plant we have previously seen. This is thicker, the zones more distinct and there is a yellowish cast that is absent from other collections so referred.

NOTE 1095—**Dacryomitra lutea. Correction.**—Our account of the basidia of this plant, page 1046, is entirely wrong, probably. That was our impression when we first examined and wrote on it, but we decided differently afterwards and neglected to cross the erroneous portion off the copy. We know better than to class a tremellaceous plant with globose basidia in Dacryomitra.

NOTE 1096—**Xylaria papulis from Otto A. Reinking, Philippines.**—Cfr. Myc. Notes, page 1056, fig. 1967 and 1970. Mr. Reinking sends seven collections and the plant presents some variation. All are characterized by the features pointed out when named, but some have flattened clubs and one has such protruding ostioles it presents an asperate appearance.

NOTE 1097—**Calvatia sculpta from S. B. Parish, California.**—This unique and rare species is only known from the region of the Sierras (Cfr. Myc. Notes, page 203). This is the finest specimen we have ever received. Certainly the plant is a Calvatia and not a Lycoperdon, if the genus Calvatia is to be maintained, and all the recent puff-ball men do maintain it. The old fellows did not have the idea, but since Morgan pointed out the genus no puff-ball systematis but what has acknowledged it. Some go through the form of writing "Fries" after Calvatia, but "Fries" never had any idea of the genus in its accepted sense. It was Morgan who established the genus, and Morgan was not the first to catch the idea, although Morgan knew nothing about that.

NOTE 1098—**Polyporus Manilaensis from E. D. Merrill, Philippines.**—Pileus sessile, applanate, about 7-10 mm. thick. Surface rough, dull, greyish. Flesh hard, rigid, tough, greyish white. Pores minute, greyish or alutaceous. Spores 3 x 5. Based on Graff 16795, which had been determined as Polyporus ostreiformis. This was considered under the above name in our (mss.) work on Philippine polypores. A second collection from D. Maruda Rajan, India, accelerates its publication. The spores of the Philippine plant we made as 2 x 6, which is the only difference we note. We have three of these similar plants (Section 82) which we distinguish by the spores:

Polyporus ostreiformis. Spores globose 4-5.
Polyporus griseo-durus. Spores 3-4 x 8-10.
Polyporus Manilaensis. Spores 3 x 5.
(Above is a duplicate by inadversion. Cfr. Note 1080.)

NOTE 1099—**Polyporus rufoflavus from Rev. J. Rick, Brazil.**—Compare Fomes Synopsis, page 220, as Fomes. It is really a Polyporus but rarely Fomes forms occur. This is the finest specimen we have seen. It is aptly named from its reddish pileus and yellow pores.

NOTE 1100—**Cordyceps nutans.**—Dr. S. Kawamura sent the specimen with the following interesting note: "Cordyceps nutans. Japanese name Mimikakitake. Mimikaki means an ear-pick. Take means a fungus. The insect is Megymemum tauriforme. Jap name is Nokogiri-Kamemushi."

NOTE 1101—**Daldinia Asphaltum from H. A. Lee, collected by Peter Nelson in Guam.**—In our review of Daldinia we held this as a synonym for Daldinia concentrica, as it appears to be as a matter of fact. This specimen is so strongly laccate that on this one feature the name which is appropriate could be applied to it.

NOTE 1102—**Polyporus pulcherrimus.**—This was published recently (1921) by L. Rodway in Proceedings of Royal Society of Tasmania. It had been submitted to us and while it was evident from Mr. Rodway's notes it could not be our Polyporus confluens, we were unable to distinguish dried specimens, both having to the eye the same pores, color, texture, and under the microscope the same spores. But the fresh plants are evidently quite different in color and habits. "Polyporus pulcherrimus lives only on our evergreen beech (Nothofagus) and does much damage to the host. When fresh it is bright crimson, softly fleshy, massive, with or without imbricate irregular pilei." It belongs to our (red) section 92.

NOTE 1103—**Trametes aspera.**—Junghuhn and not Leveille named this, as incorrectly stated on page 1086.

NOTE 1104—**Auricularia auricula.**—In future we shall use the above form for the common jews-ear instead of Auricularia auricula-Judae, as in the past. Linnaeus is supposed to have called it Peziza auricula. Bulliard and Persoon named it Tremella auricula Judae. In recent works it appears mostly as Auricularia auricula-Judae. Underwood, I believe, was the first modern juggler to use Auricularia auricula on the celebrated principle of Kuntzeism, although Underwood would probably not have known the jew's ear from a piece of calves liver. It is needless to say we are not making the change on account of Underwood's juggling, but Auricularia auricula-Judae is cumbersome and in addition is a slander on the Jews.

NOTE 1105—**Corrections.**—Polyporus cystididoides, Myc. Notes, page 1002, should be, of course, Polyporus cystidioides, as correctly printed on fig. 1826.

Hydnum maliensis should be Hydnum maliense. Some days, when we are a little out of practice in speaking Latin, we get the declensions mixed.

Poria xanthopus, Myc. Notes, page 1012, third line, note 943, should be Poria xanthospora, as correctly printed five lines below. These little typist's errors are so obvious that it is hardly worth while calling attention to them. Taking into account the rarity of such errors in the mimeograph sheets, and my poor and sometimes careless mss., and the fact that no proof was read before the sheet was struck off, the general accuracy of the work is fairly marvelous. Where the typist made one error of this nature, she perhaps corrected twenty of my making.

CONCERNING GASTEROMYCETES.

For six years we did not do much else but work on puff-balls. We hunted up and studied every collection that had been named in the museums of Europe and America, and we received from correspondents more puff-balls, twenty times more, than had been previously collected. We have never written much of a systematic nature on the subject, and probably never will, for we get our pleasure in investigating and learning a subject, and the preparation for publication is a matter of drudgery. As we get leisure, we intend to sketch off the points that have come to our notice in regard to puff-balls, but it will be in an off-hand manner, and not a formal presentation in the usual pedantic form affected by "science."

The Genus Arachnion.

This is a very curious genus, nothing else like it at all. When you break a specimen the gleba is not powdery like other puff-balls, but granular like little grains of sand, only they are soft. Under the microscope the grains are found to be little sacks with loosely woven walls and each filled with spores. It would be interesting if someone would study the young specimens and give us an account of the structure before it deliquesces. I believe there is a drawing somewhere, but I have an idea it is chiefly imaginary. There is but one known species in the United States, Arachnion album, and it is rare, or rather rarely collected. It grows usually in the low places, in the sod of pastures that are closely grazed, and is about the size of hazel nuts. It may be noticed when it is young and pure white, but it looks like a young puff-ball, and not liable to be picked up, as it is not much use ordinarily to collect little white puff-balls of this size, for most of the specimens at this size are so immature they should not be gathered. The peridium is very thin and fragile, and when Arachnion gets ripe it breaks and dissipates. I presume that is one reason why collectors gather it so rarely. They wait till it gets ripe, and one never finds it ripe in nature. When gathered young but full grown it will ripen, but must be handled very carefully or it goes to pieces. We have in the United States one

species. It is one of the few little puff-balls with a perfectly glabrous surface. Most puff-balls while young and this size have scaly peridia like Scleroderma, or with connivent spines like most Lycoperdons. Soft to be called spines, of course, but the usual term applied to a young Lycoperdon cortex. The gleba of the ripe Arachnion is ash grey and it never seems to go through any yellow or olive stage that most puff-balls take at some stage of ripening. I have seen them partly white and partly grey. A number of years ago Mrs. Blackford of Boston sent me an evidently young Arachnion collection with the gleba bright yellow. The mystery was never solved, whether it is a different species, or whether a condition of Arachnion album that we never find around Cincinnati.

I worked with puff-balls twenty years, firmly believing that there was only one species. It has also been found in South America and called Arachnion Bovista. The collection on which the name is based, now quite old, has brownish gleba instead of grey, as every other specimen I ever saw of Arachnion has. I can not believe it is a distinct species. Berkeley, who found practically every foreign collection he got to be a "new species," first got Arachnion album from South Africa and called it Scoleciocarpus tener. That was before he knew the American genus. In a year or so he learned this genus from Schweinitz's specimens and withdrew his South African genus, but it is hard to kill a delusion of this kind when it gets a start in "science." It is still found in such compilations as Saccardo, Engler and Prantl and Clements, although it died a natural death sixty years ago. Then Berkeley got Arachnion album from Australia and called it Arachnion Drummondii. That was after he had abandoned his wonderful discovery of "Scoleciocarpus." Both the African and Australian species of Arachnion that Berkeley discovered are absolutely the same as our American species. In connection with the Australian species a most comical bull has been made. Drummond sent it to Berkeley glued on the same sheet of paper with an agaric, which Berkeley mentioned in publication. Saccardo compiled it "ad Locellinam," and Cooke gravely informed the Australian students in his handbook that Arachnion Drummondii is "attached to an agaric." I imagine Australian collectors would have the same chance of finding an Arachnion "attached to an agaric" as they would attached to a kitchen stove. But such was "science" to Cooke.

Arachnions are probably more widely distributed than the few collections (mostly in our museum) would indicate. As previously stated, they do not persist long when ripe, and the usual collector would hardly pick them up when young. The species is found from Atlantic coast as far west as Cincinnati, but how much further I do not know. I never got a western specimen. A few collections have been made in the West Indies (Guadelope), South America (Brazil), Australia, South Africa, where it appears more common than anywhere else. We have gotten several very abundant collections from Miss Duthie, South Africa. But the strangest fact is that one single collection, only, is known from Europe to this day. There are more mycologists and fungus observers in Europe than in the remainder of the world, but Arachnion has never been collected but once. This was by Rev. Badet at Salussola, Italy, and sent to me in 1905. Notwithstanding this remarkable instance, it was overlooked by Petri in his unusually full account of the Italian Gasteromycetes. Arachnion album has a pure white smooth peridium and could be recognized without breaking it open, for the brittle, white, immature Lycoperdons of same size have spines on the contex. A collection received by me from Australia was larger and had a reddish peridium. It was named Arachnion rufum, but is not essentially different from the usual species. In fact, for twenty years I knew but virtually one species of Arachnion. It is true that in Saccardo "Arachnion aurantiacum" is recorded on Rafinesques vaporing, but from his vague remarks it was probably based on Scleroderma flavidum. Certainly it has no more suggestion of an Arachnion than it has of a hard-boiled egg. Also is found Arachnion foetens, discovered by Spegazzini, but surely from his notes it has no relation whatever to an Arachnion. Although for a hundred years Arachnion had been known from virtually one species. In the last two years two remarkable species have been received by me from Miss A. V. Duthie, South Africa. Arachnion album is never larger than a hazel nut, but Arachnion giganteum is as large as an orange. Otherwise it is very much like Arachnion album. All previous Arachnions have smooth peridia, but Miss Duthie found Arachnion Scleroderma with spines on the peridium like a Lycoperdon. When first received I thought the peridium was scaly, on the order of a Scleroderma, hence the name, but it is really misnamed, for a subsequent and better collection shows that the peridium and cortex more closely resemble that of a Lycoperdon than of a Scleroderma.

There have been two genera proposed very closely related to Arachnion. Long has recently published Arachniopsis albicans from Texas, claiming that it differs from Arachnion in having capillitium. I passed on the specimens as being Arachnion album with imperfectly developed peridia walls, and I think Mr. Long has mistaken the hyphae of the walls for capillitum threads. Two species, Holocotylon texense and Holocotylon Brandegeanum have been published, both occurring in Mexico, or near the Mexican border. The genus, Holocotylon, while I think it is perfectly good, has the spores in lengthened locculi rather than in peridioles, but it could easily be considered as an Arachnion that has not developed peridioles. The

genus Holocotylon is only known from a very restricted territory, and both species are very close to each other, and possibly the same.

A VALUABLE CONTRIBUTION TO THE LLOYD LIBRARY

We certainly appreciate the kindness of Rev. Rick in sending us the collection of his photographs of Brazilian fungi. It is quite a large volume and embraces practically all the species he has found. It will be of good service in our future work.

It is surprising how characteristic is a good photograph of a species, and if the new species promoters were required by botanical laws to give a good photograph of the alleged new species there would be a much better class of work done in the new species line.

Rev. Rick's photographs are almost as easily recognided as the specimens from which they are made, and in many instances I would prefer a good photograph to a poor specimen.

DIFFERENCES OF OPINION

There was a time when I felt badly when a student in whom I had confidence, such as Bresadola or Burt, differed from me in the determination of fungi. But I do not any more. One must take into consideration the superficial, inaccurate, bungling work done by the old fungus namers, the scanty material on which the names were often based, the variation in specimens of which they took no cognizance, the descriptions that describe nothing and often do not mention the essential characters even. It is impossible that two men, working over this pile of mostly rubbish, should ever arrive at the same conclusions as to all details. There have been in the past acrimonious discussions between Ellis and Cooke, Moeller and Bresadola, Massee and Durand, and others, on questions as to the identity of species. All this is useless. Each man is entitled to his own opinion and it should cause no hard feelings if they are not in accord. These thoughts are suggested to me on receipt of advice from Mattirolo concerning American Rhizopogons which I submitted to him. In not a single instance does he determine those I sent (five) as they have been determined and published in America.

Some men, it appears to me, are excessively intolerant when another does not agree with them in all details. I do not believe in the infallibility of any man. I have the highest regard for such men as Bresadola, Burt, Mattirolo, Bourdot, Thaxter, Wakefield and a few others, but if the result of my investigations differs from any one of them in any case, I publish my own opinion. I may be wrong but I do not think I am, or I would not publish it.

NOMENCLATURE

We give the text from a letter received from the east, of course not giving the writer's name, as we do not wish to draw him into the controversy. Personally, however, we have no hesitation in saying that we very fully endorse the views contained in the letter.

"I have read your letter of the 29th and the article with much interest.

"A book or publication on nomenclature by you would, I believe, be of great value, and it would be given the widest circulation.

"Few branches of biology that are not dimmed in a mist of names and words. A recent paper by C. Hart Merriam describes nearly ninety species of North American bears. I see so often students trying to match specimens in a museum with the types of authoritatively named specimens, having no conception, seemingly, that forms of life are exceedingly variable, or without trying to find out what the species was intended to include, or for that matter what a species is meant to be.

"Only one describer of species that I ever met had any definition of a species.

"The next edition of Gray's Manual will be in two volumes and fifty per cent. larger than the former ones, and only because they are including varieties that Gray himself never believed worthy of a name.

"In shells and birds and moths and butterflies, at least, the changes in names would require a corps of trained experts to merely catalogue.

"If you ever write such a book, I would like to give you some facts that I have accumulated.

"If sets of Mycological Notes are for sale, would you kindly advise me the cost."

My peculiar views that a binomial alone should represent a plant's name, does not appeal to many mycological workers, and I take no exceptions when one differs from me on that subject. I object to authors' names from the harm that it has done, but, of course, I do not expect everybody to think as I do. I quote herein some comments in a letter from a very learned and liberal man, and one whom I concede is as honest and earnest in his opinions as I am.

"Myself, I could never consider the nomenclature as a science for itself, according to the views of Kuntze and many others, and should say it is also a convention to make you understand of what object you speak. Surely there have been made many new species without any need (I am sorry to say I am also a sinner in that question), and a careful revision with exclusion of the synonyms, is absolutely necessary in all the groups. But still I should think that nomenclature rules are quite as necessary as ordinary rules in all matters of life, to avoid the chaos. I do not see any harm in rules of nomenclature, if they are practical, but the only harm is, that nobody takes any care of them, and even those who have promoted them do not follow them (I would not like to give names here for exceptions), and this increases the disorder."

The above is quite a reasonable and practical view of one who is earnest in his opinions. Of course, they do not quite coincide with mine, as those who have read

after me know. I think the rules of Kutzeism are about the biggest frauds in nomenclature that was ever proposed, in the guise of science, and I do not think much more of the rules that were proposed at Brussels. The main idea in both cases was to legalize their own name-juggling, and to outlaw the name-juggling that the other fellow did.

There is but one law for botanical nomenclature that is based on any rules, and that is the rule of use. Botanical nomenclature is not different from any other language, and that is the fundamental principle behind all languages. Self-appointed legislators can legislate until they get black in the face, but they will not affect the situation in the least. Language is constantly and gradually changing, and so botanical language must gradually change to meet the facts in the situations that develop. But any revolutionary methods of changing names, as advocated by the Kuntzeites, or any other so-called Botanical Congress, is simply a waste of words.

A CASE OF OVER-CAUTIOUSNESS

For many years after mycologists began to see the folly of calling everything "new species" that came into their hands and the new species game had been worked to its limit, then they began getting up excuses to call them new genera. We had a whole series of writers beginning with Karsten and going through Quélet and then to Murrill and Banker in this country, who discovered every section was a new genus and got up a lot of combinations for the purpose, as I have always contended, of seeing their names in print. They have been ridiculed so much that they are beginning to give that up.

A recent instance of enlarged conscientiousness on the part of Mr. Coker is quite amusing. Stereum albobadium was so named by Schweinitz as Thelephora. Léveillé discovered that some Thelephoras had hairs on the hymenium and called them all Hymenochaete, though not particular about the kind of hairs and did not pay enough attention to it himself in several cases, so that he did not pick out the species of Hymenochaete among those he discovered were "new species." Cooke got up the idea that those that had hyaline, thick hairs which Cooke called metuloids, made another genus which he called Peniophora. It did not make any difference to Cooke whether they were resupinate or pileate, just so they had this kind of hairs, then they were Peniophora. Then Bresadola comes along and finds if they are resupinate they are Peniophora (or Kneiffia as he called them for a brief period), and if pileate they are Lloydella. No one among the allies has accepted this view, but some of the Germans, such as Höhnel, have adopted it.

Stereum albobadium was sent to Berkeley from around Cincinnati, and through pure carelessness apparently, was called Stereum albomarginatum, Berkeley not intending to apply a new name to it but did not take the trouble to look up Schweinitz's name.

Massee discovered it had these metuloids and called it Peniophora albomarginata, simply copying it from Berkeley's label without the trouble of looking it up.

Now, Mr. Coker comes along and decides it should be a Peniophora on the authority of Mr. Massee and uses the Massee name, although he knows it is the same plant that was originally named Stereum albobadium by Schweinitz. He states he does not use the Schweinitz name "because we do not want to make new combinations." Mr. Coker's enlarged conscientiousness, on this score, is quite amusing, but we strongly commend it to the attention of those we have mentioned before who not only do not want to avoid making new combinations, but seize on every possible excuse to do so. We do not know whether Mr. Coker's stand or the stand of our professional name-jugglers appeals to us as most absurd, but neither has much merit.

A NEW "RICHMOND IN THE FIELD"

The American jugglers who have been so busy juggling the names of the Polypores will have to look out for their laurels. There is a new "Richmond in the field." The work on the Polypores of Spain by Blas Lazaro E. Ibiza has just been received and the most striking point about it is the wonderful lot of new genera he has been able to discover among the Polypores. He does not seem to be at all informed as to the similar work done by Karsten and his followers, but gets up an entirely new set of names. Thus we have such wonderful genera as Cladomeris, Bulliardia, Mensularia, etc., etc., etc. The curious thing about these jugglers is that while they have so little trouble juggling the old genera, Polyporus Polystictus and Fomes, this new one seems to have his troubles with Boletus and Poria. Boletus and Poria can be juggled just as well as any other section of Polypores, and why be partial and leave them out? If the juggled names that have been proposed for Polyporus, etc., were worth compiling it would make a highly amusing list, and have as much sense to it as to the children's doggerel "Eeny, meeny, miny, mo." Another characteristic of name-jugglers is that while they propose quantities of them themselves, they can never see any merit in the juggles of others. Notwithstanding the multitude of Mr. Lazaro E. Ibiza's new juggles, he has not recognized any of our American work along the same line. That is hardly fair to the American geniuses who have spent so much time, trouble and good printer's ink on the subject.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO · · No. 67 (Vol. 7, No. 2) · July, 1922

PROFESSOR KINGO MIYABE

One of the most delightful days that I have spent lately was with Professor Miyabe, who stopped off on his way back to Japan. I begged from him, and am glad to present a copy of his photograph.

Professor Miyabe was born in Tokio on April 27, 1860. He studied English in the schools since a boy under American instructors, and speaks and writes English better than most Americans do. He went to college at the Sapporo Agricultural College, and graduated from this institute in 1881, where he received botanical instruction from Professor D. P. Penhallow, an American instructor. Then he went to Tokio University soon after graduation to take a botanical course under Professor R. Yatabe. He was then sent by the Japanese Government to study Cryptogamic botany at Harvard, under Professor Farlow, from 1886 to 1889, when he received from Harvard University the degree of Doctor of Science. On his return to Japan he secured a position of the professor of botany in his Alma Mater, which has grown into the College of Agriculture in the Hokkaide Imperial University, Sapporo, Japan. Many of the prominent mycologists and plant pathologists of Japan have gained their knowledge under Professor Miyabe. Among others, Y. Takahashi, T. Kawakami, G. Yamada, Arata Ideta, G. Hiratsuka, J. Hanzawa, Seiya Ito, T. Miyake, M. Miura, T. Nishida, K. Kabai, T. Hemmi, T. Matsumoto, Y. Lochinai and T. Fukushi.

Professor Miyabe has made three trips to America, and in 1919 also visited the principal institutions of Europe under a commission of the Japanese Government. His last trip was to attend the Conference on Cereal Diseases held at St. Paul and Fargo in the summer of 1921.

The Lloyd Museum has been enriched with a very full set of Japanese fungi collected by Professor Miyabe and others. We have gotten many specimens from other Japanese correspondents, but we have never received from anyone else as full, large and satisfactory collection from Japan as from Professor Miyabe.

DR. EDWARD B. STERLING

In presenting a photograph of Dr. Edward B. Sterling, we reproduce a portion of an article from *The Daily State Gazette* of New Jersey. To our readers Dr. Sterling is known principally as a mycologist, for he has been an active collector and correspondent for years and has contributed many rare plants to our Museum. One, Tremella marmorata, has reached us from no one else. We were not aware, however, that he was interested in so many lines of activity as set forth in the article copied, herewith:

"Edward B. Sterling, of 941 Edgewood Avenue, Trenton's mushroom expert, is today celebrating the seventieth anniversary of his birth. An active life, filled with many interests, has made him seventy years young instead of old. He is a man of many hobbies, and after office hours spends much of his time in research work, putting in from 12 to 17 hours daily of work and study, and leading a life that would tax the strength and energy of many a younger man.

"An authority on mycology, Mr. Sterling has found many rare specimens of mushrooms. At the present time one of his collections, that of edible and non-edible fungi, is on exhibition at the New Jersey State Museum. He is widely known through his work, and has devoted a great deal of time to the subject.

"Among his data that he values greatly is considerable data on the early history of Trenton. He has old manuscripts, deeds and other documents, as well as newspaper clippings, that tell many interesting facts concerning old Trenton. Many of his papers concern the Stacy Potts family from 1738 to 1818. Any of his material in this collection is available to the newspaper fraternity, and to others interested in the subject, who wish to verify historical facts or to secure information for historical work. Mr. Sterling is always most generous in sharing his information on these subjects with the public or for the benefit of those who are especially interested.

"Ever since he was a boy ten years of age, Mr. Sterling has been a collector, and has had many interesting hobbies. He is an authority on stamps and coins, and has been a collector of minerals, shells, antiques and curios. He was a foundation member of the American Philatelic Society (1886) and is still an active member. He is the author of a number of works on Philately. Not only is Mr. Sterling a student, but he possesses literary ability, and is the author of a number of articles on stamps, mushrooms and other subjects.

"Mr. Sterling holds a responsible position with the State Comptroller, having been connected with the department for the past twelve years. He has full charge of all the estates filed with the inheritance tax department.

"Since 1872 he has been a member of the City Invincibles, acting as corresponding secretary and historian. He is a member of the National Traveler's Club, and in the past has belonged to many of the societies in connection with his collections."

Deceptive Photography. Things are not always what they seem. I do not believe that any mycologist in Sweden will ever recognize our Fig. 2149, yet it was made in Upsala from a specimen that grew on a wild plum tree in the botanical garden at Upsala; of course, the result of trick photography, not intentional, however, but it would be a fine subject for Professor McGinty,

or some similar worker, to base a "new species" on. He would be perfectly safe in doing it for no one would ever recognize it.

A curious growth from O. A. Reinking, Philippines.—(Fig. 2150.) We present a photograph but we are unable to suggest even what the nature is. It looks like brown beetles but it is not an insect. A section shows only large, cellular tissue, no fruit or other evidence that it is a fungus. I do not believe it is. I sent it to a friend in Europe, generally informed as to such things and he refers it as a gall. I can not think it is a gall, which is formed of metamorphosed, vegetable tissue, and this seems to have grown on dead bamboo stems, not from the stems. It may be a gall but I doubt that also.

Testicularia Cyperi from S. Rapp, Florida.—(Fig. 2151.) Mr. Rapp should be commended for picking this up as fungus. The usual collector would pass it by as a bird's egg or a reptile egg, or something of that kind. It is the first time I have gotten it, though it belongs to the Ustilagineae, and I do not work much this group. I am familiar with it, however, as I found it among the puff balls (sic) in a European museum. I have already commented on it in the "Myths of Mycology." Klotzsch gave a beautiful figure (1832) in old "Linneae," Vol. 7, t. 9. It was compiled in Saccardo, Vol. 7 (1888), under Lycoperdaceae (sic) although Cornu (1883) had given an extended account and figures of it as an Ustilagineae, where any amateur ought to know it belongs. Peck got it in early days from E. S. Miller, Long Island; discovered it was a "new species" "closely allied to Lycoperdon calyptriforme." Described it at length and named it Milleria herbatica. It is quite appropriate that such a "genus" should be named for E. S. Miller, if my memory of the man is correct. It has no more resemblance or relation to a Lycoperdon than it has to a turtle egg, and Peck should have known it, even in those early days. But for all that, it is a very curious thing, and I suppose it is well known to the Ustilagineae men. It grows on a little sedge (Rhynchospora) and is developed, so it is said, from the glumes. Its life history must be very interesting, if it has ever been worked out, which I do not know. Our figure will present the plant better than we can describe it. It is elliptical, pure white, and looks like a capsule. The peridium is thin, brittle, scurfy and about the thickness of the shell of a bird's egg. The old specimens that I saw in Europe in the museum were black, however. When cut open it is filled with a mass of black powder, which the microscope resolves into large irregular globose bodies mixed with delicate hyaline threads. These bodies look under the microscope like peridioles, but as stated by Cornu, are "petits globules constitués par des amas de spores et ressemblant à de la poudre à canon." These "globules" consist of globose, pale colored, smooth spores, about twelve mic. in diameter. Taken altogether it is a curious thing, and I am glad to get it and to be able to present it to our readers. I do not know the detailed history of Ustilagineae plants, but both Klotzsch and Cornu based their accounts on an old collection in Hooker's herbarium, that came from North America. Miller found it on Long Island, and this is the third collection, as far as I know. There may be others, however, not known to me. But that it is not generally known is evident from Harshberger's recent book, where it is not mentioned. Harshberger's book was very complete on current facts (and traditions) of Mycology, and this remarkable plant would have been featured in this book had it been known to the author.

THE HYMENOGASTRACEAE

The fungi that grow beneath the surface of the ground and called hypogeal fungi, are little found excepting in Europe, where they have been diligently sought and most finely and accurately illustrated by Vittadini, Tulasne, Hesse, Bucholtz and Mattirolo. The latter is at present the best authority on them. Owing to their (mostly) subterranean habits they are rarely found, unless one makes a diligent search, and then it is largely a matter of chance, for usually there is little or no surface indication to give a clue. It takes both patience and enthusiasm to be a hypogeal fungus man, and few have these virtues. L. Rodway, Tasmania, has been hunting and collecting them for many years, and has kindly supplied us with most of the species he has found. In our country they appear to occur, or at least are mostly known from California. Twenty years ago Harkness pursued the subject and made extensive collections in California, but he had little opportunity (or inclination) to study them carefully, and very little can be told of any value from his publications. Miss Gilky has recently worked over the Tuberaceae of Harkness' collections, and records that Harkness got thirteen species right and thirty-three wrong, and no doubt about the same proposition will be found in the Hymenogastraceae.

Hypogeal fungi are readily placed in two groups; the Hymenogastraceae with spores borne on basidia analogous to "puff-balls," and Tuberaceae with spores borne in asci analogous to Pezizae.

Many collections have reached us through the kindness of our friends and correspondents, and we have made a preliminary study of them. We do not pretend to be able to add anything new to the subject, and perhaps even our general conclusions will not be accepted by others.

The Hymenogastraceae appear to us to be naturally grouped into three sections on their general gleba and

spore characters. We designate them for convenience with the name of the prominent genus:

SECTION 1—OCTAVIANIA GROUP.—Spores globose. Gleba of permanent cells.

SECTION 2—HYMENOGASTER GROUP.—Spores irregular, mostly lemon shape with longitudinal ribs. Gleba dry of permanent cells.

SECTION 3—RHIZOPOGON GROUP.—Spores regular, mostly elliptical, even. Gleba with tendency to deliquesce when old.

The Octaviania Group. The genus Octaviania was proposed by Vittadini but in his sense included mostly what are Melanogasters now. Tulasne really established the genus on its globose spores, but it appears to me he did not simplify the matter in trying to separate out the genus Hydnangium. I have puzzled much to find a distinctive character to tell them apart, and others have had the same trouble, as witness the many cases where one calls a species Octaviania, and another Hydnangium. The book distinctions "Gleba easily separating from the peridium," "or not," does not apply at all. Finally I put the question up to Professor Mattirolo who replied in detail and summed it up:

"Les difference entre Octaviania et Hydnangium, selon mon opinion ne sont pas d'une valeur trés grande et peut être on ferait mieux de rénuir les deux genres."

The spores of Octaviania are all globose or subglobose, spiny or rarely smooth, as considered by Tulasne. Harkness based the genus Leucophelps, on the smooth spored species. It appears to me that some of them, and perhaps most of the "spiny" spores are really reticulate, the spines as they appear under the microscope being the angles of the reticulation. This of course is entirely different from Tulasne's conception, or as shown in his figures that we produce. As one must be on his guard when he reaches conclusions contrary to Tulasne, I asked Professor Fitzpatrick to confirm it. He wrote me:

"The spores of the Octaviania that you sent me were, as you thought, unquestionably reticulated. I have examined them under the oil immersion lens, and thus viewed the reticulate character of the wall is unquestioned."

The flesh of most Octavianias is soft and easy to cut, but there are two plants in the group that have hard, horny flesh and should form a different genus in my view. One of them from Italy was named Arcangeliella, and we adopt the generic name, though in a different sense from originally proposed. The character "peridium disappearing below," shown in original figure, is not in evidence in the authentic specimen (Cfr., Fig. 2175), and to my mind would be of no generic value if it were true. Also in sense of Dodge and Zeller their species include for me one Arcangeliella, one Octaviania, and judging from their spore figure, one Hymenogaster.

The cells, large or small, are sometimes arranged from the base. Veins I do not find in dried specimens, but Octaviania Ravenelii, and no doubt others when fresh, have sterile veins from the base to the apex. The character becomes indistinct in dried specimens. A Tasmanian species has "venae" only known, I believe, in this species of Hymenogastraceae, but frequent in Tuberaceae. A few of the species exude a milky juice when cut fresh. For convenience we have arranged the species we know according to an artificial key, but we do not attach much importance to keys. Three of them we know mostly only by the figures given by Tulasne. We might look up the book accounts and add and arrange the other (claimed) species, but no doubt would get more wrong than right.

KEY TO SPECIES OF OCTAVIANIA

Spores hyaline or pale colored.

- Cells large. Spores strongly spiny —— carnea Soderstromii, pallida, Stillingerii, australiensis.
- Cells large. Spores with short spines —— Stephensii, Ravenelii.
- Cells large. Spores with a peculiar collar and strongly spiny —— carotaecolor.
- Cells small. Spores with small spines —— monospora.
- Cells small. Spores smooth or nearly so —— liosperma, hysterangioides.

Spores strongly spiny, deep colored. (All previous have hyaline or pale colored spores) —— asterospora, Tasmanica.

Spores smooth, dark colored when old —— candida, Africana.

Spores reticulate not spiny, dark colored. Peridium floccose "cottony" (all others membranaceous) —— compacta. On this was based the genus Sclerogaster by Hesse.

Flesh hard cartilaginous (horny when dry), hard to cut. We hold this as a distinct genus, Arcangeliella, with the species —— Borziana and luteo-carnea.

A name juggler could very easily get up a genus from each type of spores, hyaline or colored; or each type, smooth or spiny.

Octaviania carnea from O. Mattirolo, Italy.—(Figs. 2152 and 2153.) About the size of a hazel-nut. Peridium flesh color when fresh, at length (old) reddish brown. Gleba pale flesh when fresh. Cells large, empty to the eye, radiating from the base. As shown in our enlargement (Fig. 2152) from Mattirolo, and (Fig. 2153) from Hennings. Cells are much larger in some collections than others. Spores (Fig. 2154), globose, pale colored, 14 mic. and strongly spiny. This is

originally from Germany and is recorded there as frequent by Hesse. It was not collected by either Vittadini or Tulasne but has been found both in Italy (Mattirolo) and France (Patouillard). We have specimens from the above and from Dr. Hennings. It was distributed by Sydow 3786 and de Thuemen 109. It also occured in California and was named Octaviania rosea by Harkness.

Octaviania Soderstromii from G. von Lagerheim, South America. This is very similar to Octaviania pallida as to size and spores, but the color is much darker. It has very thin peridium, apparently absent over portions of the plant. Spores are also similar to those of Octaviania carnea, but plant is quite different, both size and color. It was published by Patouillard as Hydnangium Soderstromii.

Octaviania pallida from Rev. L. Mille, Ecuador.—(Cfr. page 1031, Fig. 1867.) Gleba cells large. Rooting base strongly marked. Spores similar to those of Octaviania carnea. Close to Octaviania Soderstromii but quite different color.

Octaviania Stillingerii from C. R. Stillinger, Washington.—(Figs. 2155 and 2156, gleba enlarged.) Depressed, globose, 2-3 cm. in diameter, ½ cm. thick. Peridium thin, upper surface smooth, pale, pinkish when fresh, under surface uneven, with marks of the gleba walls. Columella none. Sterile base none but there is an evidently radial arrangement of the gleba cells from a common base. Gleba soft, pale, of large cells. Walls thin, more in the nature of plates than they should be in the genus. Basidia cylindrical, hyaline, 10x40, with two sterigmata each. Spores globose, hyaline, densely echinulate, with slender, sharp, hyaline spines. The spores (with spines) measure about 16 mic.

Mr. Stillinger found this growing in pine needles in Golden Gate Park, San Francisco, April, 1920. He states it has a distinctly pinkish color when fresh. It would seem that Harkness should have had it but I can not make it out from his paper. It is evidently close to Octaviania socialis but I can not reconcile it to his figure nor to his description. It may be the plant, however, for little can be told from Harkness' work.

I sent it to Professor Mattirolo, who suggested that it was too close to Octaviania carnea. As I compare it, it is a much larger plant, the cells much larger, and more like plates than cells, and the spores not so strongly reticulate. I have six collections of Octaviania carnea from Europe, none of them a cm. in diameter and the lodges much smaller.

Octaviania Australiensis from L. Rodway, Tasmania.—(Fig. 2157, enlarged and Fig. 2158, natural size.) About a cm. in diameter. Color (dried) peridium reddish brown, Section shows large lacunose cells. Spores 10-12, globose, hyaline, spinulose. Mr. Rodway sends me several collections, and I judge it is fairly common with him. He states it has often a sterile base carried through the gleba to the apex, assuming the appearance of an obsolete stem. I do not note it in any of his sections, but I suppose it is the nature as the veins of Octaviania Ravenelii, which are seen in a fresh specimen, but not so evident when dried. Mr. Rodway also records "exuding white, milky juice when fresh." This is a new point in connection with the species but occurs also in our common Octaviania Ravenelii, and is recorded in others.

Octaviania Australiensis was named by Berkeley from a single specimen (Melbourne). There is at New York some material sent by Massee (I suppose) and probably type material. I have it also from Miss E. T. Turner, South Yucca, Australia. Both these Australian collections, while the same as the Tasmanian (sans doubt), have spores not so strongly spiny.

Octaviania Stephensii.—(Fig. 2159, spores.) About ¾-inch in diameter, dark, reddish peridium. Gleba white, acquiring a reddish tinge when cut, which shades out to pale cream. When freshly cut exuding a milky juice. Cells minute. Spores globose with small spines, 9-12 mic. Only known from old collections by Broome and Stephens in England. Specimens of Broome's collection are found in the New York Botanical Garden herbarium. The species is practically same as the next. It appears to me that the spore surface has slight reticulations not shown on Tulasne's figure, which we reproduced (Fig. 2159) and that they are too strongly spined.

Octaviania Ravenelii.—We have previously given an account of this species for it is our most frequent Hymenogastraceae in our Southern United States. Compare Myc. Notes, page 569. We were much pleased to receive from Professor A. H. W. Povah fresh specimens from which we prepared the following notes:

Octaviania Ravenelii from A. H. W. Povah, Alabama.—(Fig. 2160.) A fine collection of fresh specimens from Professor Povah gives us the first clear account we have of the plant. When fresh the peridium color is reddish, about hazel (Ridgway). The cut surface flesh color, becoming darker on exposure. There are one or two branched veins running from the base to the top. These veins and the peridium exude a milky juice when freshly cut, but there is no milk exuded by the gleba. They become indistinct in the dried plant, and I was not aware that the plant had them. We reproduce an interesting account of the plant from Professor Povah's letter.

"Octaviania Ravenelii is abundant in our pine wood

near here and I have found it growing under the mulch of pine needles and also in open grassy spots where there were no pine leaves. As to substratum, I am of the opinion that growth starts (i. e. in the formation of a fruiting body) in the upper layers of the soil. At maturity I find them rarely on the surface, just attached at the base. More often they occur about half buried. They also occur from one-third to two-thirds submerged.

With regard to the "milk," when fresh specimens are broken or cut, there is rather a copious exudation of a white milk around the periphery and sometimes along the firmer tissue within. This fluid, on exposure to air, soon separates into a clear portion and a milky part. Slowly the color changes to a pale tan.

The species has a pleasant odor which is hard to describe, but is rather aromatic, suggesting to some, strawberries, and to another, the odor of a freshly dug sweet potato."

Our (Fig. 2160) shows the fresh plants, natural size, and (Fig. 2161) a section enlarged of the freshly cut plant.

This was named by Berkeley as a variety of Octaviania Stephensii, and on comparison I think practically the same thing. The spores (16 mic.) are larger; the spines stronger, which is the only difference that I can note.

Octaviania carotaecolor from Paul Konrad, Switzerland.—(Fig. 2162, gleba and Fig. 2163, enlarged.) We are very glad to get it as it is the first specimen received. When fresh "bien beau songe-orange carotte." We present an enlargement showing the gleba cells. The original figure of Berkeley (in Outlines Brit. Fungology) presents an entirely wrong section, there being no thick cell walls as shown. M. Konrad advises us it shrank to one-third in drying and when fresh was 4 cm. in diameter. It appears to me the spores were not happily presented by Tulasne (Fig. 2164, left) nor of course by Cooke, Fischer, or Winter, who merely copied him. (Fig. 2165, right, is a more correct presentation.) Smith (British Basidiomycetes) who departed from the usual custom and did not copy Tulasne, gives a very good figure of the spores, the collar not distinct enough, which is the only error. Patouillard, who was the first to point out the particular collar, exaggerated the feature in his figure. Corda, who really named the plant, although they write Berkeley after it, gave a grossly inaccurate spore figure, showing it perfectly globose and with blunt spines. The larger part of Cordas microscopic drawings are so inaccurate and misleading that they only confuse. That, however, was no doubt due to imperfect development of the microscope in those days. Persoon with the crude lense at his command, did better, if not as much as Corda; and Schraeder fifty years before Corda gave a few, but most beautiful drawings of microscopic details of Cribraria. So that Corda's mostly inaccurate microscopic figure can not be altogether charged to his microscope.

The peculiar collar at the base of the spore in this plant is known as to no other species, and will no doubt be the basis for some future genius to discover a "new genus." Also no other hypogeal fungus, I believe, has as large spines on the spores as this. We use the generic name, Octaviania, instead of the usual Hydnangium for this plant, for, as has been explained, we are unable to see any difference whatever to separate Hydnangium from Octaviania.

Octaviania monospora from E. Boudier, France.—(Fig. 2165, from Boudier.) This is based on collections that came from Barla, Southern France. The character from which it is named, the one spored basidium, is readily seen from a dried specimen, but the basidium appears to me more slender than shown. The gleba has the general appearance to the eye as that of Rhizopogon with small cells. The spores are 12 mic., sub-hyaline, globose and minutely spinulose. It was finely illustrated by Boudier, Plate 193,basidia of which we reproduce, Boudier reports having received it frequently from Barla, and kindly sent me a specimen. He named it Hydnangium monosporum.

Octaviania liosperma.—(Fig. 2166, spores from Tulasne.) A small species, size of a pea. Peridium white. Gleba ochraceous or armeniaceous. Spores small, globose, 6½ mic., smooth, hyaline, with pedicels. Tulasne states it differs from all other species in its smooth spores. Harkness has since added five (supposed) species with smooth spores, but he calls them Leucophelps, "new genus." We are not familiar with any of them but we judge all are better included in Octaviania.

Octaviania hysterangioides.—(Fig. 2167, spores from Tulasne.) Size of hazel-nut. Peridium white. Gleba firm, sub-cartilaginous sordid, greenish. Spores ochraceous, small, globose, 4½ mic., smooth (or with very minute spines). Only known from collection by Broome in Italy. The greenish gleba suggests the genus, Hysterangium, hence the name. From its very small spores and greenish gleba probably better classed as Hysteranjium from which it differs in spore shape.

Octaviania asterosperma from E. Boudier, France.—(Fig. 2168, section enlarged.) To the eye this is very similar to Octaviania carnea, but the spores are very different. They are globose 16 mic., deep colored, with rather short, thick sub-hyaline spines. We have specimens from E. Boudier, France, and Professor H. M. Fitzpatrick, Ithaca, New York. It is not recorded by Harkness, though his description of several "new species" seem to cover it. We reproduce (Fig. 2169) the spores as drawn by Boudier.

Octaviania Tasmanica from L. Rodway, Tasmania.—(Fig. 2170, section enlarged.) Brown, globose,

about 8-10 mm. in diameter. Gleba (dried) brown, small celled and marmolate with white venae. Spores, globose, 12-14 mic., deep colored with short, thick, hyaline spines.

The record states this was found in Kalchbrenner's collection from Tasmania, but I expect there will prove some mistake. It was described by Massee, who no doubt got it from Rodway, Tasmania, and attributed it to "Kalchbrenner's Herbarium." Kalchbrenner never got any Tasmanian plants. Massee failed to mention the white "veins" of the gleba, known, I believe, in no other similar species. The colored spores with thick, short hyaline spines, also seem peculiar to this species. I know no established term to apply to the white "veins," so common in the Tuberaceae, which is well established in use as veins, but in a sense not of the usual significance. In the distinction made by Jackson between vein and venae the latter is the meaning that should be used. The vein of Octaviania Ravenelii (Fig. 2161) is quite different from the venae of Octaviania Tasmanica (Fig. 2170).

Octaviania candida.—(Fig. 2171, spores from Tulasne.) Size of a hazel-nut, white or pale yellowish. Gleba ochraceous with minute cells. Spores compressed, globose, hyaline young, becoming dark when old, 6½-8½ mic. echinulate, with small spines. This was known to Tulasne from a single collection (Pictavia 1841), and I find no record since.

Octaviania Africana from Miss A. V. Duthie, S. Africa.—(Fig. 2172.) Peridium globose 1-1½ cm. in diameter, dark brown, smooth, furnished at the base with a short root. Gleba of small cells, uniform, dark brown (snuff brown, Ridgway) with no veins or sterile base. Spores globose or compressed globose, deep colored, with thick walls, 16-20 mic.; surface minutely tubercular reticulate. This species appears to differ from others in having more reticulate spore surface. In general appearance it resembles Rhizopogon rubescens. In affinity is close to Octaviania candida, but the large reticulate spores are quite different.

Octaviania compacta from Professor O. Mattirolo, Italy.—Fig. 2173, enlarged and Fig. 2174, section enlarged.) This is a small, white species of Southern Europe (Italy, Mattirolo and Broome; Southern France, Tulasne). It departs from other species in having a soft flocculent peridium, and a compact gleba with the cells filled with spores. It was first collected and named by Tulasne from Southern France, who commented on its characters at variance from others of the genus. Hesse proposed for it the genus. Sclerogaster (compacta). The spores stated by Tulasne to be yellow, appear to me, from both dry and alcoholic material, to be sub-hyaline and very minutely rough (almost smooth). I do not see them as decidedly rough as Tulasne shows them. I have alcoholic specimens from Professor Mattirolo, and Rab exsic No. 2502, collected by Broome in Italy. Harkness reports it from California, but I would rather see it confirmed.

THE GENUS ARCANGELIELLA

As previously stated, the generic differences proposed for Hymenogastraceae with globose spores is not workable. Harkness' genus, Leucophelps, was based on smooth spores, as far as I can decide, or more probable on his ignorance of the fact that European species have smooth spores. I do not know them, however, except from publication and should not pass any opinion on them. Arcangeliella seems to have been based on no definite character and the real character to my mind, the hard, horny texture of the dried plant, was not mentioned. The "reticulate" base erroneously figured as lamellate is of no generic value.

Arcangeliella Borziana from F. Cavara, Italy.—(Fig. 2175, enlarged.) This was proposed by Professor Cavara as a type of a new genus, Arcangeliella, and I use the name, basing the distinction from Octaviania on its hard cartilaginous texture. I can not see the "reticulate venose" base, nor the "columella" of the original description. The color when soaked is pale buff, not matching as far as I can see in Ridgway. Cells are uniform, very minute; spores globose, 8-10 mic., pale colored, with small spines. The plant has, according to the author, an abundant milky juice when fresh. There are plainly seen on the dried specimens (soaked) the four spored basidia and also conspicuous conical hyaline cystidia. The author compares it to Octaviania Ravenelii from which it differs entirely in texture and color. It is only comparable for me to Octaviania luteo-carnea of Brazil in its cartilaginous texture. It is known, we believe, only from the original collection.

Arcangeliella luteo-carnea from Rev. Johan Rick, Brazil.—(Fig. 2176, enlarged.) Almost a cm. in diameter. Peridium firm, thin, pale, probably white when fresh. Sterile base, none that I can make out. Gleba hard, firm, horny, with minute cells not visible to my eye. Spores globose, 6 mic., sub-hyaline, minutely rough. This is only known from Rev. Rick's collection from Brazil. It was named as Octaviania, but for me it should be classed in a genus with the previous species. I know no other with hard, horny gleba, but these two. The entire plant is pale, no doubt white when fresh. There is no yellow nor flesh tint to it to my eye. The spores are about the same as those of Octaviania compacta. It has been compared to Octaviania carnea, but the only suggestion it has to it for me is that it is round. In neither color, gleba or spores is it at all similar.

OTHER "SPECIES"

OCTAVIANIA ROSEA.—A comparison of this with Octaviania carnea convinces me it is the same in all respects. The spines are not "obtuse" as Harkness states, and the spores, globose 12-16 spiny sub-hyaline with a short blunt apiculus, are the same. This is one of Harkness' "new species" that is available as it was distributed (Rab. 3218) by Harkness and found in most museums.

OCTAVIANIA MUTABILIS.—As distributed Roum. 3159 (cotype) is for me same as Octaviania asterosperma.

Gyrocephalus rufus from C. L. Wilson, New York.—(Fig. 2178.) Atkinson gave a fine figure of this plant, but we can not refrain from illustrating it again from the beautiful specimens sent in by Mr. Wilson. It is quite frequent in the glens around Ithaca, so I am told, but as a general thing it is rather rare and is of Northern distribution. In Europe it is (appears to be) alpine only. Smith includes it in his English Basidiomycetes and gave it a figure but it never grew in England. I found the specimen on which his English (sic) record was based, and the specimen came from Switzerland. In this connection I give the history of the plant in Europe, which I wrote several years ago at Kew, but never got it into print.

HISTORY.—This remarkable species was first published and well illustrated by Jacquin from Austria in 1778, under the name Tremella rufa. DeCandolle described it, or at least is supposed to have described it in Flore française under the name Tremella helvelloides, and the description does seem to apply to it. Persoon got it from Chaillet, who labeled it Tremella helvelloides, but Persoon did not believe it to be DeCandolle's plant, for he wrote on his label "Tremella rufa," and in his last work (Mycologia Europaea) held them as different species in different sections of the genus. What plant Persoon took to be Tremella helvelloides I do not know, but evidently not this plant. He proposed a genus, Gyrocephalus, to include four species, including Tremella helvelloides, which Persoon changed to Gyrocephalus Juratensis, and which Persoon held to be different from Tremella rufa, as he always knew the latter species, both from Chaillet's specimen and from Jacquin's figure. Chaillet sent the plant, also, under DeCandolle's name to Fries, who accepted it as correctly named, and a synonym for Jacquin's figure, which he united with "Cantharellus" spathulatus from Schweinitz to form a new genus Guepinia. He used DeCandolle's specific name and his own generic name, neither of which was according to the sacred principles of priority on which he based so much stress when he could thereby change Persoon's names.

The genus, Guepinia, as described by Fries, was stipitate tremelloid plants with inferior hymenium. Berkeley and others took up the name and added several foreign species, but the inferior position of the hymenium was lost sight of, and the name, Guepinia, was applied to tremelloid stipitate plants with a discoid or unilateral hymenium, either inferior or superior. Under this name about thirty (alleged) species have been described (most of them being tropical forms of Guepinia spathulata). The structural (basidial) character was first shown by Tulasne, 1853 (Guepinia Peziza) and twenty years later as to Gyrocephalus rufus. He showed the basidial structure entirely different in the two species, though he used Fries' generic names (Guepinia) for both. Tulasne was much more interested in finding out the truth about plants than he was in names. Brefeld (1888) followed up Tulasne's work and considered each basidial type as a genus, using Gyrocephalus, as he supposed (but surely in error) in the sense of Persoon, and using Fries' name, Guepinia, for the other genus, which is inaccurate and bad enough. I think that is better than the method of Patouillard, who restricts the name, Guepinia (contrary to historical truth), to the one species (Gyrocephaus rufus) and discovers that all the others are a "new genus."

If someone wanted to be accurate and get it correct, he should call the plant "Tremiscus rufus (Jacquin) Pers.," for the name Gyrocephalus has no application to the plant—was never so used by Persoon, nor never intended to be so used.

Merulius conchoides from Rev. Louis Mille, Ecuador.—(Fig. 2179.) Conchoid, sessile, soft, thin, villose, white when dry, brown when moist. Hymenium olive drab, of small folds. Cystidia none. Spores 2½ x 5, hyaline.

This has a general resemblance to Merulius Corium and differs as follows: It has no resupinate development. The thickness is about half and the hyphae (some at least) are incrusted.

Polyporus ursinulus from Rev. Louis Mille, Ecuador.—(Fig. 2180.) Pilei dimidiate, imbricate, dark reddish brown, the thin margins more yellowish. Surface of coarse brown fibrillose appressed fibrils. Context thin, buckthorn brown. Pores minute, the tissue darker than the context, the mouths adustus. Setae few but typical, scattered. Spores (if correctly seen) globose, hyaline, 8 mic.

To the inexperienced this would hardly suggest Polyporus gilvus and yet it is close and belongs to the same group (Section 96). The coarse, fibrillose covering is somewhat similar to Polyporus Hookerii (Apus Polyporus, Fig. 683), but is different as will be seen on comparison. The context color is paler and not as bright as other species of this group.

Ptychogaster subiculoides from G. R. Bisby, Canada.—(Fig. 2181.) One not familiar with such

things might take this for an immature puff ball. It is an immature Ptychogaster, which is not saying much, for no one really knows what a Ptychogaster is. The subiculum is soft, white, thick and I never heard before of a Ptychogaster with a subiculum. The margin of the subiculum, as the surface of the young fruit, have fimbriate, spiral-like processes. A section of the fruit shows fibrillose tissue, and a few large globose spores, 32 mic. in diameter, pale colored and tubercular surface. We found them scantily, and are not sure about them. We do not know much about this curious thing, but publish it in hopes some one will find mature specimens, so we can learn more.

Trametes roseo-zonata from Dr. Kingo Miyabe, Japan.—(Fig. 2182.) Dimidiate, thin, rigid. Surface glabrous with raised zones, variegated, brownish. Context and pore tissue thin, pink or rose color. Pores minute with rose tissue and white mouths. Spores not found.

A species very close to our common Trametes carnea and in same section (133).

Hydnum Kauffmanii from C. R. Bisby, Winnipeg.—(Fig. 2183.) This was so named by Peck but is practically the same plant as our common Hydnum pulcherrimum to which I have referred is as a synonym. It is thinner and has coarser fibers on the surface. Also it is close to Hydnum australe (Note 768) which is also a thinner plant otherwise same as Hydnum pulcherrinum.

Pterula Landelphiae from John Gossweiler, Africa.—(Fig. 2184.) We figured (1375) on page 822 a plant from Mr. Gossweiler that suggests these very much but yet is certainly different. A comparison of the figures might lead to the conclusion that they are the same, but in Pterula fruticum there is strong violet coloring matter given off in alkaline solution and in this none at all. In addition this has little projections about 30 x 100-150 mic., which give the stem a scurfy appearance visible to the eye. We do not find basidia nor spores for sure, and the plant may not be a Pterula. Spores seen are 4 x 5 smooth, pale colored, but may not belong to the plant. The color is gone now, but Mr. Gossweiler notes "orange yellow on seed of Landelphiae florida."

Isaria Arenearum from L. O. Overholts, Pennsylvania.—(Fig. 2185, enlarged.) While we have never looked up the specimen (if it exists) in Schweinitz herbarium we have no doubt of the name. It is the first time we have received it. It agrees with Schweinitz's description as follows: "Effused, crustaceous, yellowish, clubs setaceous, citrine. Apices flesh colored, pulvinate, frequently found on spiders that by chance are preserved with leaves in the herbarium." Our figure is enlarged about sixfold.

Xylaria exacuta from Rev. Johan Rick, Brazil.—(Fig. 2186.) Club cylindrical, 3-4 cm. x 6-8 mm., black, no crust, obtusely moriform, with a short, sterile, acute apex. Stem short (1 cm.) distinct, glabrous. Perithecia large. Ostioles with minute, black points. Spores 6 x 12.

We would enter this in Section 16, though most species in that section are obtuse. The minute, papillate, black ostioles are the same as shown in Fig. 1337 for Xylaria scruposa and are unusual features in Xylarias.

Section Amaurodermus from Otto A. Reinking, Philippines.—This is the most interesting section of Stipitate Polyporus to me on account of the peculiarity and rare occurrence of the species. I was, therefore, particularly pleased to receive from Mr. Reinking eleven collections.

Polyporus (Amaurodermus) renidens from Otto A. Reinking, Philippines.—(Fig. 2187.) I have never seen this before from the Philippines, but Mr. Reinking sends six collections and all are very uniform. The only previous specimens I have seen is a type at Berlin, collected in Brazil years ago. But Polyporus renidens is only a small pleuropodial form of Polyporus leptopus named by Persoon a hundred years ago, and the type still preserved at Paris. It develops that there are four species—forms of Polyporus leptopus as follows, all having the same general features. Color brick red, never strongly laccate. Pores cinnamon, long, reaching the crust with practically no context development. Pore mouths white (when young), the pores larger than most similar species. Stem strongly laccate, black, shiny. In a general way this species (in Amaurodermus) corresponds to the common Polyporus lucidus (in Ganodermus) excepting that the pileus is dull, never strongly shining laccate. The pores are larger, and the spores have no resemblance.

Polyporus leptopus species forms.—For almost eighty years this group was known from a single specimen from the Island of Rawak, and named by Persoon now preserved at Paris. In 1846, Leveille found in the museum at Paris a collection of a small form from South America and named it Polyporus longipes, not suspecting, however, that it had any relation to Polyporus leptopus preserved in the same museum. Next, Bresadola found in the museum at Berlin a single specimen from Brazil, which he called Polyporus renidens. And the last form from Philippines (McGregor 20289) was named (1915) Polyporus costatus. There are two types of spores in these plants, leptopus and renidens have globose rough spores 8-10 mic., and very faintly ribbed. Longipes and costatus have larger (10-12) spores, strongly, and most markedly

ribbed, as shown by Figs. 710 and 1743. It may be heresy, but for me these expressions are spore variations, though the usual fungus taxinomist considers spores as absolutely non-variable and the first test of a "species."

The following is a survey of what is known of the occurrence of these four species-forms to date:

Polyporus leptopus.—One specimen at Paris collected Island Rawak and named by Persoon (1826). Cfr. Stipitate Polyporoids page 115, also page 889. This exact form never collected since.

Polyporus renidens.—One specimen at Berlin collected, Brazil and named (1896) by Bresadola. Six collections made on Mt. Maquiling, Philippines (1920) by Otto A. Reinking and other Philippine collectors.

Polyporus longipes.—One collection at Paris made in French Guiana, South America, and named by Léveillé (1846). One collection from tropical Africa (1920) by John Gossweiler (Cfr. Myc. Notes, page 943).

Polyporus costatus.—One collection made Philippines (1918) R. C. McGregor (20289) Cfr. Letter 56, Note 256 and Myc. Notes, page 889. This was originally referred by Bresadola to Polyporus renidens.

Teratological Fomes (sic) from Otto A. Reinking, Philippines.—(Fig. 2188.) In Vol. 6 of Sylloge Fungorum, Saccardo compiles the first sixty-one species of the "genus" Fomes, and not a single one of them belong to the genus according to his own definition or the usually logical and original idea, viz.: "Perennial woody Polyporus with the pores in annual stratae." But a curious teratological specimen of this section (Polyporus renidens) comes in from Otto A. Reinking, illustrating that when this "section" of Fomes (sic) does become perennial it does so, not by forming new layers of pores, but by forming a new pileus from the margin of the old pileus. Of course it is only an exceptional teratological instance, but it is quite curious that a perfect plant (stem, pileus and every feature) should grow from the margin of a dead specimen of the same species. It is not only an example of teratology, but it is a case of cannibalism, for the second pileus has been nourished at the expense of the substance of the first.

Polyporus Sandakanii from H. A. Lee, collected by M. Ramos in North Borneo.—(Fig. 2189.) Mesopodial with pileus four or five inches in diameter. Surface dull, black, strongly rugulose. Stem about a cm. thick, pithy, with a hard crust and dull black, smooth surface. Context thin, cinnamon. Pores minute, hard 2-3 mm. deep, darker than the context. Pore mouths in dried specimens black but probably changed in drying. While I find no spores I do not doubt it belongs to the rare section, Amaurodermus. A section of the plant looks to me exactly same as one of Polyporus Bavianus named from China, but the habits, statue and surface are so different, I do not feel like referring to this species. The general appearance of Polyporus Bavianus is shown in our Fig. 411 of the Stipitate Polyporoids. Our Fig. (2189) of Polyporus Sandakanii presents only a section of the pileus and a piece of the stem.

Daedalea roseola from H. A. Lee, collected by M. Ramos in North Borneo.—(Fig. 2190, of pores enlarged.) Although we are convinced that this is a daedaloid expression of Trametes roseola, the pores of the two have no resemblance, and the specimen would never be found as a Trametes. Trametes roseola is fairly frequent in the East and Africa, and we often get it always with small, round pores. This specimen has same texture and (peculiar) context color, but the pores as shown on enlargement are elongated, daedaloid, crenate and present a beautiful pattern. Although this section (133) of Trametes with rose or flesh color context embraces several species, this is the first Daedalea in a similar section which we would number Section 145a. Trametes cupreo-rosea (Syn. Fomes Fig. 579) might also be entered in this section.

Polystictus albo-regularis from John E. A. Lewis, Japan.—(Fig. 2191.) A pure white pileate species with minutely pubescent surface and elongated rather large, shallow pores. It goes in Section 108, and is close to Polystictus Blumei as to pores; Polystictus cryptomeniae and Polystictus expansus except as to pores and surface. A formal description is not necessary for the figure and above comparison will more easily place it.

Polystictus glabro-rigens from H. A. Lee, collected by M. Ramos in North Borneo.—(Fig. 2192.) Color uniform snuff brown (R). Thin, broadly effused, with small, recurved pilei. Surface glabrous, slightly striate. Pores minute, concolorous. Setae none. Spores not found. This Eastern species is same color, habits and appearance as Polystictus rigens, frequent in American tropics. But the pileus is smooth, hence we enter it in Section 114. Polystictus rigens has a pubescent floccose pileus and goes in different section. The little resupinate frustule of Polystictus beharensis that Berkeley named from India may be this plant, but entirely inadequate to decide.

Polyporus semilaccatus from H. A. Lee, collected by M. Ramos in North Borneo.—(Fig. 2193.) Semiresupinate specimen which is unusual. I compared it with many collections before I was sure of it. I have now fifty-five collections of this species, and this is the second one with a resupinate development. Fifty-three of them have no resupinate development at all. One

would hardly suspect that this specimen (Fig. 2193, on the left side) is in every feature, excepting general appearance, the same as the usual form (Fig. 2193, on the right side).

Hexagona fusco-glabra from H. A. Lee, Philippines.—(Fig. 2194.) Thin, rigid, with glabrous, zonate, brown surface. Context thin, isabelline. Pores small, regular, round, light brown. Cystidia none. Spores not found. This is an addition to Section 164 "Tenuis" of our pamphlet. Traditional classification of fungi is every thing except consistent. The basic idea of Hexagona is large, round or hexagonal pores, and yet the common section, "Tenuis" by universal custom is classed as Hexagona, although it has small pores. (Cfr. Hexagona Synopsis, page 1, and section "Tenuis" on page 22.)

Trametes sulcata from Rev. Johan Rick, Brazil.—(Fig. 2195.) Partly resupinate with reflexed pileus, thin, rigid. Surface sulcate with raised zones of a thick soft tomentose pad. Context thin, isabelline. Pores white, rigid, small, round or elongated or resupinate portions. Cystidia none, but hymenial surface with abundant slender, projecting hyphae. Spores not found. This does not suggest any species known to me. The surface recalls Polystictus byrsinus, the pores Trametes serpens, but the combination I never saw before.

Polyporus multilobatus from L. J. K. Brace, Bahamas.—(Fig. 2196.) Merismatoid, small, an inch or two high. Stem white at base, divided above into many small sub-orbicular pileate lobes at top. Color brown. Surface glabrous, faintly zoned. Pores small, irpicoid, long decurrent on the branches and stems. Cystidia none. Spores sub-globose 4-5 mic. with large gutta. This might be called a diminutive Polyporus frondosus, but from small size is surely no form of that plant It grew on leaf mould and developed abundant white mycelial growth over the host and at base of stems. It is quite close to Polyporus multiplex, only known from type at Kew. Section 28, Cfr. Stipitate Polyporoids, page 152.

Polystictus crenatus, proliferous, from Otto A. Reinking, Philippines.—(Fig. 2197.) There is in the Philippines a species intermediate between Polystictus affinis and Polystictus flabelliformis, but much closer to the former. It appears in the list under both names but it is a light colored plant not dark like the true Polystictus flabelliformis and much less pubescent. It would seem from our figure well named but the "crenate" margin is an abnormal growth and not found on the "type" in the British Museum. Polystictus affinis is glabrous and when slightly pubscent it is called Polystictus crenatus, but they are too close to maintain. All specimens of Polystictus crenatus, however, do not have "crenate" margins like our Fig. 2197.

Favolus parviporus from Mr. Nelson A. Nunez Valdez, Ecuador.—(Fig. 2198.) Pileus orbicular with a distinct lateral stipe, pale reddish brown, smooth surface. Context white. Stipe distinct, glabrous, about a cm. long. Pores (Fig. 2199, enlarged) smooth, favoloid in radiate lines tending to agarical arrangement. Cystidia none but globose, glandular edges of the pore walls seen under a lens. Spores not surely found. Notwithstanding its small pores it is for me a true Favolus.

Since the above was written we have a second collection from Ecuador from Rev. Louis Mille, S. J. The plant is close to Polyporus Rhipidium (the type form) as shown in our Polyporoid Issue, page 23, Fig. 260. It has a more slender stipe, more elongated pores and different habits of growth. Also it has no tendency to turn reddish in drying.

Polyporus Whetstonei from Dr. M. S. Whetstone, Minnesota.—(Fig. 2200.) In grosser features, soft flesh, and to the eye this is exactly the same as Polyporus leucospongia (Apus Polyporus Fig. 665) to which we first referred it but afterwards found it had different spores. The spores are sub-globose 5 x 7 or rarely globose 8 mic. They are cylindrical 3 x 8 in. Polyporus leucospongia. We feel that a formal description is hardly necessary as it seems to be Polyporus leucospongia in every feature but the spores. It is known from but one collection sent me by Dr. Whetstone several years ago and collection note and host are not known. (Cfr. also page 1014 where the word "not" should be deleted before "globose spores.")

Daedalea mollicula from Dr. Kingo Miyabe, Japan.—(Fig. 2201.) Pileate, sessile. Color of pores and surface isabelline but probably white when fresh. Surface dull. Pores narrow, thin, close, sinuate. Context white, soft, cottony to touch.

The general features of the plant suggest a daedaloid Trametes lactinea, especially the soft, white context. But not a daedaloid form of that species for this (dried) is isabelline, and Trametes lactinea drys white. The gills are exactly the same as those of Daedalea reflexa from the Philippines but that is thinner and has dark context color.

Trametes picta (Pleuropoda) from Otto A. Reinking, Philippines.—(Fig. 2202.) We refer this as a stipitate specimen of Trametes picta although we have never before seen one in this Section (122). It has ochraceous context, glazed surface, and very minute pores. It is thin, rigid and in general appearance (except pores and context) reminds one of Lenzites repanda.

Henning has a form pleuropoda of Trametes cingulata which we did not find at Berlin. As he calls it Polystictus however, and describes it as "coriaceous," there is no probability that it had any suggestion of Trametes cingulata.

Polyporus montanus from Dr. Kingo Miyabe, Japan.—(Fig. 2203, reduced.) The occurrence of this rare European species in Japan is of great interest to me especially as it has never been found in the United States. It belongs to the Section Ovinus, close to P. cristatus but it is the only Ovinus known with globose, asperate spores. It is therefore easily recognized and on comparison I find the Japanese and European plants exactly the same in every thing. In our Stipitate Polyporoids we considered Polyporus montanus (page 148) as a mesopodial analogue of Polyporus Berkeleyi but we now think it entirely distinct and would class it in Section 41 of Ovinus or make a new section for it with echinulate spores. Certainly no one would look for Professor Miyabe's plant in Merismus. We present a figure of a specimen, much reduced, from E. Woulff, Austria, the only perfect specimen we ever received.

Polyporus guhae as named by S. R. Bose, India.—(Fig. 2204.) Pileus rigid, firm, suborbicular or petaloid, from a reduced base. Surface glabrous dark, reddish brown, zonate with raised ridges. Context thin, rigid, pale isabelline. Pores very minute with tissue darker than the context and unicolorous mouths. Spores not found. We would enter this in Section 15 of our pamphlet. On account of its rigidity and hardness it might be sought in Trametes but the different color of pores and context forbid.

Polyporus obtusus from Mr. C. H. Demetrio, Missouri.—(Fig. 2205.) We gave a detailed account of this in our Apus Polyporus pamphlet, page 324. If one compares the Fig. 2205, we give herewith of Demetrio's specimen with the Fig. 666 we previously gave he would have good grounds to doubt the reference. The pores in this specimen are prolonged and irpicoid and they show no tendency in this direction in the usual collection.

Favolus bengala as named by S. R. Bose, India.—(Fig. 2206.) Pileus rigid, tapering to a reduced base, 2-3 cm. in diameter. Surface smooth, faintly zoned, pale. Context pale, firm. Pores rigid, elongated, somewhat irregular and crenate, 1-1½ mm. long. Setae none. Spores, if correctly seen, globose, 4 mic., hyaline, slightly rough.

This is an ambiguous Favolus, but we think should be so classed on account of its large, elongated pores which are arranged in lines, indicating its affinities to a lamelliform arrangement. The rigid, firm texture of the plant, however, suggests Trametes.

Polystictus prosector from H. H. Hu, China.—(Fig. 2207.) Polystictus Friesii, called also Polystictus sector, is a common plant in the American tropics but has never reached me but once elsewhere (Australia, Cfr. Note 765). This collection from China differs so that it is well entitled to a name and yet I think about the same species. The hymenial face is the same but the Chinese is much more irpicoid. The American plant is fibrillose striate, relatively smooth with narrow, black zones. The Chinese is really pubescent with broad, black zones at the base. We present figures of both and the difference will be shown by the camera. Polystictus Friesii (Fig. 2208) so common in our tropical region is extremely rare in the East. Assuming that Polystictus prosector is the same it is the second collection. Professor Hu, however, sends me three collections from China.

Daedalea stratosa from Rev. J. Rick, Brazil.—(Fig. 2209.) Thin, flexible, 1-1½ cm. thick, sessile to reduced base. Surface isabelline-brown, rugulose, zoned. Context practically none. Pores in stratae, 3-4 mm. thick. Pore tissue yellowish isabelline, the fresh strata darker than the old. Cystidia none. Spores not found. This suggested at once Trametes straminea; about same color, same light (weight) texture, same stratified pores. It is hard to place it as to genus. A Fomes on its stratified pores, but no one would look in Fomes for it. A Trametes from its general nature. A Daedalea on its pore shape, though those with similar pores are often referred to Lenzites. We would enter it in Section 146.

Fomes rufolaccatus from Professor S. R. Bose, India.—(Fig. 2210, the pores natural size.) Ungulate, sessile, 4-6 inches in diameter. Surface with a dark, reddish laccate exudation such as is often found on Fomes pinicola. Context soft (for a Fomes) punky, isabelline color. Pores (Fig. 2210) quite large, somewhat elongated, 1-2 mm. long with texture and color same as context; indistinctly stratose in layers 8-10 mm. thick. Cystidia none. Spores not found.

This is a very remarkable species and at first its relations were not evident. The laccate surface might suggest a Ganodermus, but not to one familiar with this section. Notwithstanding its large pores it is closely related to Fomes pinicola. A plant (Fomes subungulatus) recently named from Philippines (Cfr. Synopsis Fomes, page 219) has same color, same soft context, same laccate surface but it has minute pores same as Fomes pinicola. This we would enter in Section 58. The punky and homogeneous pore tissue and context and the large, elongated pores are out of place in a Fomes and suggest Trametes. But its relations are so close to Fomes pinicola it must be classed with it.

Polyporus atrostrigosus from L. Rodway, Tasmania.—(Fig. 2211.) We received this same thing before from New Zealand, and gave a figure and account on page 731. We made a mistake, however, for the spores are elliptical, 5 x 6, instead as noted in error in our previous account. It is a strongly marked plant

and seems endemic in Australasia. The black hispid surface contrasting with the white pores are its salient feature.

Polyporus friabilis from S. R. Bose, Calcutta.—(Fig. 2212.) Mesopodial, growing from the ground. Color (surface, context and pores) isabelline, probably white when fresh. Surface soft to touch, dull. Context soft, brittle, friable. Pores minute, concolorous. Cystidia none. Spores 4 x 5 hyaline, translucent with a gutta, smooth.

It belongs in Section 39 and is suggestive of Polyporus ovinus of Europe. The soft, friable flesh of the dried specimen is a feature not known to me in any similar species. The size of the specimen is shown in our Fig. 2212 but Professor Bose writes me "There is a larger one from Jesoore about seven inches in diameter."

Schizophyllum commune from H. A. Lee, Philippines.—(Fig. 2213.) Strongly divided and growing close so that at first it has an unusual appearance, but of course it is the same common species.

Trametes Karie from S. R. Bose, India and as named by him.—(Fig. 2214.) Pileus sessile or with a short stipe, growing imbricate on dead wood. Surface soft, rugulose, brownish, paler in the depressions. Context coriaceous, punky, pale brownish. Pores minute, 3-4 mm. deep, rigid, darker than the context with still darker mouths, almost adustus. Spores not found.

The plant impresses me as probably a white plant in its prime that becomes spotted brown when old or in drying, particularly when bruised. I should put it in Section 128 although it suggests the white plants in Section 124.

Tremella crassa from P. van der Bijl, South Africa.—(Fig. 2215.) This we dropped in a glass of water and it remained over a day before we took it up. It soaked out a half inch thick and two inches in diameter. Color pale amber. It was probably white before drying. The hymenial surface but slightly cerebriform, and not much different to the eye from the subhymenial. Spores but scantily found are globose, 8 mic. in diameter. Basidia we did not surely find. It has no papillae but on the surface are clusters of little granules apparently composed of crystals.

The tremellaceous plants of South Africa are turning out entirely different from our European species, and we hope all our friends in South Africa will collect and dry every tremellaceous plant they note.

Trametes aspera, a thin lobed form, from E. D. Merrill, Philippines.—(Fig. 2216.) We have already written (page 1085) of the puzzling forms of the brown Trametes (Section 136) that occur in the Philippines. On the sheets of "Trametes badia" sent me by Mr. Merrill there is one collection (Williams) which Murrill had referred to Trametes badia, but Murrill very much simplified the matter by referring the whole section to Trametes badia. This collection should be named as "new species." It has surface of Trametes aspera, coloration of Trametes fuscella, but is lobed (I know no other in the section lobed) and it is thinner than Trametes aspera.

Tremella undulata from Rev. J. Rick, Brazil.—(Fig. 2217.) We take this in sense of Moeller, who thinks he takes it in sense of Hoffman, and says same as Tremella frondosa of Europe. We doubt all except the first, for we do not know it in Europe. Surely it is not Tremella frondosa as considered and figured on page 794, although the photographs look much alike, but the color is different entirely. This is color of a raisin. It is young and I find no basidia or spores, but surely it is a Tremella, very close to Tremella frondosa.

Trametes Persoonii from H. A. Lee, collected by M. Ramos in North Borneo.—(Fig. 2218.) How the plant changes its form according to the position of growth is illustrated by these collections of the common Trametes Persoonii. (Fig. 2218), center, is the ordinary pileate form. On the right, is a specimen growing horizontal on under side of log and developing round, regular pores, and a narrow pileate margin. On the left, is a specimen growing vertical, hence elongated, irregular pores and no pileus developed. Texture and color are usually the only factors that can be relied upon in the determination of polypores, and that must be learned by familiarity with specimens.

Hexagona retropicta from E. D. Merrill, Philippines.—(Fig. 2219.) This was considered, in Philippine records, as a variety of Hexagona Thwaitesii, but for me it is a pale form of Hexagona tricolor. The latter is reaching me from Africa and other countries and is always a very dark plant. We have two collections only from the Philippines (Fenix 28307 and 28313) and both of them are much paler than the African species. As only a question of color our photograph will not show any difference, but geographical distinction in connection with color for me entitles a plant to a name.

Tremella ater-globosa from Rev. J. Rick, Brazil.—(Fig. 2220.) Globose, cerebrine (not foliaceous) almost an inch in diameter, dark, almost black. Basidia 20 mic., brown. Spores if correctly seen, globose, light colored. This belongs to same group as Tremella frondosa of Europe, but differs in shape, being more compact, and not at all foliacious, also much darker color. Our photograph will show it better than it can be described.

Polystictus melanopilus from E. D. Merrill, Philippines.—(Fig. 2221.) In a few words, this is

Polystictus luteus with stems more or less black, sometimes more, sometimes less, and sometimes none, in the same collection. The specimen sent me at first had no black on the stem, hence I had trouble to decide how it differed from Polystictus luteus, and did decide that it did not differ. But when I see the original collections there is no trouble to note the feature on which this "new species" was based. If Nature would enter into some kind of a partnership or arrangement with new species' discoverers and make her specimens correspond with men's ideas on the subject, how much better it would be.

Dacryomyces dubius from L. Rodway, Tasmania.—(Fig. 2222.) Five mm. in diameter with distinct concave disc, bearing the hymenium. Color, dark orange, but paling out pale yellow when soaked. Sessile or mostly tapering to short stalk, sometimes 2-3 mm. long. Basidia furcate. Spores 6 x 12 hyaline, curved, 1-2 septate. Tissue all gelatinous. It is doubtful if this is a Dacryomyces or Guepinia. If on top of log the former; if on underside, the latter. We judge the former for its habits seem to be that of our common Dacryomyces species. The old distinction that Dacryomyces are sessile cushion shaped, and Guepinias are stalked with disc shape hymenium, has been lost through many intermediate species found in recent years. This at first seemed to be Guepinia pezizaeformis, but when soaked was found to be entirely different.

THE GENUS NAEMATELIA

Substance heterogeneous, the base fibrous tissue, the hymenium bearing portions of gelatinous tissue. Basidia globose, cruciately divided. Spores globose.

The above description is a strict definition of the genus as it should be defined to cover the type species, Naematelia encephala. It was originally defined as heterogeneous, the gelatinous layer enclosing a fleshy nucleus, Basidia globose, imbedded. As found in our text-books, the genus, Naematelia, covers two quite different ideas.

(1) The plant, Naematelia encephala, which has a fibrous, fleshy (not gelatinous) rooting base that bears the gelatinous portions. (Our Fig. 2224 enlarged) shows this structure very plainly. This is analogous to Ditiola.

(2) The gelatinous tissue encloses (surrounds) a heterogeneous nucleus said by Tulasne to be a "calcareous concretion." In addition the spores are quite different, being sub-globose in the former and reniform in the latter. We believe these should be designated by different generic names, but we do not do it, as we prefer to follow custom. Tulasne and Brefeld both finding the basidia of Naematelia the same as those of Tremella, disregarded the heterogeneous structure of the tissue and included the genus in Tremella. When one gets to looking through a microscope, it is often difficult to see the most obvious character with the naked eye.

SECTION 1—ENCEPHALA.—The tremelloid tissue on a fibrous, fleshy base.

Naematelia encephala.—(Fig. 2223.) Firm, sessile at first, globose, thin, slightly gyrose-cerebriform. Fibrous base, white, firm, slightly rooting, surmounted by the gelatinous tissue. Gelatinous tissue well distinct from the fibrous base, pale, flesh color when wet, more pronounced when partly dry. Basidia globose, cruciately parted. Sterigmata long. Spores white, globose, 12 mic. apiculate. This is rather frequent in Europe and grows only on the bark of Pinus sylvestris. It occurs also in pine regions in the United States, but both Ellis' exsiccatae, which I believe are correctly named, the host is oak.

It is perhaps the firmest tremelloid plant we have, and shrinks or changes hardly at all in drying. Illustrations: Brefeld, T. 8, Fig. 20, more gyrose than I have seen it; Cooke Handbook, Vol. I, Fig. 98, inaccurate as to spores; Smith, Fig. 117, good; Swanton, T. 26, Fig. 10.

Naematelia Japonica (Letter 54, Note 220), is better referred as a large form of Naematelia encephala with a yellowish core.

SECTION 2—NAEMATELIA.—Gelatinous tissue enclosing a calcareous nucleus.

Naematelia nucleata.—(Fig. 2225.) Color pale (antique) red when fresh and in its prime, but it soon becomes sordid brown. The nuclei are easily seen in young specimens, but not without cutting in the old. The form, at first globose, is soon gyrose-cerebriform. Basidia globose. Spores oblong, slightly curved, 5 x 10 mic. with granular contents. This is a frequent plant in the United States, and is partial to elm and maple. The old specimens soon take a solid brown color and as then the nuclei are not readily seen it is liable to be mistaken for small species of old Seismosarca alba. In drying it almost disappears, drying down to a thin membrane, only the nuclei remaining visible. In this condition it is hardly noticeable on the host. Naematelia nucleata was named by Schweinitz and specimens are still preserved in his herbarium. It is recorded in Europe by Berkeley and others, but I believe based on Naematelia globosa.

Naematelia globulus.—(Fig. 2226.) Color pale flesh, almost translucent when young. Form globose, convex even. Spores 5-8 x 12-16, oblong curved. The nuclei of the plant can plainly be seen through the translucent flesh. This is a rare species in Europe, but I found it rarely both in France and Sweden, and have seen it from England. Fries never records having seen it, though I found it several times around Upsala. It is small and so near translucent that it is easily overlooked.

This is without doubt the basis of the record of Naematelia nucleate in Europe, according to fresh specimens I have seen in England.

The European plant, Naematelia globulus, is, I think, distinct, though very close to the American Naematelia nucleata. The European species is paler color, does not become brown, nor cerebriform when old, and the spores are larger and more strongly curved. The spore shape of the Corda figure is not exactly true but approximates. That of Brefeld is quite different, but he surely had another plant under the name Tremella globulus. I get it also from L. Rodway, Tasmania, a white species that appears thicker and more even than the European plant. Illustrations, Corda Vol. 1 t. 7 Fig. 299 B. (Brefeld's figure from the spore shape not the same.)

OTHER "SPECIES"

Naematelia atrata.—Proposed by Peck fifty years ago but not seen since, is said to grow on Linn tree and have "black nuclei."

Naematelia cerebriformis.—Proposed by Peck on a specimen from Ellis is doubtless Naematelia encephala as Ellis afterwards considered and distributed it.

Naematelia cinnabarina.—Tahiti Montagne. The single type is at Paris. It has not the character of a Naematelia (a nucleus) but is a Tremella with imbedded yellowish cruciate basidia. There is nothing cinnabar about it to my eye, but rather orange yellow. On comparison with Tremella mesenterica of which it has the structure, it appears not exactly the same, not so foliaceous, but is too close to be maintained distinct on a single specimen. This is probably Tremella samoensis as published by me, as it has proven rather frequent in the tropics. But if so, it is neither a Naematelia nor is it cinnabar. However, it can become Tremella cinnabarina (Mont.) McGinty.

Naematelia coccinea.—As published from Steiermark by Wettstein suggests no known genus and surely not Naematelia. It is something of the nature of a Calocera, if spores were right. What punk it is for a man to publish new species and show on the face such elemental ignorance of "old genera."

Tremella fragiformis.—Persoons. Icones Pictae, Plate 10. Someone, I believe, Hoehnel, has published that this is Naematelia encephala. That may be, but if so, poorly illustrated. The species does not grow in clusters as shown, nor is it "rouge." He shows the interior white, but makes no mention of a different texture. Still it is probable for it has been a lost species. Fries called it Dacryomyces fragiformis. It becomes Naematelia fragiformis (Persoon) Hoehnel or McGinty.

Naematelia gemmata.—Leveille (as Tremella) Paris. There is a little type specimen at Paris. The nuclei are quite plain but of course nothing can be told as to species from the dried specimen. It is in all probability, same as Naematelia globulus of Europe.

Naematelia neglecta.—Europe Tulasne. There is some material in Tulasne's herbarium on Abies, but I am unable to see any fungus on it with a glass. It is unknown otherwise.

Naematelia rubiformis.—No specimen found in any museum and no yellow species of Naematelia known. Corda's figure copied by Winter and cited by Fries, seems to me to be Ditiola radicata, surely not a Naematelia. I think Naematelia rubiformis was probably Fries' early idea of Ditiola radicata.

Naematelia quercina.—Recently proposed by Coker is a bull, as anyone is liable to make who gets a little smattering of his subject, and proceeds with his "new species" before he learns the "old genera." (Cfr. Myc. Notes, page 1033.)

Naematelia Steidleri.—As published by Bresadola as variety of Naematelia encephala is based on finding it on oak instead of on pine, the traditional host in Europe. The host does not make even a variety for me, unless some other difference is shown.

Tremella subcarnosa.—From Peck's remarks seems to be a Naematelia.

Naematelia virescens.—Europe. It so figures in most European work, but it is a true Tremella and has no nucleus found in the genus Naematelia.

Naematelia (Species).—H. Marshall Ward gives in Transactions Brit. Myc. Soc., Vol. 1, page 143, an interesting account of the culture that he made of a "yeast like form" that he found on pine needles. He sent it to Massee (sic) and others and received suggestions that it was "Phlebia, Michenera, Tremella, Naematelia and Aegerita." Five genera that have precious little suggestion of each other, and none whatever of this. From the catenate spores Ward shows his plant is related to Hornomyces, but surely has not the most remote suggestion of Naematelia.

Calocera rufa from L. Rodway, Tasmania.—(Fig. 2228.) Color when soaked, tawny; when dried, russét (R). Growing caespitose. Clubs about a cm., toothed at apex. Basidia forked. Spores hyaline, 4 x 8, one septate. This is quite similar to the common Calocera cornea, or perhaps closer to the form called Calocera palmata (Myc. Notes, page 924) but the feature is that it is a shade of red with none of yellow, as in our common species. This specimen has abundant conidial spores, globose, hyaline, 3-4 mic., smooth.

Exidia plumbea from L. Rodway, Tasmania.—(Fig. 2229). Resupinate, with a swollen margin. Color black when soaked, but when dry peculiar lead color. A section shows a thin colored hymenial layer and a thicker hyaline gelatinous sub-hymenial layer. The coloring matter resides in dark hyphae of a kind of

crust, as found in some of our species. Papillae numerous, visible to the eye. Basidia large, globose, hyaline. Spores abundant 8 x 16-20; cylindrical, curved, opaque. Our photograph compared will suggest Exidia purpureo-cinerea (page 536) but the dried plants compared hardly suggest each other. The more foreign tremellaceous species we receive the harder it is to include them in the old genera. This is a typical Exidia, excepting that the old genus Exidia has no resupinate species.

Calocera fuscobasis from O. A. Reinking, Philippines.—(Fig. 2230.) Simple clubs growing gregarious on charred end of sawed log and deeply rooting in the rotten wood. About 4-5 mm., high, obtuse, simple, dull yellow or perhaps brownish when soaked; darker below. Glabrous. Consistency gelatinous. Specimens are young, and I find no spores or definite basidia. The latter, however, while I can not definitely state their shape, are of the general nature (but probably different) from the usual Calocera (furcate) basidia. A section shows protruding hyphae variously branched, and septate, evidently young basidia from the way the contents iodine stain. The material is young and scanty and I can not work with it as I would like. Collection (6124) on Mount Maquiling on end of burnt log by F. B. Serrano.

THE GENUS HETEROTEXTUS

We have mentioned before that there is a clearly distinct genus included in the old Dacryomyces and Guepinia of authors. The receipt of a third species from Mr. L. Rodway, Tasmania, induces us to publish it. Dacryomyces and Guepinia have homogeneous tissue, are gelatinous, of slender, intertwined filiform hyphae, Heterotextus has heterogeneous tissue, the cortex of globose, bottle shape, or cylindrical cells, distinct from the gelatinous tissue of the context.

Heterotextus flavus from L. Rodway, Tasmania.—(Fig. 2231.) Sessile, pezizaeform, 6-8 mm. in diameter, pale yellow, Hymenium on the concave disc. Outer surface sterile, of globose or cylindrical, hyaline cells. Context of gelatinous tissue. Basidia forming a palisade surface layer, cylindrical, filled with granular matter, forked. Spores 8 x 20 hyaline, curved, septate in germination. It has the color and general appearance to the eye of Tremella lutescens, but differs in being pezizaeform. It is close to Guepinia occidentalis of our Pacific coast (page 600) excepting shape. The basidia differs from the usual Dacryomyces in forming a palisade layer on the surface. I only saw the basidia with two, short, thick forks, which may develop slender, sterigmata, as far as I know. The general appearance of Holtermanns' drawing of the hymenium of the genus, Tjibodasia (plate 5 Fig. 21) is the same as this, excepting he shows some basidia traversely septate, which I am unable to make out in these. If they prove the same, however, I shall not be surprised. The spores are typically of a Dacryomyces. We would enter into this same genus. Heterotextus pezizaeformis (Guepinia pezizaeformis, Myc. Notes, pages 658 and 1090). Heterotextus monticola (Guepinia monticola, page 968) Heterotextus occidentalis (Guepinia occidentalis, page 600).

Tremella lutescens from L. O. Overholts, Pennsylvania.—(Fig. 2232.) Thin, pale yellow, foliaceous and breaks through the thin bark of branches in the early months of the year, and is our idea of the species. Tremella mesenterica is more orange, and grows on trunks and is a fall species. The two are not the same notwithstanding such eminent authority as Dr. Coker, who admits he never saw but one in his life.

Calocera palmata from Rev. Louis Mille, Ecuador.—(Fig. 2233.) If it is other than a dilated toothed form of Calocera cornea as considered in Myc. Notes, page 924, Fig. 1656. Rev. Mille's specimen, natural size (Fig. 2233) will show the features. It is a rare form at any rate.

Auricularia stellata from H. A. Lee, collected by C. Domingo in British North Borneo.—(Fig. 2234.) Thin, perhaps one mm. thick, perfectly glabrous, translucent when dry, orbicular, with a central attachment. Radiating from the center are six (or seven) symetrically thickened, tapering bifid veins. At first they appear as a fringe, but they are not free. No spores or basidia made out, although we note elongated bodies that must be basidia. There is no question to our mind that it is an Auricularia. We should dislike to illustrate this by a drawing for fear some one would think we had faked it up, but our enlarged photograph (Fig. 2235) of these curious stellate veins speaks for itself. It changes but little in soaking; becomes more opaque and swells a little, but remains very thin for an Auricularia. It is not so gelatinous as other species. Had there been but one specimen, we would have hesitated about publishing it for fear it was something accidental, but there were two exactly alike, and they are surely a normal species. No collecting notes accompanied, but from analogy with other species, it grew on the under side of a log, the stellate veins on the upper surface, and the hymenium below. Our figure presents two dried specimens, one upper and the other lower surface, but the plant is so transparent the peculiar veins show through, and it is not easy to tell which is which. We present also an enlargement (Fig. 2235) of the most peculiar radiating veins. Collected by C. Domingo, (No. 1107) near Sandakan, British North Borneo.

Guepinia spathularia (caespitose) from H. A. Lee, Philippines.—(Fig. 2236). We give this figure

(unsoaked) to show its exceptional appearance when growing caespitose. Generally it is scattered in its habits, and with us in the States, where it is quite common, it usually grows in a row, coming out of a crack in the wood.

Tremella crispa from L. Rodway, Tasmania.—(Fig. 2237, soaked.) This was sent by Mr. Rodway as having been determined by Massee as "Tremella vinosa," and I found the same collection so labeled by Massee at Kew. Surely Massee was only joking. He knew better than that. Tremella vinosa was named by Berkeley from United States, and while I did not find the type (did not work Discomycetes) Massee published that it had spores in asci, and proposed the genus Sarcomyces on it in Bulgariaceae. That must be a different thing entirely. Tremella crispa is very close to Tremella frondosa; a much smaller plant and more crisped but same general nature. When soaked it is brown, but very dark brown, and it dries (Fig. 2238) black. There is no vinaceous tint about it whatever. The spores are globose, hyaline, smooth, 6-7 mic. Basidia imbeded, globose, 12 mic., cruciate, divided, dark brown. I have a feeling that this is Tremella fimbriata in original sense of Persoon, a lost species of Europe. I found no specimen in any museum, and it is only known from the old traditions. Hence, I do not use the name, but it does not agree with Hoffman's old figure which Persoon cites, nor has it any purplish color, hence, one would not be justified in referring this Tasmanian specimen to a doubtful European name.

Tremella Brasiliensis from Rev. J. Rick, Brazil.—(Fig. 2239.) While this was considered by Moeller as a variety of Tremella lutescens, it is not for me. They have the same color and the same basidia and spores, but their habits and shape are different. The former grows on the bark and is cushion shape, very slightly cerebrine, while the latter usually breaks through the bark of branches and is more foliaceous. In addition, Tremella Brasiliensis soaks up very soft. These specimens are young and bear the conidial spores in great abundance. The few immature basidia seen are globose, 20 mic. and hyaline. The spores subglobose, about 8 mic.

Calocera cuneata from L. Rodway, Tasmania.—(Fig. 2240, enlarged.) Growing gregarious on decorticate wood. When soaked out 2-3 mm. tall, 2 mm. broad, yellow, obtuse, cuneate; flattened, tapering to the base. This is an evident Calocera, but although Mr. Rodway sent four collections, all seem immature; at least, I find no spores. Collections Nos. 1182, 1192, 1187, 1167.

Guepinia crenata from Rev. Louis Mille, Ecuador.—(Fig. 2241.) Concave cup shape, the discoid hymenium on the under side. Tapering to a short stem. Color clear yellow, the stem somewhat brownish at base. Margin of cup thin, crisped. Spores 6 x 12, hyaline, curved, with granular contents. Basidia forked. This is so close to the rare Guepinia Peziza (Cfr. Myc. Notes, page 94, Fig. 165) that it might be so referred. However it is more than twice as large and has not the external striations which characterize Guepinia Peziza. The spores and basidia are the same but for that matter they are practically the same for all this group of plants with furcate basidia.

Auricula reflexa from H. A. Lee, Philippines.—(Fig. 2242.) This common but puzzling, and much named plant is adding to the other troubles in proving variable. It has been discovered to be a new species many times. (Cfr. Letter 46, page 6, as Phlebia strigoso-zonata.) Usually it has a strongly rugulose or plicate hymenium, as shown (Fig. 2242, left) hence generally called by the old name, Phlebia. But these Philippine collections have a more even hymenium and a stronger development of the pubescent surface. At first view they appear quite differently, as shown in our photographs. The generic name is still uncertain (Cfr. page 935). For the old fellows it was Merulius or Phlebia, or Stereum; then Bresadola found it had cylindrical septate basidia, and removed it to Auricularia. We have used this name several times, but always with a mental reservation that it is not an Auricularia, according to taxinomic traditions. Auricularia is a tremellaceous genus, and this is not tremellaceous, even if it has the basidia of an Auricularia. We have, therefore, compromised the matter by calling it Auricula.

Polystictus glabro-tabacinus from L. Rodway, Tasmania.—(Fig. 2243.) This has same color, pores, and setae as the common Polystictus tabacinus, but is perfectly smooth and glabrous. There is no other description necessary. It goes in Section 120.

Cantharellus floccosus.—(Fig. 2244.) We are taking the liberty of reproducing an excellent figure of this plant that was published in the January issue of Mycologia. It is a species that lends itself very kindly to photography, and a characteristic photograph like this does a lot of good in spreading a popular knowledge of the plant.

Lentinus Orinocensis from H. A. Lee, Philippines.—(Fig. 2245.) We use Patouillard's name for this as published from South America and illustrated (Bull. Soc. Myc. France, Vol. 4, Plate 9). We are not sure it is exactly same, but too close. The gills are shown serrate, and in the Philippine collection they are entire. Lentini with scaly pilei (Sec. 9) are not common, excepting one species (Lentinus subnudus) and this is surely not that.

Clavaria alba from L. Rodway, Tasmania.—(Fig. 2246.) Very slender, little, pure white, simple clubs, a cm. long, perhaps ½ mm. thick; soft, easily mashed. Spores, if correctly seen, 2 x 6 straight. We label this merely for convenience, for we have not studied the foreign Clavarias. It is of rather a soft consistency and at first we took it for a Calocera.

Pterula Sclerodontium from I. H. Burkill, Malay.—(Fig. 2247.) We considered this plant before from old specimens from T. F. Chipp (page 931, Fig. 1692) but this is a fresher collection and much finer specimen. It was classed as Hydnum by Berkeley but for me now it is a Pterula. It is neither in fact, for no Hydnum has such teeth and no Pterula has such subiculum. I do not think now it is well named for the subiculum is not of a sclerotoid nature and does not appear so when fresh. It is pale, alutaceous and thin membrane like any other subiculum. The "teeth" have same appearance and color as the usual Pterula. I find on them large multi-cellular glands, but no basidia or spores. We give another figure of this most interesting species.

Auricularia flava from P. van der Bijl, South Africa.—(Fig. 2248.) The specimen received is resupinate, scanty and unsatisfactory, but so exceptional that we do not hesitate to give it a name. Did anyone ever hear of a yellowish Auricularia? We can not match it in Ridgway, but old gold not far from it when wet. The reticulations are about the same as those of Auricularia mesenterica, but they do not disappear in drying. A section shows a hyaline gelatinous layer between two colored layers. The surface (under) layer has thick hyaline, hairs. The hymenial layer a palisade arrangement of cylindrical imbedded bodies, no doubt basidia. Spores I do not find, excepting those where the specimen is moistened and pressed on a slide are globose hyaline, 3-4 mic. but probably are the conidial spores only. It is unfortunate that Mr. van der Bijl sends such a scanty collection of this most interesting species.

Panus coriaceus from Otto A. Reinking, Philippines.—(Fig. 2249, perfect plant, Fig. 2250, resupinate.) There occurs in the Philippines a plant that usually (always it appears to me when developed) takes two hymenial forms. The resupinate portion is poroid with large, shallow pores, the pileate has regular gills. The first specimen I received was all resupinate and poroid and were much of a mystery to me. We suggested (Myc. Notes, page 1006) that it was undeveloped Polystictus aculeifer. That was an error as has since developed by receiving perfect pileate specimens from Mr. Reinking. But how could one decide on receiving a resupinate plant like Fig. 2250 that it was the resupinate part of a perfect plant with gills, such as shown in Fig. 2249. Panus coriaceus was named from Ceylon by Berkeley in 1875. He states, "It is marked in front with minute raised lines which sometimes form reticulations." The plant has another peculiarity. The hymenium has large multi-cellular processes which Berkeley saw and figured, very inaccurately but very evidently. These processes are not confined to obtuse veins as Berkeley shows, but are found on the interspaces also. In fact the veins do not exist as figured, distinct from the subiculum, and the figure is entirely misleading. Many years later Bresadola found these same processes that Berkeley had figured so long ago, called them multi-cellular setae and based a "new genus" Elmeria on them. The genus for me is far more confusing than helpful for it embraces specimens of Polystictus, Poria, Hexagona, Panus and only recently I found a typical Lentinus and a Favolus with such "setae." He also referred Philippine specimens to 'Hexagona cladophora" of Berkeley which for me is a Polystictus and different from Panus coriaceus. If the genus is recognized this plant becomes Elmeria coriacea (Berk.) McGinty, on the sacred principles of priority for 1875 is prior to 1877.

Polystictus cladophorus.—(Fig. 2251.) In connection with Panus coriaceus we also present the type photograph of Polystictus cladophorus, which was named by Berkeley as Hexagona cladophora. It has same or similar "setae" but is a dark plant with a subiculum four times as thick (See Fig. 2252). Also the pores are deep not mere reticulations and we know no pileate form. We do not believe it is an Agaricaceae, however. This is only known to me from the type at Kew from Ceylon and has never been collected in the Philippines.

Panaeolus epimyces photograph from Burtt Leeper, Ohio.—(Fig. 2253.) The detailed history of this curious species, only known to grow on the decaying debris of Coprinus, has been given in Dr. Kauffman's work. Peck named it (1884) as above. Twenty years later, Atkinson discovered it was a "new species" and called it "Stropharia coprinophila." The latest is that it is a European species called there "Pilosace algeriensis." Twenty years ago I got fresh specimens and spore deposits from a correspondent, I believe, Mrs. Whetstone. My conclusions then were that Peck had it in the right genus, and that it should be a Panaeolus with black spores and neither Stropharia or Pilosace with brown spores. Mr. Leeper states that the spores "are black" and that it grew where Coprinus comatus was abundant.

Hydnum cirrhatum.—(Fig. 2254.) I have never seen this but once when I collected it (1918) at Upsala. It is recorded in the United States by Berkeley, but

his specimen at Kew is Hydnum pulcherrimum. I made the following note when I collected it.

Growing imbricate, sessile, on a birch stump. Color a beautiful uniform pale rose, both pileus and teeth. Teeth round, pale rose, slender. Spores globose, hyaline, smooth, guttulate, 4 mic. The peculiarity of the plant, and it impressed me strongly at the time, is that it bears on the upper surface near the margin, deformed, irregular, spine-like processes, which are really teeth, as they are fertile and bear spores. Our Fig. 2254, enlarged, will show them well. A Hydnum with spines on the upper surface is worth more than a passing comment. Hydnum cirrhatum may be common in Sweden, as Fries records it, but in several years collection there I never saw it but once, nor do I know it elsewhere.

Hydnum glabrescens from Burtt Leeper, Ohio.—(Fig. 2255.) We gave a figure of this before (Cfr. Fig. 1737) from Mr. Leeper's collection. He is the only one who has sent it to me. Variation is shown in the top of the pileus. One specimen was uniform white, the other variegated with darker zones. From the top view it could be taken from our common Stercum fasciatum. The specimens were not fresh and one had teeth violaceous. That suggested something, and I believe now that Hydnum glabrescens is closely related, if not a form of Polystictus pargamenus. It is strange, however, that Mr. Leeper is the only one to find it in recent years.

Xerotus anastomosus from Otto A. Reinking, Philippines.—(Fig. 2256.) While we have looked over the specimens of Xerotus in the museums, we did not carefully consider them, nor study them, and the general impression we brought back was: first, that many of them are about the same thing; and second, that many of them are not Xerotus. The original species of the genus, Xerotus afer (Fig. 2259) came to Fries from South Africa about a hundred years ago. It is still in good state of preservation at Upsala. Not another specimen has ever since been collected, at least not found in any European museum that I noted. It was a dark colored plant (as named), but Fries' idea of a genus was based on the dichotomous gills (as shown in the photograph). In time, about twenty so-called species were added, mostly by Berkeley and Montagne, and most of them, I thought as I looked them over, are about the same thing. The original idea was lost sight of, however, in these additions, and Xerotus in use came to be in fact a dark colored Panus. Spores are hyaline. Kalchbrenner based a genus on Xerotus, and thought as it had black context it must have black spores. He called it Anthracophyllum. It was only one of Kalchbrenner's usual bulls and his genus has much in common with Professor McGinty's genus Anthropomorphus. Bresadola, in recent years, doubting the "black spore" story of Kalchbrenner, still uses the name in Philippine records, stating "Anthracophyllum in my sense is not distinct from Xerotus." To use Kalchbrenner's bull knowingly, instead of Fries' much prior name, is not in keeping with any rules promulgated by our learned "law makers." When I first received this plant from Mr. Reinking, I referred it to Xerotus Berterii, but later concluded that was too improbable. Nature is always taking liberty with men's ideas of classification. Xerotus is supposed to belong to the Agaricaceae with gills, and as to most species of these collections that is true. However, there are some specimens (Fig. 2258), where the cross veins are so strongly developed that the plant is truly poroid. These plants are as nearly black as agarics ever get to be. The gills are as described above, and this is the only species that I have seen with the compound gills. The basidia are pale brown, club-shaped, forming a palisade layer. Spores globose, 4-5 mic., hyaline, smooth. There is another species of Xerotus, called recently, Xerotus nigricans (Cfr. Letter 60, note 338), that is recorded several times in the Philippines, but this one with the compound gills has not been collected previously to the five collections made by Mr. Reinking. This may be the original "Anthracophyllum" described as having black gills and spores (sic.). The soaked plant is brittle and suggests carbonous tissue, and it is only a step to imagine it has black spores (sic.).

Tremellodendron Hibbardii from Miss Ann Hibbard, Massachusetts.—(Fig. 2260.) (Cfr. page 1049, Fig. 1947.) Several additional collections of this plant were received from Miss Hibbard and a drawing (Fig. 2260) which she made from a fresh specimen. The species was based on the dark purplish color which was more marked on the original than on any of these.

Irpex consors from John E. A. Lewis, Japan.—(Fig. 2261.) Mr. Lewis sends two quite different appearing collections, but both I am satisfied should be referred to above species. Both have same essential characters, color, teeth, etc. Irpex consors is a frequent species in Japan, but does not occur with us in the States. It usually takes the form with small pileolei as shown on the left.

Hydnochaete Philippensis from H. A. Lee, Philippines.—(Fig. 2262.) Resupinate, Brussells brown. Tubercules irregular, 1-2 mm., obtuse or acute, concolorus. Setae (not typical), rather blunt, and paler than true setae, though dark, dense, projecting 20-40 mic. No spores nor basidia seen. This is an addition to the few species known of this genus; Cfr. page 559, where the genus is considered in detail. Based on No. 40057 collected at Basilan by S. M. Reyes.

Polyporus motus from E. D. Merrill, Philippines.—(Fig. 2263.) Pileus spathulate from a short stipe. Surface smooth, fawn color, faintly zoned. Context pale isabelline. Pores concolorous, small. Spores piriform, apiculate, subhyaline, 6-8 mic. This is known from a single specimen collected by Clemens in Mindanao. It was named Polyporus Clemensiae as belonging to the section Amaurodermus by Merrill. Neither in the general character of the plant nor particularly in its spores does it belong to the section Amaurodermus, and the name becomes a duplicate in Polyporus.

Daedalea maculata from E. D. Merrill, Philippines.—(Fig. 2264.) Pileus thin, applanate, with raised zones, pale almost white, marked with a red stain near base. Surface dull, minutely pubescent. Context pale isabelline. Hymenium daedaloid with close, sinuate gills.

This is close to Daedalea stereoides of American tropics from which it differs in surface and red stain. Specimen: Fenix 30121.

Polystictus sepia from E. D. Merrill, Philippines.—(Fig. 2265.) Pileus thin, rigid, mesopodial or lateral stemmed, thin, Verona brown to sepia brown. Surface glabrous, zoned. Stipe yellow or yellow brown. Pores minute, isabelline. Plants of the section Microporus heretofore seen all impress us as having the same color basis, light or dark forms of the same color, but this at once impressed us as belonging to a different color series. It about matches Verona or Sepia brown of Ridgway. Specimens: Fenix 28441, 28278, 28289.

Polyporus areosus from E. D. Merrill, Philippines.—(Fig. 2266.) Pileus spathulate to a short pale stipe. Surface black, smooth, spotted with greyish mildew-like discolorations, apparently an exudation. Pores medium, very dark. Spores not found by me.

The above is from dried specimens but the plant appears to have changed much in drying. The greyish deposit is a character of all specimens I have seen. The plant seems to be of very much the same nature as Polyporus stereinus. Record: Polyporus palensis as determined by Merrill for the following collections but not the type which is Favolus spathulatus, a very different plant. Specimens: Copeland 153, Copeland 20 (two lots).

Polystictus incisus from E. D. Merrill, Philippines.—(Fig. 2267.) Pileus very thin, reddish brown (when dry) spathulate to a short stem. Surface striate with darker lines. Edges thin, incised, fimbriate. Context concolorous, shallow. Spores hyaline, globose 4 mic.

We hardly know any other species with which to compare it. It is close to the glabrous Polystictus such as tenuis and Drummondii, but these are not "stipitate." We would place it in Section 22, next to obovatus and while it is not pale now it may have been pale when fresh. Specimens: Ramos Tayabos 2819.

Daedalea reflexa from E. D. Merrill, Philippines.—(Fig. 2268.) Subresupinate with a narrow reflexed pileus. Color sordid, isabelline. Gills close, daedaloid.

This is a nondescript species which I am unable to place. It may be a daedaloid form of something else but I can not suggest what. Its flexible texture allies it to Daedalea unicolor, though it is evidently no form of that species. Specimens: Yates 25758, 25795.

Polystictus tenuiculus from E. D. Merrill, Philippines.—(Fig. 2269.) Pileus orbicular, attached to a reduced base, very thin, rigid, fragile. Surface pale, alutaceous, glabrous, polished, azonate, or indistinct raised zones. Context very thin, pale isabelline. Pores darker, light brown, minute, torn when old. Cystidia none. Spores not seen. Based on a collection by R. C. McGregor (No. 18368), at Biliran, June, 1914.

Fomes roburneus from Kate A. Jones Walker, New Hampshire.—(Fig. 2270.) While this is only a form of Fomes igniarius as stated on page 246, Fomes pamphlet, it is a rare form and quite distinct from the usual plant. The exceptional shape may not mean anything, but due perhaps to the pendant position of growth. The features of difference are the narrow, distinct pore layers and a few setae. While this specimen does not agree with the only type known (at Kew), it has this advantage. It does agree exactly with Fries' figure (Icones 184), while Fries' "type" and other specimens I have seen do not. We have previously commented on this (Cfr. Fomes Synopsis, page 246).

Hexagona scruposa from E. D. Merrill, Philippines.—(Fig. 2271.) Pileus sessile, applanate or ungulate, 2-3 cm. thick. Surface black, resinous, rough, scrupose, with thick, agglutinate fibrils. Context 2-5 mm. thick, umber brown. Pores 3-4 mm. wide, 1-1½ cm. deep with hymenial surface smooth. Setae none.

A remarkable lightweight species, hardly related to others of the section. It has same coloration as Hexagona atra, but surface and thickness are very different. Specimen: Based on Yates 25742, from Mt. Cadiz, Luzon.

Fomes Graffii from E. D. Merrill, Philippines.—(Fig. 2272.) Pileus applanate, sessile (3 cm. thick) with a hard, rugulose, brown crust. Context pale isabelline, yellow when moist, hard, ligneous. Pores

dark brown, minute, 1½-2 cm. long, hard, with brown pore mouths. Spores globose, deep-colored, 14 mic., smooth.

This is known from but a single collection by P. W. Graff (No. 19097) in the province of Bataan, Luzon. It was sent to me labeled Ganodermus bataanensis.

Hexagona flavofusca from E. D. Merrill, Philippines.—(Fig. 2273.) Pileus sessile, thick (about an inch), applanate. Surface glabrous, roughened with blackened tubercules, pale buff color. Context light yellowish with slight brown cast. Pores 1-2 mic., many elongated (in this specimen). Pore tissue concolorous. Hymenium (contrary to what is usual in Hexagonas) is a definite palisade layer of clavate bodies (basidia?) many of them bifid at apex. Cystidia none.

This is the first Hexagona I ever saw with light yellowish context. Specimen: Otanes 18343, collected at Umingen, Luzon.

Lenzites isabellina from E. D. Merrill, Philippines.—(Fig. 2274.) Thin, applanate, somewhat flexible. Surface not zoned, finely pubescent. Color pale wood color. Gills concolorous, narrow, rather distinct.

This is but an isabelline form of Lenzites betulina for me. Same in other respects but color, but Lenzites betulina has white context and gills and is usually zonate.

Records: Lenzites betulina var. flaccida of Bresadola. But flaccida although common in European traditions can not be distinguished even as a form in Europe. And this does not occur in Europe. Specimen: Fenix 12875.

Hexagona atra from E. D. Merrill, Philippines.—(Fig. 2275.) Applanate, thin, 3-4 mm. thick. Surface black, apparently with a resinous exudation, strongly strigose with black, coarse hairs. Context ferruginous brown. Pores 1-1½ mm. in diameter, shallow. Hymenium with brown projecting hyphae but no setae.

This may be a thin form of Hexagona hirta but the black resinous surface and extreme thinness seem to point to a separate species. Specimen: Based on Fenix 30120, collected at Mt. San Isidro, Luzon.

Trametes truncata from E. D. Merrill, Philippines.—(Fig. 2276.) Pileus imbricate, reflexed, with a rough surface, reddish becoming black when old. Pores small, round, elongated. Cystidia none. Spores very abundant, smooth, hyaline, 5 x 7, truncate at base.

I know no other polypore with such spores, though Polyporus ochroleucus and related species have similar but much larger spores. They are Ganodermus spores but hyaline. We have two collections from the Philippines and both included, also Trametes semitosta. Perhaps it is the old of Trametes semitosta, but that does not seem probable to me as these have abundant, peculiar spores, and no spores have I ever found in Trametes semitosta. Specimens: Yates 25733 (in part), Ramos 21852 (in part).

Fomes agglutinatus from E. D. Merrill, Philippines.—(Fig. 2277.) Pileus 3 x 5-6 inches, 1-2 cm. thick. Surface dark almost black, glabrous, with agglutinate fibrils. Context dark (usually brown). Pores minute with concolorous tissue and mouths. Setae none. Spores very abundant, hyaline, varying much as to size, 3 x 4, sometimes as large as 7 x 10 mic.

This is a very lightweight species and close to Fomes calignosus. It may be the plant determined as Trametes strigata, but it is not the Australian species. Specimens: Yates Tayabas Luzon 25644.

Hexagona caliginosa from Otto A. Reinking, Philippines.—(Fig. 2278.) Thin, rigid, with glabrous surface. Color dark purplish brown. Context thin, 1 mm., brown. Pores near tawny olive, quite in contrast with the pileus top. Medium shallow, velutinate to the eye, under the lens, with slender, colored projecting hyphae, not specialized. Spores not found. This belongs to Section 162 and is related to Hexagona umbrosa and Hexagona umbrina (recently named from Philippines), but has different color and pores from either. Based on collection 9944 by T. Ferres on Mount Maquiling, Luzon.

Polystictus rosea-brunnea from Prof. Albert N. Steward, China.—(Fig. 2279.) Sessile imbricate. Pileus ½ inch wide, hard, rigid. Color Verona brown with paler surface. Surface layer sulcate, zoned, with smooth, soft texture. Setae none. Hymenial elements deep yellow. Spores small, irregular, deep colored. It is dubious how to class this. Some very similar plants are called Fomes. The pore tissue is not the usual hyphae composition but seems to be composed of irregular cellular structure.

Favolus glandulosus from E. D. Merrill, Philippines.—(Fig. 2280, pores enlarged.) Color reddish brown, orbicular, with a short, thick, lateral stipe. Surface striate and scabrous near the base. Pores large, regular. Hymenium covered with large, obtuse, multicellular, colored glands, readily visible to the eye. See Fig. 2280, enlarged.

This is a large species, very similar in general appearance to Favolus fibrillosus. It has abundant, large glands on the hymenium of a type not known in other species. Record: Favolus Philippiensis of Murrill, who should have noted that this species does not have hymenial glands. Specimens: Sections of Copeland 1407 (taken at Berlin, also New York).

THE TESSELLATE FAVOLI.

There is a section of Favolus with so thin flesh that the pores show through, giving a checkered effect to

the surface. There are a number of named specimens in the museum, but I do not know of any way to distinguish them, excepting by the color, and the color is not sure on these old specimens. The original species was referred to Favolus Brasiliensis by Montagne, who afterwards separated it out on the checkered surface and called it Favolus tessellatus. We would key them as follows:

Section 170. White, large pores.
Thin, large flaccid —— F. bipindensis.
Thick, small; small pores —— F. Lagunae.
Section 171. Colored.
Color rose, —— F. roseus.
Color light brown, —— F. tessellatus.

Favolus bipindensis.—(Fig. 2281.) Pure white, not discoloring in drying. Surface strongly tessellate. Pores large. Known from one collection at Berlin from Cameroon, Africa, and one from Brazil (Rev. Torrend) so referred by me.

Favolus Lagunae from O. A. Reinking, Philippines.—(Fig. 2282.) White or slightly greyish when dry. Surface strongly tessellate with small pits. Pores small (for a Favolus). Cystidia none. Spores not found. Based on collection by A. Reyes, No. 11017, collected at Lòs Banos Laguna, Philippines. It is a smaller plant with thicker pore walls than the African white species above.

Favolus roseus from T. F. Chipp, Singapore.—(Fig. 2283.) Pileus small, strongly tessellate, with reddish pores. The feature of this is the clear rose color. There is at Kew a collection made in Ceylon and misreferred in the F. tessellatus covers. Though collected years ago it still retains the characteristic color. Also there is a specimen from Cesati, Saeawak, labeled Laschia (sic) papulosa. It is probably what was published as Favolus papulosus, but surely not "ochraceous." I have a collection from T. F. Chipp, Singapore (Fig. 2283), that I had misreferred to Favolus tessellatus. It appears to be only an Eastern species but quite distinct in its color.

Favolus tessellatus.—(Fig. 2284.) The usual tessellate species of the tropics was named as above by Montagne. Our figure of the type will show it excepting the color. It is not a white species, as might be inferred from Montagne's original reference to Favolus Brasiliensis. The color various shades of pale brown. While it is difficult to pass on old specimens depending largely on color, I think the following are all the same, at least very close. Favolus tenniculus as figured by Palisot from Africa. This was quite early and when the Kuntzeites find it out they will change its name although never used a single time since proposed, more than a hundred years ago. Favolus peltatus, based on Zollingers' old collection from Java, Favolus Zenkeri by Hennings from Africa, Favolus hepaticus by Klotzsch from Mauritius, Favolus scaber from Berkeley, Ceylon.

Fomes gilvus from Rev. James Wilson, Australia.—(Fig. 2285.) The commonest Polyporus in our region is Polyporus gilvus, but we do not have the Fomes form with pores in stratae. And yet this Australian "Fomes" is a different shape but exactly same species as our "Polyporus." Truly classification is only a convenience.

Stereum plicatulum from Prof. A. Yasuda, Japan.—(Fig. 2286.) Named by Peck as a form of Stereum spadiceum and no doubt a form, but quite different in appearance from usual, being "narrow, much crisped and folded" and with adpressed hairs, smooth to the eye. Although this was named Stereum spadiceum by Prof. Yasuda, until we sectioned it, we thought it was Stereum spectabile, which it closely resembles in general appearance. The color when moist is tawny (R) rather than "buckthorn brown."

Favolus scabro-lineatus from H. A. Lee, Philippines.—(Fig. 2287.) Orbicular, spathulate to a short lateral stipe. Surface even, grey, with narrow, close, scabrous line. (Fig. 2288, enlarged.) Pores white, rigid, with angular edges. Cystidia none. Spores not found. A single specimen collected by A. Reyes, Mt. Maquiling, No. 11038. Most distinguished in its grey, narrow, scabrous-lined surface. (Section 169.)

Stereum laetum from Rev. Le Pere G. Ducharme, Canada.—(Fig. 2289.) While I feel very familiar with "Stereum" rufum, having collected it abundantly, both in this country and its "type locality," I was not sure as to this until I soaked it up and sectioned it. It is much brighter color than the usual form, nor as large, nor as wrinkled. The color (soaked) is burnt sienna, quite different from "haematite red" of the usual form. In addition I find the gloeocystidia are sometimes forked like a young furcate basidium, and are not simple club shape as supposed to be in the type. The history of "Stereum" rufum in America is one of the most comical series of blunders in detail not yet told. In addition, it has about as much relation to the usual idea of a Stereum as a wart has to a rose petal.

Stereum (or Hymenochaete) intricatum from Dr. Kingo Miyabe, Japan.—(Fig. 2290.) Pileus effuso-reflexed, thin, intricately crisped, lobed, bright cinnamon brown. The surface finely silky and zoned. Hymenium dark, unusually brown, cracked. A section shows a simple structure of three layers. A colored hymenial layer bearing the setae. A paler, compact,

subhymenial layer, the hyphae subhyaline and longitudinally arranged and the context layer of coarse (under the lens), dark hairs. The setae are numerous but scattered, very regular, sharp, dark colored, about 60 mic. long and all near or on the surface. No basidia or spores were seen.

In its general appearance, and habits and surface it is exactly the same as our common Stereum sericeum and a photograph of one could be taken for the other. It is quite different color, however, and of course different structure for Stereum sericeum does not belong to the section Hymenochaete.

Polyporus fusco-mutans from Burtt Leeper, Ohio.—(Fig. 2291.) When we received this plant from Mr. Leeper last September we thought it to be the old Polyporus casearius which has been in doubt so long, but on going into the subject again, it can not be that plant. Our former impression of Polyporus casearius, that it was based on discolored Polyporus sulphureus, is probably correct. We are not sure now, however, as to plant so named (Note 942, page 1011) from Chile. When we received this plant it cut just like Swiss cheese and casearius would have been an appropriate name for it. Polyporus fusco-mutans is evidently of very unusual occurrence, this being the first we have seen. The plant grew on red oak and was white when fresh, turning reddish-brown with age and on bruising. It dries pale variegated with brown when it has changed. The dried specimen reminds one of Polyporus fuscus; the fresh specimen, not at all. Its relations (excepting as to spores) are with Polyporus mollis (Apus Polyporus, page 318). It would be sought in Section 84, which was proposed for plants white, changing to red on drying. But in one feature it departs from that section. The spores, 4 x 5 in great abundance, are subhyaline as viewed under the lens, but are in reality pale colored. It might be sought in Section 99, that is the dried specimen. From the foregoing and Mr. Leeper's fine photograph there will be no trouble in recognizing the plant if ever found again, but these unusual things do not show up very often.

Stereum nitens from L. Rodway, Tasmania.—(Fig. 2292.) Before sectioning this, I would never have guessed to what genus even to refer it. It was "pale grey when fresh," but the dried plant is dark brown, almost black, shiny, and has the appearance of the black, shiny cloth (cambric) ladies use for linings. Resupinate but with a narrow, reflexed margin, and it is probably a pileate species. The narrow pileus surface is brown and velvety. Hyphae brown. Basidia form a palisade layer. It has no cystidia. Spores are 4 x 16, cylindrical straight. On soaking it loses the shiny appearance and seems grey pruinose. They make a great mystery of the microscope now days in Mycology, a large part of it melodramatic. The microscope is necessary at the start to locate this in the genus, but after once learning it an amateur should know it at once on sight. There is no trouble in telling this fungus when once learned, for there is none that it suggests out side of Australasia, and suggests a Stereums there, only when soaked.

Merulius gelatinous from Miss A. V. Duthie, Africa.—(Fig. 2293.) Resupinate, growing over leaves and debris with abundant development of white subiculum. The hymenium is even, when dry Dresden brown, and the quick change to bright russet when moistened is remarkable. On soaking it swells with a gelatinous appearance and the hymenium in folds turns dark, reminding one of Exidia glandulosa. The basidia are hyaline but seated in colored tissue. The abundant spores are elongated, 7 x 10, deep colored, smooth. A section of soaked plant about 2-3 mm. thick shows three layers, the intermediate being white of compact hyphae, the lower indefinite of coarse brown loosely woven hyphae. The entire plant when soaked has a gelatinous appearance, not seen in others of this section. Its affinities otherwise are very close to the notorious "dry rot" Merulius lecrymans.

Polystictus purus from Dr. T. A. Tengwall, Java.—(Fig. 2294.) Sessile, thin, dimidiate, pure white. Context white. Surface glabrous. Pores minute, pale colored. Cystidia none. Spores not found. The pores have a glancing effect, changing color with angle of observation. From Polystictus glabratus, a very similar smooth white species (Cfr. Myc. Notes page 626, Fig. 889), it differs in its pores. It belongs in Section 105.

Stereum dichroum from L. J. K. Brace, Bahamas.—(Fig. 2295.) Sessile dimidiate. Very light weight. Surface soft, pubescent. Context layer 4-5 mm. thick, soft, spongy, composed of loosely woven coarse brown fibrils in bundles, pale, isabelline. Hymenial layer even, very thin (about 100 mic.). Color about chestnut brown of Ridgway, exactly same as that of Polyporus dichrous. Cystidia none. Basidia and spores not seen. To the eye (except the spongy context) same as Polyporus dichrous. Same general size, thickness and color. It may be a degenerate form of Polyporus dichrous. At any rate it mimics it closely, but there are no pores, as I was very careful to observe under the microscope, for Polyporus dichrous has such minute pores it is liable to be taken for a Stereum, as the analogous tropical plant, Polyporus conchoides, has been so mistaken by Léveillé. We would enter it in Section 20, which includes the Stereums with spongy context layers.

Lentinus lateripes from Otto A. Reinking, Philippines.—(Fig. 2296.) Entire plant yellow with a short, thick, lateral stem. Surface glabrous yellow. Gills close, yellow with entire edges. Cystidia none. Spores 4 x 6 straight. Collection 3593 by Reyes at Santa Cruz Laguna, Philippines, on rotten wood. We would enter it in Section 4½. We have no record of a previous Lentinus with a lateral stem and entire gills.

Stereum novomolle.—(Fig. 2298.) Stereum molle was one of Léveillé's discoveries from the United States. There is a fine type at Paris. It is based on a young specimen of our most common species, Stereum fasciatum. How lucky it is that Schweinitz wrote before Léveillé for it would be most unfortunate if we had to call our common *hard* species, Stereum "molle." At Berlin there is a specimen that came from Brazil labeled "Stereum molle Lev." It is a curious thing, well-named "molle," but not by Léveillé. The surface is glabrous Prouts brown. The context is thin, compact, almost 1-3 mm. thick, of brown longitudinal arranged hyphae. It bears a thick pad (2 mm.) of loosely woven colored hyphae, which I took at first for a surface pad. I find no hymenium and it appears to me now that this pad is on the under side, hence if so the trama. We present a photograph (Fig. 2298) made in Berlin, also an enlargement of a section. I wish Father Rick or Torrend would send specimens to solve this puzzle.

Pseudohydnum guepinoides. Photograph from Rev. Rick, Brazil.—(Fig. 2299.) Although we have already considered this plant (Cfr. Myc. Notes page 858, Fig. 1440), we are pleased to present a characteristic photograph from Rev. Rick, showing its habits of growth.

Polystictus similis from Dr. T. A. Tengwall, Java.—(Fig. 2300.) This has same form, texture, color as the common Hexagona tenuis, but a more rugulose surface and entirely different pores. The pores are elongated, sinuate and it could be called a Daedalea. On a single collection we can not say a valid species, nor can we say an anomaly of Hexagona tenuis.

Irpex tabacinoides from Prof. A. Yasuda, Japan.—(Fig. 2301.) This is somewhat similar to our common Irpex cinnamoneus as to color and general appearance, and it has the same setae. But the Japanese plant has more lamellate teeth. When young and teeth not developed, it presents a most beautiful pattern which we show in our enlargement (Fig. 2302).

Geaster glaber from Otto A. Reinking, Philippines.—(Fig. 2303.) Growing from abundant mycelial development, sessile. Unexpanded plant, globose, glabrous. Exoperidium glabrous, light colored externally, dark colored internally. Endoperidium dark with a definite even mouth. It grew on dead wood. This is an addition to the epigaean Geasters (Cfr., page 313). All perhaps are varieties of same thing. It is same as Geaster velutinus but the exoperidium is glabrous, not at all velutinate, and habits (on wood) not same. It is same as Geaster stipitatus but is not stipitate. It is probably the species recorded from Philippines as Geaster tonkensis, which in original sense is a synonym for Geaster velutinus.

Scleroderma caespitosum from Miss Helen K. Dalrymple, New Zealand.—(Fig. 2304.) Irregular, compressed, confluent, growing in clusters on the ground. Peridium thick (1-1½ mm.), soft, fleshy, without a distinct exoperidium. Sterile base none. Gleba dark brown, spores globose, 12-14 mic. mixed with fragments of the tramal plates. This is quite deceiving as to genus for I took it at first for a Lycoperdon. The simple peridium, and the spores, and absence of capillitium places it as to genus. The specimen was sent fresh moistened in formalin. I would be glad of ripe specimens dried. I do not know any other species that this suggests even.

Hexagona albida (crassa) from Otto A. Reinking, Philippines.—(Fig. 2305.) Usually a thin plant. This is the first thick ungulate specimen I have received. The other called Hexagona Seurati is at Paris, but is only an unusual thick form as is this. Cfr. Hexagona Synopsis, Fig. 321.

Irpex pachylon from Dr. Edward B. Sterling, New Jersey.—(Fig. 2306.) It is very unusual that one finds as fine a cluster of Irpex pachylon as we are able to present in our Fig. 2306, through the kindness of Mr. Sterling. The photograph was made by Henry Jansen, Trenton, N. J., who is certainly an expert at this class of work. It is somewhat misleading to present a photograph of such a fine cluster, for it usually occurs only a few brackets at the time. We get it around Cincinnati occasionally, but have never seen more than two or three pilei together. In general appearance Irpex pachylon resembles Hydnum pulcherrimum. The former has somewhat irregular white teeth, which do not change much in drying, and the latter has symmetrical teeth, which are white when fresh, but turn reddish when the plant dries. We have another species, Hydnum septentrionale, which grows in much the same manner, forming large clusters usually around the base of beech trees. In twenty years collecting, however, we have only run across it twice. Our best thanks are returned to Mr. Sterling for this beautiful photograph that we produce.

Report on Specimens Received from Correspondents

My best thanks are extended to those who favor me by forwarding to me their collections of the fungi of their regions, and particularly those who live in the tropics. Every day it becomes easier to determine the specimens for the common species have mostly taken definite form and I recognize the larger part of them at sight. Still each lot received brings considerable work, and though I am behind at present, I hope correspondents will not hesitate to send in their specimens on that account. They will all be worked over in time and those that are rare or of special interest will be published. All the large fungi are desired excepting the Agarics.

In the following list I have put in capitals those plants that on account of rarity or novelty are of especial interest and on which articles have been or will be written and published. But do not get the impression that I only want rarities or unusual things. On the contrary, I am more interested in the "old species," their abundance, distribution and variation, and collections of the most common species, especially from the tropics are always welcome.

In my printed lists I do not give authorities for names, believing that the binomial should represent a plant name, but in acknowledging the specimens to my correspondents I give the "authority" in the event they desire to use it. All specimens are acknowledged by personal letter as soon as I get time to study and report on them. Foreign correspondents may send specimens to my English address and they will reach me promptly, although in countries which have direct parcel post arrangements with the United States it is best to send them by parcel post direct to me. Specimens may be sent to either of the following addresses:

C. G. LLOYD, 309 W. Court Street, Cincinnati, Ohio.

C. G. LLOYD, 95 Cole Park Road, Twickenham, England.

Allen, E. E., California: Podaxon Farlowii.

Braendle, Fred J., Washington: Polyporus arcularius.

Brace, L. J. K., Bahamas: Trametes Meyenii—Lenzites saepiaria—Cyathus intermedius—Polyporus grammicola—Endogone fulva (Det. Professor Thaxter)—Trametes carnea.

Bunting, R. H., Gold Coast, Africa.—Isaria Abutii—Polystictus occidentalis—Trametes devexa—Trametes Persoonii—Fomes pseudosenex—Polyporus gilvus—Xylaria allantoidea—Lenzites repanda—Polyporus (Ganodermus) Oerstedii.

Burkill, I. H., Straits Settlement: Fomes gibbosus.

Clemens, Mrs. Mary Strong, California: Peziza cochleata—Polyporus gilvus.

Cunningham, G. H., New Zealand: ISARIA FARINOSA—Lycoperdon pratense—Xylaria castorea—Cyathus Hookeri—Geaster javanicus—Bovista brunnea—Geaster plicatus — NIDULA MICROCARPA — MELANOGASTER AMBIGUUS—Scleroderma Cepa.

Demetrio, C. H., Missouri: Helotium citrinum.

Dosdall, Louise, Minnesota: Polyporus arcularius—Lentinus strigosus—Poria mutans—Polystictus perennis—Merulius tremellosus—Polystictus circinatus—Trametes hispida—Cyathus vernicosus—Fomes conchatus—Polyporus fuscus—Mycenastrum Corium.

Ducharme, Rev. Le Pere G., Canada: Auricula reflexa—Dacryomyces aurantia—STEREUM LAETUM—STEREUM ARDOISIACUM—Daedalea unicolor—Phlebia radiata—Hydnum septentrionale—Bovista Pila—XYLARIA SQUAMOSA—Craterellus cornucopioides—Favolus Europeaus — Morchella conica — Geaster mammosus — Polyporus albellus — Clavaria cinerea — Hydnum ochraceum—Schizophyllum commune—Phlebia radiata—Hypoxylon multiforme—Polyporus brumalis—Hydnum coralloides—Polystictus conchifer—Lycogala Epidendrum—Lentinus strigosus—Xylaria polymorpha—Lentodium squamulosum—Cyathus striatus—Fomes connatus — Polystictus cinnabarinus — Polyporus sulphureus—Tubercularia vulgaris—Irpex sinuosus—Merulius tremellosus—Hypoxylon coccineum—Calvatia lilacina—Fuligo septica—Polystictus Grayii—Nectria coccinea—EXIDIA GLANDULOSA—Leocarpus fragilis — Lycoperdon excoriatum — Polyporus adustus — Lycoperdon gemmatum — Hypoxylon cohaerens — Polystictus versicolor—Polystictus hirsutus—Polystictus abietinus—Polystictus pergamenus—Panus stipticus—Irpex lacteus—Stereum fasciatus—Daldinia concentrica—Lenzites trabea—Lenzites saepiaria—Ustulina vulgaris—Stereum tabacinum—Daedalea confragosa—Cruciibulum vulgare—Lenzites betulina—Polystictus versicolor.

Duthie, Miss A. V., South Africa: HYSTERANGIUM NIGER—Bovistella aspera—LANOPILA CAPENSIS—Mycenastrum Corium—Cyathus Berkeleyanus—Calvatia lilacina—Hexagona albida—Lycoperdon retis — Geaster pectinatus — Scleroderma flavidum — Plicaria leiocarpa — Lycoperdon cepaeforme — Clavaria abietina—Lycoperdon pusillum—Lycoperdon djurense—Geaster saccatus—RHIZINA RESUPINATA—RHIZOPOGON RADICANS—MERULIUS GELATINOSA.

Edwards, S. C., California: Podaxon Farlowii—Tylostoma campestre.

Fassett, N. C., Massachusetts: Dacyomyces aurantia — DACYOMYCES CEREBRIFORMIS — Tremella frondosa—Calocera nodulosa—Irpex cinnamomeus—Poria Tulipifera—Daedalea sinuosa—Polyporus adustus—Irpex lacteus—Polystictus hirsutulus—Panus stipticus — Polystictus versicolor — Polystictus hirsutus — Lenzites betulina — Stereum spadiceum — Stereum ochraceo-flavum—Stereum sericeum—Daedalea unicolor.

Fawcett, H. S., California: Polysaccum crassipes.

Fink, Professor Bruce, Ohio: Geaster coronatus —TYLOSTOMA FINKII.

Gossweiler, John W., Africa: Trametes cingulata —Polystictus occidentalis—Polystictus affinis—Polystictus flavus—Polystictus leoninus—Auricularia squamosa — Polyporus Mollerianus — Polystictus Dybowski — Montagnites Candollei—Hypoxylon haematostroma—Xylaria herculea—Daldinia albozonata—Hexagona hirta —Polystictus phocinus—HEXAGONA VELUTINO-GLABRA — Fomes pachyphloeus — Fomes rimosus — Polystictus cichoraceus.

Grant, J. M., Washington: Sistrotrema confluens —Merulius pallens—Hydnum ferrugineum—Polyporus trabeus — Stereum purpureum — Stereum hirsutum — Fomes scutellatus — Ustulina vulgaris — HYDNUM MELALEUCUM — Stereum tabacinum — Polyporus adustus—Radulum orbiculare—Coniophora arida.

Johnston, Ivan M.: An intesesting collection made on an expedition to Gulf of California and collected on San Nicholas Bay, Raja, California. It includes one species, Schizostoma laceratum, never before collected excepting in equatorial Africa, and several others of the most peculiar stalked "puff balls" which only occur in hot, sandy countries. SCHIZOSTOMA LACERATUM — Tylostoma occidentalis — Polyporus (Ganodermus) Curtisii — Trametes hispida — Fomes robustus — GYROPHRAGMIUM INQUINANS—Podaxon Farlowii—Calvatia occidentalis—BATTARREA DIGUETI.

Knaebel, Ernest, Washington, D. C.: Mitula paludosa.

Konrad, Paul, Neuchatel, Switzerland: All are named by Monsieur Konrad mostly as listed. Fomes igniarius—Stereum rubiginosum—Merulius tremellosus Geaster coronatus—Polyporus betulinus—Thelephora Coryophyllea—Lycogale Epidendron—Daedalea unicolor — Hydnum nigrum — Helotium citrinum — Radulum orbiculare—Lycoperdon capaeforme—Corticium comedens—Scleroderma cepa—Bovista plumbea—Polystictus perennis — Geaster rufescens — POLYPORUS SEBACEUS—Rhizopogon luteolus—Otidea onotica—Otidea cochleata — POLYPORUS CIRCINATUS — Collybia longipes — Lepiota rhacodes — Gomphidium gracile—Inocybe circinata—Poria mucida.

Latham, Roy, New York: Fomes connatus—Polyporus giganteus—Polyporus rutilans—Panus strigosus —Polyporus epileucus—POLYPORUS SPRAGUEI—LEOTIA MARCIDA—XYLARIA BRASILIENSIS—Polystictus versicolor—Lentodium squamulosum—Polystictus focicola—Lysurus borealis—Trametes confragosa —Clavaria fusiformis—Pleurotus sapidus—Flamnula sapinea—Cantharellus carbonarium—Calvatia lilacina-Calvatia craniiformis — Daldinia concentrica — Irpex cinnamomeus—Poria ferruginosa—Daedalea confragosa — Cyathus stercoreus — Polyporus brumalis — Favolus europaeus—Polyporus Schweinitzii—Marasmius fagineus —Fomes rimosus—Exidia glandulosa—Polyporus cristatus—DACRYOMYCES MINOR.

Lee, H. Atherton, Philippines, collected by (late) C. B. Robinson, Island of Amboy: These had been determined (or mostly misdetermined) by Sydow. Polyporus nigroporus—Polystictus affinis—Trametes heteropora—Polyporus bicolor—Polystictus sanguineus—Trametes Persoonii—Trametes Meyenii.

Mattirolo, Professor O., Italy: We are further indebted to Professor Mattirolo for authentic specimens of hypogeal fungi as follows: Delastriopsis oligosperma — Hydnobolites cerebriformis — Terfezia Claveryi — Delastria rosea—Calvatia lilacina—Sclerogaster lanatus — Rhizopogon luteolus — Tuber magnatum — Tuber lacunosum—Tuber maculatum.

Munz, Professor Philip A., Colorado Desert, Cal.: Podaxon Farlowii — Tylostoma campestre — Polyporus Munzii.

Orcutt, C. R., California: Stereum albo-badium.

Patterson, Mrs. Flora W., California: Bovista plumbea.

Paul, J. T., Australia: Calvatia lilacina—Trametes lilacino-gilvus—Stereum vellereum—Polyporus Wilsonianus—Schizophyllum commune.

Petch, T., Ceylon: Polystictus cervino-gilvus and related forms.

Povah, Dr. A. H. W., Alabama: Rhizopogon rubescens—Geaster rufescens.

Povah, Dr. A. H. W., New York: Hymenogaster decorus—Hymenogaster vulgaris.

Rick, Rev. J., Brazil: DAEDALEA STRATOSA —Polystictus pallido-cervinus—TRAMETES SULCATUS—Tranretes argyropotamica—Polyporus sordentulus —FOMES CALIGINOSUS—Nummularia cinnabarina

—Polyporus Oerstedii—Polystictus lutescens—Fomes ochroflavus—POLYSTICTUS CASTANEUS—HYPOCREA PORONIOIDEA—Polyporus brumalis—HYPODISCUS RICKII — Fomes yucatensis — Trametes straminea—FOMES MELANODERMUS—Fomes conchatus — Fomes pectinatus — Fomes glaucoporus — FOMES NIGRICANS—Fomes badius—POLYPORUS PUBERTATIS—Fomes robustus—Fomes Swietiniae—FOMES REVIVISCENS — TREMELLA ATERGLOBOSA — Entonaema mesenterica — Lentinus lentinoides—Polyporus valenzuelianus—Polystictus caperatus — Polystictus pinsitus — Polyporus grammocephalus — Daldinia concentrica—Lycoperdon piriforme—Polyporus licnoides—Polyporus caesius—Polystictus elongatus—TREMELLA UNDULATA—TREMELLA BRAZILIENSIS — CORDYCEPS CONCURRENS — XYLARIA CUNEATA — Octaviania carnea — HYMENOGASTER VULGARIS—CAMILLEA DISCOIDEA—Fomes melanodermus.

Reinking, Otto A., Philippines: Auricularia mesenterica—Tramella fuciformis—Calocera cornea—Auricularia polytricha — Auricula reflexa — Guepinia spathularia — Guepinia fissa — LYCOPERDON PURPUREUM—Geaster mirabilis—Geaster hygrometricus—GEASTER GLABER—Lentinus Elmeri—HEXAGONA SUBRIGIDA — LENTINUS LATERIPES — Lentinus dichrous—Lentinus fusco purpureus—Lentinus Sajor caju—Lentinus lagunensis—Lentinus strigosus—Lentinus dichrous — HEXAGONA CALIGINOSA — HEXAGONA ALBIDA (CRASSA)—Geaster velutinus—Lycoperdon pusillum—FAVOLUS SCABRO-LINEATUS — Favolus albus — Favolus spathulatus — Favolus molluceensis — Favolus dermoporus — Lentinus praerigidus.

Rodway, L., Tasmania: Hydnum cyathiforme—Hydnum nigrum — Hymenochaete spreta — Merulius Corium — Clavaria alba — Polystictus fibula — Stereum vellereum—Irpex concors—POLYSTICTUS GLABROTABACINUS — Polyporus Stuckertianus — DACRYOMYCES CONCAVUS—CALOCERA CUNEATA—Guepinia Peziza — Calocera cornea — STEREUM NITENS—Dacryomyces deliquescens—Calocera corticalis—Tremella crispa—Calocera cornea—CLAVARIA ALBA—Calocera candida—Tremelloden gelatinosum—Calocera guepinioides—Bovistella Australiana—Hydnum ochraceum—POLYPORUS ATRO-MACULATUS—Hydnum coralloides — GUEPINIA CRENATA — NAEMATELIA GLOBOSA—Dacryomyces hyalinus—Exidia plumbea — Sphaerobolus stellatus — Calocera rufus—Auricula reflexa—HETEROTEXTUS PEZIZAEFORMIS.

Shear, C. L., collected in tropical Africa: Lenzites repanda—Lenzites Palisotii.

Siggers, Paul V., Costa Rica: Lenzites repanda—Trametes ocellata—Hypoxylon haematostroma—Roselinia aquila—TRAMETES BRUNEO-FLAVA.

Steward, Professor Albert N., China: Polyporus adustus — Polystictus versicolor — Fomes pectinatus — Lenzites betulina—Irpex consors—Polystictus roseabrunnea—Hydnum decurrens.

Stocker, Dr. S. M., Minnesota: Urnula Craterium — Peziza coccinea — Polystictus lavendulus — Stereum complicatum.

Tengwall, Dr. T. A., Java: Polystictus occidentalis —XYLARIA HUMOSA—Polyporus lucidus—POLYSTICTUS SIMILIS — Kretzschmaria cetrarioides — TRAMETES NUBILA — Polystictus sanguineus — POLYSTICTUS PURUS—Hydnum tenue—Daldinia concentrica—Trametes Meyenii—Guepinia spathularia—LYCOGALOPSIS SOLMSII.

Towne, Stuart S., California: Clavaria abietina—Tylostoma albicans—CATASTOMA TOWNEI—Polystictus versicolor—Stereum albo-badium.

van der Bijl, P., South Africa: Polyporus velutinosus—Lentinus betulina—Lenzites guineensis—Polyporus ochroleucus—AURICULARIA FLAVA—Polystictus versicolor—Polyporus conchoides—Daedalea Eatonii—Xylaria tabacina—Lenzites ochraceous—Polyporus ostreiformis—Guepinia spathularia—Catastoma Zeyheri—Fomes Robinsoniae—TREMELLA CRASSA —Gramnothele mappa—Polyporus ochroleucus—Xylaria Schweinitzii — Xylaria apiculata — Lenzites repanda — Polyporus gilvus—Tremella fuciformis—Polystictus (or Trametes) protea — Hexagona albida — LASCHIA RUBELLA.

White, Richard P., Kansas: Cyathus stercoreus—Cyathus verricosus—Crucibulum vulgare.

Wilson, Rev. James, Australia: Polyporus ochroleucus — Trametes lilacinogilvus — Trametes Feei — Hydnum rufescens—Hydnum scobiculatum—FOMES GILVUS—PTYCHOGASTER CROCEUS—Trametes Feei — FISTULINA HEPATICA — ANTHURUS ARCHERI — MELANOGASTER WILSONII — MITREMYCES FUSCUS—HEXAGONA GUNNII.

Yasuda, Professor A., Japan: Stereum sanguinolentum—Thelephora multipartita—IRPEX TABACINOIDES — STEREUM PLICATUM — Hydnum delicatulum—Trametes crenulata—Hydnum fragile—Alcurodiscus sendaiensis — BOVISTA YASUDAI — Panus japonicus — Trametes Japonica — Trametes Persoonii—Lycoperdon gemmatum—Polyporus Mikadoi —Stereum Burtianum—Irpex lamelliformis—Lenzites repanda.

Notes on Specimens Received from Correspondents

NOTE 1106—**Polyporus pubertatis from Rev. J. Rick, Brazil.**—This is the third collection I have received, all from widely distant countries. First it came from Japan (Apus Polyporus, page 358); then from Australia (Note 517); then from Tasmania (Note 804) and now from Rev. Rick, Brazil. The great abundance of small, pale colored spores are the unusual character of it.

NOTE 1107—**Polyporus circinatus from Paul Konrad, Switzerland.**—A rare plant in Europe, I judge. I never collected it nor saw it in Europe, excepting one doubtful collection I made in Sweden. It is common with us in the States. The spores of this specimen are 3 x 4 hyaline and it has a large hooked setae. There is one discrepancy, however, between the plant and ours. The pores are decidedly cinereus, never noted by me on our plant.

NOTE 1108—**Polyporus sebaceus from Paul Konrad, Switzerland.**—This is sent as Polyporus destructor, a species practically unknown to me. Surely not in original sense of Schrader, which was "entirely white," nor of Fries, nor as illustrated by Mez, nor Apus Polyporus, page 303. It is the first time I have seen this and it is a peculiar species. It is sub-resupinate with a thick white subiculum and abundant white mecelial pad permeating the pine host. Pores are nodular, olive, and the plant evidently grew in upright position (a Poria in fact). Spores very unusual. They are globose, 6 mic., hyaline, and distinctly rough. It seems to answer A & S notes on Polyporus sebaceus which they considered a form of Polyporus destructor. If any one in Europe has a definite idea of a plant that should be called Polyporus destructor I hope they will send me specimens. It has in book accounts the reputation of being "common" but no one seems to know it.

NOTE 1109—**Polyporus Spraguei from Roy Latham, New York.**—My first impression was that this was not Spraguei for I associate a hard, rigid context with the species and this is rather soft and crumbly. I do not find any other difference, however, and to eye it is exactly Spraguei.

NOTE 1110—**Polyporus Munzii from Professor Philip A. Munz, Colorado Desert, California.**—There is a widely distributed plant in many countries but not common, which is readily recognized to the eye. The context has a peculiar sheen only seen in one other species, Polyporus dryadeus. It seems to have first been named Polyporus Patouillardii from Brazil by Father Rick. The principal characters are the peculiar sheen just mentioned, colored spores and large colored hyphae-setae in the pore tissue, as shown in our Fomes pamphlet (Fig. 600), but under the microscope there are differences in the specimens from most every country. Polyporus nigroporus from Philippines, Polyporus glomeratus of our Eastern States, both belong to the group. Also we include this plant just received from California, and the first we have received from the states, although it does not have the "hyphae-setae" so marked in other collections. Hence it really belongs to the Polyporus dryadeus group, but it (this collection) does not have true setae and the colored pores would seem to remove it entirely. A local man has no trouble to define his species, but one dealing with plants from widely different countries will find many collections so close in many characters that he really thinks they are the same; so different in a few special features that they seem to merit special names, and whether the differences are constant or not can not be told from a few collections from each country.

NOTE 1111—**Polystictus subcrocatus from E. D. Merrill, Philippines.**—This is so close to the American Polystictus byrsinus that we have vacillated whether to refer it or not. Compare page 1001. This specimen does have its surface "puffed," but the pores are decidedly larger and deeper though both have very minute pores. They are too close together for comfort. The specimen on the Philippine sheet is referred to Polystictus hirsutus but that is in the nature of a bull.

NOTE 1112—**Polystictus cervino-gilvus and its synonyms from T. Petch, Ceylon.**—Professor Petch sends me nine collections illustrating the varying forms of this plant, also the following interesting note:

"I went into the matter of P. zeylanicus again when in England, and concluded that P. zeylanicus, P. Peradeniae, P. diversiporus, P. personatus, and Hexagonia pergamenea are the same thing. When mature it has a hyaline cystidia, and the lower surface is salmon pink. (Note B. & Br.'s flesh color for P. Peradeniae and see your note on pellucida in Letter No. 37.) But most of the specimens do not have the hymenium fully developed, e. g., the type of P. zeylanicus and Hexagonia pergamenea. My specimen of Trametes cervino-gilvus and Trametes dermatodes from the Philippines appear to me to be the same thing (except when they are obviously Irpex flavus). Hence I take it that the earliest name is cervino-gilvus, which antedates dermatodes (1844) and zeylanicus (1842). I can not find the date of cervino-gilvus, but from what I gather from Thesaurus Mycologicae, it is 1838 or 39."

The intimate relation between Polystictus cervino-gilvus and Polystictus flavus is indicated in our Note 889, page 973, and yet in their "type" forms they appear quite different. We get many specimens of both, and

very rarely is there any doubt where to place a collection. Polystictus zeylanicus (Hexagona pergamenea) appears quite different to me.

NOTE 1113—**Polystictus Currani** of the Philippines is for me same as Polystictus vernicipes (Stip. Pol. Fig. 448). It is a question, however, if it should be included in Section 15 or Section 23, for it is liable to be sought in either. Only two collections are on the sheet from Philippines, Ramos, 1866, and Curran. 8938, and both are thinner than the original from Japan. Curran 8964 is very doubtful.

NOTE 1114—**Polystictus focicola from Roy Latham, New York.**—We refer this to above on its large pores, although in reality it is a "new species." It is a large pored form of Polystictus cinnamomeus with bright cinnamon color, while Polystictus focicola proper is a large pored form of Polystictus perennis with dull color.

NOTE 1115—**Fomes caliginosus from Rev. J. Rick, Brazil.**—I believe the first collection I have from the American tropics, though not rare in the East. The character is the abundance of small, pale spores, as noted before. It appears to me now that Fomes subflexibilis (Fomes Synopsis, page 237), must be same plant. It should be moved from Section 69 to 71 for the spores are not hyaline, but pale colored, and it usually is a better Polyporus than Fomes.

NOTE 1116—**Fomes melanodermus from Rev. J. Rick, Brazil.**—A rare species but strongly characterized. Cfr. Syn. Fomes, page 261. Known previously from one collection, Java, and one Philippines.

NOTE 1117—**Fomes nigricans from Rev. J. Rick, Brazil.**—With same context color, pore mouth color, hard crust. I would refer this to above rare form of Fomes igniarius (Cfr. Fomes Synopsis, page 246). Rev. Rick considers it distinct and proposes Fomes contortus for it. The specimens are peculiar, but to the eye and under the microscope in having a section of the pores variegated by being filled with a white growth. Rev. Rick says it is natural. I have often noticed it on specimens of Fomes igniarius and other species and have taken it for an aftergrowth. But perhaps Rev. Rick is right. These specimens also have abundant large white crystals imbedded in their growth.

NOTE 1118—**Fomes pachyphloeus from John W. Gossweiler, Africa.**—While we handle this often we did not recognize this African collection until we saw the abundant hyphae-setae under the microscope. The context color is a slightly different shade of brown, and the surface is darker and with a resinous appearance. It is curious that this abundant species (in the East) should not have fallen into the hands of any of the old new species hunters.

FOMES—SECTION GANODERMUS—IN THE PHILIPPINES

The section Ganodermus of Fomes rests on the spore character as explained in our Fomes pamphlet, page 262. As a usual thing the spores are about the same, 6 x 10-12, obovate-truncate at base and smooth or punctate. In some collections they run smaller but I do not think there is any marked difference in the spores nor that in the usual collections species can be maintained on any spore characters. A few collections have decidedly rough spores, and we hold these as good species, but these few as far as we have noticed are stipitate.

I have many collections which were determined as Fomes applanatus, Fomes australis, Fomes tornatus, etc., and I am unable to decide on any feature on which the names are applied. Most of the specimens show that namers are rarely in accord on the names. Thus Copeland 181 is tornatus for Murrill, australis for Bresadola and applanatus for me. There were six collections of the sheets sent me that I referred to Fomes nigrolaccatus. Two were determined tornatus by Murrill, another multiplicatus by Patouillard, another megaloma by Graff and two balabacensis by Bresadola. The species all run together but they vary to extremes in certain directions, on which I think the names should be based as far as practical. At the same time there are no sharp lines between them and the simplest plan would be to call all Fomes applanatus.

In the Philippines I sort the species into five groups as follows:

Fomes applanatus, the usual plant corresponding to that which grows in Europe excepting the crust is harder. The dull brown crust and dark bay brown, well developed context, a cm. or more thick are the features. This is the most common form everywhere in the world both temperate and tropical countries.

Fomes leucophaeus is exactly the same as applanatus but with paler crust. In the States we get many specimens with white crusts but in the Philippines they are always light brown at best.

Fomes tornatus.—As far as I have observed the common Fomes applanatus in Europe or the States always develops context 1-2 cm. thick. Usually about same depth as the pores. In the tropics a form occurs with "long" pores and relatively thin context. The name Fomes tornatus has recently been dug up and used (with no definite meaning as far as I know) and I apply it to this form. As a matter of fact it is Fomes australis in sense of only type known (at Kew) but not as Fries described.

Fomes oroflavus.—Usually the forms of Fomes ap-

planatus have white pore mouths. Rarely in the tropics the mouths are yellow, then designated as above.

Fomes gibbosus.—In tropical countries Fomes applanatus often takes a smaller form with a tendency to develop a stipe. In other respects it is just the same. The stipe may be in the same plane or at an angle with the pileus. We do not attempt to distinguish by name on the position of the stipe.

The foregoing are for me all mere form names for the same species, but the two following differ to the extent that I hold them valid species. Intermediate plants occur it is true but the basic idea is quite different.

Fomes australis.—Crust hard, thick with black tissue and dull surface. Context thin, dark bay brown. Pores minute, long, hard, heavy. Edges of pileus usually abrupt, thick. It differs from applanatus in the hard, heavy, more minute and darker pores, quite appreciable to the "heft" but difficult to definitely explain. We take this as we believe in nearly the original sense of Fries, as described, but not of his specimens at Kew. In the past determination "Fomes australis, Fries" has had no definite meaning other than a Fomes of the applanatus group that grows in the tropics and was applied indiscriminately to all the various forms.

Fomes nigrolaccatus.—Quite different from Fomes applanatus in having a more or less black lacquer, it is still much closer to Fomes applanatus than it is to those of the lucidus group. We take it in the only logical sense of Cooke's name even if the author had no idea, however vague, of its identity.

NOTE 1119—**Fistulina hepatica, stalked, from Rev. James Wilson, Australia.**—Fistulia radicata was discovered by Schweinitz in the United States, but now known to be only a stalked form of Fistulina hepatica. It rarely takes this stalked form with us.

NOTE 1120—**Hexagona Gunnii with elongated pores from Rev. James Wilson, Australia.**—The genus, Hexagona, has the reputation of having regular pores and usually lives up to its reputation. When we wrote our Hexagona pamphlet after looking up all the specimens in the usual museums of Europe we had not noted a single specimen with irregular pores. This collection has elongated pores, the first of this species we have seen with such pores, and we get it quite often from Australia.

NOTE 1121—**Hexagona subrigida from Otto A. Reinking, Philippines.**—In our Philippine Mss. we held this as a paler form of the African Hexagona tricolor, but we have now five collections from Philippines and not one dark like the African plant. Nor is it satisfactory to refer all five to same name. That "Tenuis" section of Hexagona is too variable to definitely name. One can take the specimens in the Kew covers of Hexagona tenuis and make twenty species of it. For Berkeley, Hexagona tenuis was taken literally, a thin Hexagona, and that is all.

NOTE 1122—**Ptychogaster croceus from Rev. James Wilson, Australia.**—Forming a soft, fragile, brittle, irregular mass, bright yellow in all parts and with maldeveloped pores. Tissue filled with large (20-24 mic.) deep yellow globose spores, the surface covered with small tubercular markings. Surely anomalous Ptychogaster form of some Polyporus, but I am at a loss to suggest the normal species from which it can be derived. It reminds me of "Polyporus Adansonii" (Compare Apus Polyporus, page 369, Fig. 703) but surely it is not that. Much too bright color and different markings on the spores. The only thing to be done with Ptychogaster is to name them, and that probably is the end.

NOTE 1123—**Stereum spadiceum.**—Professor Burt notes and comments on the absence of Stereum spadiceum (Stereum gausapatum the latest juggle) from Schweinitz' herbarium. It has always seemed strange to me that I have never found Stereum spadiceum around Cincinnati, where Stereum complicatum grows in such great abundance. But Stereum spadiceum is the most frequent species I get from my American correspondents.

NOTE 1124—**Montagnites Candolei from John W. Gossweiler, Africa.**—The largest spores I find are 5 x 8. This plant varies much as to spore sizes, and also general statue and has received several names. In my belief but one species is involved, however.

NOTE 1125—**Lenzites subferruginea in Sweden.**—Some years ago when I was at Upsala Professor Juel showed me a Lenzites he had collected near Upsala. I did not know it at that time, although I knew it was not an established species of Europe. Since we have learned Lenzites subferruginea from the abundant collections of the Philippines. But there is a Lenzites in Fries' herbarium from Sweden under the label Lenzites cinnamomea. I have seen it in no other museum, but as I recall it now, I believe it is the same plant. It is illustrated in Fries' Icones t. 177, but the color there depicted has hardly a suggestion of Fries' specimens now, nor of the well known Philippine plant. Still I am satisfied that the Philippine plant and the Swedish are the same, but the name Lenzites subferruginea is so well established that I shall not change it. I have no doubt though others will as soon as they get a clue.

NOTE 1126—**Isaria farinosa from G. H. Cunningham, New Zealand.**—Exactly same as European species and first time collected in Australasia. It is

supposed to be conidial state of Cordyceps militinus, which however has never been reported from this continent.

NOTE 1127—**Hydnum melaleucum from J. M. Grant, Washington.**—This is liable to be confused with the much more frequent species, Hydnum nigrum. It has, however, thin, uniform flesh, which is duplex in Hydnum nigrum. Hydnum melaleucum is better called Hydnum pullum for it was well illustrated under this name by Schaeffer years before Fries named it. But Fries did not attend the Bruxelles Convention where several of these dishonest laws were enacted, covering such a case as this.

NOTE 1128—**Hydnum nigrum from Paul Konrad, Switzerland.**—I am specially glad to get a nice collection of Hydnum nigrum from Europe for my previous specimens were scanty. Certainly it is the same as has passed in American traditions as Hydnum albo-nigrum, a better name for it, for Hydnum nigrum is not near as black as Hydnum melaleucum, nor as black as it is painted.

NOTE 1129—**Auricularia squamosa from John W. Gossweiler, Africa.**—This is the largest, coarsest species of the genus and only known from Africa. When dry it is brittle, and when soaked it is not as gelatinous as other species. The surface color is brown, when wet, black. (Cfr. Note 514, Letter 65.)

NOTE 1130—**Dacryomyces minor from Roy Latham, New York.**—I refer it to the above with doubt, but it appears to answer the description. It is a small (1 mm.) cushion shape, orange yellow, gelatinous plant, not changing much in drying. If correctly referred, its recent refcrence to Dacryomyces deliquescens is an error. It differs as noted above. But the structure is most puzzling and I think it is no Dacryomyces. The hymenial tissue is made up of branched septate hyphea (?) filled with granular matter, septate and easily disarticulated into cylindrical hyaline, guttulate spores (?). The sections have all the appearance of Dacryomyces spores. I find no basidia, although the forked hyphae (?) have much the appearance of Dacryomyces basidia. There is a world of these little fungi that we know little about, hence we are specially anxious that our friends will pick up for us and dry every small (or minute) tremellaceous specimen they find.

NOTE 1131—**Exidia purpureo-cinerea from P. van der Bijl, South Africa.**—(Cfr. Myc. Notes, page 635.) This South African species is well distinct from any European species. Applanate, foliaceous, disposed to form discs. Color dark purplish. Papillae dense. Basidia globose, cruciate, 16 mic., pale colored. Spores 8 x 20, reniform, with granular contents. Both the basidia and spores we make larger than previous records.

NOTE 1132—**Exidia glandulosa from Rev. LePere G. Ducharme, Canada.**—As we have always collected this, it is almost a black plant, but this soaks up much paler, and would never be called black. As we have previously stated, several quite different forms are included in Exidia glandulosa. At first we were disposed to place importance on this light color (about that of brown sugar) but on soaking up our plant and comparing, we find no essential difference. The colored hyphae are not so abundant, but it is only a question of degree.

NOTE 1132—**Naematelia globulus from L. Rodway, Tasmania.**—This seems the same as our European plant, excepting when soaked it is flatter and applanate and our plant is more cushion shape. Naematelia is a tremellaccous genus with calcareous bodies in the tissue. The genus, Naematelia nucleata (common in the States) and the same (or similar) species, Naematelia globulus (very rare in Europe) has never been collected before in a foreign country.

NOTE 1134—**Terfezia spinosa.**—This was collected in sandy ground along the bed of the Red River, Natchitoches, La., Nov., 1886, by E. Forges. It was distributed by Ellis, 1782, as Terfezia Leonis. Harkness renamed it Terfezia spinosa, deciding that the spores were not the same. He shows (inaccurately) spores of both species. Mattirolo points out to me Harkness' misconception of the spores, and considers them characteristic of a good species, very close but different for Terfezia Claveryi. We, therefore, relying on Mattirolo, consider Terfezia spinosa a "good species," but personally we have not gone into the details of Terfezia. Terfezia is a genus that grows in abundance in the sandy regions of Northern Africa, and is largely used as food by the Arabs. We have specimens of Terfezia Claveryi bought in the market of Algeria by our late friend, Paul Klincksieck. Chatin wrote a book mostly on the genus Terfezia with many plates.

NOTE 1135—**Parasite in Rhizopogon rubescens from P. van der Bijl, South Africa.**—The yellow powder on the surface and the large (20 mic.) colored, globose, thick walled spores found in the cavities are a parasite in the tuber. These spores appear to be scattered, but abundant, and I find no asci or hyphae tissue to account for them. They are apparently isolated spores, and how they came there it is hard to say, nor do I find any name for them. Melanospora Zobelii is recorded parasitic in Rhizopogon in both Europe and the United States, but this is surely not that.

NOTE 1136—**Hymenogaster decorus from A. H. W. Povah, New York.**—We determined this from

Tulasne's work and we feel no doubt about it. It has a pure white, smooth peridium. The spores, as shown by Tulasne, are mostly obtuse, 10 x 12 mic., dark ochraceous, and rough surface with faint ridges. The spores rather depart from the usual Hymenogaster, spores being obtuse, but Tulasne records that they are sometimes pointed. The basidia are hyaline, two spored, with long sterigmata. It seems to accord to Tulasne's account and figure in every particular excepting its smaller size. These were about ½ cm. in diameter. Professor Povah found it rather abundant, he told me, "among the roots of sedges in the oak woods within an inch of the surface of the ground" at Syracuse New York.

NOTE 1137—**Melanogaster ambiguus from G. H. Cunningham, New Zealand.**—(Cfr. Myc. Notes, page 1065.) We have this also from Miss Helen K. Dalrymple, New Zealand, and W. R. Guilfoyle, Australia. The spores are more pointed at both ends than shown in our Fig (B) 2007. They are more correctly shown by Tulasne.

NOTE 1138—**Entonaema lignescens.**—Professor A. Yasuda of Japan has favored me with the following note on this species:

"It is surely Entonaema lignescens as you have suggested. When fresh its surface is orange yellow. It has a thick hyaline gelatinous layer. Perithecia are carbonous black. Spores elliptical, smooth brown 5-6 x 9-11 mic."

NOTE 1139—**Camillea Bomba from Paul V. Siggers, Costa Rica.**—(Cfr. Large Pyrenomycetes, page 8.) We confidently so refer this collection although the spores 8 x 20 are larger than we have recorded them.

NOTE 1140—**Saccardo's Sylloge Fungorum.**—W. Junk, a book dealer in Berlin, offers a copy of twenty-two volumes of this work at ten thousand dollars. We have the set in our library, which cost us probably three or four hundred dollars, and that was about two hundred dollars more than it was worth, for its only practical value is that of an index. I doubt if one-half dozen species can be determined from anything that is published in the Sylloge. The nerve of this German book dealer, asking ten thousand dollars for a twenty-two volume publication, is appalling. The German seems to have lost all ideas whatever of relative values, but there is one thing that is consoling, it will be a long time before he finds an English speaking dupe who will pay the price.

NOTE 1141—**Corrections.**—When we changed from the mimeograph style, prolific in errors, particularly the last issue (65), stenciled by a "new girl," back to the printers we hoped our troubles were past. On page 1129, the printers have duplicated a line and *omitted a line*. The sentence should read:

"Hochnel based on this peculiarity the genus Asterostromella, which would probably have been adopted if Hochnel had not been a German."

NOTE 1142.—We regret to learn of the death of our correspondent, Mr. George A. Zenker, at Bipindihof, Africa. Mr. Zenker died on the 12th of February last in his sixty-seventh year. He was the owner of a large plantation and a Zoological-Botanical Station, which will be continued by his son, Kurt Zenker.

We are indebted to Mr. George Zenker for many interesting fungi which have been published from time to time in Mycological Notes. We are in hopes his son will continue in the work.

NOTE 1143—**Personal Mycology.**—We give the following quotation from letter received, of course not giving the name of author, as we do not wish to draw him into controversy:

"Regarding Myths of Mycology, I know that many will not agree with you, but down in the bottom of their hearts many of them think you are right but they do not care to admit it. There is entirely too much of the personal element to species at present. It should stop, but I have been wondering if it will."

It never will. You can not stop bull-fighting by appealing to the matadors.

KEY TO AMERICAN SPECIES OF CATASTOMA

Twenty years ago we gave (Myc. Notes, Vol. 1, page 121), a detailed account of our species of Catastoma, but at that time only three species were known. We have since received seven additional and present a short arrangement for convenience. The true Catastoma has a peridium of the nature of a sand case. It is really a hypogeal fungus for it grows half buried. When ripe the outer peridium breaks away leaving a cup or a scar where it was attached to the inner peridium. But this cup (or scar) is really at the top of the puff ball as it grows in situ. The dehiscence is opposite to the cup or scar, hence the true Catastoma grows "with its mouth down." But there are other species not known to Morgan, who proposed the genus, that have the microscopic features of the genus and by us are included in it. These do not have the cup or scar and grow in a relatively opposite position. In fact they are a different genus. Pseudcatastoma (McGinty.) But the natural generic feature of both sections is the capillitium which breaks into short, usually tortuose fragments with blunt ends, as found in the ripe gleba. This peculiar capillitium characterizes the genus at once. Catastomas can be arranged in two series as to color, those with purplish cast as to gleba and peridium, and those without. As to spores they

are mostly short, apiculate, more rarely pedicellate. The spores are also rough or smooth in different species.

CATASTOMA (true)

Gleba and peridium brown.
- Spores 4-5 mic. —— C. circumscissum.
- Spores 6-8 mic. —— C. subterraneum.

Gleba and peridium purplish tint.
- Spores apiculate, rough, 8 mic. —— C. Uplandii.
- Spores apiculate, rough 10-14 mic. —— C. Pila.
- Spores apiculate, smooth, 5-6 mic. —— C. Johnstonii.
- Spores pedicellate, rough, with pedicels 5-7 mic. long —— C. pedicellatum.

CATASTOMA (Bovista)

Peridium yellow or pale reddish.
- Spores smooth —— C. Brandegeii.

Peridium and gleba purplish.
- Spores apiculate, 4-5 mic., minutely rough —— C. ater.
- Spores apiculate, 10 mic., strongly rough —— C. Townei.
- Spores apiculate, 3-4 mic., smooth —— C. levispora.

CATASTOMA (true)

Catastoma circumscissum.—Depressed, globose, usually about a cm. when dry with portions of a thick exoperidium remaining as a cup. Color brown with no purplish tinge. Spores globose, 4-5 mic., warted, apiculate. This (with next which is only a large spored form) is cosmopolitan and has more names than a Parisian Apache. This correct Kuntzeite name is Catastoma candidum (Schw. McGinty) but no one has used it. It is not rare with us in the East, usually growing in sandy pastures. We have thirty-two collections from Vermont to Pacific Coast, and as far south as Florida. It is more common in the west but not always easy to distinguish from the next. We have it also from Hungary, Italy, Mexico and Brazil, and it is cosmopolitan but absent it appears from Western Europe. Myc. Notes, pages 78, 121, Fig. 41 and Plate 6, Figs. 1 to 7, Letter 67, Note 671.

Catastoma subterraneum.—This is in every respect the same as Catastoma circumscissum, excepting it is a more robust plant and has larger spores. It should be considered a large spored form—our usual Western form. We have forty collections from every Western state, and four from Minnesota and Michigan. We also have a typical collection from France. Myc. Notes, pages 78, 263, Cfr. 324, Fig. 98, and Plate 7, Figs. 1, 2 and 3.

Catastoma cellulosum.—A spongy layer is sometimes found between the exoperidium and endoperidium of Catastoma circumscissum. I think a condition rather than a species, but it was named Bovista cellulosa by Ellis.

Catastoma Uplandii.—Purplish, globose, about 2 cm. Spores 8 mic., rough, tubercular, with minute apiculus. Ivan M. Johnston, California. Myc. Notes, page 897, Fig. 1575.

Catastoma Pila.—Globose, purplish, 1-2 inches. Exoperidium often attached but hardly a cup. Spores 10-14 mic., rough, tubercular, with strong apiculus. A Western species resembling to eye Catastoma pedicellatum. C. L. Shears, Colorado; Ernest Knaebel, Colorado; Dr. J. F. Brenckle, North Dakota; Ernest Knaebel, New Mexico; Rose H. Lane, California; D. L. Crawford, California; also from Robert Fries, Argentine, and Rev. L. Mille, Ecuador. Myc. Notes, page 443, Fig. 254, Letter 42, page 8.

Catastoma Johnstonii.—Depressed globose. Gleba reddish brown. Spores globose, 5-6 mic., smooth, with minute apiculus. Ivan M. Johnston and E. P. Chase, California. Myc. Notes, page 898.

Catastoma pedicellatum.—Purplish, 2-3 cm. in diameter. Spores rough, pedicellate, with pedicels 5-7 mic. long. A Southern species with us readily known from its pedicellate spores. It occurs also in Australia and South Africa. Mrs. Sams, Theo. L. Mead, N. L. T. Nelson, Florida; W. H. Long, Texas; Ernest Knaebel, New Mexico. Myc. Notes, page 121, Plate 7, Figs. 4 to 7; Letter 62, Note 433; Letter 63, Note 463.

CATASTOMA (Bovista)

Catastoma Brandegeii. Globose, small, 2 cm., pale reddish or yellow shade. Spores 6-7 mic., smooth with minute apiculus. T. S. Brandegei, Mexico; P. B. Kennedy, Nevada; W. A. Archer, New Mexico; Ivan M. Johnston, California. Myc. Notes, page 897, Fig. 1576; Letter 65, Note 511.

Catastoma luteolum.—Almost two cm. Globose, no cup. Color bright yellow. Spores globose, 6 mic., smooth with minute apiculus. T. S. Brandege, Mexico; P. B. Kennedy, Reno, Nevada; W. A. Archer, New Mexico; Ivan M. Johnston, California.

Catastoma Townei.—Globose with general appearance of Bovista Pila; pale but purplish color. Spores globose, 10 mic., deep colored, rough with short hyaline apiculus. Stuart S. Towne and D. L. Crawford, California.

Catastoma levispora.—Purplish with no cup. Has general appearance of small Bovista pila. Spores globose, smooth, 3-4 mic., strong, apiculate. Ivan M. Johnston, California. Myc. Notes, page 857, Fig. 1428.

Figures 2263 to 2306 will be published in next issue.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 68 (Vol. 7, No. 3) January, 1923

PROFESSOR A. DE JACZEWSKI

On a recent visit of Professor Jaczewski, he kindly gave us the photograph which we present in this issue. It is a genuine pleasure to us to be able to publish it, for few mycologists that we have ever met have impressed us as favorably as he.

Professor Jaczewski was born Nov. 3, 1863, in the province of Smolensk, near Moscow. His father was a farmer and an officer in the Russian army under the old régime. As a boy he was educated partly in Russia and partly in Switzerland, and graduated at the Moscow University about 1887.

Since graduation he has devoted himself especially to plant pathology, and founded the first pathological station in Russia at the Botanical Garden at St. Petersburg.

He has been a member of the Commission of Agriculture in Russia, Director of the Institute of Pathology and Mycology at St. Petersburg, and Professor of Plant Pathology at the Forest Institute in the same city.

His visit to the United States was on the invitation of the Phytopathological Society, to make personal acquaintance among the American mycologists. Science in Russia is in a very languishing condition, and it is encouraging to record that Professor Jaczewski has been permitted to travel in our country to cultivate a more friendly feeling with American scientists.

Professor Jaczewski gave me the honor to visit Cincinnati and spend a few hours with me. I do wish it had been a few weeks instead of a few hours, for his visit was most enjoyable. He is a modest, unassuming man, notwithstanding his great learning, and it is a delight to come in contact with such men—an enthusiastic and well informed mycologist. I was greatly impressed with his linguistic abilities. He speaks French, German, Italian, some Spanish, some Dutch, and as to English, he is more familiar with the English language than most of the Americans are. He even speaks the American version and understands it better than most Englishmen do. I am afraid there are others here, besides myself, who have a general impression that the Russians are backward in the lines of science and education, and talented men, and I wish those who have this impression could have the privilege of meeting Professor Jaczewski and have their eyes opened, as mine have been.

FEDOR BUCHOLTZ

In connection with the portrait of A. de Jaczewski, we publish a photograph of Fedor Bucholtz, another Russian who has made his mark in the mycological world. After his studies in Russia, he went to Bern, Switzerland, and took a course under Professor Ed. Fisher. On return to Russia he filled the chair of Professor of Botany in the Polytechnic Institute of Riga Livland. He obtained a grant from the Institution and went to Florence, Italy (1899), to study the biology and classification of hypogeal fungi under the world's authority of this class of plants, Professor O. Mattirolo. The result was a book on Russian hypogeal fungi, to which his reputation in the botanical world is chiefly due. The work is written in Russian, hence unintelligable to most people, but we can look at the pictures. There was, however, a German summary in the Annales of Mycologici, Vol. 1, 1903, and also a supplement in the Annales of Mycologici, Vols. 6 and 8, 1908 and 1910.

In the recent cataclysm that overtook Russia he lost everything, his property, library, collection, and was fortunate to escape with his life. At present he is Director of the Botanical Garden at Dorpat, Estonia, a portion of old Russia. The photograph and data of this article have been furnished by Professor Mattirolo.

Tylostoma Finkii from Professor Bruce Fink, Ohio.—(Fig. 2307.) Peridium reddish brown. Cortext separating and having a collar at the base. Mouth small, tubular, round, not darker than the peridium. Stipe long, dark, with caducous scales. Capillitium pale colored, varying 4-8 mic. thick, with rare nodes, which are either swollen or even. Spores small, 3 mic., smooth.

This, on account of the small, smooth spores, must be entered in group 1, although on account of the scaly stem and general stature it is close to Tylostoma squamosum (group 3), a rare plant of Europe, not found with us as yet. Until I examined it under microscope I thought it was Tylostoma squamosum.

Calvatia macrogemmae from P. Van Der Bijl, S. Africa.—(Fig. 2308.) The large, blunt cortext spines at once point this out as something very unusual. There is another "puff ball" in South Africa, Phellorina strobilina (Cfr. Myc. Notes, page 734), with large warts (or scales), but it has no relation to this plant. Evidently growing in the ground, this is an inch or two in diameter, and apparently has no sterile base. Cortext bears very large, thick warts, which are connivent and evidently detersive when old. Endoperidium thin, breaking in fragments. Gleba olive Capillitium hyaline branched, 2-6 mic. in diameter, long, septate. Spores hyaline (or sub-hyaline), smooth, irregular, globose or elliptoid, 3-4 x 4½-5 mic. The character of both capillitium and spores very closely ally

this to the common Lycoperdon pratense, which by the way is about as good a Calvatia as it is a Lycoperdon. There is no other species of true Calvatia that comes anyways near it.

Hydnum deceptivum from H. A. Lee, Philippines.—(Fig. 2309.) What strange and unexpected things do turn up among the tropical fungi! When I saw this dried I thought it a curious Auricularia. When it was soaked up it proved a Hydnum, which genus ordinarily has no more suggestion of an Auricularia than it has of a puff ball. The plant evidently grew on under side of log. When soaked it is a uniform, Verona brown, teeth and all. Outer surface smooth. Context concolorous, ½ mm. thick. Teeth adpressed (or perhaps pressed in this specimen), ½-1 mm. long, homogeneous, with pileus color and texture. Cystidia none. Spores (if correctly seen) 1½ x 3, hyaline, smooth. At first this has no suggestion of a Hydnum. The texture is not fleshy, neither is it gelatinous. There is another somewhat similar species, Hydnum singaporensis (Myc. Notes, page 1107, Fig. 2035), and these two could make a "new genus." Based on collection P. W. Graff, 15932; collection Mt. Maquiling, Luzon.

Mitremyces fuscus from Rev. James Wilson, Australia.—(Fig. 2311.) A rare genus and a rare species which we have considered in detail in Vols. 1 and 2. (Compare Vol. 2, page 240; also Lyc. Australasia, page 41.) This species is the only one known from Australasia and it is only known from Australia and Tasmania. There are only eight collections of it known, five in museums at London, and three have been sent to me, viz.: D. McAlpine and Chas. C. Brittlebank, both from near Melbourne, and this from Rev. James Wilson, Upper Beaconsfield.

THE GENUS RHIZOPOGON

There has always been in my mind a confusion as to the species of Rhizopogon. Many of them, unnamed, accumulated in our collection until I was favored by a visit from C. W. Dodge, who kindly gave me his views, and they are labeled in accordance. That was a great help but I was still at a loss in naming specimens received from correspondents, for I could not distinguish in all cases the differences that he pointed out in his article. Finally I made a close study of Tulasne, and European specimens named from Tulasne, and it seems to me that most of them can be referred to his species. The genus, Rhizopogon, in the sense of Tulasne, can be divided into two sections:

First, the section (true) that includes the most frequent species, Rhizopogon rubescens, and which has large, empty (to eye), permanent cells. The gleba color (dry) is a shade of red or brown, never with any greenish cast. The gleba cuts soft and is but little gelatinous. It appears to me that I can distinguish two common species of true Rhizopogon, viz.: Rhizopogon rubescens and. Rhizopogon provincialis.

Second, a section which for me is closer to Hysterangium with a gleba strongly gelatinous, which when ripe becomes dark greenish or black, very small cells, with a tendency to deliquesce or disintegrate, so that the cells are hardly visible to the eye. When fresh the gleba is soft, but it dries in time so hard it is difficult to cut. This section includes Rhizopogon luteolus, as held by Tulasne, unfortunately, for there is nothing yellow about it, at least when dried nor in Tulasne's figure. The dried gleba more closely suggests that of a phalloid than of a true Rhizopogon. It appears to me that it is this contradiction as to Rhizopogon "luteolus" that makes the subject so difficult to grasp.

Tulasne gives in detail the trouble he had in interpreting the old, vague, original record of Rhizopogon luteolus, and I believe if he had applied to it the name Rhizopogon virens and put his Rhizopogon "luteolus" in Hysterangium and called it Hysterangium virens, he would have simplified the subject. A glance at Tulasne's colored sectional figures of Rhizopogon rubescens and Rhizopogon luteolus should convince any one that they should not be put in the same genus, and if one consults Boudier's figure of Rhizopogon Briardii the contrast is more patent.

Dodge gives the peridia of Rhizopogon species varying from 1/10 mm to 6/10, and Tulasne shows a most marked difference in the thickness of the sectional peridia of Rhizopogon rubescens and Rhizopogon luteolus. To the eye this should be evident, but I cannot make it out on the specimens. All species of Rhizopogons have external fibrils, but they are scanty on Rhizopogon rubescens, often not found at all on the dried specimens. On the other hand, they are usually present on Rhizopogon luteolus and Rhizopogon provincialis, and on the latter a marked feature. In some American species Dodge has shown a new character, viz.: a double peridium, the outer remaining (sometimes) as patches on the dried specimen. (See Fig. 2320 enlarged.) This has not been noted in Europe, I believe, though Mattirolo writes me it occurs there, but he does not seem to attach much importance to it. I have a photograph of Rhizopogon virescens made in Sweden that clearly shows this feature, but it has disappeared from the dried specimens. There are, I believe, but three species of Rhizopogon of common occurrence which can be distinguished as follows:

Rhizopogon (true)
  Gleba cells large permanent, reddish brown.
    Fibrils scanty (or none on many species) Rhizopogon rubescens.
    Fibrils abundant. Rhizopogon provincialis.
Hysterangium (better)
  Gleba cells small coalescent, dark (greenish).
    Fibrils evident—Rhizopogon luteolus.

SECTION RHIZOPOGON (TRUE)

Rhizopogon rubescens.—(Fig. 2312 and Fig. 2313, gleba enlarged.) This is the most common species both in Europe and with us. We have it also from Chile, Japan, Tasmania and Australia. It is easily recognized by absence of, or scanty fibrils, also by its large permanent cells, and reddish or brown gleba. The true color of the dried gleba is excellently shown in Tulasne's figure, but specimens of collections are common with the gleba much darker, reddish brown, in whole or part. This I believe is due to exposure to air before drying. I am unable to clearly distinguish Rhizopogon Vittadinii or Rhizopogon roseolus in sense of Dodge. The former is for me a large form of Rhizopogon rubescens, the latter a small form with a dark peridium. To base a species on the old, vague, inaccurate work of Corda is retrogration not progress and only confusion.

Rhizopogon provincialis.—(Fig. 2314 and Fig. 2315, gleba enlarged.) A rather rare species in Europe. It is frequent on our Northwestern coast, where it has been called Rhizopogon occidentalis. It is close to Rhizopogon rubescens and has the same gleba and gleba color changes as noted under that species. Externally, however, it has abundant fibrils, as shown in our figure. It is a larger species than either of the others, and specimens occur almost two inches in diameter. As Tulasne states, it is intermediate between Rhizopogon rubescens and Rhizopogon luteolus, having the gleba of the former and fibrils of the latter. I have it in great quantities collected years ago by W. N. Suksdorf, Washington (state).

SECTION HYSTERANGIUM (BETTER)

Rhizopogon luteolus.—(Fig. 2316 and Fig. 2317, section enlarged.) Globose or oblong 2-3 cm. in diameter. Peridium brown with a few adnate fibrils. Gleba brownish when fresh but with a tendency to soften and turn very dark, drying very hard. Lodges minute, hardly visible to the eye in section, filled with spores. Spores 3-4 x 8-10, very pale colored. We take this in sense of Tulasne and reproduce the figure from him. The name is unfortunate, and we believe inaccurate in its original sense, which for me was Rhizopogon virens as illustrated by A. & S. Specimens we receive from correspondents have dark, almost black gleba, perhaps a little greenish tinge, but never any part "yellow." Our collections (sure) are all from Europe. Two American and one South African are doubtful.

As previously stated the unfortunate name applied to this plant is the chief drawback to its identification. Tulasne got the name from Fries and has a long note (on page 86) in reference to his doubts "in absence of authentic specimens." I think he got it wrong but I feel it is too late and too well established to try and change it. I found in Sweden two species of Rhizopogon, viz., R. provincialis (yellow) and R. virescens (green). Fries records only two species and they have the same colors, and it would not be a bad assumption that they are the same. If so, the first he called R. luteolus and the second R. virens.

SPECIES OF RARE OCCURRENCE

Rhizopogon pannosus.—(Fig. 2319.) The character of this is the patches of a soft exoperidium that remain, as first pointed out by Dodge. Our figure and enlarged "patch" (Fig. 2320) will show this feature. As to gleba, absence of fibrils and spores it is much like Rhizopogon rubescens. The peridium, however, is more yellow than any other species we have. It is rare. We have but two collections, both from W. N. Suksdorf, Washington (state).

Rhizopogon pachyphloeus.—For Mattirolo this equals Rhizopogon provincialis, for me close to Rhizopogon luteolus. The gleba is dark brown with minute cells. It cuts gelatinous but instead of becoming hard, as in Rhizopogon luteolus, remains soft in old specimens. We have two collections, B. O. Longyear, Colorado, and W. N. Suksdorf, Washington.

Rhizopogon virescens.—(Fig. 2321, made from fresh plant in Sweden.) As far as I know, species of Rhizopogon with the duplex peridia as pointed out by Dodge are not recorded in Europe, but this grew in Europe and had a soft exoperidium as plainly shown on the photograph. I collected it within a stone's throw of the Linnaean reservation near Upsala. It has always been a mystery to me, and I refer it to Karsten's name as an assumption only, the probabilities, however, being that it was well named by Karsten. I also think it was probably Rhizopogon virens in sense of Fries, which he records rare (Smoland). Those I have sent it to refer it to Rhizopogon luteolus, but it cannot possibly be in sense of Tulasne as a comparison of our figures will show. The dried specimens, however, would be very difficult to tell apart. When I collected it I was much mystified with it. It grew on the surface with a strong rooting base, and I do not believe it was ever hypogeal even in its earlier stages. Hypogeal fungi from their nature do not have strong rooting bases. I took it for a Lycoperdon until I cut it open, and it grew in the grass exactly in same manner as Lycoperdon pratense, growing in the same field. As I found it, the young gleba was soft, gelatinous and dark green. Not the slightest indication of yellow. For me it is a Hysterangium, and not logical to class it with Rhizopogon with dry permanent lodges. Rhizopogon Briardii as illustrated by Boudier (not as determined or recorded by Dodge) appears to me to be small specimens of a similar plant and evidently grows in same way and has same gleba color. The surface shown by Boudier, however, is not same.

Rhizopogon superdubius.—(Fig. 2322.) A couple of years ago I received from O. M. Oleson, Iowa, a most dubious plant which I could not make out at all, and sent it to a correspondent who referred it as a species of Rhizopogon. I cannot say to the contrary, but I doubt it very much for three reasons.

First, in habits it has a long stem, which may have been buried, and it was probably attached to buried wood. It has this appearance, though Mr. Oleson had forgotten the details of its collection and has not collected it since. Rhizopogon should not have stems.

Second, the gleba, which to the eye resembles that of a hard Rhizopogon (without cells) under a lens do not show distinct lodges with walls, but spores appear imbedded in the tissue. They may be in chambers, but if so, in very minute chambers compared to those of the usual Rhizopogon, and I am unable to make them out distinctly.

Third, the spores sub-globose, about 4-5 x 6 pale colored, are not the type of the usual Rhizopogon spores. The peridium is hard, rough, and there appears to be a very thin reddish brown exoperidium, though it is not a distinct layer. With these general remarks we will pass it by, hoping that Mr. Oleson (or some one else) will find it again and give us further data as to its habits, and notes on it when fresh.

Rhizopogon maculatus.—Scantily known to me from a single specimen from its authors. It appears distinct; very small, about the size of a pea. It is said to have a duplex peridium. Its gleba is dark and for me it appears to belong to the section Hysterangium.

Rhizopogon augusticeps.—Based on a specimen in our collection from Germany. It is referred by Mattirolo to Rhizopogon rubescens.

Rhizopogon induratus (American) should be compared with authentic material at Kew from India. Originally an Australian plant, was so referred with doubt by us, and the American records are based on this doubtful reference.

Rhizopogon graveolens was originally an old Vittadini proposal from Italy, not known since. Tulasne's account, based on Berkeley's sending, in main by quotations, and Tulasne evidently thought (reading between the lines) that it was Rhizopogon luteolus, as it probably is. Our American references are equally doubtful.

Rhizopogon Rodwayi.—Though material in our collection from Australia is not authentic it is probably correctly determined. It appears to differ from all our species in the pinkish gleba.

Rhizopogon suavis.—The original from Europe, named by Quélet, appears to have been based on small Rhizopogon provincialis. Those so recorded from the States are referred by Mattirolo to Rhizopogon rubescens.

THE GENUS RHIZOPOGON AT KEW.

The foregoing account was written at Cincinnati, but before it was printed I had the opportunity and went over the specimens at Kew. My views as to the frequent species were not changed from a consideration of these specimens.

Most all the specimens in the museum are included in two covers, Rhizopogon rubescens and Rhizopogon luteolus, but, I believe they include three species indiscriminately mixed. I confess my failure to straighten out these old specimens. I can see no difference between Rhizopogon virens Fuck. 1252 and Rhizopogon luteolus Fuck. 1251. I believe the names in the present sense are the same. Nor between Rhizopogon luteolus Desm. 1, 1513 and Rhizopogon rubescens Desm. 2, 263, both for me are the latter. But why go into the details. Fresh collected Rhizopogons are quite different but the old museum specimens are much alike.

I presume there is more historical material of Rhizopogon at Kew than any other one museum. All the old workers Vittadini, Tulasne, Corda sent specimens to Berkeley. Fries alone is missing from this group. In addition Berkeley had Broome's English finds, and in the whole list of British mycologists, Broome is the only one who has had the energy and patience to hunt and find hypogeal fungi.

We add a few notes on the rarer species at Kew.

Rhizopogon Vittadinii.—In Berkeley's herbarium and writing is a specimen labeled "Rhizopogon luteolus Fr. Vitt. misit." This has no suggestion of luteolus as now found in England. It is no doubt the plant that Tulasne published as Rhizopogon rubescens var. Vittadinii. It appears to me a good species and probably only occurs in the south of Europe. There is another in Berkeley's herbarium from Cannes. It has (still) brighter colored gleba, larger cells, darker peridium and smaller spores than Rhizopogon rubescens. Dodge and Zeller's recent determination have little resemblance or suggestion of it.

Rhizopogon graveolens.—The only specimen is a "Vitt. misit." For me it is Rhizopogon luteolus as Tulasne evidently thought.

Rhizopogon provincialis.—The only specimens at Kew are two of Sydow's esic. which are Rhizopogon rubescens and one Roumeguére, which is Rhizopogon luteolus in sense of Tulasne.

Rhizopogon Briardi.—There is a cotype at Kew and it is of same nature as Rhizopogon luteolus, but has larger cells and different rooting system. Boudier figures it and his figure tells it all. If Messrs. Dodge and Zeller could compare their determination with the

cotype, now glued on the same sheet at Kew, they would realize what folly it is to make such guesses.

Rhizopogon induratus.—Only the type New Zealand which appears good for me. It is close to luteolus, but color not greenish, and not at all gelatinous, I think. The plant from the States that Dodge has so referred has yellowish gleba and surely not it on comparison.

Rhizopogon Webbii.—A section from Montagne of the type from the Canary Islands (about 1840) all known to this day. To the eye, color and appearance of Rhizopogon rubescens, but under a hand lens smaller cells. Record is too old and specimen to close to rubescens to be kept longer distinct.

Rhizopogon piceus.—A remarkable species of Rhizopogon collected by Chas. Wright at Hong Kong and "described" by Berkeley in eight words not one of which gives any distinctive idea beyond the name piceus referring to the peridium. The gleba is yellowish brown, dry, pulverulent, no cells visible under a hand lens not at all gelatinous, and unlike any other species known. Under the miscroscope, it is mostly a mass of spores with but little remains of the gleba cell walls. The spores are hyaline, smooth, typically those of a Rhizopogon, but 3½x5½, broader and shorter than the usual species.

SPECIMENS RECEIVED FROM CORRESPONDENTS

A Bull on Lloyd.—We have been uneasy about Durogaster brunnea ever since we published it. We doubt now if it is a fungus at all, although at the time we found bodies that we took for spores, and the general appearance is that of Podaxon. We sent a portion to Professor Thaxter and he advised us it did not appear to be fungus tissue to him, and suggested it might be a flowering plant. We took it up with S. A. Skan at Kew, known as The Living Encyclopaedia of Plants and Botanical Literature. He suggested at once Balanophoreae. We looked through the covers and while we did not find it, we did find bodies that strongly suggest it in the Scybalium depressum cover. I have a letter from Professor McGinty congratulating me on the discovery, and hoping that when the Phaenogamic botanists find out what it is, they will not forget to apply those "sacred principles of priority" to the name, in the advertising department.

Schizostoma laceratum from Ivan M. Johnston, Collected San Nicholas Bay, Gulf of California.—(Fig. 2324.) When we first saw this plant it was so different from anything we had seen that we could hardly wait to photograph it before cutting it open. It is a most remarkable instance of plant distribution, "A single plant on a sand dune," and the only specimen ever collected in America, or anywhere else, excepting in equatorial Africa. The originals, and a few other collections by Schweinfurth, are at Berlin. These have all dehisced by a torn peridium, as shown on Plate 20, Vol. 1. Mr. Johnston's specimen has not opened, but that it does dehisce in this manner is certain, for it has no indication of any mouth, and on comparison with the African plant is surely the same in every respect. We gave a description of Schizostoma laceratum in Vol. 1, page 192, and every word of it applies to this specimen, excepting it has not opened. The genus, Schizostoma, is related to Tylostoma but differs from it in several important features. It has no volva or universal veil, as all Tylostomas have. It probably did at a very early stage have a rudimentary veil, but no trace remains or any specimens now. It has no mouth, an important feature of all Tylostomas. The gleba color, dark Mars brown, is quite different from Tylostoma. The capillitium of deep colored tortuose, not septate threads, is not found in any Tylostoma. It has only two features in common with Tylostoma, the stipe insertion and the spores. The genus was proposed by Ehrenberg in Mss. about a hundred years ago for this African plant. It was all mixed up by Léveillé (1846) and further bungled up by De Toni in his compilation in Saccardo, where it was considered a section of Tylostoma and eight species included with it that do not belong with it. The genus was really first brought out in our early writings, Vol. 1, page 192 and plate 20. There are to our mind few other as distinct genera, and its discovery by Mr. Johnston in Lower California is most noteworthy.

Hysterangium niger from Miss A. V. Duthie, South Africa.—(Fig. 2325.) Subterranean, irregular, globose, or elongated. Surface black with adhering fibrils and rough with adhering sand. Peridium (seen in section) thin. Gleba black when cut, no greenish tint, compact, uniform. No cells visible to eye. Under lens consisting of elongated chambers with sinuate walls of hyaline hyphae. Spores 4x12, slightly colored brown in mass. As received it was relatively fresh and the gleba was soft and sub-gelatinous, but I have no doubt it will dry as hard as a rock. When cut the cells mash and are black, uniform to the eye, but if the specimen is broken it is brown and the cellular nature evident. It is very close to Rhizopogon luteolus. I am not sure it is not the same thing, but its habits appear different to me, and there is no greenish cast even to the cut surface.

The "Columella" of Mycenastrum.—(Fig. 2326, enlarged.) Twenty years ago we wrote "Our American Mycenastrum has distinct columellae not present in other species. The fact that there are ever columellae in Mycenastrum is unrecorded as far as we know."

We wish we had not recorded it now, for twenty years after we made this discovery we find these columellae in a sterile base of Calvatia caelata sent by C. H. Demetrio, Missouri. Their nature is quite evident to me now. They are tubes, or chimneys, or homes no doubt, built by some bug that lived in the puff ball. I do not think entomologists know about it, at least my friend, Charles Dury, does not, and he is well posted on such things. But it must be a Western "bug." I never noted these structures except in puff balls from Missouri and Colorado. The columellae of Mycenastrum is one of the "Myths of Mycology." I am sorry I did not know it when I wrote my pamphlet, or I would have taken pleasure in citing it.

Phellorina Strobilina from Dr. J. B. Cleland, South Australia.—(Fig. 2327.) It is a privilege to be able to present a photograph of this rare species that was made in situ by Professor Osborne. Phellorina strobilina is one of the rarest Gastromycetes, a full history of which was given on page 734 from a specimen that was forwarded by Dr. Cleland. Had the photograph been sent to us without notes, we would not have recognized it, and we are surprised that it grows in the situation shown in the photograph. The scales on the plant, also, do not show as in the dried specimens, but from what I have seen I would surmise that these scales must fall off naturally. There are but two known species of Phellorina, and we were under the impression that both of these grow in sandy countries where there is but little vegetation.

Tremellodendron (?) dubia from Dr. Sylvio J. Bonasea, Brazil.—(Fig. 2328.) Growing in a dense cluster like a moss, but having no chlorophyll, and probably a fungus. Composed of agglutinate strands, fimbriate at the apices. Color probably white when fresh. In old days it would have been called a Clavaria or Thelephora, but its habits of growth are those of the recent genus, Tremellodendron, based on basidia. Probably we are not justified in so entering it, when we find no basidia. The microscope shows us only strands composed of long hyaline hyphae, and no other structures, spores or basidia, and no clue to its classification, excepting its general aspect to the eye. There is no objection to giving it a name, however, but it must be studied fresh to be sure of its genus.

Lycoperdon purpureum from Otto A. Reinking, Philippines.—(Fig. 2329.) Subglobose without sterile base, growing on rotten wood with white mycelial cords. Color dark fuliginous (but misnamed purple). Capillitium scanty, hyaline, septate. Spores small, 3½, pale, smooth. A very rare species in the tropics on rotten wood. Named by Berkeley years ago from Bonin Island but types are most poor and scanty, and it has always before been a doubtful species to me. I had an idea it was same as our Lycoperdon subincarnatum (Cfr. Note 390) but it is quite different. There is another similar to eye and habits, Lycoperdon species in the tropics, (L. fuligineum) but it has strongly rough spores. Lycoperdon tephum may be same as Lycoperdon purpureum.

Rhizopogon radicans from Miss A. V. Duthie, South Africa.—(Fig. 2330.) This is quite close to Rhizopogon provincialis and my first impression was to so refer it. The adnate fibrils on under side are not so prominent and it has a short, thick rooting base. When broken this "root" has to eye a crumbly nature like the gleba, but is composed of brown hyphae without chambers or spores, hence not an accidental prolongation of the gleba tissue. Rhizopogons (except the superdubius) are not supposed to have any organ of a tap root nature, hence the name. But we doubt very much if it is a real species.

Tuber excavatum from Dr. E. Butignot, Switzerland.—(Fig. 2331.) It is like carrying coals to Newcastle to publish on European Tuberaceae after the fine work done by Vittadini, Tulasne, Bucholtz, Hesse and Mattirolo on the subject. Dr. Butignot sends such fine specimens, however, that I like to photograph them for the enlarged photographs of a section is often characteristic, and the veins become indistinct sometimes in old specimens. Tuber excavatum was beautifully illustrated by Tulasne and we reproduce his ascus and spore enlarged. The photographs from the plant are from Dr. Butignot's specimens. The species in Europe is recorded, France, frequently, Tulasne; Italy, Vittadini and Mattirolo; Germany, commonly, Hesse; Russia, Bucholtz. It has never been collected in United States, though Harkness on a single collection mis-records it, teste Miss Gilkey, but according to same author seventy-five per cent. of Harkness' records are mistakes. The surface of Tuber excavatum is stated both by Vittadini and Tulasne to be "minute papillose" but Vittadini's figure and Dr. Butignot's specimen both appear smooth to me. The spores are reticulate, as shown (Fig. 2333), Vittadini's record of "echinulate" being error of observation easily made for the angles of the reticulation look like spines. Tulasne's figure shows one spore in the ascus but there are usually four. We have now specimens of Tuber excavatum from Mattirolo, Italy; Patouillard, France; and Butignot, Switzerland.

Battarrea Digueti from Ivan M. Johnston, Collected San Nicholas Bay, California.—(Fig. 2334.) This is the fourth collection known, and the first clearly showing its method of dehiscence. It was first collected by M. Diguet, a traveling collector, I judge, in "Basse, Californie"; sent to Paris and named (1896) as above. Then by David Griffiths in Arizona sent to Ellis, if I remember right, at least named Battarrea Griffithsii by Miss White (alleged Underwood)

in 1901. It was also sent to me. Then I got a nice collection from Dr. F. E. Lloyd, Zacatecas, Mexico, and this is the fourth collection. Battarreas of the original type (Battarrea phalloidea which was first found in England) are very rare in Europe. I think but one other station known, in France, but we get it in many collections from Australia, South Africa, Ecuador, our Western States, and the genus is widely distributed in hot, sandy countries. It varies much in general stature, but is essentially same in gleba, dehiscence, and spore characters, and one author, Hollós, has claimed there is but one species. I believe there are two real species, differing as follows:

Battarrea phalloidea and the robust form, Battarrea Stephensii, have a thick volva which is carried up, and which peels away early from the endoperidium, but sometimes found attached to the endoperidium after it has fallen away. The peridium dehisces by a circumscissal cleavage at an early stage, the top falling away exposing the gleba.

Battarrea Digueti has apparently a thin exoperidium which peels away at an early stage from the top of the endoperidium remains coalescent with the lower half as shown in Fig. 2334. The endoperidium remains entire at least in all specimens I have seen and dehisces as shown by these specimens (Fig. 2334) by small circular, irregular mouths. That the upper half does finally dehisce by a circular cleavage, or breaks irregularly, and falls away is probable, but I have no evidence of it on any specimens I have seen, or if I have seen them I have confused them with Battarrea phalloidea.

The spores, cobwebby capillitium, and peculiar sterile cells are same in both. These "spiral cells" found in no other genus but Battarrea are a mystery as shown in our Tylostoma pamphlet, page 5.

Battarrea Digueti, form minor, from Ivan M. Johnston, Collected San Nicholas Bay, Gulf of California.—(Fig. 2335.) Surely the same plant as the previous but a small form. It is the first collection made this size. In size and general appearance it corresponds exactly to the original Battarrea phalloidea made in England. Usually both Batterrea Digueti and Batterrea phalloidea take the large form, the latter called Battarrea Stephensii.

Irpex Miyabei from Dr. Kingo Miyabe, Japan.—(Fig. 2336.) Mostly resupinate with narrow, reflexed pileate margin. Teeth irregular, chestnut color, appressed. Context pale. No cystidia nor basidia seen. Spores globose, hyaline, smooth.

To the eye and in color this is so much like Irpex castaneus which Professor Yasuda finds in Japan that at first we thought it the same. Under the lens (in potash solution) however, they differ entirely. (Cfr. Myc. Notes, page 1060.) It grew on branches of Acer at Karube, Japan (No. 831).

Catastoma Townei from Stuart S. Towne, California.—(Fig. 2337.) It is surprising the number of new Catastomas that have come in from California, and this is an entirely new type and should be made a "new genus."

Peridium about an inch in diameter, resembling in a general way, Bovista pila. Exoperidium thin, smooth, reddish brown, peeling away (?) or disappearing in the manner of a Bovista, but leaving no cup as in true Catastomas. Inner peridium thin, white (in this young specimen). Gleba olive (at least when young). Capillitium of short, curled, simple, hyaline pieces. Spores globose, 10 mic., deep colored, rough, with short, hyaline apiculi.

Though based on a young specimen, we have no hesitation in naming it, for it is so different from anything else. But it is embarrassing to place it in a genus. It has gleba, spores and capillitium of Catastoma, excepting that few have hyaline capillitium. It has general aspect, exoperidium and habits of growth of Bovista, but an absolutely different type of capillitium and spores that have become to be the first essential of a Bovista. Many years ago, I received from D. L. Crawford, Claremont, Cal., a young specimen of the same species, but it was so immature I did not publish it. Catastoma luteolum from P. B. Kennedy, Nevada, is of same general type, but quite different spores. It is intermediate between Catastoma and Bovista, and should be a "new genus." I am disposed to place stress on capillitium and spore characters in classification of "puff-balls," hence place it in Catastoma, though to the eye it suggests only Bovista. If the capillitium threads were long and intertwined it would be a Lanopila. Some day I am going over my specimens and separate out the genus which is intermediate between Bovista and Catastoma, as Bovistella is intermediate between Bovista and Lycoperdon. Nature does not appear to pay much attention to the conceptions that men make of the differences between "genera."

Xylaria brasiliensis from Roy Latham, New York.—(Fig. 2338.) We considered and figured this (page 893, Fig. 1559) from Brazil, but we hardly expected it to come in from New York. Surely it is the same plant, the features and habitat—growing in the ground with long rooting base, the simple clubs, the protruding small perithicia, and the small spores, 4x6. The spores are some smaller than the Brasilian plant, which measures up to 4x8. Sometime ago we received a lot of Xylarias from Carlos E. Chardon, Porto Rico, and one that although immature, we referred to Xylaria brasiliensis. We overlooked the label. This was collected by Professor H. H. Whetzel at Ithaca, and hence Mr. Latham's collection is the second made in the United States. It is a rare find and a fine collection.

Lentinus subglaber from Rev. J Rick, Brazil.—(Fig. 2339.) With an excentric or central stem. Pileus sub-infundibuliforme, light brown when dry, glabrous, excepting a very few evanescent squamules on the disc. Stem about an inch long, glabrous. Gills rather close, drying with darker edges, even to eyes. Under lens with short hyaline projecting hyphae. Cystidia none. Spores 3½x5. The delicate squamules on the plant are evidently caducous. Rev. Rick states "When young rose color." Notwithstanding the delicate squamules we think this best classed in the smooth section (10). Based on Rick No. 360. We present Fig. 2340 enlarged, the delicate squamules which hardly suggest scales.

Hypogeal Fungi from Rev. Rick, Brazil.—We are now much interested in hypogeal Fungi and glad of specimens from any source. Rev. Rick sends two specimens abundantly and reports both collections frequent in low ground.

Hymenogaster vulgaris from Rev. J. Rick, Brazil.—(Fig. 2341.) Rev. Rick sends a fine, abundant collection. He states when fresh it is 2-6 cm. in diameter and grows half buried in the sand. Old specimens appear to be soon destroyed by slugs, thousandlegs, etc. We refer this with confidence on the basis of Tulasne's spore figure (reproduced Fig. 2343). The spores seem from Tulasne's work to be characteristic of the species. They are pointed at both ends, the surface is not winged or striate as usual, and slightly uneven or rough. Although Tulasne states the most frequent species of Hymenogaster he met, we have no European material. A little frustule from Broome has different spores and is probably Hymenogaster tener, which Tulasne states was confused with Hymenogaster vulgaris by Berkeley. We hope some European correspondent will send us some specimens of Hymenogaster vulgaris (and any other hypogeal fungi they can spare).

Melanogaster Wilsonii from Rev. James Wilson, Australia.—(Fig. 2344.) Globose 1-1½ cm. in diameter. Peridium firm, smooth, light brown. Context hard, drab with white venae. Spores 3x6, light brown, elliptical, smooth. A section shows elongated, smooth lodges, containing the spores. The walls are about 20 mic. thick and composed of hyaline hyphae. We gave a resume of the genus, Melanogaster, on page 1064, but we knew no species close to this. The gleba color "drab" we had not seen before in connection with Melanogaster and it is hard and has no tendency to soften, hence by rights is a "new genus."

In this connection, we note a bad mistake on page 1064 as to spores of Melanogaster due to a mixup of copy of the typist who stenciled that page. Spores of Melanogaster are not "globose," etc. The whole sentence is wrong and applies to something else. The spores of Melanogaster as correctly shown (Fig. 2007) and described under each species are all elliptical, colored, smooth.

This species is not a good Melanogaster but closer than to Rhizopogon. To the eye it hardly suggests either genus but looks like Tuber mesentericum as colored and figured by Tulasne.

Nidula microcarpa from G. H. Cunningham, New Zealand.—(Fig. 2346.) The genus was proposed by Miss White less than twenty years ago and at that time was only known from our Northwestern coast (Cfr. Nidulariaceae, page 11). Twenty-four collections have since reached me; four from Japan, two from New Zealand and Berkeley had it from India, but he did not know it. I note that the fibrils of the peridiole walls are branched and I have no question now that Nidula Emodensis (India) is the same thing. We present Fig. 2346, a photograph of this fine collection. The cups might be taken for those of Crucibulum vulgare, but not by one informed on the subject.

Geaster Hieronymii from Miss A. V. Duthie, South Africa.—(Fig. 2347.) This is a very rare Geaster. The only collection heretofore made, viz.: two from Rev. Rick, Brazil, and the type from Argentine preserved at Berlin. It is, in short, Geaster limbatus with rough scurfy endoperidium. The features are stipitate, black scurfy endoperidium (Fig. 2348) and indefinite mouth. (Cfr. also Myc. Notes, Vol. 2, plate 97, page 311.) A Geaster that is known from but two countries, Argentine and South Africa and four collections shows how uncertain and unexpected the distribution of "puff balls" is.

Lycoperdon retis from E. J. Semmens, Victoria.—(Fig. 2349.) About an inch in diameter with a slender tap root. Strongly reticulate (when dry at least), from what reason I do not know. Sterile base none. Gleba grey-olive pale. Endoperidium smooth when old, but evidently (from remains) furfuraceous when young. Endoperidium thin, not dehiscing in any of these specimens. Capillitium long, sub-hyaline, scantily branched, hollow threads 5-6 mic. thick, not septate as far as I find. Spores globose, 4-5 mic., pale colored, smooth. It grows in pastures and may be a Calvatia. The curious reticulations suggested at first that it was a Clathrus egg. Its relations are evidently close to the "Pratense" section from all of which it differs in absence of sterile base.

Anthurus Archeri from Rev. James Wilson, Australia.—(Fig. 2350, from an enlarged kodak photograph from Rev. Wilson.) We get from this specimen sent by Rev. Wilson and from his miniature photograph our first clear idea of this Australian species. Berkeley had given a figure in Flora Tasmanica about sixty years ago which but little suggests

the expanded plant, but his figure was made from a young specimen and seems to us now to fairly well present the species at this stage. We have puzzled over it, however, for many years without reaching any definite conclusions for we never saw before a specimen that suggested Berkeley's figure. As we get a better acquaintance with phalloids it is evident that little can be inferred from the old vague inaccurate figures reconstructed by the old namers. Thus on page 42 of our synopsis of the Phalloids are two figures, one by Kalchbrenner, the other by Berkeley, that have no possible resemblance to each other. And yet Dr. Cleland who has observed Australian phalloids for years opines that they are the same thing. Our conception of the genus, Anthurus, drawn from Kalchbrenner's original figure (probably inaccurate) and McAlpine's photograph (reproduced Synopsis Phalloids Fig. 46) is an open funnel shape tube divided into flat segments forming the arms and bearing the gleba on the inner side. While we readily admit that Kalchbrenner's figure may be entirely wrong, as most of his work was, we cannot understand how it applies to McAlpine's photograph which certainly appears as though the arms are only segments and continuation of the tube.

But this idea does not apply to Anthurus Archeri. The arms are cylindrical, exactly the same as the arms of Lysurus, and what is more important, they have a suture on the back showing their relation to Laternea in their embryonic state. Compare article on this subject, Mycological Notes, page 690. This then invalidates the idea of Anthurus and Lysurus, for Anthurus Archeri has the tube (stem) of Anthurus and the arms of Lysurus.

We feel now that we have a clear conception of Anthurus Archeri, thanks to Rev. Wilson's photograph and specimen. The stem is an open tube, not a column closed at the top, as in Lysurus. The arms are connivent when young, as shown in Berkeley's drawing, but when expanded they separate and recurve and hardly suggest the young state. Our enlargement of Rev. Wilson's photograph (Fig. 2350) shows the mature plant in situ, but it must be observed closely for the two nearest arms are indistinct. We also present a photograph of the formalin specimen as received, which gives a good view of the arms but not of the (collapsed) tube. It is needless to say we are much indebted to Rev. Wilson for material which clears up this old mooted subject.

THE GENUS LANOPILA

This was considered in detail, Vol. 1, page 190, on the only species then known, Lanopila Wahlbergii. For many years it was called Lanopila bicolor or Bovista bicolor until the evidence of its identity with the original became too strong to be passed by. The genus is a Bovista in habits and peridium but has long, intertwined capillitium. But one species is common enough to be of importance, Lanopila Wahlbergii, which we have from Brazil, West Indies, Congo Africa, Cape Africa, Jamaica, Mexico, and it no doubt occurs in all tropical countries. In addition there are three rare species "only known from type locality." We would key them as follows:

Spores rough—

Capillitium long interwined, branched, the branches tapering to points. Lanopila Wahlbergii, (Cfr. Vol. 1, page 190, plate 18).

Spores smooth—

Capillitium as above. Lanopila Yukonensis (see following).

Capillitium with sculptured surface, breaking up into short pieces, Lanopila capensis, (see following).

Capillitium long, intertwining uniform threads. Only known from Argentina collections from Robt. E. Fries. Compare Vol. 3, page 442, Fig. 253. Lanopila pygmaea.

Lanopila capensis from Miss A. V. Duthie, Union of South Africa.—(Fig. 2352.) An inch in diameter with a pale, thin, papery peridium. Gleba brown. Capillitium long, intertwined, but easily broken into short pieces, 6-7 mic. thick. The surface is peculiarly marked with tubercules and rough. Spores apiculate guttulate. Though based on a half specimen, I do not hesitate to publish it, as the peculiar capillitium, I do not remember seeing before.

Lanopila Yukonensis from E. B. Sterling, collected at Dawson, Yukon.—(Fig. 2353.) Peridium globose, thin, black, smooth, an inch or less in diameter. Gleba brown. Capillitium with thick stem (6-7 mic.) but running out into slender pointed branches. Spores globose, smooth, 3½ mic. without apiculus. This I received from Mr. Sterling in 1905 from the Yukon, and it has since remained unnamed in our museum. The feature to the eye is the smooth, black peridium. The specimen has a ball of earth at the rooting base.

Urnula Geaster from W. H. Long, Texas.—(Fig. 2354.) This curious plant which is only known from Texas can be recognized by our photograph as I think there is none other similar. It was named by Peck many years ago. The color is brown. Hymenium lighter. Surface under lens covered with rigid, brown, setae-like hairs. Context pale not gelatinous. Spores recorded by Peck, 15x60-80, hyaline. I do not find them in specimens I have. Shortly after Peck published it some budding genius, I have forgotten who or where, one of Uuderwood's students I believe, wrote an article and proposed a "new genus" Chorioactis

Geaster on the ground that the tissue was made of "parenchymatous" cells and that of Urnula of "prosenchymatous" cells. If you do not know what that means ask any college student. They usually do not know much about fungus but they know all about cells and big words and never fail to employ them. Peck published a protest on the ground that it was chiefly a name juggle as it always appeared to me to be.

I have mislaid my notes and write from memory, but I noted a most comical bull in the Botanical Gardens at Berlin in connection with this plant. A very old specimen from Texas many years ago strayed in, I think during Klotzsch's days. It was classified as "Phallus sp." Someone has indorsed it "it does not appear to be a Phallus." He was certainly right. We present a figure of the plant unopened from a specimen we saw in Peck's collection. Also the opened plant (dried) from Mr. Long. We have never gotten but this one collection which Mr. Long sent.

Trichoscypha tricholoma from H. A. Lee, Philippines,—(Fig. 2356, enlarged.) We gave an enlarged figure of this on page 848, but this specimen is so characteristic that we give another (enlarged sixfold). This is the first specimen we have received from the East. The "external rugulose veins" that we questoned in our previous article appear quite plain on this specimen.

Isaria Briquetii from Rev. Johan Rick, Brazil.—(Fig. 2357.) (Or more correctly Stilbum Briquetii as named by Montagne.) We gave the history on page 1119. This additional specimen is on a very much larger beetle, but surely the same species. It looks like a Cordyceps but has no ascus spores. Nor is it a Isaria excepting as a convenience for the spores are borne terminal on hyphae in the manner of a Stilbum. It is quite curious how all the clubs develop from the under side of the insect. Our enlarged figure is only a portion of the abdomen as we gave an enlargement of the entire insect before.

Scleroderma Geaster from John A. Elliott, Arkansas.—(Fig. 2358.) We are glad to get this unopened and fresh for it enables us to make a photograph (Fig. 2358) showing the appearance of a fresh section which is somewhat different in appearance from the same plant dried. Mr. Elliott also sent a very young specimen, which we examined, hoping to find the basidia. We did not. Even at that age the basidia had disappeared, but the spores were imbedded in hyaline, septate hyphae in lodges or areas, separated by distinct walls, as shown in Corda's well known drawing of Pompholyx. A short time ago we received a dried specimen from which we felt sure was the rare Pompholyx, and we wrote an extensive account of it and prepared figures. We did not publish it, however, for we had a feeling that it was a species of Scleroderma with tardy deliquescence.

As will be noted from our photograph of the fresh section, there is but one peridium layer. Two fictitious genera have been based on a supposed second peridium in this species, which I have always contended are mistakes. When the plant opens, rarely, there are fragments (cleavages) of the peridium, that adhere to the gleba and present the appearance of the endoperidium, but it is not a distinct membrane. Léveillé based Sclerangium on such a feature, and this error is copied by Fischer in Engler and Prantl. Massee got off the greatest bull, however, on the subject. He found among some specimens of Scleroderma Geaster from United States one that had an accidental cleavage (Fig. 2360) and he immediately proceeded to erect a wonderful new genus with distinct thick endoperidium. How easy it is to fake up a drawing to illustrate (erroneous) ideas is evidenced by comparing Massee's figure of Stella Americana (2359) with a photograph of the type (Fig. 2360) from which he constructed it.

Young Scleroderma Geaster presents thin hyaline hyphae mixed with the spores and they disappear from the riper gleba. Fragmentary remains of them are seen on the spores of ripe Sclerodermas and give the spores a ragged appearance distinctive among the puff balls as far as I know. This feature has puzzled us before (Cfr. Myc. Notes, Vol. 2, page 364; also Vol. 1, page 144). Ripe spores of Scleroderma are opaque and their real structure is difficult to see. Some of the partially ripe spores of these specimens are semi-transparent and one can clearly see them. The spores are globose, about 10 mic., with a central nucleus 5 mic., and a thick wall 2½ mic. I believe the section as shown in Engler and Prantl "nach Beck" is entirely erroneous.

Globosopyreno ater from John E. A. Lewis, Japan.—(Fig. 2361.) Globose, about a cm. in diameter, black, growing around an herbeceous stem. Surface convolute, papillate, with protruding ostioles. Stroma solid, hard, carbonous. Perithecia peripheral, imbedded close to the surface. Asci none found. Spores globose, smooth, 20 mic. and light colored. Conidial spores abundant, globose 4-5 mic., hyaline.

There is no other carbonous genus known, growing in this manner, and it is the fourth tropical genus that has reached me that has little suggestions of the old known genera. Our figure will appear as though it is stalked, but it really grows around an herbeceous stem in the manner of Ascopolyporus (Cfr. page 1118, Fig. 2126). The perithecia are easily seen in section, but I cannot make out distinct walls, and the mass of enclosed spores do not appear arranged as though they had been in asci, hence its classification with Xylariaceae is not sure. At any rate, it is a very curious and aberrant genus.

Xylaria hypsipoda, from Otto A. Reinking, Philippines.—(Fig. 2363.) This is the first collection we have received or seen except the type at Kew which came from Malay. As shown in the figure it is characterized by the small, globose head, long, slender, glabrous, black stipe. The type grew on a leaf but this collection on sheath of Arenga sacharifera. I do not find the spores in this collection. They were given by the author as 6-7x12. The plant has close relation to Xylaria aristata and Xylaria axifera (Section 22) but lacks the mucronate tip which characterizes both these species.

Xylaria humosa from Dr. T. A. Tengwall, Java.—(Fig. 2364.) It is fortunate that Dr. Tengwall sends an ample collection, for the varying specimens could be made into several "species" if sent separate. Clubs black with no pellicle; simple or sometimes two or three from the top of the rooting stem. Usually acute, rarely sub-obtuse. Round, rarely flattened. Stem short or 1-1½ inches long and buried in the ground. As shown in our figure, it varies much as to shape. It evidently grew in the ground with a short or long buried stem, the clubs developing on the surface. A feature of a club shows the stroma not white (as usual in Xylaria) but dark.

Xylaria tenuis from H. A. Lee, Philippines,—(Fig. 2365.) With strong rooting base crowned with a few (3-4) slender simple clubs. Perithecia semifree, strongly moriform. The specimen is immature and no spores found. I have no hesitation in publishing it, however, as its salient features can be recognized without trouble, but I question if justified in referring to Persoon's old name. However, type not good and this came from the tropics, and answers the description in a way. It is better to utilize an old name than to propose a new one. Based on Reyes' No. 40023 collection at Basilan, Philippines, and evidently grew in the ground.

Rickella transiens.—(Fig. 2366.) We considered this plant, Vol. 5, page 800, and gave a very poor figure, which we had made from a soaked specimen. We are pleased to present a good figure made from a photograph of a fresh specimen by Rev. Rick in Brazil and taken from his book of photographs which he has deposited in the Lloyd Library. In this connection it is gratifying to feel that Rev. Rick's name is commemorated in mycology by a genus so meritorious and so novel that no name juggler will ever have the slightest excuse to juggle it.

Rhizina resupinata from Miss A. V. Duthie, South Africa.—(Fig. 2367.) We list this under the above name merely as a museum convenience. We think it has little to do with the genus, Rhizina, but we prefer not to propose new names in a section we know so little about. It is a fleshy, resupinate, discomycete growing on the bare clay ground "covering an extent of one-half to a foot." We have seen no description that at all suggests it, but it may not be classed as a fungus. Resupinate, fleshy, brown when soaked growing on the bare ground. A section shows a palisade hymenial layer of asci and paraphyses. A subhymenial hyaline layer (300 mic. thick) of compact slender hyphae, and a basal stratum of coarse, loosely woven, brown hyphae. The hymenial layer is pale below but dark brown above, the coloring matter residing in the upper portion of the asci and paraphyses. Spores elliptical, 8x12, hyaline, smooth, one guttulate. Paraphyses thickened above, obtuse, with brown contents. A resupinate Discomycete is out of the ordinary. It is possible that it is made up of confluent individuals but I see no sign of cups on it. Our photograph which is not expected to show much, represents the soaked fungus on a lump of clay soil.

Xylaria badia from Rev. J. Rick, Brazil.—(Fig. 2368.) This plant named from China we have seen at Paris. The photograph and shape, pannose base, and general appearance is that of Xylaria corniformis, but it has a thin, brown crust that breaks up giving it a marmolate effect. Spores are 6x16. Xylaria corniformis is always black. The description and figure of Xylaria transiens, named by Theiszen, appear to be this plant although the spore record (9x24) is larger and I doubt if any Xylaria at any stage is "red orange." We would put it in Section 17.

Isaria Sinclairii from G. H. Cunningham, New Zealand.—(Fig. 2369.) It is interesting to record the rediscovery of this species in New Zealand. It had only been known from Berkeley's old record and no specimen was found by me in either of the museums at London. Isaria Sinclairii was named by Berkeley as a Cordyceps. The Cordyceps form is really not known. It has been suggested that it is the Isaria form of Cordyceps sobolifera, which may be true. The fact, however, that the Cordyceps is not known from New Zealand, and the Isaria not known from Japan or West Indies, where the Cordyceps is known, seem to point to the contrary.

We are glad to note a renewed interest on the part of Mr. Cunningham in the New Zealand Cordyceps, and an exhaustive article published by him in a recent number of the Transactions of the New Zealand Institute. He gives a detailed account of all the New Zealand species and adds a new one, Cordyceps consumpta. It is the first article where the hosts have been accurately recorded. A good figure of Isaria Sinclairii is given by Mr. Cunningham, and we add another (Fig. 2369) made from the specimens that he kindly sent us. The original figure by Berkeley was not accurate, but characteristic, so there can be no question of its identity.

Cardyceps concurrens from Rev. J. Rick, Brazil.—(Fig. 2370). In the provisional sections in which we have divided the Cordyceps that we have seen, or have seen illustrated, there is one section (7) to include species that have the Isaria and Cordyceps forms concurrent. It includes one species (Cordyceps Barnesii) from Ceylon, and two (Cordyceps anictos and Cordyceps polyarthra) from Moeller, Brazil. This from Father Rick can be neither of Moeller's species from his figures, and it is the first one of this section that we have received. There are not many Isarias that have ever been collected with the Cordyceps forms. When they appear at different seasons it is very difficult to bring them together. Isaria farinosa has the reputation of being the Isaria form of Cordyceps miltinus, but it never has been proven, I believe. Tulasne was quite positive of it, however. But in a case like this, where the Isaria and Cordyceps are concurrent there can be no question. The Isaria form of Cordyceps concurrens is a slender club, bearing the conidial spores as a white capitate head, as well shown in our enlargement, Fig. 2371.

Xylaria flexa from H. A. Lee, Philippines.—(Fig. 2372.) Stem slender, black, smooth. Head short, about 4x10 mm., black, nodding, smooth, the perithecia not showing. Stem solid white within. It evidently grew on a log and belongs to Section 9. Compare Xylaria encephala from Malay on page 1181. We find no spores and would not name it, but the general characteristics are so different from any species we know.

Xylaria scruposa from Paul V. Siggers, Costa Rica.—(Fig. 2373.) This is quite variable as to shape as will be noticed by comparing our figure herewith with the one we gave Xylaria Notes, page 23, Fig. 1336. The features of the species (excepting shape) are noted in locality cited, viz.: hollow stroma, white context, black wrinkled surface, spores about 8 x 20.

Xylaria squamosa from Le Pere D. Ducharme, Canada.—(Fig. 2374.) Most unexpected things come from unexpected sources. Father Ducharme sent us twenty-five collections of fungi, which we determined (or rather listed) as fast as we unwrapped them, for they were all (but one) common species, which we recognized on sight. The last one we unwrapped was a most novel species, a Xylaria with large, black scales, the like of which was never collected in this, or any other country. In addition it belongs to a section of Xylaria never before collected outside the tropics. Clubs ½-1½ cm. thick, 2-3 inches high, growing 2-5 from a common base. Black, no sign of a cuticle. Surface rough with large, black scales, known as to no other species. Stroma white, evidently soft, at least it largely disappears, and the clubs split, as do several species in the tropics, but known as to no other in temperate regions. Spores 8 x 28 in greatest abundance, acute at both ends. Grew on maple in a cellar, and we predict will never be found again.

Xylaria cuneata from Rev. J. Rick, Brazil.—(Fig. 2375.) While shape is not distinctive of Xylaria species, several have been proposed, based on the flattened form. This collection from Rev. Rick belongs to the group of Xylaria polymorpha as to surface, stroma and spores (8 x 24), but differs as to shape. It agrees in this respect with Xylaria Lingua, which, however, has a cuticle, and with Xylaria spathulate, known from a single specimen from Ceylon. The reference of aberrant forms of Xylaria polymorpha, based on shape of a single individual, we have already considered futile; but this collection consists of several specimens, all uniform, and "shape" has surely a taxonomic value (to the extent of a name) in this instance.

Hypoxylon nucele from Otto A. Reinking, Philippines.—(Fig. 2376.) Of course this is not a Hypoxylon but a "new genus," but until we have thoroughly studied the related plants in the museums, we would adopt the genus as the "old fellows" would have named it. We adopt the same principle, unfortunately, as in dealing with Hypoxylon rostratum on page 1956. It impresses me as something most unusual and peculiar. It is flattened, cushion shape, up to an inch in diameter, brown, rather than black, and has a strong suggestion of a "dog button" seed of Strychnos Nux vomica, known to the trade as nux vomica. The surface has little black protuberances, no doubt the ostioles. The perithecia are arranged in a peripheral layer and are the largest I ever saw in a similar plant, measuring 4-5 mm. The interior is filled with a soft, white, cottony substance which discolors when old. The spores mammoth in size, 12 x 56-60, are found in masses around the pithy center. They are straight and deep colored with obtuse ends. We see no indication of asci remains but they probably were in asci at a very early state. We believe our figures will show it so plainly it will easily be recognized if found named in the museums or if collected again. Collected by V. Marilao, Mt. Maquiling, Luzon (No. 9562). Since above was written we have worked over Hypoxylons at Kew. Hypoxylon nucele is not there. Hypoxylon rostratum is. But that is another story.

Camillea Bacillum from Dr. Fred. J. Seaver, Trinidad.—(Fig. 2377.) We present a figure of this rare species from a fine collection made by Dr. Seaver in Trinidad. It is the first collection we have received or seen except the originals in Montagne's herbarium at Paris. The spores which we had not examined before, are small, uniform, 4 x 6-7 mic. and pale colored. (Cfr. Synopsis Large Pyrenomycetes, page 3.)

Isaria Abutii from R. H. Bunting, Gold Coast, Africa.—(Fig. 2378.) As often stated, Isaria should

not be named excepting as a museum convenience. They are all probably earlier conditions of Cordyceps, and should be collated with the Cordyceps. But if one waits for that, not one out of a hundred would ever have a name. The photograph is the best description. It grows on an insect which attaches itself to a sheath of grass. The filiform clubs are pure white, densely covering the host. Microscopic features I can not make out, except of some mucor that has infested it. Our figure shows a fine specimen mounted on a card.

Hypodiscus Rickii from J. Rick, Brazil.—(Fig. 2379.) It appears to me that when the conglomerate genus "Hypoxylon" is finally broken up on its most obvious characters, there will be two genera characterized by having the hymenial layer not amphigenous as usual, but on the disc only. There are two genera, Sarcoxylon (Large Pyrenomycetes, page 28, Fig. 1458), with fleshy stroma, and the above with carbonous stroma.

Hypodiscus Rickii. Subglobose, flattened, an inch more or less in diameter, several growing sub-confluent. Hymenium on the convex disc only, which is no doubt inferior. Perithecia carbonous forming a continuous layer. Spores sub-fusiform, 8 x 28-32, dark. The plant can not be mistaken from our photograph, and we never saw one similar before. While we have not worked over the foreign "Hypoxylon," we find nothing similar in Saccardo, Moeller or Stärbach's accounts. Nor at Kew where we have worked them over since above was written.

Xylaria (?) repens from O. A. Reinking, Philippines.—(Fig. 2380.) Apparently growing from a creeping, filiform stem which sends up slender, filiform branches, bearing the terminal head, which is globose, about 2 mm. in diameter. Color brown. We publish this only provisionally to stimulate the Philippine collectors to keep a special hunt for it. It is of much interest but probably not a Xylaria. The brown tissue is not carbonous and we find no spores. We would much like an ample collection to study to advantage, for the one we have is very scanty. Collected on dead wood, Mt. Maquiling, Luzon, by A. Fello (11023). It can not be mistaken from our figures which are natural size and enlarged sixfold (Fig. 2381). I do not believe there is any other that grows in this manner.

Xylaria encephala from Dr. Otto A. Reinking, Philippines.—(Fig. 2382.) A single specimen but a most characteristic species, and while there is no example in any museum I have visited in Europe, I placed it at once. The only previous collection was the type from Malay, published and finely illustrated by Saccardo (1888). Mr. Reinking's specimen exactly fits not only Saccardo's description, but what is more convincing, his figure. The long stem, short, cylindrical club with a mucronate tip and the unusually large spores, 8 x 44, as I measure them, are all distinctive of it. The specimen was collected on Mt. Maquiling, Luzon, by Mr. Reinking (9571). It grew on dead wood.

Xylaria rhopaloides.—(Fig. 2383; not Fig. 1585 of our earlier publications.) We had gotten into a tangle as to this name, as we learned when we studied the type at Kew on our second (Xylaria) visit. The first time we had only photographed it, and had mistaken the photograph. We advised Rev. Torrend that this is Xylaria olobapha, and so it is in sense of Ellis publication, but Ellis got it from Massee, and his specimens which we had seen are incorrect. The two plants are about the same as to a photograph, but Xylaria rhopaloides (as per cotypes at Kew) when young has a thin, white crust, which breaks up into areas and darkens in the old specimen preserved. The spores are 8 x 20.

Xylaria rhopaloides, in the sense that we have published, page 900, Fig. 1585, is a form of Xylaria corniformis. Xylaria rhopaloides in its original sense is same as Xylaria olobapha in sense of Ellis. I had seen his specimens and did not know that they were wrong. But the type at Kew has a brown crust. There are at New York specimens from Wilson (340), probably Porto Rico; Smith Nicaragna (Massee det. olobapha); University Illinois, Columbia (1385), and we have it from Chardon, Porto Rico. We fear these specimens are mislabeled through our error.

Camillea discoidea from Rev. J. Rick, Brazil.—(Fig. 2385.) Rev. Rick sends this as "Camillea discoidea different from turbinata." Yes, surely different from turbinata, and I am not sure a Camillea. I find no spores. The black interior seems to be made up of sterile globose cells with black walls. I am not sure it is composed of cells. It may be simply meshes. At any rate there is nothing to connect it with Camillea turbinata except its general shape.

Hypocrea poronioidea from Rev. J. Rick, Brazil.—(Fig. 2386, enlarged.) One thing about Moeller's work is that the species are well illustrated and described so they can be recognized. I think that can be said about no other new species promoter of the tropics, excepting, perhaps, Penzig. One book such as Moeller issued, is worth a million of the senseless, verbose, pidgin Latin descriptions of Spegazzini and several other tropical exploiters, who add nothing to the subject, excepting confusion. Moeller illustrates three species of Hypocrea in this same section. They are really a "new genus" if Hypocrea is ever broken up along rational lines, for they are stalked and bear the hymenium on a discoid or capitate head. Secondary spores are subglobose, hyaline, 3 mic. The brown color and our photograph (enlarged) tells the balance of the story. Chardon recently adds a species to this section which he calls Podocrea. The section is nearer Hypo-

crea than Podocrea, since the latter has been taken out of Hypocrea.

Leotia marcida from Roy Latham, New York.—(Fig. 2387.) The four species of Leotia we have, are distinguished chiefly by the color (compare Geoglossaceae page 15). All usually have greenish color or cast at least, but this specimen impressed us at once by the absence of any green tint. The stipe is white and the head pale brownish, while Leotia marcida usually has a "greenish olive" head and a yellow stem. It is the only one of the form that is not decidedly green, hence we so refer this specimen rather than to base a new name. The spores are hyaline (6 x 20) with no greenish cast. Our figure made from the soaked specimen is not distinctive, for all Leotias are very much the same as to size and form. When soaked the plant is a very bright color. It develops a faint greenish tint on stem but none on head.

Polystictus tenuis from S. Rapp, Florida.—(Fig. 2388.) We have seen this from Brazil, but I believe this is the first time from the States. It could be compared to versicolor, both surface and pores, excepting the surface is finely silky and the pores of this collection turn brownish when bruised. Polystictus Moelleri (Fig. 2388 type) is for me the same species, and I am inclined to think Polystictus Drummondii is the same. I think I have been confusing Polystictus membranaceus (badly named) with Polystictus tenuis and have so misdetermined collections.

NOTES IN THE HERBARIUM AT KEW.

Much of my time in the past has been spent in hunting up the old historical specimens preserved in the museums of Europe and finding out what they really are. Very little, practically nothing, can be told from what has been published about them, as the old fellows who named them were chiefly interested in getting their own names attached, and as to the plants, from the publication or classification for that matter, without looking up the specimens, it is futile to guess even as to their identity. Those in America who write their monographs have to pass by such remarkable species as "Hypocrea maculacformis," by putting them in the "doubtful species," and reproduce the old time honored bull "that it grew on a colored Polyporus," which it did not any more than it grew on a potato.

A. D. Cotton.—I was much and pleasantly surprised to learn on my return to Kew that A. D. Cotton had been promoted to the office of Keeper of the Herbarium and is now head of the institution. From years of intimate acquaintance with Mr. Cotton, I am sure they could not have selected a better man. In the past it seems to have been the policy to appoint an elderly man, with the result that retirement came on after a short term. During the few years I have been coming to Kew I have known three keepers or ex-keepers. But Mr. Cotton is comparatively a young man with the prospect of many years ahead of him. This will result in a fixed policy and a systematic plan for the future. It seemed to me on my last visits that Kew was getting more in the line of plant pathology and that taximony was being neglected, at least in the fungus field. But it is getting back to its original field now and much interest is being shown in fungus. At the present time six mycologists are connected or associated with Kew. A. D. Cotton, the keeper of Herbarium; Miss E. M. Wakefield, who has charge of the fungus section and is the one who does the real work in determination and publishing; Dr. C. J. Butler, director of the Imperial Bureau of Mycology, an institution recently established and maintained by the British Colonies for the economic study of fungus diseases; T. F. Chipp, who is now Assistant Director of Kew, an important position. He is the real editor of the Kew Bulletin in addition to other executive duties. Formerly he was located in Malay and African stations, and was a most industrious collector and contributor to the fungus collections. I presume he has a berth now much more pleasant for him. Major Braid, who is assistant in the fungus department but also works with orchids, lichens, algae, etc. He has the reputation of being generally informed in many fields, that when a knotty problem comes up at Kew that no one else wants to attempt, it is turned over to him.

Miss E. M. Wakefield.—The powers that be at Kew have probably not known the situation, but as a matter of truth there has been no work of any value done with fungus classification or addition since the day of Berkeley, sixty years ago, until Miss Wakefield became interested. She is thoroughly competent, quite enthused in the work, and has added more specimens and increased the value of the collection in the last four or five years, more than was done all during the lengthy régime of both Cooke and Massee. It takes years of study and experience to acquire the general and special knowledge of fungus that she has, and specimens of fungi can be sent to Kew now for determination with the assurance that the work will be done right. Should Miss Wakefield take it into her head to get married, or do some other foolish thing, I do not believe they could find another who would be competent to take her place.

M. C. Cooke.—It has been many years since Cooke was at Kew, in fact he never was really connected with the institution, but he did a great deal of work there and left tracks that I am afraid will never be effaced. Cooke was a wonderful worker, a most energetic man, and he had talent as an artist and could have done good work had he been careful and honest in his work.

But he tried to do too much, and did it carelessly and superficially and inaccurately, particularly are his drawings unreliable. He could take a little dried black Peziza, about as large as a coffee bean, and draw a beautiful, bright-colored figure "natural size" (of a half crown), and on its face it would give every impress of being true.

It was Cooke who mounted and arranged Berkeley's herbarium as now found at Kew, and he also sold his own herbarium to Kew. In most every cover one finds the "type" collections in Berkeley's hand writing and also the same things in Cooke's writing. This is a little puzzling and hard to understand at first, but it seems (so I was told by Massee) that Cooke divided up each of Berkeley's specimens and put a part in his own collection. Afterwards he sold his herbarium to Kew (consisting in the main of what he had taken from Berkeley's herbarium), and thus the Berkeleyan specimens were brought together again. Speaking of "types," the specimens in Cooke's herbarium and in Cooke's hand writing are in most instances the "true types" as much as the portion that Cooke left in Berkeley's herbarium. And there are some cases I noted where the only "type" I found were little frustules that Cooke abstracted as Hypoxylon cretaceum, of which I have not been able to locate the Berkeleyan specimen. But if one looks on such things in the narrow, pedantic, not frankly honest, view that Americans now assume when they want to do a little trick juggling and make a "new combination," no type exists in such a case as this.

Wright's Cuban fungi.—The "type" specimens with Wright's numbers, as cited when published, are in Berkeley's writing. In Cooke's herbarium are a set with different numbers, not the Wright numbers but the serial number of the species in Berkeley's Cuban list. The names of the set in Cooke's herbarium were written on the label by Cooke, but where he got the data is not in evidence. Also there is at Kew specimens of Wright's Cuban collection on a printed label "Fungi Cubenses Wrightani," numbered and labeled in the writing of J. G. Baker, who in those days was the keeper of the Herbarium at Kew. These numbers also correspond to Berkeley's serial species list and do not preserve the original Wright numbering. As Mr. Baker never worked with fungi it is probable that the labeling was done in connection with sets of phaenogamic plants, and the Wright fungus sets seem to have been distributed without names. I trust the above which I have learned from Miss Wakefield and C. H. Wright will help others to understand the confusing numbers as found on Wright's Cuban fungi in various collections.

In addition, there are many of Wright's specimens without numbers, the name written in imitation print and simply "Wright Cuba" added. I have tried in vain to learn who it was that labeled them. The "type" specimens of Wright are not hard to pick out, for all are in Berkeley's writing and have the original Wright numbering.

THE GENUS HYMENOGASTER AT KEW

I believe there is no other museum in which as much historical material is preserved as at Kew on the hypogeal fungi. About eighty years ago Broome was actively engaged in the difficult search for British species, and he found eleven species in addition to one by Thwaites. All this material is at Kew, and Berkeley was in close relations with the old masters of the subject, Vittadini and Tulasne, and received specimens from both. Of the twenty species considered in the classical work of Tulasne, seventeen authentic specimens are at Kew, agreeing with Tulasne's work. One (H. lilacinus) the specimen from Tulasne was his earlier view which he afterwards corrected, and two H. rufus and H. griseus, neither Berkeley or Tulasne ever saw the Vittadini species. Vittadini published eight species and Berkeley had cotypes of six, viz.: citrinus, luteus, lycoperdineus, Bulliardii, niveus, and olivaceus. All of Tulasne's species he had (with exception of H. lilacinus), and in addition he had all of Broome's collections of course, as he named them.

Broome, who hunted for hypogeal fungi seventy or eighty years ago, was the last Britain that appears ever to have been engaged in the work. I did not note a British addition at Kew since Broome's day. These old specimens now do not show much difference to the eye, all have turned dark and little trace remains of the original color. It is evident in examining the spores that the genus was founded by the old workers on a similarity of spore character. The spores of all are rather unusual in shape, lemon shape, obovate, often with a prolonged apex, all with a strong apiculus, and all colored.

We can add nothing to the detailed accurate work published by Tulasne on the subject, but would group them into three sections on the spore characters.

SECTION 1.—Spores with surface uneven. Most species belong in this section, viz.: arenarius decorus, muticus niveus, pallidus, populetorum pusillus, tener and vulgaris. The uneven surface as seen in a potash mount I believe is the natural character. In old times it seems to have been seen in a different way. Thus, Berkeley records the spores of H. Thwaitesii as slightly scabrous, and explained the uneven appearance to a contraction of the inner membrane. That may be the case with fresh specimens, but I doubt it, and believe the appearance is due to surface unevenness as shown in Tulasne's figures.

SECTION 2.—Spores strongly ridged or winged. This type of spore is that of Gautieria. In fact the difference between Gautieria and Hymenogaster in the sense of most every mycological writer is that the former has

no peridium and the latter has. The most recent American writers (Messrs. Dodge and Zeller) disregard this difference, but I know no other on which the genera can be distinguished. There are three species at Kew with this type of spore, viz.: calosporus, citrinus and Thwaitesii.

SECTION 3.—Spores smooth (or very slightly uneven). Species are luteus, olivaceus Klotzschii, Bulliardii and lycoperdineus. The latter has the spore surface slightly uneven.

As to occurrence, Broome found in England abundant specimens of citrinus, Klotzschii, luteus, muticus, olivaceus, tener and vulgaris. And scantily decorus, pusillus, pallidus and Thwaitesii; or rather Thwaites found a single specimen of the latter.

Tulasne found in France (never found in England), lilacinus, arenarius, Bulliardii and calosporus.

Niveus, griseus, lycoperdineus and rufus were only known to Tulasne and Berkeley from Vittadini's specimens or records, and have not been found in France or England.

Professor Burt on Tremellaceae.—Since we have been at Kew we note this paper that appeared a year or more ago. We had not seen it when we wrote several articles on same subject in Nos. 66 and 67. The first reference to the article is in this issue. If we were writing a revision of our Myths of Mycology we should not now include Professor Burt among the "consistent students" of old species. Since we have passed the Osler age limit ourselves, we have made some bad mistakes, which, taken in connection with this paper by Professor Burt, will convince us that Osler was right.

NOTE 1144—**Polyporus pelles from Dr. J. Burton Cleland, South Australia.**—(Apus Polyporus, page 327), and Polyporus atrohispidus (Myc. Notes, page 823), though so different we are convinced the same species. Both have just been received from Dr. Cleland and I judge from his incidental remark, he thinks the same. The former has dual context, the upper layer resolved in a soft pad. The latter does not have this character at all. How they can be so different and yet be the same we can not explain, but we believe it just the same.

NOTE 1145—**Lycogala nigricans from George Zenker, Cameroun, Africa.**—The peridium of this collection is really black. At first we thought it a Pyrenomycete, but on cutting it open found it only a color form of our old friend, Lycogala Epidendron. We get it from every country of the world, but never saw a black one before.

NOTE 1146—**Polystictus aratus from H. A. Lee, collected by M. Ramos in British North Borneo.**—This has been held as a synonym for Polystictus luteo-olivaceus and we feel is only a dark form but entitled to a name. It was called (Letter 42) Polystictus luteo-olivaceus var. fuscus. It agrees with luteo-olivaceus, excepting its color.

NOTE 1147—**Lentinus Sajor Caju from H. A. Lee, collected by M. Ramos in British North Borneo.**—Lentinus Sajor Caju, the common, smooth yellow Lentinus of the East usually has a ring or signs of a ring on the stem. We can not detect any trace on these specimens, but we refer it to the same name.

NOTE 1148—**"Lenzites Yoshinagai** is in my opinion a lenzitoid hymenial varient of Trametes heteromorpha. The latter takes varied forms in Japan, viz.: Trametoid or Polystictus form, Irpex and Lenzites forms."—Yasuda.

DO YOU KNOW ANYTHING ABOUT THIS?

Have you ever heard of any potato mushrooms turning up in your neighborhood? We are particularly interested in the study and classification of hypogeal fungi, and will be glad of any specimens that may come to your notice. The following was published about twenty-five years ago by Dr. Harkness, who made a specialty of hunting for underground fungi, which are known as hypogeal fungi. They are the celebrated truffles which are so well esteemed for flavoring gravies, etc., in France. They have never come into commercial use in our country, due no doubt to the fact that we do not practically hunt for them. The following is Dr. Harkness' article, which will give a clue to their search:

"Some years ago the citizens of Marysville discovered large quantities of an earth fungus which was growing in the vicinity of the city and which was freely eaten by those who were so fortunate as to be aware of its value. In that city they were known as the potato mushroom. A trust-worthy gentleman states that they never appeared upon the surface of the ground, but that the search for them was a comparatively easy matter. The first noticeable sign of their presence was a circular space a foot or more in diameter, which was free or nearly so from vegetation. A more careful examination showed minute cracks or fissures upon the surface of the ground, and a moment's work with trowel or hoe sufficed to unearth a number of white, globose fungi, varying in size from that of an English walnut to that of a small orange. My informant states that they were gathered with the greatest facility. Another gentleman states that they were found by himself and friends in the vicinity of Sacramento, where they were highly esteemed as a delicacy. His description of the method pursued in their collection and of the surface indications marking their presence was identical with that of the observer above mentioned. Neither of the gentlemen could say positively in what month the fungus was found, but both agreed that it was late in the winter or early in the spring."

Address specimens to C. G. Lloyd, 309 Court St., Cincinnati, Ohio.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 69 (Vol. 7, No. 4) July, 1923

A. D. COTTON

We have had Mr. Cotton's photograph on hand for several years, in fact before the war, but we delayed presenting it for we did not have the data as to his life. We are glad of the delay for we can now record the wonderful advancement in his position from an assistant under Massee, as we knew him intimately for years, to the head of the department. Mr. Cotton is forty-four years old, married, with two children. We first learn of him as a student at the Royal Horticultural Society Garden at Chiswick. Then he took a three years' course under Prof. Farmer at the Imperial College of Science (London), and it was here that he first became interested in mycology and cryptogamic botany. After he had passed the advanced examination he was offered and accepted the position of Demonstrator in Botany and Lecturer at the Manchester University, which he held for three years. It was during this time that he began his researches on mycology, only a few of which were published. He came to Kew during his vacations and worked with Massee, which was his introduction to Kew. He was invited by the Director of Kew to accept a position as assistant in the cryptogamic department where he was employed for about twelve years. Massee was the head of this department and under these conditions Mr. Cotton did not get much opportunity to engage on fungus during his official hours. He was put on to algae and became one of the best informed algae men in England. His heart was rather with fungus, however, and he always was an active member of the British Mycological Society and specialized on the Clavarias. When the war came on Mr. Cotton was assigned to work on plant pathology and was (later) transferred to the staff of the Minister of Agriculture and located at a new laboratory of plant diseases which was during the war established at Harpenden. In the beginning of 1922, on the retirement of Dr. Stapf, he was offered the post of Keeper of the Herbarium at Kew, which is the highest position in the institution next to the Directors and Assistant Directors. Mr. Cotton is, we believe, the youngest man that ever held this post, and he has about twenty years ahead of him before the age of retirement. We are looking for great things to happen in those twenty years. Already we can note a lot of activities, and while we do not know the details it seems that there are more persons at work in the building than we ever noted during the years we have been coming to Kew. Our portrait of Mr. Cotton was taken about ten years ago, when he was an assistant under Massee at the period when we knew him best.

SPECIMENS FROM CORRESPONDENTS

This report is of unusual length as it has been crowded out of the last two issues. For the past six months we have been in England working on the historical material at Kew on the large Pyrenomycetes and hypogeal fungi; that is, at such time as we could, but most of our time has been taken determining the packages sent in by our correspondents, and we have not found time to do all of that work. As this is sent to the printer, about twenty packages remain on hand that we have not studied. We will take them up and report on them as fast as possible.

My best thanks are extended to those who favor me by forwarding to me their collections of the fungi of their regions, and particularly those who live in the tropics. Every day it becomes easier to determine the specimens for the common species have mostly taken definite form and I recognize the larger part of them at sight. Still each lot received brings considerable work, and though I am behind at present, I hope correspondents will not hesitate to send in their specimens on that account. They will all be worked over in time and those that are rare or of special interest will be published. All the large fungi are desired excepting the Agarics.

In the following list I have put in capitals those plants that on account of rarity or novelty are of especial interest and on which articles have been or will be written and published. But do not get the impression that I only want rarities or unusual things. On the contrary, I am more interested in the "old species," their abundance, distribution and variation, and collections of the most common species, especially from the tropics are always welcome.

In my printed lists I do not give authorities for names, believing that the binomial should represent a plant name, but in acknowledging the specimens to my correspondents I give the "authority" in the event they desire to use it. All specimens are acknowledged by personal letter as soon as I get time to study and report on them.

As it is probable that most of my time will be spent in England in the future, specimens from foreign countries can be sent and will reach me more promptly if sent to my English address below. Please note that this address has been changed from formerly, but specimens sent to the old address will reach me. The

English post office has parcel post arrangements with probably every country on earth, and specimens can be sent at small cost by parcel post from any country. Our American friends can send their packages to my Cincinnati address and they will be forwarded if I am not at home. I expect to spend my time mostly in England with occasional trips to home in America. This will probably lead to delay in answering correspondents, but I trust they will take the situation into consideration.

Specimens may be sent to either of the following addresses:

C. G. LLOYD, 119 Sheen Lane, London, S. W. 14, England.

C. G. LLOYD, 309 W. Court Street, Cincinnati, Ohio.

Baker, Chas. H., Florida: Polystictus arenicola.

Ballou, Dr. W. H., New York: Hydnum septentrionale—Polyporus giganteus.

Bartholomew, Elam, Kansas (from several states): Lenzites confragosa—Daedalea confragosa—Trametes hispida—Fomes pini.

Baxter, D. V., Michigan: Polyporus pubescens—Polyporus amorphus—Fomes connatus—Polyporus glomeratus — Poria punctata — Polyporus adustus — Polyporus trabeus—Polyporus osseus—Polyporus albellus—Fomes pomaceus.

Beardslee, H. C., Florida: XEROTUS BERTERII — CAMPANELLA CUCULLATA — Dacryomyces deliquescens—Geoglossum glabrum.

Bijl, Van der P. A., South Africa: Trametes cingulata—GUEPINIA AGARICIFORMIS—Stereum fasciatum—Stereum concolor—Exidia purpureo-cinerea—Polystictus proteus—Fomes durissimus—HYDNUM LONGOSPINOSUM—Xerotus Berterii—Lenzites Guineensis—Trametes incondita—Xylaria variabilis—Xylaria myrosurus—Xylaria apiculata—Xylaria castorea—Polyporus gilvus—Stereum fasciatum—LASCHIA RUBELLA—Polyporus anebus—Calvatia lilacina—Scleroderma Cepa.

Bose, S. R., British India: Trametes Meyenii—Polyporus rutilans—POLYPORUS CHOCOLATUS—POLYPORUS PATOUILLARDII—Fomes geotropus—Fomes lamaenensis—Polystictus pterygodes—Lenzites acuta.

Bottomley, Miss A. M., South Africa: Poronia Doumetii—Polyporus elegans.

Brace, L. J. K., Bahamas: Polystictus occidentalis—Guepinia spathularia—Lenzites striata—Schizophyllum commune — Polystictus pinsitus — Polyporus ochroleucus—Daedalia polita—Polystictus sanguineus—Polystictus hispidulus — Cantharellus cinnabarinus — POLYPORUS MULTILOBATUS—Polystictus hirsutus.

Butignot, Dr., Switzerland: Clavaria vermicularis—Gyromitra esculenta—Discina perlata—Peziza fulgens—Polyporus tubarius—Morchella costata.

Cash, Edith K., Washington, D. C.: Geaster triplex.

Charles, Vera K., Washington, D. C.: Collected by T. H. Kearney, Arizona—Podaxon Farlowii.

Cleland, Dr. J. Burton, South Australia: Calvatia rubroflava—Tylostoma Australianum—Tylostoma poculatum—Tylostoma simulans—TYLOSTOMA ADHAERENS—Calvatia occidentalis—MERULIUS CANDIDUS—Tremella mesenterica—Poria contigua—Polystictus oblectans—Geaster simulans—Hydnum melaleucum—Cyathus vernicosus—Polyporus dictyopus—Polyporus atrohispidus—Polyporus pelles—Ptychogaster rufescens—Heterotextus pezizaeformis—PHELLORINA STROBILINA—Geaster minimus—Polyporus dichrous—Polyporus rufescens—Polyporus gilvus—Morchella conica—Geaster striatulus—Scleroderma flavidum—Polyporus ochroleucus—Cyathus Colensoi—Lentinus lepideus—Geaster Readeri—Lycoperdon pratense—Montagnites Candollei.

Cummings, Dr. C. E., New York: Mycena Leaiana—Acetabulum vulgare.

Cunningham, G. H., New Zealand: Geaster velutinus—Lycoperdon pratense—Polyporus arcularius—HYDNUM WELLINGTONII — ALEURODISCUS OCHRACEO-FLAVUS — Polyporus gilvus — Stereum purpureum—Polyporus Eucalyptorum—BOVISTA PURPUREA — TUBER RAPAEODORUM — XYLARIA ZELANDICA—Polyporus radians—Polyporus rosettus—GALLACEA VIOLACEA—Secotium erythrocephalum.

Dade, H. A., Gold Coast, Africa: KALCHBRENNERA CLATHRATA. Dried specimens, also a drawing of the fresh plant by R. H. Bunting. This plant was included in our phalloid pamphlet as Simblum Clathratum, based on an old drawing from the same locality. Mr. Bunting's drawing is surely more accurate and shows that the plant should be classed as Kalchbrennera instead of Simblum. It will be reproduced in Mycological Notes.

Dalrymple, Miss Helen K., New Zealand: Scleroderma Geaster.

Dearness, John, Canada: A few rare puff balls interesting from a point of distribution. The known stations of all there are very few east of the Mississippi—Myriostoma coliforme—Mycenastrum corium—Tylostoma campestre.

Demange, V., France: Daedalea gibbosa—Polyporus betulina—Fomes lencophaeus—Fomes pinicola—Fomes applanatus—Polyporus Schweinitzii.

Detmers, Miss Freda, Ohio: Scleroderma cepa.

Dupret, Rev. H., Canada: TRAMETES SERIALIS—Trametes carnea—Merulius lacrymans—Fuligo septica.

Fassett, N. C., Massachusetts: Collected in Maine. A fine lot of specimens as Mr. Fassett always sends.—Polyporus circinnatus—Fomes pinicola—Auricularia auricula—Polystictus abietinus—Polyporus radiatus—Lenzites saepiaria—Polystictus versicolor—Polystictus hirsutulus—Leocarpus fragilis—Trametes piceinus—ARRHYTIDIA FLAVA—CYTOSPORA BETULINA—Aleurodiscus amorphus—Polyporus betulina—Trogia crispa — Polyporus lucidus — Lycogala Epidendrum — Fomes applanatus — Hydnum aurantium — Hypoxylon cohaerens—Dacryomitra glossoides.

Gilbert, E., France: My best thanks are extended to Miss Wakefield for determining these, for many of them belong to sections I do not know.—Stereum lobatum—Asterostromella ochroleuca—Corticium subcoronatum—Corticium Galzini—Peniophora sanguinea—Peniophora glebulosa—Stereum hirsutum—Peniophora cinerea—Trametes gibbosa—Corticium vagum—Coniophora arida—Hydnum coralloides—Polyporus croceus—Polystictus versicolor — Corticium botryosum — Polyporus adustus—Hypochnus fuscus—Calocera stricta—Merulius rufus—Peniophora setigera.

Griffiths, David, Virginia: Marasmius rotula.

Hawley, H. C., England: We are much interested in Hypoxylons now and specially thank Mr. Hawley for these English specimens. There is a lot yet to be learned about this group. We list them as labelled by Mr. Hawley—Hypoxylon fuscum—Hypoxylon serpens—Hypoxylon coccineum—Hypoxylon multiforme—Hypoxylon rubiginosum—Hypoxylon immersum—Hypoxylon purpureum.

Hibbard, Miss Ann, Massachusetts: Polystictus Greyii—Trametes carnea—Aleurodiscus amorphus—Ustulina vulgaris—MERULIUS NIVEUS—Polystictus versicolor — Stereum sanguineolentum — Corticium investiens—TREMELLODENDRON HIBBARDII.

Holttum, R. E., Malay: We are greatly pleased to receive these specimens from Malay, a region that has been most scantily collected. Mr. Chipp made large collections when he was located there, and with Mr. Holttum's additions we will soon have a comprehensive knowledge of the species of the region.—Isaria anisopleura—Fomes lamaenensis—Trametes serpens—Fomes fasciatus — ECHINODIA THEOBROMAE — POLYPORUS THEOBROMAE—Polyporus rubidus—Polyporus rugosus—Polyporus supinus—Xylaria nigripes—Polystictus affinis—Polystictus xanthopus—Stereum ostreum—Trametes versatilis—Lentinus Sajor Caju—Polystictus occidentalis—Polystictus flavus—Polystictus sanguineus—Ustulina vulgaris—Fomes senex—Schizophyllum commune—Polyporus pusillus—Polyporus lignosus—Polyporus rigida—Polyporus mastoporus.

Holttum, R. E., Malay: Since the above list was made out we have received two large consignments from Mr. Holttum, all fine specimens. There are more good specimens in these two lots than Wright collected altogether in Cuba; more than Fries ever saw of foreign specimens in his life. If Mr. Holttum continues his sending on this scale he will soon have as good a knowledge of Malay fungus flora as we have of the Philippines.—Hexagona albida—Lenzites platyphylla—Stereum adustum—Polyporus pusillus—Fomes semi-tostus—Stereum parvulum—Xylaria hypoxyloidea—Daedalea stereoides—Polyporus furcatus—XYLARIA DECEPTIVUS—POLYPORUS SEMBILANII—Xylaria dealbata—Polystictus tabacinus—Stereum Cacoa—Fomes durissimus—Fomes pectinatus—Favolus spathulatus—Hydnum Henningsii — HYDNUM HOLTTUMII — Xylaria fibula—Polyporus semilaccatus—TRAMETES NIGRO-PLEBEIA—Poria Ravenalae—Lenzites striata—POLYSTICTUS LICMOPHORUS—Polyporus lignosus—Polyporus discipes—Polyporus grammocephalus—Trametes Persoonii—Polystictus badius—Polyporus rubidus—Trametes versatilis — Polystictus affinis — POLYPORUS ATER—Xylaria Cubensis—TRAMETES AURORA — TRAMETES BORNEOENSIS — Fomes Kermes — Polyporus mastoporus — Polyporus rhizophorae—Trametes cingulatum—Fomes lamaenensis—Hexagona tenuis—Polystictus xanthopus—TYLOSTOMA EXASPERATA—POLYSTICTUS IMMACULATUS—Polyporus agariceus—Trametes acuta—Auricularia auricula — Polystictus Didrichsenii — Polyporus rugosus—Xylaria bipindensis—Xylaria aemulans.

Holttum, R. E., Singapore: HOLTTUMIA CONGREGATA—Stereum rimosum—Polystictus occidentalis—Schizophyllum commune—Polystictus xanthopus—Lenzites platyphylla—Polystictus sanguineus—Fomes applanatus—Polyporus discipes—Fomes leucophaeus—Cladoderris dendritica—Polystictus elongatus—Polyporus licnoides—Stereum concolor—Polyporus zonalis—Polyporus rugosus—Polyporus durus—Polystictus cichoraceus—Polystictus licmophorus—Stereum ostreum—Stereum annosum—Stereum villosum—Polyporus vinosus—Trametes aspera—Fomes dochmius—Fomes nigrolaccatus — MITREMYCES JUNGHUHNI — Fomes Niauoli—Fomes velutinosus—Polyporus semilaccatus—Lentinus Sajor-Caju—Auricularia auricula—Auricularia reflexa—Hypoxylon Broomeanum—Hexagona tenuis—Polyporus mangiferae—Lentinus Elmeri—Poly-

porus piceus—Trametes Muelleri—Calvatia Gardneri—Stereum Bresadoleanum.

Hrdlicka, Dr. A., Washington, D. C.: DALDINIA VERNICOSA.

Hu, Prof. H. H., China: Polystictus sanguineus—Daedalea unicolor—Tremella mesenterica—POLYSTICTUS GLABO-VELUTINUS—Lenzites striata—Lenzites subferruginea—Lenzites murinus—POLYPORUS SINENSIS—Lentinus subnudus—Fomes applanatus—Fomes tornatus—Fomes leucophaeus—Fomes applanatus—Fomes gibbosus—Polystictus affinis—Polystictus versicolor—Lenzites repanda—Polystictus Persoonii—Polyporus (Gan.) Japonica—Isaria Sinclairii—POLYPORUS LIGNOSUS.

Johnston, Ivan M., San Jacinto Mountains, California: Catastoma Uplandii.

Johnston, Ivan M., Mohave Desert, California: BATTARREA STEPHENSII — MONTAGNITES CANDOLLEA—PHELLORINA INQUINANS.

Johnston, Ivan M., Colorado: Calvatia lilacina—Catastoma subterraneum—Polyporus elegans—SECOTIUM GLOBOSO-SPORUM—Geaster rufescens—Catastoma Johnstonii—Fomes pinicola.

Konrad, P., Switzerland: A nice collection of Swiss specimens, mostly as named by Monsieur Konrad. Several were unknown to me.—Lentinus flabelliformis—Polystictus hirsutus—Trametes odorata—Aleurodiscus disciforme—Polystictus abietinus—Lentinus adherens—Sepultaria Sumneriana—Sebacina calcea—Daedalea unicolor—Peziza vesiculosa—Helvella fusca—Pithya vulgaris—Aleurodiscus amorphus—Diatrype disciforme—Polystictus ochraceus—Corticium lacteum—Lenzites trabea—Lenzites saepiaria.

Latham, Roy, New York: Hypomyces chrysospermus—Calvatia lilacina—Polystictus cinnamomeus—Polystictus perennis—Phallus duplicatus—Trametes protracta—Lycoperdon cruciatum—Leotia lubrica—Polyporus circinnatus—Lycoperdon gemmatum—Polyporus albellus—Leotia chlorocephalus—Clitopilus abortivus—Polyporus Spraguei—Polyporus lucidus—Polyporus trabeus—DACRYOMYCES DELIQUESCENS—PLEUROTUS NIGER—TUBERCULARIA ROSEA—Favolus europaeus—Merulius tremellosus—Thelephora terrestris—Polyporus gilvus—Polystictus pergamenus—Dacryomyces deliquescens—Pleurotus striatulus—Polyporus trabeus — Polyporus galactinus — Aleurodiscus Oakesii—Hormomyces aurantiaca—TRAMETES PUSILLA.

Lee, H. A., Philippines: Polyporus rubidus — Daedalea flavida—Polyporus sulphureum—Polystictus flavus—Polystictus sepia—POLYPORUS HAEDINUS—Polyporus casearius—Polystictus xanthopus—Lentinus praerigidus—Lentinus Elmerianus—Irpex cervino-gilvus—Coprinus plicatulus—XYLARIA BIFIGURATA.

Lee, H. A., collected in British North Borneo by M. Ramos: Polystictus affinis—Lentinus Sajor-Caju—Polystictus occidentalis—Polyporus durus—Xylaria Ridleyi—Polystictus versatilis—Polystictus microloma—Polyporus zonalis—Favolus spathulatus—Polystictus sanguineus — Polystictus Persoonii — Daedalea flavida—Fomes senex—POLYSTICTUS GLABRORIGENS — Fomes Koningsbergii — TRAMETES TENUO-ROSEA—Favolus platyporus—POLYSTICTUS TURGIDUS—PAXILLUS FERRUGINOSUS—POLYPORUS SANDAKANII—Favolus glandulosus—Stereum lobatum—Stereum concolor—STEREUM NIGRO-RUGOSUM — Lentinus similis — LENTINUS RAMOSII—Polystictus aratus—Hydnum seriatum—Stereum vespillaceum—Stereum Mellisii—Lenzites platyphilla—PHELBOPHORA SOLMSIANA—Polystictus Menziesii—Polyporus zonifer.

Lewis, J. E. A., Japan. We appreciate the kindness of Mr. Lewis in collecting these specimens, for we believe he is not making a study of fungi and collects only as a favor to us. But he always sends fine specimens and always a lot of novel things. These were collected on Mt. Unzen.—Polyporus rufescens—Polystictus pergamenus—Scleroderma Cepa—Fomes pinicola—Lycoperdon gemmatum—Lenzites betulina—IRPEX FUSCO-VIOLACEUS — POLYSTICTUS OCHRO-HIRSUTUS—Calvatia lilacina—CUDONIA CONVOLUTA—Polystictus sanguineus—Polyporus rheades—LYCOPERDON LEWISII—CANTHARELLUS CYSTIDIOIDES — DACRYOMYCES ROSEA — TREMELLA ROSEA-TINCTA — TRICODERMA PARADOXA—CALVATIA RUBROFLAVA — Lenzites subferruginea—Polyporus lucidus.

Mattirolo, Prof. O., Italy: We are again indebted to Prof. Mattirolo for additional specimens of European hypogeal fungi. Thanks to his liberality. We believe there are more collections of these elusive fungi in our museum than in any other in America.—Tuber Borchii — Melanaspora Zobelii — Octaviania asterosperma — Scleroderma vulgare — Gautieria morchellaeformis — Hydnangium Soderstromi—Hymenogaster lycoperdineus—Hymenogaster vulgaris—Hymenogaster citrinus—Hymenogaster arenarius—Hymenogaster luteus—Hymenogaster Klotzchii—Hydnangium carneum—Hymenogaster Bulliardi—Sclerogaster lanatus—Delastriopsis oligosperma—Elaphomyces virgatisporus—Terfezia Fanfani—Tuber lacunosum—ARCANGELLIELLA BORZIANA—Hysterangium rubricatum—Cyathus vernicosus — LYCOPERDON WRIGHTII — ARACHNION ALBUM. The latter two from Africa.

Martens, P., Belgium: Bulgaria inquinans—Calocera viscosa—Calocera cornea—Phlebia radiata—Lycogala Epidendrum—Cantharellus cinereus—Panus stipticus—Polystictus abietinus—Polystictus zonalis—Daedalea gibbosa—Polyporus corrugis—Lenzites betulina—Helvella crispa—Polyporus brumalis—Polystictus peren-

nis—Polyporus salignus—Otidea leporina—Leotia chlorocephala—Stemonitis fusca—Arcyria nutans—Xylaria Hypoxylon—Clavaria cinerea—Lachnea hemisphaerica—Calvatia saccata—Xylaria polymorpha—Xylaria Hypoxylon—Lachnea Meuieri—Polystictus versicolor—Stereum rugosum—Polyporus adustus (young)—Lycoperdon gemmatum (young)—Clavaria cinerea—Sebacina incrustans—Clavaria grossa (teste sender)—Calocera cornea—Radulum laetum—Scleroderma tenerum—Hypoxylon cohaerens.

Martin, G. W., New Brunswick: Exidia glandulosa—Polyporus squamosus—Polyporus arcularius—Urnula Craterium.

Masui, Prof. Koki, Japan: A fine set of drawings and specimens of the Clavariaceae. Mr. A. D. Cotton, keeper of the Herbarium at Kew, has specialized on this branch. I have turned them over to him for study and publication, which he has kindly agreed to do. I feel that Prof. Masui is to be congratulated on having his specimens worked up by such competent hands. The drawings were most excellently made and the specimens preserved, so that one could work with them to a good advantage as if they had been fresh specimens.

Mitchell, James, New Zealand: GRANDINIA CARNOSA—Scleroderma flavida—Spumaria alba—Fuligo septica—Geaster floriformis—Polystictus hirsutus—THELEPHORA CRUSTOSA—Antennaria scoriadea—Lycoperdon cepaeformis.

Muenscher, W. C., New York: Calocera vermicularis—EXIDIA BEARDSLEII—Stereum rufum—Hydnum fragile—Hydnum aurantiacum—Scorias spongiosa—Polyporus squamosus—Trametes trabea—Stereum frustulosum—PILACRE FAGINEA—Exidia recisa. See also Wann, F. B., as Mr. Muenscher is associated with Mr. Wann in the fine set of Myxomycetes presented to our museum.

Munz, P. A., California: Polysaccum crassipes—Lycoperdon gemmatum—Fomes Juniperinus.

Noble, Mrs. M. A., Florida: Schizophyllum commune—Stereum fasciatum—Auricularia auricula—Polystictus biformis—Trametes hydnoides—Helvella crispa—Exidia recisa—Polystictus versicolor.

Paul, J. T., Australia: Geaster saccatus—Polystictus versicolor—Stereum ochraceum—Polystictus hirsutus—Polystictus sanguineus—Stereum elegans—Polysaccum pisocarpium—Polystictus oblectans—Trametes Muelleri—Scleroderma Cepa—Scleroderma flavidum—Schizophyllum commune—Polyporus rosettus—CALOCERA RUFA—EXIDIA CANDIDA.

Putterill, V. A., South Africa: Stereum hirsutum—Fomes melanoporus—Polyporus adustus—Scleroderma cepa — Fomes applanatus — LENZITES ALBOREPANDA—Tylostoma cyclophorum—Polyporus aratoides—Hexagona tricolor—Stereum lobatum—Hydnum Henningsii—Polystictus (or Trametes) Meyenii—Polystictus versicolor.

Rick, Rev. J., Brazil: Many of these have been on hand several years, and have not previously been studied from lack of time. In recent packages Rev. Rick has sent many Nummularies, Hypoxylons and small Pyrenomycetes that I am unable to work with to advantage until I study them in the museums of Europe, which I have not as yet done. These are indorsed as named by Rehm and Theiszen, which will be of much value historically when they come to be worked up.—Ustulina magnospora—Camillea globoso-turbinata—Xylaria reniformis—Hypoxylon microsporus—HYPODISCUS RICKII — DALDINIA ASPHALTUM — HYPOXYLON BROOMEANUM — CAMILLEA BOMBA—Cyathus striatulus—Cyathus Montagnei—POLYSTICTUS SUBOCHRACEUS — Isaria flavoviridis—Canangium fallax—Ustulina vulgaris—Stereum aurantiacum — GEOGLOSSUM CAPITATUM — Philippsia olivacea—Monascus reniformis—Isaria xylariaformis—Isaria mycelioides—Polyporus fruticum—SARCOSOMA GODRONIOIDES — POLYPORUS MAGNOVARIUS—CLADODERRIS RICKII—Ustulina vulgaris—Hypomyces aurantius—Polyporus rufoflavus—HYPOCREA USTULAGINOIDES—Lycogala flavofuscum — Kretzschmaria heliscus — PAUCITHECIUM RICKII—Polyporus confusus—Nectaria subsquarustigera — Pterula penicellata — Tremella undulata—Sirobasidium brunnea—INSTITALE OCHRACEA—PSEUDOHYDNUM GUEPINOIDES—LYCOPERDON FOLIOCOLA—OCTAVIANIA RADICANS. Since above list was made out we have received four packages from Rev. Rick not yet studied in detail.

Rodway, L., Tasmania: Calocera cornea—Phlebia reflexa—GRANDINIA AUSTRALE—Bovistella australiana—Clavaria amethystina—PTERULA TASMANICA—DACRYOMYCES CUPULARIS—ODONTIA CALOCEROIDES—STEREUM THOZETII—CORTICIUM FUCIFORME—MESOPHELIA ARENARIA.

Rosen, H. R., Arkansas: Nummularia Bulliardii.

Scarfe, W. A., New Zealand: Fomes applanatus—Polystictus tabacinus—Stereum hirsutum—Polyporus sulphureus (thin)—Polystictus versicolor.

Schmitz, Henry, Idaho: Daedalea unicolor.

Smith, E. C., Pennsylvania: Holwaya ophiobolus—Trichia favoginea—Polyporus frondosus—Polyporus adustus.

Sterling, Dr. E. B., New Jersey: Polyporus sulphureus (a fine large cluster from a root).

Swanton, E. W., England: FOMES ROBUSTUS.

Torrend, Rev. C., Brazil: Odontia ferruginea—Polyporus gilvus—Polyporus fruticum—SCLERODERMATOPSIS BRASILIENSIS.

Torrend, Rev. C., Brazil: We can not be sure this Brazilian lot was from Rev. Torrend. We examined the wrapper carefully and could not find any clue to the sender.—POLYPORUS RENIDENS.

Towne, Steward S., California: Arcyria occidentalis.

Valdez, N. A. Nunez, Ecuador: Calvatia lilacina—STEREUM VALDEZII—Exidia glandulosa—Hemitrichia clavata—Catastoma subterraneum—Polyporus semisupinus—Poria punctata—Fomes applanatus—Polystictus pinsitus—Lycogala Epidendron.

Vanderyst, Rev. H., Congo, Africa: Polystictus concinnus—Polyporus gilvus—Polystictus microloma—Auricularia auricula—Auricularia delicata—Lycogala Epidendron—Poria Ravenelae—Polyporus conchoides—Polystictus Fischerii—Isaria flabelliformis—AURICULARIA MOLLIS—Xylaria Berkeleyii—XYLARIA CORNU DORCAS—Xylaria Schweinitzii—Xylaria multiplex—Xylaria furcata—Hexagona Sacleuxii—Polystictus Dybowski—PORIA PULVINARIS—Hydnum rawakense—Polyporus semilaccatus—Sebacina incrustans—Valsaria rubricosa—Stereum involutum—Polyporus rugulosus—Polyporus auriscalpium—Polyporus lignosus—Polystictus caperatus—Lentinus dichrous—Trametes hystrix—Polyporus luteo-nitidus—Polyporus salebrosus—Stereum cinereo-badium—CLATHRUS CAMERUENSIS—FAVOLUS NOVOGUINEENSIS—TREMELLA UNDOSA.

Wakefield, Miss E. M., England: Polyporus lentus.

Walker, Kate A. Jones, New Hampshire: Fomes leucophaeus—Lenzites saepiaria—Hydnum erinaceum—Daedalea unicolor—Lentinus strigosus—Polyporus adustus—Lenzites betulina—Polystictus pergamenus—Polystictus versicolor—Irpex lacteus.

Walker, Lena B., Nebraska: Sphaerobolus stellatus.

Wann, F. B. and Muenscher, W. C., New York: A set of Myxomycetes representing the species that occur around Ithaca as published in Mycologia, Vol. 14, 1922. We feel very grateful to these gentlemen for this set which will be carefully preserved in the Lloyd Museum. We have never worked with the Myxomycetes ourselves and probably never shall. It is gratifying to know that it is the one section of Mycology where we have text books from which the species can be determined. Lister in England and Prof. McBride in America have both issued most excellent works on the subject. The following are a list in detail: Arcyria cinerea—Arcyria denudata—Arcyria globosa—Arcyria incarnata—Arcyria nutans—Arcyria Oerstedtii—Badhamia lilacina—Badhamia rubiginosa—Brefeldia maxima—Ceratiomyxa fruticulosa—Ceratiomyxa porioides—Comatrichia irregularis—Comatrichia longa—Comatrichia typhoides—Craterium aureum—Craterium leucocephalum—Cribraria intricata—Cribraria languescens—Diachaea leucopoda—Diachaea splendens—Dictydiaethalium plumbeum—Dictydium cancellatum—Diderma effusum—Diderma spumarioides—Diderma testaceum—Didymium clavus—Didymium melanosporum—Didymium squamulosum—Enteridium Rozeanum—Fuligo septica—Hemitrichia clavata—Hemitrichia serpula—Hemitrichia vesparium—Lamproderma arcyrionema—Leocarpus fragilis—Lycogala epidendrum—Mucilago spongiosa—Perichaena vermicularis—Physarum flavicomum—Physarum gyrosum—Physarum leucopus—Physarum nutans—Physarum sinuosum—Physarum viride—Stemonitis ferruginea—Stemonitis fusca—Stemonitis splendens—Trichia scabra—Trichia varia—Tubifera ferruginosa.

Weis, D. W., Massachusetts: Polyporus Berkeleyii—Polyporus cristatus—Polyporus Schweinitzii—Hydnum scobiculatum—Calvatia lilacina.

Welch, D. S., New York: Exidia Beardsleei—Calocera cornea—Exidia recisa—Exidia glandulosa—Femsjonia luteo-alba—PILACRE FAGINEA.

Whetstone, Dr. M. S., Minnesota: Fuligo septica—Polyporus gilvus—Trametes hispida—Tremellodendron pallidum.

White, Richard P., Kansas: Guepinia spathularia—Auricularia auricula.

Wilson, Malcolm, South Africa: Polyporus (Ganodermus) capensis.

Yates, H. S., Sumatra: Polyporus rugosus—Fomes gibbosus—Stereum Mellisii—Polyporus discipes—POLYSTICTUS PRAEGRACILIS—PORIA FERRUGINEO-VELUTINA—FOMES PSEUDOPETCHII—Fomes exotepheus—Polystictus zelanicus—Polyporus Williamsianus—Poria epimiltina—Polyporus stereinus—Daedalea (or Lenzites) repanda—Polystictus xanthopus—Fomes melanoporus—Polystictus affinis—Polystictus microlomus—Polystictus occidentalis—Stereum ostreum—Polyporus anaebus.

Zenker, George, Cameroon, Africa: Isaria flabelliformis—Stereum Surinamense—Nummularia punctulatum—Xylaria laevis—Lycogala nigricans—Schizophyllum commune—CAMILLEA ZENKERII.

Zenker, Kurt, Africa: We are pleased to note the work carried on so many years by the late Dr. G. Zenker, continued by his son.—Polystictus occidentalis—Polystictus sanguineus—Lachnocladium Zenkerii—Trametes cingulatum—Fomes pseudosenex—Lenzites repanda—Polyporus lignosus.

NOVEL AND NOTEWORTHY SPECIMENS RECEIVED FROM CORRESPONDENTS

Bresadolia paradoxa.—(Fig. 2389.) The genus Bresadolia was proposed by Spegazzini 40 years ago and distributed by Balansa, which exsiccatae are found in most museums. Hence, it is well known, but otherwise nothing whatever could be inferred, even from Spegazzini's verbose descriptions which are absolutely inutile as far as giving any information is concerned. But it is a curious fact that this, a genus collected by Balansa in Paraguay in 1883, should only be collected again about 40 years later by Miss Wakefield in Jamaica. Our figure is made from Miss Wakefield's specimen.

We have often noted Balansa's old collection in the museum but never had much idea of the genus until we examined Miss Wakefield's good specimen. A statement has been made that it is an artificial genus. We do not believe it. It is unusual but not artificial and has nothing in common with Myriadoporus. The hymenium could be compared to a sponge with an evident tubular suggestion only. Our enlarged figure (2390) will illustrate it much better than Spegazzini's verbosity has done. The spores are hyaline, 3x7. In general appearance the plant suggests Fistulina "radicata," but hymenium is white, and pores entirely different.

Polystictus Dybowski from H. Vanderyst, Congo, Belge.—(Fig. 2391.) (Cfr. also Hexagona Synopsis, Fig. 285.) Rev. Vanderyst sends two collections, one with surface coat of pale hairs, the other denuded. We present both in our figure to show the contrast.

At the time we wrote our Hexagona pamphlet (1910) there were "only three collections in the museum at Paris"; none elsewhere. We have now seven collections in our museum just to show the situation now-a-days. It is a question whether Polystictus or Hexagona —perhaps the latter. Polystictus flexabilis (Mycological Notes, page 1111, Fig. 2066) from Brazil, which is the only similar collection from American tropics looks very much like denuded Polystictus Dybowski, but I think it never had the hairs.

Polystictus subochraceus from Rev. J. Rick, Brazil.—(Fig. 2392.) To the eye this has such a general resemblance to Hydnum ochraceum that there is a suspicion that it is a hymenial variant. But this does not have definite spines but appears to be poroid, at least at the beginning. It takes a close examination to decide whether polyporoid or hydnoid. A section appears the latter, but under a hand lens the former. As one looks down on it with a half-inch lens, the appearance is that of broken, elongated teeth with a lamellate arrangement, the edges crooked and marked with a few large multicellular spines. We label it subochraceus to recall Hydnum ochraceum which it suggests at once, both as to color and general appearance. We would enter it in Section 111.

Trametes serialis from Rev. H. Dupret, Canada.—(Fig. 2393.) This plant which grows on pine has two names in Sweden. If the pileus is well developed it is Trametes serialis. If resupinate on under side of a board it is Poria callosa. The specimen photographed is intermediate, a Poria growing in a horizontal position and making feeble but ineffectual efforts to develop pilei and succeeding in only producing some nodules.

Polyporus Poncei from Otto A. Reinking, Philippines.—(Fig. 2394.) Pileus sessile, somewhat petaloid to a reduced base. Surface dark brown with darker zones, rugulose, glabrous. Context buckthorn brown, hard, rigid. Pores minute, concolorous. Spores globose, 4 mic., colored, smooth.

This belongs to Section 101, but I know of no similar plant with colored spores. To the eye it suggests Polyporus semilaccatus but context color and spores not at all. It must be rare in the Philippines. Collected by B. Ponce, 5142, on a log, Mt. Maquiling.

Polyporus Balloui from Burtt Leeper, Ohio.—(Fig. 2396, showing the rooting system where attached to the host; also Fig. 2395, showing Polyporus Balloui and Polyporus rufescens in contrast and both much reduced.) The unusual rooting system of this specimen where attached to the underground host is shown in this figure. Polyporus Balloui is to my mind a valid species and restricted to the United States. It has quite small pores, and closely related to Polyporus rufescens of Europe. Someone has had the temerity to tell Dr. Ballou that the species is no good, nothing but the old well-known Polyporus rufescens of Europe, and Dr. Ballou seemed quite put out about it. Well it does not look like Polyporus rufescens to me and I think our photograph of both in contrast will so convince any candid-minded one. Both are much reduced in our photograph, for the fine specimen from Mr. Leeper measured 7 inches across.

Polyporus labis from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2397.) Rigid, sessile, thin. Surface glabrous, hard, zoned, light reddish brown (raw sienna R), marked with black

spots (stain). Context thin, hard, pale. Pores minute, hard, pale, with glaucous mouths. Cystidia none. Spores not found. There are abundant irregular crystals in the pore tissue.

A rigid species belonging to Section 91, and allied to Polyporus bicolor. The stain is black, not the usual reddish color as found on Polyporus bicolor. The thin, rigid form suggests Section 127 of Trametes, and it should be cross-indexed in that section. Based on Ramos No. 97A, collected at Sandakan, British North Borneo. The black spots on the pileus are quite in contrast with light reddish pileus but do not show in our figure, for both seem to have same light action on the plate.

Polyporus zonifer from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2398.) Pileus sessile to a reduced base, about 2 cm. in diameter. Surface pale or dark reddish brown, glabrous, strongly zoned with narrow dark zones. Context (1 mm.) thin, pale, firm. Pores dark brown, minute, 2-3 mm. long. Cystidia none. Spores elliptical, 6x12, hyaline, smooth guttulate. This belongs in Section 91 and close to the common Polyporus zonalis of the tropics. The strong pileus zones are the feature. It could be taken for a miniature of Polyporus zebra (Apus Polyporus, Fig. 677) on the photograph, but entirely different in its small size, dark pores and spores. Based on Ramos, 2043, Sandakan, North Borneo.

Laschia rubella from P. Van der Bijl, South Africa.—(Figs. 2399 and 2400, enlarged.) We are always glad to get the little Laschias for they are interesting to study under the microscope.

This belongs to Section 3 of our résumé (Myc. Notes, page 834). It is orange when fresh, no doubt due to numerous subglobose color cells imbedded in the cuticular layer and more scanty in the hyaline context hyphae. Sometimes on the surface the cells are stalked. In addition there are hyaline cylindrical cristated cells on the cuticular and pore surfaces (see page 831, Fig. 1388), but there are no oval cristated cells. A section shows hyaline context hyphae and a slightly colored hymenial layer. The color cells of the hymenium are stalked and imbedded in the basidial layer. Spores are subglobose, irregular 6-8 mic. hyaline. Laschia rubella was named (we suppose) by Saccardo from Africa. At least his description fits. We have not seen the type. It is too close to Laschia Thwaitesii, also found in Africa (Cfr., page 834), but is a smaller more regular species.

Polystictus albo-vestidus from Dr. J. Burton Cleland, South Australia.—(Fig. 2401.) Pileoli small, inbricate, the surface with a thin covering (like whitewash), which, however, does not extend to the margin. Pores brown with a purplish cast, large, sinuate. Hymenium covered with subhyaline, projecting hyphae-like bodies, cystidia, no doubt, but not strongly specialized. Spores not found. The peculiar white pileus covering is characteristic, it appears to me. The pores remind one of Polystictus versatilis.

Polyporus magnovarius from Rev. J. Rick, Brazil.—(Fig. 2402.) We gave on page 1111, Fig. 2063, under the name Polyporus magnoporus, an Australian species that could be described in almost same words as this. That, however, was large pored Polyporus elegans. This is large pored Polyporus varius. As to color, black stem, and appearance exactly same as our Polyporus varius, but the large, gapping pores are entirely different. Context yellowish and large, black, short stem are also features not in accord. Spores 3x8, cylindrical, two guttulate. This section (50) has but few species, and it is noteworthy that two have been added in the last year.

Polyporus sinensis from Prof. H. H. Hu, Nanking, China.—(Fig. 2403.) Thin, 7-8 mm., rigid, subligneous. Color chestnut or Mars brown, Surface with short scabrous tomentum. Context hard, concolorous. Pores minute, 3-4 mm. deep. Setae very few, short, thick, tapering to sharp point, about 12 mic. broad at base by 16 tall. Hymenial element colored. Spores globose (irregular), 4 mic. deep, colored.

This we would enter in Section 100, but it is hard to place for too ligneous for a good Polyporus and yet not a Fomes. It suggests strongly Polyporus Caryophylleus of Brazil, a plant about the same shape, color and texture, which differs in surface, which is soft like a pad. I get true Polyporus Caryophylleus only from Brazil, but have so referred collections from Japan that have a harder but smooth surface. This from China in its surface is strongly different from either the Brazilian or Japanese plant. Based on Prof. Hu's collection (124), Kiangsi, China.

Merulius niveus from Miss Ann Hibbard, Massachusetts.—(Fig. 2405.) In the far north there occurs common, it is said, a fine plant on the alders, called Merulius niveus. It is rare in northern United States and these are the first fine specimens we have. While it is a Merulius as to hymenium (Fig. 2404, enlarged), it is different from all others in texture. It is soft, the hymenium pure white, and the folds largely disappear when the plant is dried. The top of the pileus is cervine contrasting with the pure white hymenium somewhat as Stereum bicolor does. Peck called it Plicatura alni. Karsten, I believe, was the first to refer Peck's plant to Fries species. Fries only records having seen dried specimens and it is not sure that it is the plant. They write Fries after it but they really take it in sense of Karsten. The name Plicatura as applied to

Trogia crispa is a bull, for Trogia crispa and Merulius niveus have entirely different type of hymenium.

Polystictus turgidus from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2406.) Thin, sessile to a reduced base. Context soft, spongy layer, pale brown (tawny olive). Surface concolorous, soft, smooth, deeply sulcate zoned. Pores minute, 1 mm. deep, the mouths pale, the tissue white. Cystidia none. Spores minute, 3x4, hyaline, smooth.

This is so close to Polystictus byrsinus that the photographs could be taken for either. The deep, white pores, however, distinguish it from the shallow colored pores of Polystictus byrsinus. Polystictus subcrocatus, a much paler plant of the Philippines, belongs in the same group (Section 115).

Merulius candidus from Dr. J. Burton Cleland, South Australia.—(Fig. 2407.) Pure white, resupinate, with a narrow margin which on soaking swells and appears gelatinous. Pores medium large, shallow. Cystidia none. Spores (if correctly seen) small, 2½x3 hyaline.

While I am confident this is none of our species, it is not assuredly a Merulius. It may be better classed as a Poria with shallow pores, but we know no such Poria.

Favolus novoguineensis from H. Vanderyst, Congo Belge.—(Fig. 2408.) Orbicular spathulate with a short stipe. Color ochraceous-tawny. Surface (Fig. 2409, enlarged) glabrous, with delicate darker lines. Context thin. Pores small, probably white when fresh. Cystidia none. Spores 2x6. We are not sure this is same as Hennings, named from New Guinea, but on comparison too close to separate. It is thinner and brighter color. The delicate darker lines on the pileus suggest Favolus fibrillosus, but they are even with the surface and not coarse and raised as in the latter.

Hexagona velutino-glabra from John W. Gossweiler, Africa.—(Fig. 2410.) Pileus thin, 2-3 mm. sessile. Surface velutinate, with brown hairs, or on another specimen rugulose-glabrous and white. Context thin, dark brown. Pores minute, strongly glaucous.

Two specimens of same collection and surely same species are evidence of the troubles of classification. One is brown with brown velutinate hairs, the other white and not velutinate. The former strongly suggests Hexagona velutina (Cfr. Hexagona pamphlet, page 13, Fig. 289), but is not zoned. The other would go rather in the "Tenuis" section. Nature is forever making fun of man's puny efforts to classify her handiwork.

Fomes hornodermus from Father Torrend, India or Ceylon.—(Fig. 2411.) It is misleading to present this photograph as representing the species, for the shape and sulcations are due, no doubt, to conditions of growth. Usually it is a regular Fomes, hoof shape with an even surface and acquires dimensions of several inches in diameter. In classification of Fomes, size and shape count for nothing. This little fellow got started on the under side of the host and his food supply was scanty. He is ten years old and each year he made a little growth, not as much in ten years as he would have done in three months under favorable conditions.

Trametes tenuo-rosea from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2412.) Pileus thin, rigid, sessile. Context rosy, firm. Pores medium (large), about 2 mm. round, regular. Cystidia none. Spores not found.

We gave in our Fomes pamphlet a résumé of Trametes, Section 133, with pink context where this belongs, but only one species with large pores, viz: Trametes cupreo-rosea, which differs in having sinuate daedaloid pores. Also we gave Letter 59, Note 302, description of a very similar plant from Australia, Trametes rosea, which has similar context and pores, but that is a thick plant with imperfect pore stratae. Plants with pink or rosy context and minute pores are common, but these three mentioned are all with medium (large) pores. None has ever been collected in the Philippines. Based on Ramos, 2114, Sandakan, Borneo.

Isaria mycelioides from Rev. J. Rick, Brazil.—(Fig. 2413.) As often stated, about all that can be done with Isarias is to name them, photograph them and publish them. The former is of not much moment, for all are, no doubt, earlier stages of Cordyceps. But a good photograph tells the story. This is remarkable for the white membranous coat that covers part of the pupa. I never noted before any sign of mycelial growth on either an Isaria or a Cordyceps host.

Favolus Section 175 and 176 with colored branched setae on the hymenium.—These sections correspond to sections "setaefera" of Sections 18 and 19 of our Stipitate Polyporus pamphlet, and are characterized by having sharp branched colored setae as shown in Figs. 441 and 442 of our pamphlet (reproduced Fig. 2418). These peculiar setae were first brought into prominence in our pamphlet although there has since been proposed a "new genus" based on this publication. These plants are all closely allied to Polyporus megaloporus and one author is disposed to refer all to one species. For me they are as distinct as "species" in general are. The Favolus species we summarize below. The Polyporus species have at various times been considered as Polyporus megaloporus and Polyporus cinnamomeo-squamulosus.

Favolus princeps from Rev. Johan Rick, Brazil.—(Fig. 2414.) Large, obese (for a Favolus), 3-4 inches in diameter with context 1-1½ cm. thick. Sur-

face glabrous, with faint lines, or even having no lines. Color (dried) about buckthorn brown. Pores rather small, shallow, probably white when fresh. Cystidia acute, dark with side spines as shown in Stipitate Polyporus Fig. 442, but a different shape from there shown as they are thick at base and taper to the point. Spores I do not find.

We have had these collections on hand from Father Rick for many years under the name Favolus multiplex, as no doubt misdetermined for him. The plant has no relation to Favolus multiplex type at Leiden. Favolus princeps appears to be a rare species. We have five collections from Rev. Rick, Brazil, one from Rev. Theiszen, Brazil, and one from C. A. O'Connor, Mauritius. At Kew is the type Wright (324), Cuba. At Paris a specimen labelled (Wright 318), Favolus purpurascens in error, also Favolus Balansae, which, I think, is a synonym. At New York is a specimen from Cuba misdetermined as Polyporus hydniceps and the basis of this record in N. A. F. There is no resemblance at all between these two species.

Favolus Africanus from Dr. G, Zenker, Cameroon, Africa (Fig. 2415), is close if not same as Favolus princeps. It is quite thin, however, and has almost black gills when dried. We have specimens from Geo. Zenker and W. Small, tropical Africa.

Favolus Leeuwenii (Fig. 2416) from Verlaten Eiland, near Krakatau, has characters of Favolus princeps, but as to statue is much smaller. Spores are 4x12.

Favolus brunneolus (Cfr., page 1079), known from but one old specimen at Kew (Cuba Wright) has some "structure" as Favolus princeps, but pore walls are mere raised ridges and pores are so shallow it might be called a Merulius. It may at that be only an anomaly of Favolus princeps.

Favolus Dussii type at New York.—(Fig. 2417.) There is at New York an unnamed mesopodial specimen which as to structure agrees with Favolus princeps, also as to color, pores, spines and other features. But is it possible that a plant as Fig. 2414 should take as mesopodial form that looks so different (Fig. 2417)? We think not, but we can not say. At any rate we are confident it is the only mesopodial specimen ever collected with these characters. Patouillard worked over Duss' plants, and Murrill is supposed to have considered all polypores of these regions but neither have mentioned this species.

Hexagona lineata from H. Vanderyst, Congo Belge.—(Fig. 2419.) We dislike to name specimens of the "Tenuis" section, for as we have already stated, "new species" by the legions could be made in this group. A dozen "new species" can be based on the 92 specimens in the cover at Kew if anyone so wishes. But we do not find this species sent by Rev. Vanderyst among the named specimens, hence give it a name, as it was sent for a name.

Thin (about 1½ mm.), 7 inches in diameter. Color almost buckthorn brown. Surface glabrous, rugulose, faintly zoned. Pores minute, shallow, disposed to form lines. As to genus it is Hexagona on traditional classification. In reality a Polystictus, but if so treated, Hexagona tenuis, and all that group must be transferred. So it is better to endure the ills we have than fly to others that we know not where they end.

Polyporus chocolatus from Prof. S. R. Bose, India.—(Fig. 2420.) Mesopodial, 4 inches in diameter, with short thick stipe. Surface smooth, pale isabelline color when dry. Context rather hard concolorous with surface. Pores minute, 2-3 mm. deep, dries dark chocolate brown, contrasting with context color. Spores pale colored, globose 5-6 mic., smooth.

A new section of Ovinus will have to be made for this, for all before have white spores. In a way it suggests Polyporus friabilis previously sent by Prof. Bose.

Favolus Samoensis.—(Fig. 2421.) Pileus reniform or tapering to a short stem. Surface brown with faint striations and marked with nodules of dark hairs which are caducous when old. Pores white, rather small, discolored in drying. Cystidia none. Spores 4x8 hyaline, cylindrical.

We found this in quantities on old logs lying in low places in Samoa. It was abundant in the banana fields but we did not collect it in woods or bush. It was the only Favolus we got in Samoa. When old it is putrescent, softens and decays, which is exactly opposite to the nature of Favolus europaeus, the only other Favolus with which we are well familiar in nature. It was misdetermined for me as Favolus fibrillosus, which name we labelled it in our museum until we saw authentic Favolus fibrillosus and found it entirely different. It is noteworthy that as common as this is in Samoa we never have gotten, or seen, a specimen from elsewhere.

Stereum elongatum from H. S. Yates, Dutch East Indies.—(Fig. 2422.) Elongated effused with a narrow reflexed border. Pileus surface, scabrous, hirsute, with brown hairs, slightly zonate. Hymenium thick, white. Cystidia none. Spores not found. I do not know that its effused habits have value, but presume they do. The thick, white hymenium reminds one of Stereum bicolor. A section shows a colored zone below the pubescent zone, as in Stereum hirsutum. It goes in Section 12. Based on collection No. 19, Sumatra.

Polyporus haedinus from H. A. Lee, Philippines.—(Fig. 2423.) Large, flat, 8-inch diameter. Surface glabrous, smooth, with a soft feel like kid leather. Color dried about cinnamon brown. Stipe mesopodial

3 inches long by ¾ inch thick, brown, smooth. Context thin, 2-3 mm. isabelline. Pores minute, thin, 1 mm., darker than context. Cystidia none. Spores 6x12 cylindrical, hyaline, smooth. This belongs to Section 39 of Ovinus and is the first specimen of Ovinus that has been collected in the Philippines. It appears to have grown on a log. Based on Ramos, 39472, collected at Palnan Mindoro. This is quite close to Polyporus friabilis named from India, page 1148, Fig. 2212, but thin flesh and also spores different. Our figure is much reduced, for the plant is eight inches in diameter.

Trametes bruneo-flava from Paul V. Siggers, Costa Rica.—(Fig. 2424.) Sessile from a reduced base, thin (1 cm.), 4-6 inches in diameter. Surface smooth, even, glabrous, brown with variegated brown zones. Context clear amber yellow, 4-5 mm. thick, firm, but stuppeus as to texture. Pores minute, hardly visible to eye, concolorous with context, 4-5 mm. deep. Setae none but hymenium velutinate with projecting pale hyphae. Spores not found. This fine, regular species has same context color and pores as Trametes ochro-flava of Brazil (found in Saccardo as Fomes). The surface and surface color are entirely different. Our photograph only represents small sections of the plant.

Lenzites deplanata from R. H. Bunting, Gold Coast, Africa.—(Fig. 2425.) Lenzites repanda so common in the tropics is a white plant. It often dries discolored. Lenzites Palisoti is isabelline color. Lenzites deplanata is yellowish ochraceus. All are for me really the same thing, but distinct as to color. Mr. Bunting states as to this specimen "natural color retained."

Ptychogaster rufescens from Dr. J. Burton Cleland, South Australia.—(Fig. 2426.) One can not blame Dr. Cleland from sending this in as a Gasteromycete, but it is not. It is one of those abnormal derivatives from a Polyporus, probably Polyporus rufescens. Ptychogasters are conditions of polypores which from some unknown reason do not develop normal pores, but usually have great quantities of conidial spores born direct on the hyphae. I have seen specimens part Ptychogaster, part Polyporus, and all conditions come in from a dirty mass of spores for all the world like a puff-ball to almost a perfect Polyporus.

Polystictus microlomus (form) from O. A. Reinking, Philippines.—(Fig. 2427.) The common black plant which corresponds to Polystictus affinis has usually a slightly pubescent stem, but this with long white pubescence is no doubt a freak. It is hardly worth a figure though so different from usual.

Stereum nigro-rugosum from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2428.) Sessile, thick, rugulose, with soft, rough, brown surface, and uneven, rough, black hymenium. The photograph tells the balance. I do not make out the spores nor basidia nor "structure" excepting that it has a soft, thick upper layer of coarse brown hyphae not longitudinally arranged and a dark hymenium not of the usual palisade basidia. I think it is not a Stereum, probably an Auricula, but if named in old times it would have been named a Stereum, which, I am sure, is not the case. It is not at all gelatinous, even when soaked. It is one of those things it is easier to say what it is not, than what it is. There are no spores in evidence and no definite basidia found. There are globose, irregular dark bodies imbedded near the surface, but I am unable to state what they are.

Septobasidium pteruloides from Dr. J. B. Cleland, South Australia.—(Fig. 2429.) Black. Growing adnate as a thin pad on the branches of Leptospermum species (Myrtaceae) but covered with dense hydnoid processes (Fig. 2430, enlarged). Our photograph enlarged will show the plant so that it can not be mistaken. When we received the plant from Dr. Cleland we advised him that "it has the general nature of a Septobasidium, but I do not find spores or basidia." I sent it to Prof. Patouillard and he kindly advises me that "it is a Septobasidium admirably fructifical." On examination since, the spores, if I see them correctly, are 4x12 cylindrical straight, pale colored. Basidia I am not sure. I see septate bodies that must be they. They are not curved, however, which was my idea of such basidia. This is not the first specimens I have received. I got them from Rev. James Wilson, Australia (Fig. 2429), some years ago, but could do nothing with them. My best thanks are due my friend Patouillard for helping me out to a solution of this fungus.

Septobasidium pungens.—Prof. Patouillard assures me that Pterula pungens as found in Saccardo is a Septobasidium. The only known specimen (from Léveillé) is in his herbarium.

Phlebophora Solmsiana from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2431.) The genus, Phlebophora, in original sense of Léveillé, from Europe, is a bull, based on a monstrosity of an agaric. In his Javanese sense, Phlebophora rugulosa. I do not know, but seems to be the same plant and genus as Van Romburghia silvestris as figured by Holtermann. It is a smaller, more campanulate plant than the Borneo species and it is said to be subgelatinous. We refer the Borneo species to Hennings' name from Java, on strength of Hennings' figure in Engler and Prantl, apparently exactly the same. We have another species from Philippines but have mislaid our specimens. In none of the museums have we ever turned up any specimens referred to Phlebophora.

The genus, Phlebophora, in this sense is a gilless agaric, or rather it is a thin, fleshy Stereum, for the hymenium is smooth and even and gills are only represented by faint striations. The Borneo plant is very thin, glabrous, dark reddish brown. A section is only ⅓ mm. thick. It shows a cortical palisade layer of oblong cells, a thin intermedial layer, and an indefinite hymenium with numerous small hyaline globose smooth spores about 3½ mic. Our photograph is the underside of the dried plant.

Thelephora crustosa from James Mitchell, New Zealand.—(Fig. 2432.) There is a group of Thelephora of an encrusting nature that run over and cover things, leaves and objects lying on the ground, and this portion bears hymenium and is fertile. In addition the plant sends up pilei that correspond to the usual fruit bodies of Thelephora. The pileus of the species is regular, somewhat infundibuliform and the hymenium striate. It has a very close resemblance to Thelephora radians but different habits. The spores, globose, colored, tubercular, rough, irregular, are the usual spores of Thelephora. Our figure will fix it, for there is no similar species with us with regular pilei.

Polyporus rugulosus from H. Vanderyst, Congo Belge.—(Fig. 2433.) There is a variable plant in the tropics called Polyporus zonalis, Polyporus rigidus and Polyporus rugulosus. These are ideal of the form called Polyporus rugulosus, so we give a figure of it. We gave a Fig. 675 of the usual form Polyporus zonalis on page 336 of our Synopsis Apus Polyporus.

Tremella undulata from H. Vanderyst, Congo Belge.—(Fig. 2434.) We take this in sense of Moeller's (juggled) name. It is the tropical form of Tremella frondosa (Cfr., page 1148). Rev. Vanderyst's plant is exactly the same as the Brazilian plant from Rev. Rick, and making a better photograph we present another figure.

Cladoderris Rickii from Rev. J. Rick, Brazil.—(Fig. 2435.) When we wrote our pamphlet on Cladoderris (1913) we ventured the assertion that but one good species of Cladoderris had been named in sixty years. It was hardly in print before we found another in Florida, and now Rev. Rick sends one from Brazil. Cladoderris Rickii has the costate ribbed hymenium on which the genus was based but is the first sessile species known. It is largely resupinate with recurved thin pileus. The surface ochraceous is thinly tomentose. Hymenium ochraceous tawny (R) is typically costate ribbed of the genus. Context white. It has no cystidia and no basidia or spores seen by me. Our photograph tells the remainder and it can not be compared with any named species.

Calocera rufa from J. T. Paul, Australia.—(Fig. 2436.) Deep orange color. Growing in caespitose patches on very rotten wood. Furcate branched two or three fold. Ultimate branches obtuse. Basidia furcate, spores hyaline, 6x8, and appear to be one septate in germination. It is close to the common Calocera cornea, or rather the branched form of it, Calocera furcata, but is a more robust plant with not a soft tremellose texture when soaked, but more tough. Calocera rufa is much more branched. It is the finest species of Calocera to our notice. When we received this plant from Mr. Paul, we overlooked our previous publication on the same plant from Mr. Rodway, Tasmania (page 1150, Fig. 2228), and came near publishing it twice under different names.

Paxillus ferruginosus from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2437.) Entire plant when dry ferruginous brown, sessile, with lateral attachment. Texture dry, tough, the plant an evident xerophyte. Gills concolorous, narrow, close, radiating from the base. Cystidia none. Spores deep colored, subglobose, 3½x4, smooth.

There are a number of plants in the tropics that can not be entered in European genera. This is one and it is not a Paxillus, for the gills are not easily separable from the hymenophore. It is "Lentinus" with colored spores but there is no such genus. We call it Paxillus for it is close to Paxillus lepista but it is only as a convenience.

Hydnum seriatum from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2438.) Sessile, effused, serially arranged, complicate. Color pale ochraceous, both pileus and hymenium. Surface smooth, not zoned. Spines minute, hardly visible, excepting with a glass, but under the lens regular, slender. Cystidia none. Spores globose, 6 mic., white, opaque, smooth. This belongs in same section and suggests Hydnum ochraceum, but there is no contrast in color of lower and upper surface and spines are more minute.

Poria pulvinata from H. Vanderyst, Congo Belge.—(Fig. 2439, enlarged.) Cushion shape, forming little irregular pads 3x10 mm., and 2 mm. thick. Growing on decorticate wood. Hymenial surface white, punctate with minute irregular pores, hardly visible to the eye. Context brown and the whole fungus becomes dark when wet. The pore cavities have projecting hyphae but no definite hymenium or spores found. Cystidia none. We class this as Poria for convenience, but in fact a "new genus." Porias are resupinate, not cushion shape. To the eye it has the appearance of being a Hypocrea and we were surprised to find that it is not. Our enlargement, Fig. 2439, will give a perfect conception of the plant.

Exidia candida from J. T. Paul, Australia.—(Fig. 2440.) While it seems improbable, it appears to be the same plant published from our Northwest United States (compare Myc. Notes, page 1045, Fig. 1923). It is known only from Western America and Australia, but the real knowledge of Tremellaceous plants is so scanty that nothing can be inferred from the records. The old specimens received from Australasia of white tremellaceous plants were referred in olden days to "Tremella albida," as they were from America. It was later found that Tremella albida was an Exidia and that it did not grow in America. That seems to be its history in Australasia. In the covers are two plants; to the eye one which is no doubt this Exidia candida, which dries down to a mere film, the other retains its form, but we can not say much about it without soaking it up excepting that it is not Exidia albida. Exidia candida when soaked has a general resemblance to Seismosarca alba (Myc. Notes, Vol. 6, Fig. 1928), but structure is quite different. It has globose (or oblong) hyaline basidia 16x20 and spores 8x16. Our Fig. 2440 of the soaked plant will show it better than we can describe it. But bear in mind that it is white and not dark, as might be inferred from the photograph.

Pseudosclerotia of Lentinus.—(Fig. 2441.) The peculiar bodies that Prof. Petch has pointed out as pseudosclerotia are formed in an odd manner. It appears from Petch's account that the fungus mycelium permeates the wood of its host and protects it from decay. Hence, when the log decays on which the fungus grows a piece of wood remains which continues to produce the fungus. A fine lot of these pseudosclerotia have been sent to Kew by Petch from which our figure has been made. It seems strange that there should be such a marked limitation between the pseudosclerotia and the decayed wood.

Petch's explanation of the formation of pseudosclerotia is as follows: "The mycelium of the Lentinus attacks and destroys the dead wood, but several portions are left more or less unchanged. When the decayed tissue weathers away these portions are left. They are filled with a storage form of mycelium and subsequently give rise to the Lentinus." This mycelium evidently displays superhuman intelligence. It destroys (devours) the wood it does not want and protects (preserves) the wood it does.

Dacryomyces cerebriformis from N. C. Fassett, Massachusetts.—(Fig. 2442.) Plants erumpent from birch bark, 6-10 mm. in diameter, cushion shape, clear yellow (but not orange). Surface faintly cerebrine. Spores 8x16, slightly curved hyaline, one or two septate. While perhaps better referred to Dacryomyces deliquescens, it differs from usual plant, larger, deeper color, and habits erumpent from birch bark, and in drying it does not disappear as the usual form does. We use Brefelt's name as a convenience; same habits and color, but spores are smaller than he records (8x25-28).

Stereum ardoisiacum from Rev. Le Pere G. Ducharme, Canada.—(Fig. 2443.) Effuse, reflexed, conchoid. Color when moist about cinnamon brown with narrow white growing margin. When dry the hymenium is peculiar slate color or "smoky grey," perhaps, and the greyish brown pileus loses all reddish shade. A section is same as one of Stereum hirsutum, hence might be so referred, but for me it is not, but different. The peculiar color of the dried hymenium attracted my attention at once, and the "contrast of color" between the moistened and dried plant is unusual in this genus.

Lentinus dichrous from H. Vanderyst, Congo Belge.—(Fig. 2444.) We collected this same species in Samoa and it was named for us Lentinus dichrous "Lev." We do not believe "Lev" had much to do with it as we failed to locate any of his naming in the museums. It is a reduced form of Lentinus velutinus and as to dichrous one name is as good as another for it.

Isaria flavo-viridis from Rev. J. Rick, Brazil.—(Fig. 2445.) As named by Rev. Rick or rather as Cordyceps flavo-viridis, but I would rather record it as Isaria until its Cordyceps nature is proved. The name is quite appropriate to express its color. Growing on a pupa it no doubt is a Cordyceps or will develop into one. I do not like to cut the only specimen, but on scraping I find only greenish hyphae. No sign of perithecia or even conidial spores. This plant, as well as Isaria xylariaformis (Cfr., page 1200), tend to point to the conclusion that there are Cordyceps species that bear the conidial spores on the same club as afterwards develops the perithecia. It has never been proven, however, and is only an inference.

Lentinus Ramosii from H. A. Lee, collected by M. Ramos in British North Borneo.—(Fig. 2446.) Thin, often torn, with glabrous, mesopodial or excentric stem. Color when dried (buckthorn brown R.) pale yellowish brown. Surface smooth, even or minutely striate. Gills concolorous, narrow, close, even edges. Cystidia none. Spores not surely found. Based on two collections, Ramos, 2051 and 2062, at Sandakan, British North Borneo. I am not sure both are the same, but too close. The stipe is mesopodial in one, excentric and near the margin in the other. Surface even in one, finely striate in other. In general color it suggests Lentinus Sajor-caju, but is darker, more slender and has no ring.

Isaria Sinclairii from H. H. Hu, China.—(Fig. 2447.) We gave a figure of this in our last issue (page

1179, Fig. 2369), from Australia. This has a slightly different appearance but surely same species. The relation of Isaria and Cordyceps forms as a scientific proposition should be demonstrated and not a matter of guess. We venture the hazard, however, that some day it will be shown that Isaria Sinclairii is the conidial stage of Cordyceps sobolifera. Both grow on Cicadas, and both have come in several times. Evidence like this while not conclusive is very probable.

There is a possibility, a bare possibility, that Isaria Mokanshawii as named, N. Gist Gee from China (Cfr., page 854, Fig. 1430), is same as Isaria Sinclairii, but I would not so state on evidence that I have.

Lentinus nigroglabrus from H. A. Lee, Philippines.—(Fig. 2448.) Infundibuliform, glabrous, drying dark. Stipe about an inch long, glabrous, black (on dried plant). Gills thin, rather distant. Cystidia pale on edges of gills, obtuse, about 10x60 mic., multicellular. Spores 3x8, hyaline, smooth.

The main features of the species are very dark, very thin, very smooth. A similar species was named from the Philippines by Graff, Lentinus lagunensis and our first impression was this species. On comparison, however, we find the latter thicker, paler flesh and has no cystidia which are rare in this genus. In fact, I do not recall seeing them before on a Lentinus. Based on Ramos and Edano (37120), Mt. Candoon, Mindanao.

Lentinus lagunensis.—In connection with above this is quite close and like it, the plant is dark, thin and smooth. It was named from the Philippines by Graff, and for me is a good species. The gills are rather broad and close and it has no cystidia on the edge. I have types of the plant (Ramos 16839), also Brown, 16696, and Whitford, 9119. The latter was referred (by whom?) to Lentinus inocephalus, of which no type exists, only a "description" where it was said to be "white," hence hardly this dark brown plant.

Lycogalopsis reticulatus from John E. A. Lewis, Japan.—(Fig. 2450, enlarged.) We prepared our article and figure, and inserted it in our plate before we left home. But in making up our text and rereading the article we find we have made some statements we would rather confirm by examination of the specimens before going into print. We will publish later on it, for it is a unique little "puff-ball" and it is an evidence of close observation on the part of Mr. Lewis that he made a fine collection of it.

Lycogalopsis Solmsii from Dr. T. A. Tengwall, Java.—(Figs. 2451 and 2452, section enlarged.) This is a peculiar and most rare little puff-ball. It was named from Java by Prof. Ed. Fischer thirty-five years ago. Sent to me (1910) by Dr. Bernard, Java (compare Myc. Notes Vol. 3, page 482), and this from Dr. Tengwall is the third collection known and all are from Java. It differs much from other genera. The most marked feature is a subiculum on which the puff-ball is seated. The development of this varies much in degree. In the original and in this collection the subiculum hardly exceeds the puff-ball, but in the collection from Dr. Bernard it formed a conspicuous plaque (Cfr. Myc. Notes Vol. 3, Fig. 376). Lycogalopsis has but one peridium which is smooth. The gleba is composed almost entirely of spores (globose, subhyaline, smooth, 3-4 mic.) and the very scanty capillitium consists of a few subhyaline threads. In connection with Lycogalopsis I was led to compare Glischroderma cinctum, an equally rare plant of Europe, named from Germany years ago. It was lost until refound in England by Carleton Rea (1912) (compare Letter 42, Note 52). They appear to me to be the same plant now, and I believe when the final story is told Lycogalopsis Solmsii and Glischroderma cinctum will be found to be the same.

Clathrus camerunensis from H. Vanderyst, Congo Belge.—(Fig. 2453.) Our figure is an evidence of what good specimens can be made of phalloids if carefully dried. Excepting that it is pressed flat we feel that the figure made from a dried plant from Rev. H. Vanderyst about as well represents the plant as if it had been made from a fresh specimen. A section of the receptacle shows it is composed of 4-6 tubes, hence, in reality an Ileodictyon. There are no color notes but no doubt red when fresh. We presume we are correct in referring it to Hennings' name from same locality, although Rev. Vanderyst's specimen is several times as large as Hennings' shows. Whether or not Clathrus camerunensis is same as Clathrus pusillus of Australia there is no data to decide. From size of this specimen we judge not same.

Auricularia mollis from H. Vanderyst, Congo Belge.—(Fig. 2454.) This was received from Rev. Vanderyst as a thin membrane, closely adhering to the paper on which it was dried. It soaked up pale soft thin gelatinous more the consistency of a Tremella than the usual Auricularia. It is glabrous to the eye, but on the back under the lens are scattered glandular hairs. Basidia not made out distinctly, but cylindrical branched and do not form a pallisade layer. Spores 6x12, hyaline curved. While it can be nothing but an Auricularia it is so soft it does not suggest any other species. We photographed it soaked on the paper to which it adheres.

MacOwanites agaricinus.—(Fig 2455.) Nearly fifty years ago this curious plant was found in the grass at the foot of an old Acaeia tree at Somerset, East South Africa, by MacOwan, who sent it to Kalchbrenner. It has not reached Europe since, and J. Pole

Evans advised me some years ago he knew of no recent collections. It would not probably be sent to me, as it might be taken for an agaric, which I do not solicit. But I hope South African collectors will be specially on the watch for it. The drawing (Fig. 2455) was probably made by Kalchbrenner from the dried specimen, and from the section (Fig. 2456), we can not say how well it represents the fresh plant. A photograph from a fresh specimen is much to be desired.

MacOwanites agaricinus is a fleshy plant something of the nature of an agaric, and I suspect if we had a specimen to examine, its hymenium would be found to be more lamellate than the section shows. It is a question how to classify it. The greenish gleba, which looks just like that of a phalloid, its rank odor, and its fleshy nature suggest phalloids. The globose spores and basidia (if as shown), and, I believe, somewhat lamellate hymenium, and its general appearance is that of an agaric. It has been included with Secotium by Prof. Fischer and I expect that is as good as any, on the view that its hymenium is sublamellate. If in chambers as appears from the drawing it is hardly in place here.

MacOwanites, like Kalchbrennera and Broomeia, is apparently one of these small endemic genera that occur only in South Africa. One of Prof. Burt's students recently announced a "new species" of MacOwanites from America. Considering how little his tutor knows about South African fungus, his students will be liable to find a new species of Okapi in America next.

Tylostoma adhaerens from Dr. J. Burton Cleland, South Australia.—(Fig. 2457.) Exoperidium a sand case, strongly adhering to the endoperidium. Endoperidium dark, rough from adhering exoperidium. Mouth irregular, naked, not projecting, simply an elongated opening. Capillitium pale branched, with but slightly swollen nodes. Spores irregular, globose, about 6 mic. and granular rough. This is the first Tylostoma collection made in Australia with this type of mouth. Others are much more obese plants, with smooth peridia, and heretofore only known from the desert regions of North Africa and our western states. (Cfr. Tylostomaceae, Section 6, plate 80 and 81.)

Gautieria Trabuti from Prof. N. Patouillard collected in Algeria.—(Fig. 2458, enlarged.) We give an enlargement of the gleba of this species for comparison with that of Hymenogaster gautierioides, Fig. 2120, which has been misreferred to it in this country. On comparison the plants have really no resemblance, and we pointed out the differences in our article on page 1117. The spores are also different. Gautieria Trabuti has spores 12x20 (including pedicel), faintly ridged, and has distinct small tubercules. Hymenogaster gautierioides has spores with wings rather than ridges and not at all tubercular as far as I can note. The former is a true Gautieria without peridium. The latter can not be referred to Gautieria but is a Hymenogaster according to all accepted classification.

Sirobasidium brunnea from Rev. J. Rick, Brazil.—(Fig. 2459.) Color light brown, short club-shape, hollow, even surface, growing from a kind of gelatinous subiculum which dries to a black film. Basidia hyaline, subglobose, often contracted to short point at each end, mostly seen singly but evidently when young growing in a catenate manner, of two or more, plainly in chains. Spores I do not find. It dries down to a black film bearing tubercular nodules.

The genus, Sirobasidium, was proposed by Patouillard on the catenate basidia. It evidently embraces quite different appearing plants, for this has no resemblance to Sirobasidium Brefeldianum (page 1119). While this is no doubt the genus figured by both Patouillard and Moeller, I can not see any septation, as shown by either author, and they do not show them alike. I find no sterigmata and can not understand how basidia in chains bear their spores. Patouillard's account is not convincing, but there are many things about basidia of tremellaceous plants I do not understand.

Phellorina inquinans from Ivan M. Johnston, California.—(Fig. 2461.) The genus Phellorina is an arid region genus and is extremely rare. This is the second good collection made in the United States. Twenty years ago Long found it in Texas (1901) and his plants (Fig. 2460) are at New York. An empty peridium reached Peck, 1882, from Mohave Desert (S. B. Parish) and was called Phellorina Californica. Mr. Johnston sends some fine specimens (Fig. 2461). He found six plants in heavy soil bordering on a dry lake in Mohave Desert, California. They were buried in the soil only one or two inches exposed.

The original specimen came to Berkeley from South Africa and was named Phellorina inquinans. Then Montagne got it from North Africa and called it Xylopodium Delastrei, which Patouillard changed to Phellorina Delastrei. It seems fairly common in Algeria and Tunis, and we have very abundant collections from Dr. X. Gillot from the latter country. In addition we have collections, several from South Africa, India, Mexico and Australia. The latter are smaller and named Phellorina australis, but are the same thing. As Xylopodium it has been named Xylopodium australe from Australia; Aitchisonii from India; Bonacinae from South America; and Delastrei from North Africa, and all are the same thing originally—Phellorina inquinans.

Phellorina specimens when young are scaly but the usual plant becomes more smooth when old. They dehisce by irregular breaking of the peridium. The gleba is to the eye about raw sienna of Ridgway. The scanty capillitium is pale colored, and more of the nature of irregular shreds than definite threads. Spores are bright colored globose, 5-6 mic. and smooth. It is a question if there is more than one species of Phellorina. All are scaly when young, but a large obese Australian and South African form has large pyramidal scales. It is called Phellorina strobilina (Cfr. Myc. Notes, page 735, Fig. 1101) and appears to be entitled to a name.

Whetstonia strobiliformis which most strangely was found in Minnesota (Cfr. Myc. Notes, page 270, plate 90) has permanent cells to the gleba, but may be an anamoly of Phellorina.

Phellorina macrospora based on a single collection from S. B. Parish from Colorado Desert (letter 44, note 50), has large spores 16-18 mic. in diameter and is quite distinct.

Phellorina inquinans varies some as to general statue. Our American plant (Fig. 2461) is more obese and has a thicker stem than the North African specimens (Fig. 2462). We present Fig. 2461, the fine specimens from Ivan M. Johnston; Fig. 2460, the Texan plant from Long; Fig. 2462, the North African plant from Dr. X. Gillot.

Cytospora betulina from N. C. Fassett, Massachusetts.—(Fig. 2463.) We know very little about Cytospora and had we not been at Kew when this was received, and given a clue where to look for it, we could not have known the genus even. Cytospora belongs to the incongruous mass called "Imperfectae," and we are thankful that most all of them are so minute that they are not sent to us to name, for when rarely one does come in we are all at sea.

There are numbers of minute Cytospora species, in fact every time one finds a Cytospora on a new host it is a "new species"; hence, a "host index" is the best way to get their names. When Miss Wakefield gave me the genus it was not difficult to look in Farlow's Host Index and get the species.

Cytospora betulina was from Germany originally, but strange to say, the English do not seem to find it. With us I am sure I have gotten it several times but did not know what it was. It is curious the method of spore dispersion. Under the bark the fungus in the form of a little sack called pycnidia are filled with a gelatinous mass of slender curved hyaline spores. When moist this mass swells and is squeegeed out through the mouth in form of a thread or slender column. Cytospora is nature's expression of the principal of the collapsible tube, long before men invented them. It is this we see in our photograph and until examined it might be taken for a Tremella. Under the lens, however, it is found to be composed entirely of a mass of slender curved spores.

Sarcosoma rufa.—(Fig. 2464.) A very common plant in our own woods in spring is Sarcosoma rufa growing usually on buried sticks, only the tops appearing, or more rarely on sticks and logs on the surface. We collect it in quantities during May and June, but later it mostly disappears during the summer and fall months. It grows generally in clusters as shown in our figure, with a convex disc, and it is of a gelatinous nature. Externally it is dark, black, tomentose with dark rigid hairs. Context gelatinous white drying horny. Disc pale reddish. Paraphyses numerous, filiform, hyaline. Spores 10x24 elliptical, hyaline smooth, with two or three large guttae. Schweinitz named this Bulgaria rufa, as it was compiled in Saccardo. The latter did not know it had hyaline spores or he would have called it Ombrophila at that time. In fact how Sarcosoma, which had not then been exploited, differs from Ombrophila, except in being larger plants, I do not know.

Paucithecium Rickii from Rev. J. Rick, Brazil.—(Fig. 2465.) Many novel genera of large Pyrenomycetes are coming in from the tropics. The genus Paucithecium we would define as follows:

Having a black carbonous stem (like Xylaria) bearing white conidial tissue on top and a few large scattered carbonous perithecia. Spores elliptical, smooth, dark. This is quite a rare plant. Rev. Rick advises me he has found it but twice, both times growing scantily in the ground unattached to a host. Our enlarged Fig. 2466 will show the peculiar feature of the genus. The white conidial tissue concurrent with a few black perithecia. I did not examine the scanty perithicia. I have, but have taken the spores from Rev. Rick. The plant was sent to me as a Xylocrea but I can not reconcile with Moeller's genus of same name, which seems to me to be only a synonym for Sarcoxylon compunctum (Large Pyrenomycetes, page 28) and no relation to this. Rev. Rick has published a species under the name Xylocrea elegantissima, but it is unknown to me.

Isaria xylariaformis from Rev. J. Rick, Brazil.—(Fig. 2467.) Club shape, the white conidial layer growing on a club which may develop into a Cordyceps in the manner the usual Xylaria develops from an earlier conidial club. Of course only a supposition, but if true, surely an exceptional history for an Isaria.

Hydnum Wellingtonii from G. H. Cunningham, New Zealand.—(Figs. 2468 and 2469, teeth enlarged.) Orbicular spathulate from a rooting base, brownish yellow with the brown teeth darker. Surface glabrous.

Teeth thick, brown, obtuse or slightly dividing at the apex, brittle, evidently hollow when broken across. Spores hyaline, globose, smooth, 10 mic.

While the spores appear hyaline under high power, they are faintly colored under lower power, and the abundance in which they are borne is in evidence that they are really colored. It is not an ideal Hydnum with thick, brown, brittle teeth, and suggests no known species. A new genus will have to be made for it by the name jugglers. It grew "on ground in a beech forest." The texture is fleshy brittle.

The Genus Gallacea.—There is need of a genus in Australasia intermediate between Diploderma and Rhizopogon. We published it in our Lycoperdaceae of Australia (1905) but was not aware of its true significence at the time. We were then working on the "puff-balls" at Kew and found a specimen from New Zealand that Cooke had named Mesophellia Scleroderma. As it evidently could not be classed in this genus we proposed Gallacea. Nearly twenty years later finds us again at Kew working this time on the Hymenogasteraceae, and we find a most peculiar species from New Zealand that Cooke had called Rhizopogon violaceus. As most surely it is no Rhizopogon we prepared an article on a "new genus" based on this collection. We did not recall our previous genus in the Lycoperdaceae, in fact we were not looking for one in Hymenogasteraceae. Then we got this collection from Mr. Cunningham. We knew at once it was the plant we were recently working with, but we did not recall our "Lycoperdaceous" genus for some time. On comparison they are exactly the same. The violaceous color which is the marked feature of young fresh specimens is lost in old specimens, but that hardly justified Cooke within seven years in including it in two different genera in neither of which it belongs and in two different families.

There is a natural group of plants strongly suggestive in their spores of phalloids—small, elliptical, greenish, smooth, spores. The genera Diploderma Hysterangium, Mesophellia, Rhizopogon (in part) Jaczewskia, Phallogaster and Protubera are all closely related, and we believe should be brought together into one group or family. All have one character in common, viz: greenish gleba and elliptical smooth subhyaline, greenish spores. Some further suggest phalloids in their gelatinous nature. Some with permanent gleba cells as Hysterangium have always been and are probably best classed as Hymenogasteraceae, notwithstanding their subgelatinous nature and phalloid-like spores. Some are classed in Lycoperdaceae though plants with neither capillitia or powdery gleba are out of place with the true "puff-balls."

The genus Gallacea, I believe, is a monotypic genus. It consists of this one species as far as I know. Another has been proposed but I have not seen it. It is most peculiar, a hollow ball with a little gleba layer on the inner side of the peridium. This greenish gleba is dry (not powdery), composed of a mass of agglutinate spores, without the capillitium of a true Lycoperdaceae, without the gleba cells of a true Hymenogasteraceae.

Gallacea violacea from G. H. Cunningham, New Zealand.—(Fig. 2470.) Epigaeal, with a smooth violaceous peridium 1-1½ inches in diameter. There does not appear to be any distinct cortex. Gleba olive greenish forming a dry (easily pulverulent) thin mass clinging to the inner peridium. The center of the balls are hollow and the plant is best compared to a blown-out egg shell. Capillitium none. Spores small, elliptical, 4x6, pale greenish, smooth. There are no gleba cells in the ripe specimens.

A very marked plant that reached Kew from T. Kirk, New Zealand, about the end of Cooke's reign and the beginning of Massee's (1892), hence it bears the advertisement of both. It was called Rhizopogon violaceus but hardly suggestive of the European genus. The sender notes, "On the ground. Firm but not hard when fresh. Of a deep violet color. Glaucous." The peridium still retains a violet hue, but it loses this color when old and it was not present in the specimen that Cooke got from "Reader," New Zealand, and called (1885) Mesophellia Scleroderma. I think Cooke's record "Reader, New Zealand" was one of his careless records, for Reader was an Australian collector. The plant came from New Zealand but probably from someone else than "Reader." Mr. Cunningham's collection is therefore the third known and all are from New Zealand. These specimens were collected at York Bay, Wellington, and evidently grew on the ground. The following notes are indorsed on the wrapper: "Rich purple when fresh. Old specimens hollow. Gleba same color as when fresh. Attains a diameter of 10 cm. Buried in decaying humus under beeches in forest floor."

Recently one of Prof. Burt's students found in our museum a species of Hysterangium from Japan, which he published and referred to Rhizopogon violaceus. It has no more resemblance to it than a canon ball has to a blown-out egg shell. If this is the kind of "Mycology" Prof. Burt teaches he should take up Egyptian hieroglyphics, for from the results of his teaching his student knew about as much about one subject as he did of the other, if this is a sample of it.

Bovista purpurea from G. H. Cunningham, New Zealand.—(Fig. 2471.) About an inch in diameter attached at base by a distinct rooting cluster. Exoperidium thin, white, smooth, pealing away in flakes. Endoperidium dark purplish. Gleba purplish brown, no sterile base. Capillitium of distinct threads, colored, the main stem thick (8-10 mic.), running out into sharp

branches in all directions. Spores colored, globose, 6 mic., smooth, with a large gutta and slender pedicel 12 mic. long. The genera Bovista and Catastoma are similar in many respects but have very distinct types of capillitium. Purplish species of Catastoma are frequent particularly in Australasia, but this is the first distinctly purple Bovista that ever came to hand. Another thing that is peculiar is that Catastoma, frequent in Australasia is very rare in Europe and Bovista common in Europe is rare in Australasia. In fact the common little Bovista plumbea of Europe, America, Japan, etc., has never been collected in Australasia, neither the other two common species, Bovista nigrescens and Bovista pila. The only species heretofore known from Australasia is very rare there, viz., Bovista brunnea.

Xylaria Zelandica from G. H. Cunningham, New Zealand.—(Fig. 2472.) We have heretofore held this as same as the frequent Xylaria apiculata of American tropics. But there is a little difference. Both have same size, shape and spores, but the Eastern plant is jet black with an even surface, and the American plant slightly paler and the surface usually fissile. They are too close for comfort however. This specimen is sessile and the American species often has a slender stipe, hence not surely the same.

Entonaema splendens from Dr. R. P. Burke, Alabama.—(Fig. 2473.) There is a mysterious pyrenomycetous genus in the tropics called Glaziella by Cooke in part, and also Entonaema by Moeller. The interior is a white, gelatinous substance, the feature by which the genus differs from Sarcoxylon, which has a fleshy context. We can not decide on the named species until we hunt them up in Europe museums, which we have not as yet done. But it appears to us that we received two species of Entonaema. One has a solid gelatinous interior (Cfr., page 910), the other is hollow, the gelatinous layer only 3-4 mm. thick. We may be mistaken. They may be the same thing. The specimens sent by Dr. Burke (Fig. 2473), and he is the only one who has found it in the United States, is young and no perithecia formed. It is hollow, and it may be it is hollow when young and fills when old (Cfr., also pages 910, 1001 and 1035). We would like to have this question cleared up. We hope Dr. Burke will watch for additional collections. We let this go in as written, although we have since at Kew learned much more definite on Entonaema splendens as published on page 1203.

Daldinia vernicosa from A. Hrdlicka, Washington, D. C.—(Fig. 2474, wood showing the thin, black stromatic layer lying between the bark and wood.) The mycelial growth in the host is an important character of many fungi. Pathological men are becoming much interested, hence our photograph may direct special attention to the way that Daldinia affects the wood. The species is the rather rare Daldinia vernicosa, but probably the common Daldinia concentrica has similar effect.

Cordyceps Lloydii.—(Fig. 2475, enlarged.) We present a photograph enlarged sixfold of a fine specimen collected by Miss Wakefield in Jamaica. We presume we are correct in referring this to the species published by Fawcett from Guiana in 1886. It has a close resemblance to his figure and came from the same region. We are not so sure about our previous record from Africa (Myc. Notes, page 856). We never miss an opportunity to photograph every specimen of Cordyceps that comes to our notice, for we are confident that photography will finally solve the many dubious records that have been introduced by means of crude figures by the older namers.

Fomes pseudopetchii from H. S. Yates, Sumatra.—(Fig. 2476.) When I first considered this with the same laccate surface and color as Polyporus lucidus, I thought the Fomes form that had been called Fomes Petchii. I was surprised when I cut into it and found the pore tissue *white*. That it is a member of the lucidus group seems evident and yet none of this group have white pore tissue. I did not find spores and it may not even be a "Ganodermus." The plant is shown in our figure. The pore mouths are yellow, and what we can not account for the pore tissue is white. We class it for convenience in Section 73 with Fomes Petchii, but as previously stated, it may not even belong to that group. And it may be abortive Fomes Petchii on same order as certain Coprini sterile are known now with white gills (Cfr. Buller).

Xylaria bifigurata from H. A. Lee, Philippines.—(Fig. 2477.) Growing in the ground, from a thick, black root stalk. Clubs of two forms, covered with a thin brown crust. One form is cylindrical, two or three inches long, acute. The other form is flattened, having club-shaped bodies. To the eye the clubs are smooth, but under a lens have protruding rather asperate ostioles. Spores I did not find; the collection is immature.

The cylindrical clubs suggest Xylaria nigripes but the species differs in the brown crust, and the antler-shaped clubs which Xylaria nigripes never assumes.

Camillea Zenkerii from George Zenker, Cameroon, Africa.—(Fig. 2478.) Carbonous, black, cylindrical, erumpent from the bark, 7-8 mm. long, 2 mm. thick, obtuse. Spores 8x16, subreniform, dark.

This is the first Camillea collection we have received from Africa, the genus for the most part being tropical American (Cfr., Large Pyrenomycetes). The

species is quite similar to Camillea bacillum (Cfr., page 1180, Fig. 2377), but much thicker and much larger spores. We frankly can not explain its structure. We find no perithecia but the interior is made up of carbonous meshes (cells?) same as we have noted for Camillea discoidea (page 1181). We do not know how the spores are borne in such a tissue. We are pleased to name it for the late George Zenker, who was an industrious collector of African plants.

The Genus Entonaema.—This genus was proposed and finely figured by Moeller. It is a Sarcoxylon excepting the stroma is not fleshy but gelatinous. I believe there are four species of it. As the genus has the characters erroneously attributed to Glaziella, we were mistaken in our previous consideration as being a Glaziella.

Entonaema splendens.—(Fig. 2479.) We present a figure of this plant from fine specimens that reached Kew recently from T. D. Maitland, Uganda. It had been heretofore known only from immature specimens. First Berkeley got a single immature specimen, Cuba (Wright, 809), and called it Xylaria splendens. That is all I have seen in Europe excepting three recent collections from Africa. I have immature plants from four widely distant localities, Tropical Africa, Japan, Brazil and Southern United States, but the collection at Kew from Mr. Maitland, Uganda, are the first mature plants I have seen. Entonaema mesenterica (Myc. Notes, page 1035) is for me now same as Entonaema splendens. It is most curious. Dried a mere shell two or three inches in diameter covered with a thin yellowish crust. The surface in regular corrugate folds, and the distant ostioles punctate through the crust (Fig. 2480, enlarged). When soaked a thin gelatinous layer 2-3 mm. thick is soaked out adhering to the inner crust. It soaks out pale, but at first seems to be orange. Carbonous perithecia lie between the gelatinous layer and the crust. Spores are 6x10. Mr. Maitland sends a note with his specimens as follows: "Growing from old stumps. When fresh these fructifications contain a slimy, watery substance of the consistency of gum or egg albumen." Dr. R. P. Burke is the only one who ever found the plant in the United States (Cfr., page 1202), and his specimens were immature.

Entonaema aurantiaca.—(Fig. 2481). This is quite similar to the previous plant, but when fresh is filled with the gelatinous flesh, not a mere layer around the under crust. It dries hard and horny. The entire plant including flesh is orange when fresh. It may be the same species as the preceding, and it may grade into it, for the only marked difference I find is the thickness of the gelatinous layer.

The plant apparently is not rare. It came to Berkeley from Ceylon and India years ago and he referred it to Sphaeria compuncta. I judge it can not be Junghuhn's plant from his figure and description, although at that time Berkeley was justified in so referring it. It next reached Patouillard from New Caledonia and was called Sarcoxylon aurantiacum. For me the gelatinous flesh puts it in Entonaema. We have specimens from Petch, Ceylon (Cfr., page 1001).

Entonaema liquescens.—(Fig. 2482.) We know this with safety only from Moeller's account and his figure (page 248) which we reproduce. It seems to be very much on the order of Entonaema splendens but differs in habits, flatter on the matrix, instead of globose. We believe we have the plant from Prof. Thaxter, Trinidad.

Entonaema cinnabarina.—(Fig. 2483, perithecia enlarged.) When we cut into "Xylaria" cinnabarina, Australia, and examined it, we find that the flesh is dark, horny and soaks up gelatinous. Hence it is an Entonaema. In addition we note that the reddish crust peels off in patches from the mature perithecia, and that the perithecia are partly protruding and have bright cinnabar surface. Spores are 6x12. All this is different from any Xylaria, and from the plant we received from Mr. Froggatt, Australia (Cfr., page 896), and which we referred to Xylaria cinnabarina. This will necessitate renaming the latter plant. There are Hypoxylons with red crust and red stroma, but this the only Sphaeriaceae we have noted with red perithecia.

The Genus "Glaziella," "Cooke."—This genus as emended by Cooke (Grev. 11.83) is one of the most wonderful collections ever brought together under one head. It embraced five species, viz:

No. 1. Glaziella abnormalis.
No. 2. Glaziella aurantiaca.
No. 3. Glaziella splendens.
No. 4. Glaziella vesiculosa.
No. 5. Glaziella ceramichroum.

Nos. 2 and 4 turn out to be the same Glaziella vesiculosa.

No. 1 is a Hypocreaceae, sterile, but drying hard and horny and is related to Moeller's genus Ascopolyporus, and probably one of his species.

No. 3 is the genus Entonaema of Moeller. Good for me and same or close to Entonaema splendens (Cfr. previous column).

No. 2 as Xylaria (sic) aurantiaca (Berk) and No. 4 as Glaziella vesiculosa, compiled in Saccardo as Xylaria (sic), belong to the Endogonaceae as recently shown by Prof. Thaxter, and have no botanical relationship or suggestion whatever of a "Xylaria."

No. 5 is a Hypoxylon for Berkeley, a Xylaria in Saccardo, a Hypocrella for Petch and belongs to Hypocreaceae. Thus the five species of Glaziella of Cooke

embrace four species belonging to four different genera and three different families: One a Sphaeriaceae, one an Endogonaceae, and two Hypocreaceae. I doubt if the annals of "scientific" classification embrace another instance as rank as this.

Corrections.—On our previous visit we photographed the historic Xylarias but did not look up "Glaziella," "Sarcoxylon," etc., as distributed among several genera in the museums. As we received specimens we endeavored to interpret them from what had been published, but it was a sorry attempt and several errors were made. Our previous records should be corrected as follows:

Glaziella aurantiaca, Large Pyr., page 30, Fig. 1460 = Glaziella vesiculosa.

Glaziella splendens, l. c., page 29, Fig. 1459 = Entonaema splendens.

Sarcoxylon aurantiacum, l. c., page 29 = Entonaema aurantiacum.

Entonaema mesenterica, Myc. Notes, page 1035, Fig. 1891 = Entonaema splendens.

The Genus Glaziella (Thaxter).—This genus has been re-established recently by Thaxter and shown to belong to the Endogonaceae. It would have been better had it been suppressed. Taking into account the vague and inaccurate original description, "Stroma subglobose, bright colored; perithecia pale filled with hyaline gelatine," and placed in the Sphaeriaceae, and Cooke's heterogeneous things he brought under this name, it should not have been recognized. The genus consists of but one certain species, a mysterious plant that has been collected several times in the West Indies and never understood until Thaxter straightened it out.

Glaziella vesiculosa.—(Fig. 2484.) Plant fleshy, globose, hollow, an inch or more in diameter, bright orange when fresh. The flesh is a layer so thin that it has been taken for the peridium until Thaxter pointed out that it contains the imbedded Endogonaceous spores. Previous workers, Berkeley, Cooke, Seaver, Lloyd, had considered it as an immature plant that had not developed its spores. Seaver in fact thought it was not a fungus. It grows on logs but is attached so slightly, that usually it is found loose, and the records are, it was not attached at all. We have fine specimens from A. H. Ritchie, Jamaica, and at New York are collections from Jamaica, Santa Domingo and Porto Rico. Miss Wakefield recently found it in Jamaica lying loose on the ground. It is not necessary to dwell on the mistakes made by myself and everyone else until Thaxter published on it. The original description (10 words) was 60 per cent. wrong and 40 per cent. immaterial. Berkeley originally called it Glaziella vesiculosa from Brazil, and then got a second collection from Cuba and published it as Xylaria (sic) aurantiaca "n. s." It has not as much suggestion of a Xylaria as it has of a Tangerine orange.

Glaziella Berkeleyi.—(Fig. 2485.) Globose, without opening, about an inch in diameter, convolute, the folds of the peridium sinuose as shown in our section. Texture fleshy, slightly gelatinous. Color uniform pale.

An abundant collection of this is found in Berkeley's herbarium in the Hydnocystia cover (unnamed) from "Nicobar Island, Colonel Berkeley." I presume Berkeley took it for a sterile plant as anyone else would have done, until Thaxter pointed this genus out. While I have not found spores neither have I in the other Glaziella, but they are both surely cogeneric and different species.

The Genus Sarcoxylon.—This genus is simply a thick or subglobose Xylaria with solid white, fleshy stroma and having a yellow thick cuticular layer over a thin carbonous layer. The perithecia (in only species well known) are contiguous forming a palisade layer, and extending only over the disc or upper part of the sporophore. The genus was proposed by Cooke, misdefined as having membranous perithical walls at least as far as the following are concerned.

Sarcoxylon compunctum.—(Fig. 2486.) An account was given of this Vol. 5. Large Pyrenomycetes, page 28, there is little to be added from the specimens at Kew. Cooke had fine specimens from Bailey and Mueller, Australia, and he gave a good figure of it in the Handbook. Berkeley never saw the plant and his two records, India and Ceylon, were based on a plant since called Sarcoxylon aurantiacum, but better called Entonaema aurantiaca (see page 1203). As we take Sarcoxylon compunctum in the French interpretation, and Berkeley took the figure in a different interpretation, and the figure does not well represent either, we can not say which is correct unless we may find specimens at Leiden. We judge, however, that the French are right.

Sarcoxylon Le Rati.—We gave Mycological Notes, page 668, all known as to this imperfectly known species.

Tuber rapaeodorum from G. H. Cunningham, New Zealand.—(Fig. 2487.) We are pleased, indeed, to receive a fine collection of Tuber from New Zealand, for it is the first good collection ever made in Australasia to our knowledge. The family is not even mentioned in the Handbook. There is at Kew only one recent half specimen from Wellington labelled "Tuber Borchii prox.," but its collector is not stated nor source. We are also much pleased to be able to refer this Australian collection to a European species—thanks to the fine work on the subject by Tulasne. We can not add anything to Tulasne's account. Mr. Cun-

ningham's plant appears exactly the same. It belongs to the last section of Tulasne with an even smooth peridium and alveolate spores. It is the only one figured by Tulasne that has the irregular lobed appearance as though made up of confluent individuals, and I opine that really is the case, though the union takes place at such a young state the only evidence left is the uneven surface. Also in our enlarged section (Fig. 2488) the line of confluence of the specimen is quite evident. When dry the gleba is white or very pale, but when soaked it is mottled brown. It also has a very pronounced odor, though several that I asked to identify it declined. It was named from the odor of radish attributed to it.

Though this is the first real collection of Tuberaceae made in Australasia. This is due to lack of systematic search. It takes a real enthusiast to hunt and find hypogeal fungi, like Broome in old days in England, Harkness in California. Australasia is the richest country of the world for "puff-balls," and no doubt some day it will be found the same for hypogeal fungi. A wealth of such finds awaits some future investigator there.

Since the above was written we have received a note from Prof. Mattirolo to whom we sent specimens. He refers it to Tuber Borchii and states Tuber rapaeodorum is very similar and he chiefly relies on the odor of the fresh specimens to distinguish them. Tuber Borchii was a Vittadini species and Mattirolo from fresh collections no doubt has it right. But did Tulasne? Probably not, for from his figures it can only be Tuber rapaeodorum. We do not know enough of the subject to pass on discrepancies such as this. But if Tulasne did get his figures of Tuber Borchii and Tuber rapaeodorum wrong, it will be very difficult to correct it now.

The Genus Trichocoma.—Although I believe this genus most closely resembles, when ripe, the Lycoperdaceae or "puff-balls" with which I have been hunting up for twenty years, I never noted it until my last visit to Kew. On looking up its book history it seems to me it has been put everywhere excepting where one would look for it. Juhnhuhn over a hundred years ago, 1818, published it from Java and gave a good figure of it, and a good account. He named it Trichocoma paradoxa, for it appeared to him a paradox between Myxomycetes, Hydnaceae and Lycoperdaceae. Surely it is anomalous as a Lycoperdaceae but no suggestion of the other two families. From its asciferous nature when young it has mostly since in our books and herbaria been associated with Hymenogasteraceae or Tuberaceae, which is the reason I never saw it before. Massee got up a cock and bull story that it was a kind of Lichen and proposed the name Gasterolichen. I am sure it has no more to do with a lichen than it has with a sea weed.

Fischer, who probably states what he has seen, says that it has spores in asci which early disappear and allies it with Tuberaceae. I believe asci are hard to find in the ripe plant, still I do not question Fischer's account, but if Fischer found asci, Massee could not have found basidia as he states. Judging from the herbarium specimens, however, anyone would naturally associate it with Lycoperdaceae and not with Tuberaceae. Since above was written I have for the first time received a collection from John E. A. Lewis, Japan, and I find asci in young material, but no one from the ripe specimens would suspect it was asciferous.

Trichocoma paradoxa originally from Java is represented at Kew by abundant specimens from Kurz and Hooker, India, and from Cesati, Borneo. Berkeley reports it from New Zealand, but there is no specimen to confirm it. As this is written we just received it from Japan. Ravenel distributes under the name from North Carolina, but that was a misdetermination for the following.

Trichocoma paradoxa.—(Fig. 2489.) This is a wedge shape fungus that grows on logs. It has a powdery gleba like a puff-ball, but, as before stated, it only simulates a puff-ball in its gleba and a few other features. The base is hard and subwoody made up of yellow slender hyphae that color the potash solution yellow. The spores are elliptical, 4x6, dark colored and appear to me strongly tubercular as Massee shows them rather than covered with plate like protuberances as Fischer shows them. To the eye (Fig. 2490, enlarged) there appears to be capillitium proceeding from the sterile base, but under a lens they are coarse strands with no real analogy to capillitium. There is a thin floccose, caducose peridium over the fertile portion of the ripe specimens which extends probably over the sterile portion when young.

Trichocoma levispora.—(Fig. 2491.) This has the general appearance of the previous to which it was misreferred and distributed (Rav. 4.77) from North Carolina, but it is a much smaller species and the spores 6 mic. globose, and very minutely asperate. Massee picked it out when he was working with some "lichens." It is strange that an exceptional genus of the East should be represented only by a similar species in our Southern United States and not known from Europe, Africa, Australasia or South America. Excepting Ravenel, we think no one has collected it in America.

Xylaria Reinkingii from Otto A. Reinking, Philippines.—(Fig. 2492.) Clubs cylindrical, 2-3 cm. long, mostly with a sterile, acute apex, sometimes obtuse. Surface (Fig. 2493, enlarged), with a white crust through which the black ostioles project. Spores small, 3x5.

Two collections were received from Mr. Reinking, 4144 collected at Los Banos by J. Lizaso and 10604 from Mt. Maquiling by C. Nacion. Both grew in the ground with a long, rooting base. The species which we would class in Section 3 strongly resembles Xylaria muscula of American tropics (page 994, Fig. 1781), but different habits and stature.

The Genus Penicillopsis.—This tropical genus was proposed by Solms and specimens distributed No. 86, Raciborski, collection from Java. It grows only on seeds and has a conidial and fertile state in the manner of a Cordyceps. The conidial state form beautiful plumes as per our figures (2494 and 2495). The fertile are only known in connection with the original species Penicillopsis clavariaeformis of Java. Fortunately, from Raciborski's fine collection we are enabled to illustrate both the conidial and the asciferous state. The ascocarps as shown by Solms have chambers lined with globose asci, each with eight spores. This really allies the plant to Tuberaceae as to first structure, Plectascineae as classed by Fischer. Certainly it has no affinity with Hypocreaceae as found in Saccardo.

Penicillopsis clavariaeformis.—(Fig. 2494.) At Kew we found fine collections from Raciborski which we illustrate both the conidial and asciferous forms. The original conidial form does not seem to have been found by Solms and has not heretofore been illustrated.

Penicillopsis Dybowski.—(Fig. 2495.) At Kew is a fine conidial collection of this species from Singapore which Massee had referred to the previous. We illustrate it Fig. 2495, and it is so characteristic that any tropical collector will recognize it as soon as he finds it. I hope Mr. Holttum will find it in its various stages.

Penicillopsis Brasiliensis.—Moeller gives a nice figure of this but the specimen we have seen (Ule, No. 50) is too broken to photograph. There seems to be a usual state of Penicillopsis that is neither (true) the conidial nor asciferous stage. They are puzzling when one first meets them. Hennings has named two from Brazil Penicillopsis palmicola and Penicillopsis juruensis and one from Africa Penicillopsis togoensis. I imagine a number of this indefinite state have been named as other genera if one will hunt the tropical Pterulas and Clavarias in the museums. At any rate, I am quite convinced now that Pterula fruticum, page 867, Fig. 1478, and Pterula Philippensis are both this intermediate state of some Penicillopsis.

Hypocreopsis riccioides.—(Fig. 2496.) No more striking and curious shaped fungus grows than the above which was figured by old Bolton, 1790 (t. 182); also in Tode's old work. It has the reputation both in America and Europe of being a very rare plant, and in America the only specimen known is in Ellis' herbarium and was collected by Miss Minns in New Hampshire many years ago. In England it was found in Westmoreland "May, 1908, growing plentifully on apparently healthy willows," sent to Crossland and considered in detail in the Naturalist for October, 1908. In addition to Crossland's fine specimen (Fig. 2496), there are at Kew abundant specimens from Drs. Carlyle, Carlisle, and one from Glamis, Berkeley. Karsten distributed a nice specimen (No. 664) as Hypocrea riccioidea and proposed the genus based on elliptical hyaline septate spores eight to the ascus. We are willing to accept the name on the macroscopic characters of the plant, for it is somthing unique, but other species of the ordinary Hypocrea type of stroma with these Nectria type of spores we prefer to consider as a section of Hypocrea.

Hypocreopsis riccioides (Fig. 2496), closely clasping the stem with its peculiar finger-like lobes, can not be mistaken from our figure made from Crossland's fine specimen. We trust our friends will hunt for it on willows, for we would like to get specimens in our museum. The spores are 8-9x24-30, elliptical, hyaline one septate, and eight in each ascus.

Hypocreopsis solidus.—(Fig. 2497, enlarged.) Peltate, applanate, dark, shield shape with thinner margins. Color dark, almost black. Perithecia forming a peripheral layer, dark (but not carbonous). Ostiodes papillose. Spores 8x30 mic. subfusiform, pale colored, with distinct septum. This is one of the old collections sent to Schweinitz from Surinam about eighty years ago and still only known from this type. Berkeley called it Hypoxylon solidum. It is not a Hypoxylon and solidum has no special meaning as applied to it. It is not a Hypocreopsis for the spores are not hyaline, but a new genus (Pseudosolidum McG.). Its general appearance is somewhat that of the only true Hypocreopsis and spores, if there were hyaline, would be similar. Cooke states that it is a Hypocrea, but if he found the spores he did not record them. It is a striking example of the paucity of tropical collections that this marked thing should rest on a single specimen (Fig. 2497, enlarged) collected eighty years ago.

Xylaria Cornu Dorcas from H. Vanderyst, Congo Belge.—(Fig. 2498.) Clubs flattened, once or twice dichotomous branched, with broad, flat stem and branches. Black with no cuticle. The plants are immature but the shape is so characteristic it will readily be recognized from the figure.

Polystictus praegracilis from H. S. Yates, Sumatra.—(Fig. 2499.) This little species has same color, thickness and appearance to the eye, as Stereum spectabile, and until I soaked it up I took it for that species. It is about ½ cm. in diameter, tapering to

the base to a short slender stipe. Surface smooth. It is very thin; a section shows the pores about same depth as the context. Pores minute, round. No cystidia, and spores not found. While it is a "Petaloides" it suggests no other, and we would place it in the aberrant Section 21.

NOTE 1144—**Polyporus Patouillardii from Prof. S. R. Bose, India.**—Prof. Bose states that a Ptychogaster is very common in the dead cavities of Caesalpina trees where the above grows, "one coming after the other." He inquires if there are any relation between them. They are probably conditions of the same species, but why Ptychogaster forms occur, I do not know that anyone has found out. They are most common in dry countries and have something to do, no doubt, with spore production under discouraging circumstances.

NOTE 1145—**Pilacre faginea from D. S. Welch, New York.**—We mention this to acknowledge the very fine and liberal collection received from Mr. Welch (while we were working at Kew). Before we left home we had prepared an article with figures (not available here), which will appear maybe some day. It has the reputation of being rare, and Berkeley named it from the States Pilacre Petersii. We studied and photographed the plant in Fries herbarium as Ecchyna faginea, where it is found as a Gasteromycete if we mistake not, for we were working only on "puff-balls" in those old days. Then we saw Pilacre Petersii in Peters herbarium at Tuscaloosa, it being the only "Petersii" that Peters had in his herbarium. We are sure they are the same, a conclusion that W. B. Grove (Ann. Bot.) also arrived at by examination of herbaria specimens. We find the plant rarely around Cincinnati, and when it is young but full-grown it has a thin peridium. As to confusion of generic names—Pilacre, Roesleria, Ecchyna—we believe on the sacred principles that Roesleria is the original Pilacre, and Pilacre is the original Ecchyna, but that both are too well established in present meaning to be juggled now.

We believe that Pilacre has nothing to do with any Discomycete and that the similarity in appearance is only a coincidence in nature. And we agree perfectly with Prof. Grove that Pilacre has no botanical relationship "nor the most remote connection" to the jew's ear family nor any of the Tremellaceae, notwithstanding the conclusion of such eminent men as Tulasne, Brefeld and Patouillard (and this is not written in a facetious mode). As I observed Pilacre it was of slow development, retaining the peridium a long time, bearing its spores on a mass of hyphae, ripening the spores into a dry mass of spore and hyphae, which persist into the winter. Surely with this history it can not again become reincarnate into a Discomycete. Prof. Grove finds in England growing only the Ascomycete, and I have found in America only the Hyphomycete which tends not to bear out the conclusion (4th summary) that Pilacre is probably a conidial stage of species of Roesleria. With his other three summaries we fully agree on his second and third and know nothing about his first.

NOTE 1146—**Stereum ochraceum from J. T. Paul, Australia.**—We will not spend much time in describing this for it is only a color form of Stereum hirsutum with the surface hairs same color and silkiness of Polystictus ochraceus. But it is a rare form and I never noted it before.

NOTE 1147—**Fomes pinicola from I. M. Johnston, Pikes Peak, Colorado (a chemical test).**—We received from I. M. Johnston from Pikes Peak region, Colorado, a young Fomes that at first interested us much, for it had pure white context and yellow pores. We could not recall any such Fomes and when we noted that potash solution turned it red at once we were more puzzled. We thought it was a young Fomes pinicola, but we did not know that potash solution changes the color of Fomes pinicola. We find it does for on old specimens it is so dark that black would not be bad for the color it makes. The color change that potash causes on Polyporus rutilans is well known, but how it so long escaped our notice as to the common Fomes pinicola is strange. The white context of Mr. Johnston's plant is evidently only a very young state, for when old this context is yellowish or isabelline.

NOTE 1148—**Trametes pusilla from Roy Latham, New York.**—This is the second collection I have received. The original from Dr. Stocker, Minnesota, was published and figured on page 774. We described the pores as white, and so they are on freshy dried specimens, but on these and on Dr. Stocker's specimens now they have turned reddish. Mr. Latham collected it on white oak.

NOTE 1149—**Catastoma Johnstonii from I. M. Johnston, Pikes Peak, Colorado.**—This we named only a short time ago from specimens that Mr. Johnston found in San Antonio Mountains, California. He sends it now from Pikes Peak, Colorado. The spores (4-5 mic.) we find now are not perfectly smooth as we recorded them, but are minutely rough but almost smooth.

NOTE 1150—**Trametes incondita from Prof. P. Van der Bijl, South Africa.**—We published this, page 551, Fig. 756, from specimens from Mr. Bijl. When we examined this collection we thought not same, as spores subglobose, 8 mic. with large gutta did not correspond to our record, but on re-examination of previous sending we find spores same. They are more globose than we recorded them. Also is an older collection, the spores nearly a cm. deep and buckthorn

brown rather than warm buff. We think that a question of age.

NOTE 1151—**Laschia rubella from Prof. P. Van der Bijl, South Africa.**—A second collection from Mr. Van der Bijl to the eye the same as illustrated (Fig. 2399), but darker color. The color cells are more numerous and those in the hymenial layer quite prominent. We do not find the cylindrical cristated cells noted on the previous sending, but we hardly question it is the same plant.

NOTE 1152—**Fomes pini from Elam Bartholomew, Kansas.**—I recorded these spores "globose hyaline 5-6 mic." They are abundant in this specimen and I measure them now 4-5. Most are hyaline but a few surely pale brown. I always thought they were hyaline. I note Overholts records, however, "hyaline or brown."

NOTE 1153—**Lycoperdon foliocola from Rev. J. Rick, Brazil.**—A true Lycoperdon growing on a bamboo leaf is worthy of name and record from its unusual habitat. I judge, however, the leaf must have been lying on the ground and that it is not as strange as appears at first sight.

Globose about size of large pea. Color light olive. Peridium thin, glabrous, with no sign of having had an exoperidium. Gleba light olive with no sterile base. Capillitium long intertwined, much branched, 4-5 mic. thick. Spores globose, 4-5 mic., smooth, not apiculate, each with a small globose gutta. It is close to Lycoperdon pusillum but habits differ and it has no root.

NOTE 1154—**Hypoxylon Broomeanum from Rev. J, Rick, Brazil.**—We use the name for this that it was named by Berkeley as to American specimens. It is common in the tropics, and no doubt we will find other names for it when we work over the species in European museums. P. S.—We did—several.

NOTE 1155—**Geoglossum capitatum from Rev. J. Rick, Brazil.**—This, as Rev. Rick refers it, is a form of Geoglossum hirsutum, as illustrated Geoglossaceae, Fig. 794. It has same microscopic characters, but the stems are much more slender and heads much shorter.

NOTE 1156—**Institale ochracea from Rev. J. Rick, Brazil.**—Institale is only a convenient name for something no one knows much about (Cfr., page 916). This was sent as possibly Institale bombacina (page 917), which occurs frequently and wide-spread on the hymenial face of Fomes and other polyporoids. It is quite different, except in habits. It forms a loosely attached membrane 2-3 inches in diameter. The surface is smooth, even, ochraceous. A section shows a loosely woven hyphae structure, and a surface layer of hyaline, smooth piriform spores, 5x8, but how borne I do not know, but surely directly on the hyphae. This grew on hymenial face of Fomes hornodermus, and is the third plant to my notice with such habits and affinities. Compare pages 916 and 917 for the other two.

NOTE 1157—**Polyporus lignosus from Prof. H. H. Hu, Nanking, China.**—There occurs very frequently in the tropical countries a Polyporus which has many names, but now generally called Polyporus lignosus. It can be learned by experience, for the pore color (dried) is peculiar and darker than the context. I understand the pores are orange when fresh. Usually the pores pale out below, but in four specimens sent by Prof. Hu this is not the case. Also context in these specimens is pale, probably white when fresh. African collections often have yellowish context. Most collections that reach me are largely or entirely resupinate. Not one of these four had any resupinate development. We considered this plant in our Fomes pamphlet but most collections (as these four) are Polyporus. Very rarely is it a Fomes. When it is, it is practically the same as Fomes ulmarius of Europe and Fomes geotropus of the tropics. Surely the classification of fungi is not solely a question of names.

NOTE 1158—**Polyporus ochroleucus from L. J. K. Brace, Bahamas.**—There are two corresponding plants, Polyporus ochroleucus (rarely Fomes) in Australia and the East, and Fomes Ohioensis in America. These have the same peculiar spores but the pileus differs in color—yellowish in the former, white in the latter. Polyporus ochroleucus is very rare in American tropics. We have seen but one before (Rev. Rick, Brazil; Cfr., notes 748, letter 68). The specimen Mr. Brace sends is, however, typical of the Eastern plant.

NOTE 1159—**Daedalia polita from L. J. K. Brace, Bahamas.**—Lenzites polita, or in this instance Daedalia polita, is a polished form of the common Lenzites repanda. These specimens are sessile dimidiate and the pores decidedly yellow. The variations of this plant are hard to designate with special names, but not practical to give a distinctive name to each. The collections we have heretofore referred to Lenzites polita have white pores.

NOTE 1160—**Hydnum septentrionale from Dr. W. H. Ballou, New York.**—A large specimen weighing sixty pounds has been collected by Dr. Ballou on a maple tree at Greenwich, Conn. This occurs in mass rarely around Cincinnati, and usually at base of beech trees.

NOTE 1161—**Corticium fuciforme** (Cfr. Trans. Brit. Myc. Soc., Vol V, page 481) **from Prof. L. Rodway, Tasmania.**—It is fortunate that I was at Kew when this was received, for I could have done nothing with it, and Miss Wakefield is thoroughly informed on it. Her article cited above gives the bibliography and

history. The specimens sent by Prof. Rodway are deep red threads attached to grass blades. They have no spores or basidia of any kind, are gelatinous in their nature, and if Miss Wakefield had not known it, I should have called it probably a Calocera. Berkeley had these same red threads and called them Isaria fuciformis. McAlpine worked out its life history and its connection with the effused fungus which scantily accompanies it at times and which is called Corticium by Miss Wakefield, Hypochnus by McAlpine and Epithele by a couple of Germans who only knew McAlpine's article and were only "butting in." The fullest account and illustrations were given by McAlpine in Ann. Myc., 1906, page 541. From this article we learn that it causes wide-spread damage to the grass crop. It occurs also in England and the English and Australians have each blamed the other for the introduction of this unwelcome visitor.

NOTE 1162—**Stereum involutum from H. Vanderzst, Congo Belge.**—There is a Stereum in the tropics that one soon learns to recognize by a peculiar reddish waxy appearance of the hymenium. Under the microscope not so easy, for sometimes it has abundant metuloids, and sometimes none or hard to find, as in this collection. The hymenial color of these are the brightest we have seen, matching Sanford brown (Ridg.). We gave a summary of the forms Stereum involutum takes with names and illustrations on page 1114.

NOTE 1163—**Simblum sphaerocephalum in the West.**—Elam Bartholomew has kindly sent for our inspection the specimens of above rare phalloid which he collected on "Bare ground by woodside, Rooks County, Kansas, Nov. 2, 1902." All three specimens have the net covered by the volva which has been carried up, but the species is without question. In addition there is a record by J. M. Bates in Nebraska. We gave Phalloid synopsis (page 6) a record of the only five collections known in the United States. We have not heard of its collection in the past twenty years.

NOTE 1164—**Poria epimiltina** (Cfr., page 969).—At Kew, Berkeley knew only the type Ceylon. There are recent collections from Malay (2) and India. Patouillard got it from Africa and called it Poria borbonica, then Ellis from Mexico as Poria aurantiotingens (not rufotincta as in error on page 970). I have collected it abundantly in Florida and it occurs, no doubt, throughout the tropical world. The species is readily recognized by the peculiar orange stain it imparts to the wood.

NOTE 1165—**Poria ferrugineo-velutina from H. S. Yates, Sumatra.**—We are enabled to name this on comparison with Ule 2807, which we find at Kew. We have never worked with foreign Porias. It seems to us a peculiar species close to Poria epimiltina but differs in color and more minute pores. It has a velutinate surface due to projecting hyphae. The host is permeated with white mycelial plaques and there are indications of a red coloring, but not so marked as in Poria epimiltina. The latter grows in the Philippines and has been recorded under the name Poria borbonica, surely a synonym. The two have been confused. Thus the Java collection by Hoehnel and the Philippine collection by Servinas, 16929, both referred to Poria borbonica should be referred to Poria ferrugineo-velutina.

NOTE 1166—**Fomes pseudosenex from Kurt Zenker, Africa.**—The same plant that Montague published and illustrated from Cuba as Fomes senex, but not the plant he originally so named from Chile.

NOTE 1167—**Fomes robustus from E. W. Swanton, England.**—A fine specimen and the second that has been collected in England. It is strange they do not find it more often in England, for it occurs not rare in France and is widely distributed. Not so many years ago it was practically unknown or rather unrecognized, for it was confused with Fomes igniarius. Mr. Romell first made it known to me and since through my writings and determinations many specimens are recorded throughout Europe, America, South Africa, Australia, Ceylon, in fact in practically every country of the world. And only a few years ago there was not even a traditional knowledge of it, only a vague notice as a "new species" in Sweden. Truly, the history of Polypores has been developed more in the last few years, than in the hundred previous years.

NOTE 1168—**Polyporus renidens from Rev. C. Torrend, Brazil.**—This is the first we have from Brazil, although it was named from this country. For me it is a species-form of Polyporus leptopus but we have considered the subject in detail on page 1144. It must be a rare plant in Brazil.

NOTE 1169—**Calocera vermicularis from W. C. Muenscher, New York.**—Growing caespitose from a common base. Clubs acute, about 1 cm. long, pure white when soaked, dry pale yellow. Basidia forked. Spores 5x10 allantoid, curved, hyaline. Growing in decorticate wood. The pale color attracted attention at once and when soaked it was pure white. Otherwise it is same as the common Calocera cornea and probably it is only a pale variety. When soaked it is more flacid, however, and we did not get a good photograph.

NOTE 1170—**The value of advertisements. "Xylaria Guepini (Fries) Cesati."**—Nearly a hundred years ago, Guepini, a French botanist, found a very exceptional Xylaria growing in a manured field and

sent specimens to Fries. He published it (1828) as Sphaeria Guepini. It was the section "Cordyceps" as Xylaria's were then known. While I have not looked up Xylaria's at Upsala, I found no specimens elsewhere until my last visit to Paris. It appears that Monsieur Camus, who succeeded Hariot as custodian at Paris, found the original Guepini collection in some old package stuck away somewhere and incorporated them in the Xylaria covers at Paris. Xylaria Guepini has never been refound in France, but was recently collected in Holland (Cfr., Myc. Notes, page 1101), and is known to this day from but these two collections. It is compiled in Saccardo as "Xylaria Guepini (Fries) Cesati."

It seems that Cesati, an Italian mycologist, some twenty or thirty years later, found in manured ground in Italy another very exceptional Xylaria. Specimens are preserved in Cesati's herbarium at Rome (and a cotype at Kew), but nowhere else, as it has never been found since. Cesati guessed that it was a variety of Guepini's plant and called it "Xylaria Guepini var. eupilacea," the genus Xylaria having in the meantime been established. Cesati's plant has no more resemblance to Guepini's plant than a rat-tail file has to a bunch of Brussel sprouts. Now, what good does it do to call Guepini's plant "Xylaria Guepini (Fries) Cesati"? Cesati never saw it, never named it, had no idea of it and had no more to do with it than he had with the launching of the Ark. And it is only an example of a lot of "work" that is done in mycology. Men start out with good intentions but often wind up their careers getting up excuses for a lot of "new combinations" to which their name is invariably added, without any regard, it appears to me, to the merits of the case, their main idea being "new combinations." It is a sad commentary on the egotism and objects of the average "scientific" writer, and usually in their old age.

NOTE 1172—**The genus Trogia.**—To my mind this should be restricted to one species Trogia crispa, which is so well established in European literature. I never could see any logic in proposing to discontinue it for the common species that everyone knows under this name on the argument that it belongs to a hypothetical tropical species that no one knows. And the proposition to call it Plicatura crispa is worse yet. Plicatura is a perfect Merulius with an ideal meruloid hymenium. Why apply it to Trogia crispa which has an absolutely different type of hymenium not suggesting even a Merulius?

At Kew the tropical "Trogias" are few in number and doubtful in classification. Trogia infundibuliformis and bicolor are both Cantharellus. Trogia Berterii is a Xerotus; Trogia Bookii in a drawing only probably a Lentinus. Trogia hispida is probably a little Marasmius and all that is left is Trogia crispa. And modern jugglers are not willing even that it can be used for that.

NOTE 1173—**Calvatia rubroflava from J. E. A. Lewis, Japan.**—While the specimen is quite young we confidently refer it to above, for it is the only truly yellow "puff-ball" known. It is badly named for there is nothing "red" about it. But how strange the distribution of "puff-balls." This is everywhere a rare species named by a Kansas amateur on a guess. I find it rarely at Cincinnati in gardens, but very few collections are known from the United States. Then it came into me from Father Rick, Brazil; then from Australia, and now from Japan. There may be other records in our museum, but I do not remember them and they are not accessible here in England. At any rate, it is a very rare species and known from widely different regions.

NOTE 1174—**Paurocotylis pila.**—The following notes regarding Paurocotylis pila are taken from a letter recently received from G. H. Cunningham, New Zealand.

He does not know whether the plant in its earlier stages is subterranean or not, but at maturity it is found growing on the surface of the ground (or preferably decaying vegetable matter) and is attached by coarse, basal mycelial threads. Its color is bright crimson.

As I have stated in previous notes, it develops that the plant must be classed with the Tuberaceae, but it seems that its habits are entirely different from most others of this class that are hypogeal.

NOTE 1175—**Polyporus ater from R. E. Holttum, Malay.**—This was named Myc. Notes, Vol. 6, page 1003, Fig. 1832, for Mr. Chipp. We are glad to get a second collection from "the type locality" confirming the species.

NOTE 1176—**Tylostoma exasperata from R. E. Holttum, Malay.**—The most marked species of Tylostoma that grows. Compare Tylostoma pamphlet. Rare in the tropics, it was named from Cuba by Montagne. There is a confusion as to habits, for there are records of it growing on the ground and on wood, and both are probably not correct. These grew on the ground. This is not the first time it has been collected in Malay. Years ago it was sent to Massee from Malay, who discovered it to be a "new species" and named it Tylostoma Ridleyi, but Massee was not informed as to the most marked species that ever grew, and he did not take the trouble to look it up.

NOTE 1177—**Trametes Borneoensis from R. E. Holttum, Malay.**—This was named about a year ago from specimens collected in North Borneo by J. Agama. Compare Myc. Notes, page 1113, Fig. 2084. We are

glad to get a second collection from Malay. We are confident there is not another polypore of this peculiar color "Morocco red."

NOTE 1178—**Polysaccum crassipes from P. A. Munz, California.**—The specimen reached us all broken in pieces, but it must have been six inches or more in diameter. There is but one species of Polysaccum, in reality Polysaccum pisocarpium, and the names of the "species" are only based on relative size. This large form is called as above.

NOTE 1179—**Pleurotus niger from Roy Latham, New York.**—This would have been of much interest to me years ago, when I was working on agarics. I could never understand why I never found Pleurotus niger while the similar little Pleurotus striatulus was so frequent. Pleurotus niger is truly a black plant with black gills and globose, hyaline, 4 mic. spores. The gill margins have large white cystidia (or crystals perhaps).

NOTE 1180—**Tubercularia rosca from Roy Latham, New York.**—We name this only as a guess or rather two guesses: First, that it answers the "description," habits, etc., of Dacryomyces roseus as named by Fries, and second, that Dacryomyces roseus is really a Tubercularia. All these little gelatinous plants were called Dacryomyces or Tremella by the old namers who did not examine them with the microscope. It is a very small rose-colored tremellaceous cushion growing on a mossy substratum which fits "Dacryomyces roseus." That is about all I think anyone knows about it.

NOTE 1181—**Dacryomyces deliquescens from Roy Latham, New York.**—This soaks out pale yellow and is Dacryomyces deliquescens of American mycology. This collection is the conidial condition and has abundant small globose, hyaline spores about 4 mic. in diameter and borne in chains. It has developed since I have been in England and Buller's second volume has appeared that this is not Dacryomyces deliquescens of English tradition and of Buller's book. The curious oidium spores of the English plant which are first shown in Buller's book to be on separate bodies from the basidia bearing spore bodies are entirely different from these spores. I do not believe we have the English plant with us, though both countries apply the name Dacryomyces deliquescens to their respective plants. In English tradition (started by Berkeley) this oidium form, which is deep orange, is called Dacryomyces stillatus "Nees." That is a taxonomic mistake, for the Neesian plant was shown with furcate basidia and it is the common species of Sweden better called Dacryomyces abietinus.

NOTE 1182—**Calvatia lilacina from N. A. Nunez Valdez, Ecuador.—Sterile base.** This was the basis of one of Léveillé's old bulls, Hippoperdon Pila. Compare Myc. Notes, Vol. 1, page 179. Mr. Valdez's specimen matches well this wonderful discovery of Léveillé, which is preserved in a jar at Paris and came from the same general region.

NOTE 1183—**Catastoma subterraneum from N. A. Nunez Valdez, Ecuador.**—A cosmopolitum species with more names than a Parisian Apache. Catastoma subterraneum and Catastoma circumscisum are held different on the spore sizes. This collection is both, for it has many spores 10 mic. and more about 5 mic.

NOTE 1184—**Mesophellia arenaria from Prof. L. Rodway, Tasmania.**—Form with the hard central core not attached to the peridium. This is not the original form but there is really only one real species of Mesophellia. Mr. Rodway sends a liberal collection, more than ever reached our museums before. I believe, however, this species has never been sent excepting to Kew and our own museum.

NOTE 1185—**Stereum rimosum from R. E. Holttum, Singapore.**—I am satisfied on comparison this is as above but their color notes do not agree. The old specimens of Stereum rimosum are dark now and were described as "pale hymenium with areas of yellow." These were noted as "hymenium bright orange." I feel that Stereum rimosum is a species that can be recognized to the eye and is well named. The thick, fleshy hymenium is always cracked, hence the name.

NOTE 1186—**Trametes Persoonii from R. E. Holttum, Malay.**—While there is not the slightest doubt of the above, the surface is nearer black than the usual red of this species. I do not recall having ever seen one this color before.

NOTE 1187—**Speaking of Bulls!**—It only came to my notice recently, but T. Petch has shown (1919) that the "genus" Haematomyces described by Berkeley and included in Saccardo, Vol. 8, page 633, as an ascomycete with "vesicular asci and elliptical hyaline spores" is not a fungus at all, but a gummy exudation of no fungal nature or connection and without any asci or spores of any kind. This is one of the natural results of the advertising system in Mycology. Berkeley in his early days was a careful well-informed student of fungi in close relation with Elias Fries. It is my belief that his original book on English fungi (1836) is much the best book that has yet appeared in England on the subject to this day. And Berkeley's "Decades" was the earliest and best work on foreign fungi. But Berkeley was in relation with Hooker, and Hooker at that time the leading systematic botanist of the world. The large collections of foreign plants sent Hooker included many fungi which Hooker turned over to Berkeley. At first Berkeley did the work well and

carefully illustrated his "new species." Such genera as Broomeia and many others that Berkeley proposed in his early days will always stand. But as species accumulated Berkeley became careless and ground "new species" out in the most superficial way. The first evidence of that was in his Cuban fungi. Then followed hundreds from Ceylon, North America, Brazil and other countries that poured in on him. Anyway to get rid of them and add "Berkeley" to their names if in time they proved good seemed to be the main idea in his mind. This is the chief result of this system of advertising. Men like Berkeley, who could have done good work if he had done careful work in his post-Osler days, gets into a panic for fear that somewhere there may occur a species that does not have "Berkeley" written after it. For this reason he "names" every foreign collection he gets, even if it is a piece of gum!

But Berkeley's work as a whole did a lot of good. What is most needed for tropical fungi are names, and Berkeley has named most of the common ones. The fact that he named them in many instances several times, also that he named many little frustules that should not have been named, detracts from the value but does not destroy it. Berkeley's named specimens are carefully preserved at Kew and names from this source can be obtained for most common species. One of the embarrassing things in determining fungi from tropical countries, and where they have been but little collected, like Japan, China, Africa, are the large numbers for which there are no names.

So we have no grudge against Berkeley. On the contrary, he did a lot of good. And to quote from a previous pamphlet, "Berkeley's work was a classic compared to such work as has been done by Léveillé, Cooke, Massee, Kalchbrenner, Hennings, Atkinson, Copeland," and we would add now Harkness, Coker, Burt on Tremellaceous fungi and Clavarias, Lloyd on Durogaster, and another that we do not add from personal regards.

HISTORY OF THE GENUS TREMELLODENDRON.

In order to give an account of the discovery of this genus, we must go back a number of years. Twenty-five or thirty years ago there were three men supposed to be authorities on American mycology. Peck, Ellis and Morgan. They had acquired the American traditions handed down mostly from Berkeley through Ravenal and Curtis, which was in the main correct perhaps, as to common species, but largely wrong as to others. Their chief work was to propose as new species everything that came into their hands that they did not know, which was considerable. About that period there were three younger men, Burt, Atkinson and myself, who were ambitious to learn the subject. The two former had graduated at Harvard, and felt themselves very much superior on that account. As far as I could figure it out the chief mycology they learned at college was to cut sections and keep their razors sharp, good accomplishments for a mycologist, but perhaps more useful for a barber. As to classification of fungi, neither of us knew but little, and had not much means of finding out. We were all sending our specimens to anyone who we thought could give us names for them, and in those days it was a very uncertain and unsatisfactorily process, for often we got direct contradictory results as to the same collection.

The Harvard graduates had not much advantage on those lines for they had learned but little taconomy at college. Burt announced that he was going to straighten out the Thelephoraceae, which was a most useful thing to do, for no one in America knew the elementary principles. He worked very steadily, but very slowly on the subject all those years and has published in part and will probably finish it if he lives fifty or a hundred years longer.

There is a common plant in America known in those days as Thelephora Schweinitzii or Thelephora pallida as named by Schweinitz. It grows in most localities and every collector will find it usually the first season. Certainly it is no Thelephora, but in those days we in America did not know what a Thelephora was. I sent it to Bresadola as Thelephora Schweinitzii, and he wrote me that it had the cruciate basidia of tremellaceous plants and was a Sebacina. I could not understand why a Sebacina for it is an erect plant and Sebacinas I thought were flat resupinate plants like Corticiums. I only learned the present summer in Saccardo's herbarium why Bresadola considered it a Sebacina and he had good reasons for it, but that is another story. I believe I was the first American to send my plants to Bresadola, and I published what I was doing and the satisfactory information I was getting from this source. Atkinson took up the same thing at a later date and some five years after Bresadola had written this to me I was surprised to note when Atkinson came out with an article in which he states, "In studying the structure of Thelephora pallida I was surprised to find that it does not belong to the Thelephoraceae but belongs in the Tremellaceae on account of the globose cruciately divided basidia. It represents the type of a new genus for which I propose the name Tremellodendron, Atkinson, N. G."

As this was exactly what Bresadola had written me as to the same plant several years before, and I knew Atkinson was sending plants to Bresadola, I thought I could see through his "new genus." I met

him at Paris some years afterwards and charged him in a mild way of trading on Bresadola's knowledge. He denied it and stated that he (Atkinson) had made the discovery independently and that he had sent it to Bresadola with the statement as to its basidia, and his proposal to call it a "new genus." When I met Bresadola shortly afterward I told him what Atkinson claimed, and while Bresadola did not seem to be much exercised over it, not half as indignant as I was, he stated that Atkinson sent him the plant as I had sent it as Thelephora Schweinitzii or Thelephora pallida, and that he had written him as he wrote me, that it had globose cruciate basidia and that the plant was a Sebacina. Here was a direct contrary statement by two men, both of which could not be true. Someone was handling the truth very carelessly and I never thought for a minute it was Bresadola. They criticise me because I hold that personal names should not be added to plant names, but when the system induces men to venture into the realms of falsehood and misrepresentation to justify their names it is high time it should be abolished. If the plain facts were set forth, I doubt if Atkinson knew that Tremellodendron had basidia until he was informed by Bresadola. And the above is only one of the little tricks that "scientific" gentlemen are everlastingly inventing to cover their "new genus" or "new combinations." When the result of an "investigation" is chiefly a lot of "new combinations" it would not be far wrong to say it is the object, not the result, of that work. And it is surprising how superficial some of this investigation is, and the men who have indulged in it.

POINTED COMMENTS.

In his recent compilation on Clavaria, Prof. Burt, referring to Clavaria flavella, makes the following statement: "Type in Curtis Herb. and also in Kew Herbarium probably." While it is absolutely immaterial except it is an instance of the spirit of deception and deceit that permeates a lot of the mycological writings of men who ought to work on a higher plane. A type specimen is the identical specimen that was named and described and has no other meaning.

Of the species that pass current under the fraudulent advertisement "Berkeley and Curtis" there is not a single type in the Curtis herbarium and never has been and Burt knows it. Curtis was simply a collector, and about the poorest one that sent specimens to Berkeley. There is not a bit of evidence at Kew, neither with the "type" nor with the numbered list that Curtis sent, that he knew the first elements of fungus classification. As far as he left any evidence at Kew; all Curtis ever knew of mycology was to fit up names to numbers. Practically all the specimens were sent simply numbered and Curtis rarely knew enough to suggest a genus even. Berkeley named them, "described" them, and published them, and Curtis had nothing whatever to do with it, and knew nothing about it until after it was done. Or Berkeley may have furnished him with a list of numbered names, as to that I do not know. There was a tacit understanding, however, between Berkeley and Curtis, that to the specimens the latter sent Berkeley was to add the word Curtis to the advertisement. It was a fraudulent agreement designed to misrepresent the situation, and to give the impression that Curtis was a joint author. He was not, and even those articles published in American Journals under the joint names bear evidence on their face that Berkeley wrote them. Curtis was only trading on Berkeley's knowledge. Curtis did make up and publish a list of North Carolina species but it was made up of names furnished (by number) by Berkeley. If numbers were mixed, as numbers are liable to be, the list, in those instances, would be wrong; for I do not believe Curtis knew enough of the subject to even catch mistakes.

Berkeley and Curtis were both clergymen, supposed to teach morals and truth, and yet we find them indulging in this little piece of deception. Fifty years later Prof. Burt, a graduate of Harvard, not only knowingly aids to perpetuate this ancient fraud, but goes a step further and misrepresents that the types are in the Curtis herbarium. We might have patience with a four-year-old child telling these little fibs but a man, old enough to be a grandfather, ought to have passed that childish stage, and confine himself to the truth.

It was bad enough to misrepresent that the type of Clavaria flavella is in the Curtis herbarium, and there was surely no occasion whatever to gratuitously slur Kew with the statement, "also at Kew probably." The only type of Clavaria flavella that ever existed is at Kew in cover 8104, and if Burt does not know it, he does know enough of the history of the "Berkeley and Curtis" frauds to know it can be nowhere else. There is also another of this same (Wright) collection in Hooker's herbarium at Kew (without number), and it is just as much a "type" as the collection in the Curtis herbarium. The same applies to Paris, to Clinton's herbarium, to Montagne's and to any other museum where these Wright collections were named up by number, as they were in several other museums as in the Curtis herbarium. If it were customary, as it should be; if we have to have personal advertisements in connection with plant names, to include the name of the collector, the advertising firm of Berkeley and Curtis would be right in many cases. But even then not in all, for many plants bear this fraudulent adver-

tisement, that Curtis probably never saw until after they were published. Wright's collections in Cuba, Bonin Island, etc., Curtis was only the forwarding agent, and there is no more reason to continue Curtis' name in connection with these particular plants than there is the name of the expressman who carried the package into Kew. It was not customary with Berkeley to add the name of the collector, excepting in a few instances where he wanted to cater to the vanity of some brother preacher. Lea sent the first specimens Berkeley ever received from the States, and they were accompanied with very full notes. Thwaites, from Ceylon, and Spruce, from Brazil, sent as many and far better specimens than Curtis did and not in one instance did he write Berkeley and Lea or Thwaites or Spruce. He should have treated all alike, not singled out a brother preacher to engage in this petty fraud. When a man gets an obscession that the road to glory depends on the number of times he can get an excuse to form "new combinations" and write his name after plant names, there seems to be no limit to the little tricks, fibs and juggles to which he will resort.

NOTES IN ITALIAN HERBARIA.

The following are a few notes on plants of interest in Italian herbaria. Where the plants are types or of special interest to be illustrated, they will be published later. In all these herbaria we found types of good species that we were glad to learn. They will be published and illustrated in future issues.

NOTES IN THE HERBARIUM AT TORINO

(Kindness of Prof. Mattirolo)

Tylostoma melanocyclum.—In our pamphlet we gave this as a probable synonym for Tylostoma mammosus, but on the color of the peridium it is entitled to a name. In every feature it is the same as Tylostoma mammosum except the peridium is brown and it is pale in Tylostoma mammosum. At Torino, in Mattirolo's herbarium, there are abundant Italian specimens of Tylostoma mammosum, only a few of Tylostoma melanocyclum. Petri gives a good figure of it. As stated in our Tylostoma pamphlet, Vittadini confused Tylostoma mammosum, a species with a different mouth, to Tylostoma granulosum and this mistake was copied by Fischer and appears in many exsiccatae. (Cfr. Note §, Tylostoma pamphlet, page 23.) I did not find the type of Vittadini's Tylostoma mammosum, only a collection which he had labelled Tylostoma brumale but which may be his figures as mammosum. If so, both are in error, for the plant is what has been called Tylostoma Vittadinii by Petri.

Calvatia candida from Prof. O. Mattirolo, Italy.—This is a rare species in Eastern Europe, but in Italy it appears not to be rare. Prof. Mattirolo has made ample collections. It does not occur in France, England or Scandinavia nor with us in the States. It is a small species, olive gleba, small, smooth, pale spores, 4 mic., with small apiculus. And pale, intertwined capillitium, often broken in short pieces, and 2-4 mic. thick. It developed in Vittadini's herbarium that this was his Lycoperdon Bovista but surely not in the original sense.

It has also developed that there is a chance for a little name juggling in connection with Calvatia candida. Prof. McGinty announces that it should be called Calvatia tunicata (Batsch) McG., but we have not space for his argument based on "priority." The species was first really made known by Dr. Hollós, and we have adopted the name used by the man who first made it known.

Bovistella paludosa in Italy.—There is at Torino a single specimen of this rare species which was collected by Prof. O. Mattirolo among moss. It is the fourth collection known (see Myc. Notes, vol. 3, page 435, for the previous records.) Unfortunately this was misdetermined by Petri as Bovistella ammophila, as it appears in his work, and I opine he has constructed his figure from Léveillé's old figure, rather than from the plant. They should not confuse Bovistella paludosa with Bovistella ammophila, for the former grows in moss and has a thin peridium, and the latter in sand, and has a thick hard peridium and it is only known to this day from the one specimen preserved in the museum at Paris. On the other hand, Bovistella paludosa has been collected four times in Europe and recorded three of the times under erroneous names.

MISCELLANEOUS NOTES IN CESATI'S HERBARIUM

Polyporus tostus form resupinate is Irpex concors.

Grammothele mappa is Poria Ravenelae.

Craterellus hypolyssoides is a very minute little specimen on under side of a leaf. In habits and size and appearance surely no Craterellus. Material is too scanty to find out what it is.

Stereum ferrugineum. Surely not. To the eye looks like it is stereum bicolor.

Lenzites Malaccensis—Saccardo's name change is Lenzites acuta as was the original Lenzites platyphylla "Cooke not Lev."

Auricularia sordescens appears to be resupinate Auricula reflexa as indorsed by Bresadola (as Phlebia reflexa).

Merulius similis, Cesati record Ceylon. Certainly not a Merulius. Probably an Auricularia.

Lycoperdon anomalum. No type found.

Polyporus vitis is Polyporus stereinus of my pamphlet.

Hexagona vitellina is the common Polystictus cervino-gilvus.

Poria luctuosa, Beccari's collection, all appear same to me, but Bresadola decides to contrary, and calls part Poria Cesatii.

Polyporus dermatodes is Hexagona tenuis.

Daedalea velutina is that fauve form of Lenzites betulina called Lenzites Berkeleyi by Léveillé.

Daedalea pruinosa of Cesati record is probably Lenzites acuta as indorsed. It is discolored, however, and not sure for me.

Mutinus borneensis. The specimen, also figure, are preserved in Cesati's herbarium. The species is same as Penzig named Jansia rugosa, Berkeley Mutinus proximus.

Scleroderma anomalum. No specimen found.

Cyclomyces Beccarianus. This is Cyclomyces fuscus. Same color and typical cyclomycoid gills. The upper surface is mat, floccose texture, as the author calls it, but the "species" not worth a distinctive name.

Poria micans. At Romé is a collection labelled in an old German hand "322 Poria micans Ehrenb." I think this must be a true collection and the first I have ever noted in any museum. At Berlin, as I have previously stated, there is no trace of any fungus on the piece of wood held as the type. Surely Poria micans is not the plant it so appears in recent writing in Europe.

Polyporus incompletus. A single specimen, while probably distinct, is certainly rare, and not surely normal. The pores are well formed but the mouths are pustular, and it appears to the eye as though they are abortive, hence Cesati called it "incompletus." He did not break into it as Bresadola did or he would have found the pores normal beneath the mouths. The short stipe is black at the base and I would put it in section 49. Cesati suggested it was a sterile form of Polyporus grammcephalus, but not possible, I think.

Polyporus pusiolus. We considered this in our "Stipitate Polyporoids," a scutellate analogue of our little Polyporus poculus. It has peculiar cystidia on the hymenium. A cotype at Kew and this in Cesati's herbarium are all known. I see no warrant to refer it to Polyporus concrescens and its record in the Philippines is for me an error.

Laschia papulosa (Favolus papulosus, as named by Cesati). To the eye appears to be Laschia pustulosa (Myc. Notes, p. 834), but the color does not agree. It is brown now and was described by Cesati as dark ochraceous. Laschia pustulosa is a white plant.

Favolus papulosus so compiled in Saccardo causes only confusion. First, it is not a Favolus but a Laschia. Second, it is not Laschia papulata as well established and as found in Saccardo.

Lycoperdon Kalchbrenneri "de Toni" is a young depressed specimen with the cortex of Lycoperdon cruciatum, same as found in Persoon's herbarium under the name Lycoperdon depressuon.

Scleroderma areolatum "St. Ferneo pr. Neo Comum, June, 1868." I think Cesati, but never published. It is Scleroderma verrucosum.

Daedalea Ravenelii. I should not have to go to Rome to find out what this is, but those I have seen before (Rav. Exsic. 6-372), had been so mussed over I did not recognize it. It is same for me as Irpex tabacinus, a much better name for it.

Rhizopogon provincialis Erb. Crit. Ital. No. 350 is not this plant as I understand it. It was from Barla and is, I think, Rhizopogon Briardii as illustrated by Boudier.

Lenzites bruneolus, "Berk. in litt," Cesati's herbarium is only a dark form of Lenzites striata.

Polyporus polychrous was a kind of inclusive name that Cesati had for the section Microporus. The form mesopoda is Polystictus xanthopus. Form pleuropoda var. rufo-aurata is Polystictus affinis; var. pallida is melanopilus as recently named.

Trametes ludificans is a sessile form of the polymorphic Lenzites repanda.

Hexagona Cesatii "Berk in litt." Excepting color, this is exactly the same as Hexagona albida, and I believe same discolored. It was described as lignicolor as it is now, and if that was its original color then for me it is a good species. But I believe a change of color by age. The cotype at Kew is a cyclomycoid specimen.

Anthracophyllum Beccarianum. The specimen on which this wonderful genus was based is now so small and scanty I could make nothing of it. It appears to me to have been a black subiculum of some kind. I could see no gills even with a hand lens, and the sooner we forget the "genus" the better it will be. In the original sense it was bad enough but when Kalchbrenner comes along and amplifies it by ascribing to it "black spores" then it becomes ridiculous. Notwithstanding, the genus has been recently recorded in the Philippines. When an old mistake of this kind gets a start, it is very hard to head it off.

Xerotus dasypus. No specimen was found by me in Cesati's herbarium, although checked as being there. There is no cotype at Kew, hence I guess it is a lost species. Cesati marked it with a ? sign as to genus and from his description it does not appear to be a Xerotus at all.

Polyporus cremorinus for Cesati, in Saccardo as Fomes, and it is a Trametes, thin rigid and belongs to section 127. Color uniform, isabelline now, but called "pale gilvus." It has a glabrous polished surface, same, and for me is Trametes paleacea.

Cladoderris elegans is the type of "Beccariella insignis" and Cesati was the author who discovered Beccariella about fifty years after Persoon called it Cladoderris. The subject was discussed in full in our Cladoderris pamphlet. The specimen is now indorsed

Cladoderris dendritica-Cladoderris elegans, two quite different species in my opinion. For me, Beccariella insignis is a synonym for Cladoderris elegans.

NOTES IN SACCARDO'S HERBARIUM AT PADUA

Scleroderma flavo-crocatum from Malay is evidently not a Scleroderma at all. It is something quite distinct but immature, I think, for the gleba cells still persist and the immature spores are hyaline, irregular, globose, smooth, from 5-8 mic. The peridium is smooth and bright yellow throughout. I would not wish to venture as to genus at all excepting it surely is no Scleroderma.

Lenzites crocatus. This was published as a variety of Lenzites cinnamomea. For me it is Lenzites saepiaria.

"Panus dorsalis teste Lloyd." The specimen so labelled in Saccardo's herbarium I took the liberty to scratch off "teste Lloyd." "Panus dorsalis" was one of the current bulls in American mycology twenty-five years ago (Rav. Amer. 103, Ellis 913). It was several years before I found out that "Panus dorsalis" was same as Pleurotus nidulans as found in Fries. We have touched on this same subject before, see vol. 1, page 59.

Lenzites atropurpurea. This name was based by Saccardo on some collections from Italy as found in his herbarium. The plants have the same dark purplish color as Lenzites tricolor and for me are better so referred.

Polystictus biformis. Old memories were brought back to me on noting in Saccardo's herbarium a collection of the above labelled "O 2356, Poylstictus cervinus Schw. Linwood, Ohio, Oct. 1902, C. G. L." That was the period when we were groping around in the dark trying to get names for our most common plants. Cervinus was a Bresadola proposition before I learned at Kew that Polystictus biformis was the name generally applied to it.

Polyporus Ceratoniae. An Italian specimen from Comes is surely Polyporus sulphureus as Barla's illustration is. It was proposed as different because the flesh was "white," but it was only discolored as old specimens of Polyporus sulphureus always become in time, and very often in situ in the woods.

Hexagona pallens from Galcotti, Vera Cruz, is Hexagona albida, resupinate, but rarely takes these resupinate forms.

Polyporus hirsutus var. scruposus Sacc. Ven., No. 16. This is that "fauve" form of Polystictus hirsutus that Persoon called Polystictus lutescens.

Lenzites trabea. This plant, rare in Europe, common with us, was discovered by Peck to be a new species and called Lenzites vialis. Bresadola was the first to apply the European name to the American plant. They write "Fries and Persoon" after it in Europe, but Fries never saw it and it is not the plant of Persoon. It seems to be an European tradition, however, and plants are in Saccardo's herbarium so labelled by de Thümen as far back as 1872. I think the authority really should be Orth (Switzerland), for he discovered, or at least distributed, it as a new species quite independent of the previous use of the name.

Polyporus Mylittae. For many years the tuber known as "native bread" was a mystery in Australia for its nature was unknown. In 1885, Mr. H. T. Tisdall found specimens that had developed fractifications of a Polyporus which was sent to Kew and named Polyporus Mylittae (1892). A year later Saccardo, in Hedwigia (1893), described a polypore from Western Australia said to grow on Mylittae and by a coincidence also named it Polyporus Mylittae. The specimen from W. B. Spencer, Western Post Victoria, is at Padua. It was sent to Saccardo by F. von Mueller, labelled "Polyporus abnormal Western Post, 1892." Saccardo labelled it Polyporus Mylittae Sacc. An Mylitta ortus tunc Mylitta esset ejus sclerotium." That was only a confusion of the host name, I think, for the Polyporus is Polyporus Eucalyptorum, with no resemblance to Polyporus Mylittae and it certainly never grew on Mylitta. I do not know where Saccardo got the idea, for nothing with the specimen to indicate it, and the Polyporus is a common and well-known species of Australia. I make the species of this collection elongated, 4x10, not as I previously recorded them, and there has been some confusion on my part on this subject.

Hexagona hirta in Australia. There are in Saccardo's herbarium more Australian specimens than I have noted in any other European museum excepting Kew. Among them I find a collection of Hexagona hirta. This species is common in Africa, but I have never received it from Australia nor do I find any collection at Kew. Hexagona hirta is perhaps only a small-pored form of Hexagona apiaria, and the large-pored plant has been collected in Australia several times.

Polyporus Eucalytorum. This is one of the rather frequent Australian species which we decided as to name from the description. There is no type in existence and there was no tradition even as to a name for it. (Cfr., Apus Polyporus, page 297.) In Saccardo's herbarium there is an old collection so named by Tepper, Australia. We are glad to learn that our views are same as derived independently by an Australian collector. There is no question in our mind that it is the correct name.

There are also abundant collections from New Caledonia, J. F. Roberts, misreferred to Polyporus portentosus. New Caledonia is the "type locality" for Polyporus spermolepidis, a "new species," based on this most common "old one" (in Australia).

MISCELLANEOUS NOTES

Historical.—We do not know much about the history of Ravenel excepting that he seems to have sent his plants to Berkeley through Curtis. An extract that we reproduce from a letter would indicate that he issued them in his "Fungi Carol" before they were "described" and he at least considered that he had "published" them and the advertisement should be "Ravenel." Speaking of Hypoxylon Walterianum, he says, "When I first described it many years ago I gave it the name in honor of Walter, author of Flora Caroliniana and sent it to Berkeley in which he acquiesced. I published it under that name in Fungi Carol. Exsicc. IV-35." Berkeley may have "acquiesced," but he did not include it in his list (Grev., vol. 4), or rather I think Cooke really got up the most of that list. It is put in different genera by Cooke and Ellis and is not a Hypoxylon, but these little discrepancies do not affect the naming. The truth is, I believe, that most of Ravenel's things were "published" by him in his Exsiccatae and should be so cited and advertised "Ravenel" alone. He sent them to Berkeley, but then Berkeley was an old man and does not seem to have done anything with Ravenel's specimens until the "Notices of North American Fungi" appeared in the first volumes of Greveillea (1872-1876). These articles were ascribed "By the Rev. M. J. Berkeley, M. A., F. L. S." The advertisements appear in this list as "B. & Rav.," but I think the list was far the most gotten up by Cooke and the advertisements should be "Ravenel" if an exsiccatae is publication, or "Cooke and Ravenel" if the subsequent list in Greveillea was "publication" and it would be better if it were neither.

Schweinitz' specimens at Paris.—There are quite a number of these and some very good ones. They are mostly with a printed label "Herb. Mus., Paris. Carol Sup., Am. Sept. D. Schweinitz, 1824. Ex. Herb. Brongniart."

Fomes annosus.—We note the following interesting information on Allescher & Schnabl Fungi Bavariei No. 432.

Polyporus scutatus, C. O. Harz. Syn. Poria scutata Hoffm. Boletus cryptarum Bull. Polyporus cryptarum Fries. Polyporus subpileatus Weinn. Polyporus serpentarius Pers. Polyporus scoticus Klotzsch. Trametes radiciperda Hartig.

And the learned "Prof." C. O. Harz might have added Fomes annosus as found in Saccardo and known to Persoon and Fries and practically every mycologist except this learned "Prof."

Such is fame—Visite illustri.—Nel giorno 6 Aprile visitarono Crea l'ill, mo sig. Curtis Lloy di Cincinnati (Stati Uniti) accompagnato dal professor Oreste Mattirolo del' l Universita di Torino, dal Prof. Gabotto, Prof. Nicola e signori Lanfrancone e Bozzolo di Moncalvo.—La Madonna di Crea—Maggio 1923.

Visitatori illustri all Orto botanico.—Da circa un mese sono ospiti del nostro Istituto universitario botanico due illustri scienziati stranieri: il prof. Carlo Raunkiaer, direttore dell'Istituto botanico di Copenaghen, uno dei piu eminenti fito-geografl contemporanei, noto principalmente per la classificazione dei tipi biologici vegetali, ed il prof. C. G. Llody, di Cincinnati (Ohio), micologo insigne ed illuminato mecenate delle scienze naturali; egli raccolse e regalò al suo Paese un magnifico Museo ed una nota Biblioteca ricchissima di opere sulla botanico e sulla farmacognosia, ma in modo speciale poi dedicata alla micologia. Egli venne appositamente in Italia, e piú specialmente all'Instituto di Torino, per studiarvi i funghi ipogei, nella conoscenza dei quali si é specializzato il Prof. Oreste Mattirolo—Gazzetta del Popolo della Sera—9 Maggio, 1923.

Hypocrea armeniaca "Berkeley and Curtis."—These two gentlemen discovered a "new species" that they so named from Bonin Island (1860). The type is two little spots on a leaf; may be Aschersonia or some other leaf spot fungus, but surely not a Hypocrea. Years later these same gentlemen discovered another new species from New England, and gave it the same name, Hypocrea armeniaca. The specimens of the two numbers cited, Murry 5714 and Sprague 6269, have scanty resemblance to each other, but little discrepance of the nature do not matter much to the discoveries of "new species." But the strange part is how Berkeley in England and Curtis in America should happen to make exactly the same mistake in naming these different plants. If one had done it, it might be attributed to an oversight, but when two make the exact same mistake in exactly the same way as regards three different plants, it is not a coincidence, it is a miracle (or a fraud).

Burt informs the world that the types are in the Curtis herbarium. If Burt was telling the truth (which he was not), Curtis must have named (or misnamed) these three different plants the same name under which Berkeley published them.

But Murry collection Hypocrea "armeniaca" growing "on ground" is interesting. It has more than a suggestion of Hypocrea apiculata, it is almost a certainty. The type is most scanty and I found no spores. But if some cotype turns up some day, or the so-called type is in Curtis herbarium, with the peculiar spores of "Clintoniella" apiculata, it will be a god-send for Prof. McGinty who in anticipation writes that he calls it "Clintoniella armeniaca, Berkeley, Curtis and McGinty."

DATA—This issue was sent to press immediately on my return home from Europe, August 22, 1923. I find a vast accumulation of specimens to be studied at my earliest opportunity.

Mesatiano." It is indorsed "Martinigne." I have gotten fine specimens of this (Cfr., vol. 5, page 584), but I believe this the first I have seen in any museum of Europe. This is evidently the identical specimen that Tulasne illustrated and probably the only one he ever saw. When I first looked up Cordyceps in Europe about eight years ago, I did not find a specimen of Cordyceps sobolifera in any museum.

The effect of name juggling.—It is the latest juggle by Xylaria men to call Xylaria polymorpha as Xylaria clavata. Xylaria polymorpha has so been called ever since the days of Persoon until this latest juggle a few years ago. Westendorp found in a botanical garden, Xylaria arbuscula, a tropical species that has become advertition in several gardens in Europe. He discovered it a new species, Xylaria clavata and distributed it (No. 902). The result is that in a museum lately I found this "new species" of Westendorp under the name Xylaria clavata, and the old and common species Xylaria polymorpha under this new juggle (Xylaria clavata), both in the same cover and glued to the same sheet, and they have as much resemblance to each other as an onion has to a pineapple. In other covers of the same museum are covers of Xylaria arbuscula under its proper name, and abundant specimens of Xylaria polymorpha under its proper name. Of all nuisances that infest mycology, the name juggler is the worst. He does more harm than Dermestes or any other herbarium pests, and the "work" is so evident on its face, so cheap, that it is incredible how a "scientific" man can indulge in it.

Trichoderma viride from Miss Ann Hibbard, Massachusetts.—No less an authority than Tulasne states that this is the conidial stage of Hypocrea rufa. I can not say to the contrary, but I simply can not believe it. In Tulasne's herbarium there is ample material of this in the Hypocrea rufa cover but nothing to show any connection between them.

Polyporus squanosus from Rev. C. Torrend, Brazil.—Well worthy of a separate name from its form. I can not think there is any real difference. This has a short mesopodial stipe about two inches thick and long, but with same color, scales, pores and particularly the soft spongy flesh and flesh color, it must be the same thing. Polyporus squanosus usually has a long pleuropodial stipe as it grows on standing trees usually in Europe. This apparently grew from buried wood in the ground.

Lentinus villosus from Rev. C. Torrend, Brazil.—Reverend Torrend sends two collections from same stump. One the usual villose plant, the other almost smooth. I think the smooth form is an aberration only.

Correction.—Poria xanthopus, page 1012, should be Poria xanthospora. It is annoying how these little errors will creep in.

A minute Dacryomyces from Roy Latham, New York.—Mr. Latham sends us decorticate wood, "a very minute Tremella-like plant." Mr. Latham has good eyes, for I can not see it even with a hand lens, neither dried nor soaked. But a scraping under the microscope shows a definite little species of Dacryomyces, typical as to basidia and appearance but no spores found. Its color is pale yellow. I am afraid it is too small to name, though formidable Latin names are applied to more minute plants.

Xylaria apiculata from S. Rapp, Florida.—While this common tropical plant does not appear in Ellis nor other U. S. records, it is not the first time we have seen it from the States. At New York we noted two or three Southern collections not named. In our account (vol. 5) of Xylaria apiculata we probably placed too much stress on the "cracked surface." The character is not at all in evidence on these specimens. Xylaria apiculata is proving to be one of the common tropical Xylaria, notwithstanding it is hardly known to the old namers or records, and has the honor (?) of having been named by Cooke.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 70 (Vol. 7, No. 3) September, 1923

CARLO VITTADINI

Our portrait this month is that of an old Italian who will ever be known as the "Father of Hypogeal Fungal Study." The first man who ever seriously engaged in the classification and search in this obscure field of inquiry. Previous to Vittadini very little was known of the subject. The old Romans had known and highly esteemed the truffle as a food but it was supposed there were only two kinds, the white and black truffle. A few species of Elaphomyces, Rhizopogon and Chaeromyces, were known to the old mycologists, Bulliard, Sowerby, Persoon and Fries, but they are not truly hypogeal and are found on or near the surface.

Vittadini (born 1800, died 1865) was a prosperous practicing physician at Milano, Italy. His work in mycology was a recreation, and a passion to learn a subject that no one else knew anything about. He secured a trained dog and diligently searched for underground tubers, and he found, of course, all the common species, and a few that have never been found since. He evolved a system of classification, and published a fine and accurate work on the subject, illustrated with colored plates. In addition he worked and published on puffballs, and other Gasteromycetes, also a popular book on edible fungi. Vittadini was liberal in his distribution of specimens, which are preserved today in Berkeley's and Tulasne's herbaria. Also in Saccardo's and I am told at Milano and Florence. The main collection, however, has been secured by Prof. Mattirolo at Torino, who told me, if I remember correctly, that he had all except two authentic Vittadini species. There are few men who have an opportunity to work in an absolutely new field, and few men who have done better work than Vittadini.

We are indebted to Prof. Mattirolo for the portrait that we present.

In this connection we would classify the workers on Hypogeal Fungi in our own mind as follows:

Masters of the subject—Vittadini, Tulasne and Mattirolo.

Good workers but whose work was not as exhaustive—Bucholtz, Gilkey, Fischer, Hesse and Berkeley.

Good collectors but who have published but little—Broome, Lespiâult, and Rodway.

Rotters who have published caricatures or determinations so inaccurate and superficial that their work was discredible to them—Corda, Zobel and Harkness.

Posers who have published or pretended to teach the subject on which they had very scanty knowledge—Massee and Burt.

NOTES IN ITALY

About two months was spent (April and May) in a most pleasant visit to the mycological collections in Italy. The result of this visit will appear in time in Mycological Notes and we will give here only a short narrative account.

Prof. O. Mattirolo.—Our first stop was at Torino where we were most cordially received by Prof. Mattirolo. We have been travelling around for many years and have known most of the contemporary mycologists and never have we met another (excepting Romell of Sweden) who has impressed us as favorably as Mattirolo. He is passionately wrapped up in his work and studies, most earnest, most energetic, most modest mycologist we ever knew. His specialty is the hypogeal fungi and he is today the only man in the world who has a thorough knowledge of them. For forty years he has been actively searching this difficult field and nowhere else are hypogeal fungi found in such quantities as in his collection. In addition to his researches along these lines he is Director of the Orto Botanico of Torino and Professor of Botany in the University. His studies cover practically everything, taxonomy of flowering plants and fungi in general, pathology, physiology and even diatoms have not escaped his attention. He stands at the head of these departments in Italy and has been teaching so many years that there is hardly a man of prominence in any botanical institution that has not at one time been either his student or associate. And, for all that he is just as modest as one will meet in a day's journey. He placed his rich collections most liberally at our disposition and we spent about three weeks photographing and working with them. We did not learn one-fourth what we would like to have learned of the details of the subject, so we plan another visit to Torino the first time that we have the leisure.

The Orto Botanico at Rome.—This is located on a hill in the very heart of Rome and is of small extent, occupying about a square. It is rich in palms and other tropical growths for the climate of Rome is so mild that the banana grows and prospers and sends up new shoots in the open. The chief interest to me was the herbarium of Cesati which is preserved in this institution. Prof. R. Pirotta is Director of the garden and to him I am indebted for the fullest privilege of study and work in the herbarium.

Baron Vincenzo Cesati.—A generation ago Cesati was a most active Italian mycologist. He was born in 1806 and died in 1883, and was Professor of Botany in the University of the Botanical Garden at Naples. He collected industriously the fungi of Italy and contributed a large part of the fungi to the Erbar. Crittgam. Ital. one of the most important exsiccatae published in Europe. I found in his collection several rare Italian species that I saw nowhere else. His herbarium is quite large, but made up mostly of the usual exsiccatae and what is rather rare in museums, Ravenels Exsic. Americana, his second one. To me the historical specimens of the collection were the fungi of Borneo collected by Beccari and published by Cesati (1879). Cesati named several "new species" that are good and will be published and illustrated in Mycological Notes. But he had a very scanty opportunity to know foreign fungi, and many of his determinations and records are wrong. He sent cotypes to Berkeley of most of his species which are preserved at Kew. Cesati's herbarium was arranged by Prof. Pirotta following Saccardo Sylloge hence easy to consult. It is in fine condition, and does not appear to have been disturbed excepting to send a few sheets to Bresadola. In opening it up I felt much like Lord Carnarvon must have experienced when he opened the tomb of Pharaoh Tutankhamen. I was not, however, the first American mycologist to visit Rome. Dr. Murrill left a record of a visit some years ago, but he was so busy hunting for old botanical names in the Catacombs, that he did not find time to visit the herbarium. Prof. Pirotta told me that he had never heard of this celebrated American traveller and archeologist. After Cesati's death an effort was made to purchase the herbarium by an American institution, but on the solicitation of Prof. Pirotta and Prof. Mattirolo the daughter sold it to the Orto Botanico in Rome at about one-half the price she could have obtained in America. It is due to her patriotism that the herbarium is preserved in Italy, where by right it should be kept.

Padua.—This is a picturesque old city lying about halfway between Verona where "Two Gentlemen" once lived a long time ago, and the amphibeous city of Venisè. The city is classical from a mycological point of view for here Saccardo carried on his mammoth work, and here his herbarium is preserved in the building of the Orto Botanico. This, by the way, is the oldest botanical garden in the world, and was established by order of the Doge of Venisè in 1545, by special charter which hangs on the wall in the room where Saccardo worked. Our photograph, taken in the garden, shows a portion of the building and the rooms where Saccardo worked and kept his herbarium and where it is still preserved. We present also another photograph, taken from the window of the herbarium room, with the spires of St. Antony, a view that Saccardo had constantly before him. It was under these picturesque surroundings that Sylloge Fungorum was compiled. Prof. G. Gola is Director of the Orto Botanico at Padua and Professor of Vegetable Physiology and Pathology of the Royal Instituto Botanico. He has charge of Saccardo's herbarium and kindly extended to me every facility to photograph and work with the specimens. Two weeks were pleasantly spent here.

Saccardo's Herbarium.—This is probably one of the largest private herbaria brought together, and is particularly rich in the usual exsiccatae which are found everywhere. In addition it has a full set of Rick's exsiccatae and Kmet's both rare in the museums where I usually work. The specimens are enclosed in transparent paper, arranged alphabetically by genera, and are convenient to consult. I have seen this transparent paper plan nowhere else, and it is a fine idea, and saves much time in going through a collection. It is quite evident that Bresadola, particularly twenty or twenty-five years ago was closely in relations with Saccardo. There are more Bresadola specimens in Saccardo's herbarium than in any other (excepting his own), I am confident. It brought back to me memories of old days to find in this collection many specimens that I sent to Bresadola twenty to twenty-five years ago, when, like all American mycologists, we were groping around in the dark trying to find names for our common fungi. There are relatively few "types" in the herbarium, for Saccardo never engaged much in that kind of work. I expect he was pretty well fed up and disgusted with it from his daily job of compiling the thousands of so-called "new species" that were published by others during his life.

Saccardo's Sylloge.—Before his death Saccardo had compiled two additional volumes of Sylloge, but I understand it is not assured that they will be published on account of the financial situation. I learned in London that an effort was being made to issue them but how successful I do not know. The manuscript of these two volumes is in the hands of his son-in-law, Prof. Alex. Trotter, who has a professorship in an institution at Naples. It is probable that this mammoth work will terminate with these two volumes if they are published.

Rev. G. Bresadola.—We could not leave Italy without a pilgrimage to Trento to pay our respects to Bresadola, who is to my mind the most learned mycologist in the world. Trento (see illustration), is a small mountain city, located in a narrow valley of the Tyrolean Alps, and since the war a part of Italy. We found Bresadola had aged very much since we saw him about ten years ago, and we solicited and are pleased to publish a photograph of him as he appears today in his seventy-sixth year. He is quite feeble and broken in health, but is as brave and devoted to his studies

as ever. There was a rumor in America during the war that he was interned in a military camp near Vienna. That happily was not the case, but he was exiled from Trento to an Austrian province and was only permitted to return to his native city during the last year of the war. Living conditions were very bad and Bresadola shows signs of suffering during those cruel days, when even the food supply was scanty. Bresadola is a grand old man, and will leave an imprint on systematic mycology only equalled by that of Persoon and Fries.

THE TRUFFLE INDUSTRY OF ITALY

Most persons, practically all Americans and English, have a wrong idea, if they have any idea at all, of truffles. The Americans think they are a kind of tuber that the French find under the ground and eat like they were potatoes. The English view is not much more correct.

It was a fortunate chain of events that gave me an opportunity to learn the truth. I have been in correspondence for many years with Prof. O. Mattirolo of Torino, Italy, and he is the world's authority on the scientific classification of hypogeal fungi, as truffles are known. He may not realize it for he is a very modest man, but there is no other who has a thorough, complete knowledge of hypogeal fungi. He had the kindness to accompany me to the locality where truffles are found and to arrange with an old truffle hunter to bring his dogs and spend an afternoon in search of the tubers. It was not the season to find the true truffles but I could see exactly the manner of hunting for them.

Truffles are not found in the vast plains of Italy, but only in the foothills of the Alps. From Torino we went about forty miles to Casale by rail, where we were the guests of Car. Dott. Luigi Gabotto, who is Director of the Pathological Institute at Casale, and a man of considerable business interests. He has a large place near Casale (which we visited) where he grows the grape vine by the tens of thousands grafted on American wild stock to replace the vineyards which have been killed by Phylloxera insects which have done great damage in this region. From Casale we drove by automobile about twenty miles further to Crea, a religious reservation on top of one of the foothills of the Alps. Here we met, by arrangement, Enrico Lanfrancone and his father, an old truffle hunter, and his two dogs, trained to hunt for truffles. Mr. Lanfrancone (Jun.) is a truffle merchant at Moncalvo which is the center of the truffle trade of this section. He is Director of the Bank and the most prominent citizen I think in this village, and has made a modest fortune in the trade in truffles. There are two kinds of Italian truffles, the white truffle (Tuber magnatum) and the black truffle. The latter I was surprised to learn from Mr. Lanfrancone is not distinguished as to kinds in the trade, for "black" truffles really comprise (teste, Prof. Mattirolo), four different species, viz: Tuber aestivum, brumale, melanosporum, and macrosporum. All are, however, collected and sold indiscriminately as "black" truffles, and the truffle trade knows not any distinction between them. There is a wide difference of opinion between the Italians and the French as to which kind of truffle is most esteemed. The Italians value only the white truffle and they bring from a hundred to four hundred lires a kilo., that is from five to twenty dollars a pound, according to the season. It is needless to say at this price they are not much eaten but they are very fragrant and used for flavoring the meat gravies on the occasion of special feasts, etc. The black truffles, on the other hand, are more esteemed by the French and in the Italian markets are sold as low as eight to ten lires a kilo., that is, about half a dollar a pound. The French, however, value them much higher and on a visit I made to Paris during the Christmas holidays (the end of the truffle season), I saw black truffles offered in the windows at about a dollar each, the size of a walnut. If I remember correctly they sold during their season before the war at eight to ten francs a kilo., about one to two dollars a pound. Truffles grow only in calcareous soil, and always in relation to the roots of certain trees chiefly the oaks. Hence they are not found over the vast plains of Italy, but only in the "wild" portions of the foothills. In Southern France, I am told, near Carpentras, which is the center of the French truffle trade, there are large areas reserved for the growth of truffles, where they plant the trees with which the truffles are always associated, but in Italy there is no such industry. The Italians only collect them where they grow naturally in the relatively small areas that are not devoted to the vine, for the foothills of the Alps are one large vineyard. Truffles grow during the summer and reach maturity in the fall, hence the season for the white truffles is September, October, November and December, and for the black truffles about a month later. October is the principle truffle month. The Italian truffles are collected mostly by the country people who have trained dogs. They find them in the copse and the wild places of the Alps. They are brought to the villages and sold to the truffle merchants who pack and ship them and are marketed in about the same way as our farmers market their eggs. In the vicinity of Torino, as previously stated the center of the trade, is Moncalvo, about sixty miles distant.

The truffle dog is a most intelligent animal, trained specially, for it is not natural for a dog to hunt truffles as they hunt rabbits with us. There are men who make a business of training truffle dogs and a good dog commands a high price, as much as a hundred dollars it is said. Under the directions of the master's voice, and the dog seems to understand every word his master speaks, the dog closely smells over the surface

of the ground where directed and when he scents a truffle he scratches the dirt out to a depth of four or five inches. The master closely watches the operation and picks up the truffle when it is thrown out with the dirt, and rewards the dog with a small piece of bread to eat for every truffle found. It was most astonishing to me to note how the dog seems to understand just what was expected of him, and most wonderful how he could detect a little truffle, perhaps not larger than a pea, buried several inches in the ground. Truffles grow to a size usually about an inch but at the season (April) when we made our excursion the true truffles had all disappeared, and all we found were little species not larger than hazel nuts and not the marketable kind. The method of hunting them, however, was the same as during the season. In conclusion I wish to acknowledge my obligations to Prof. Mattirolo of Torino, Prof. Gabotto of Casala, Mr. E. Lanfrancone of Moncalvo, and particularly to his father, Signore Lanfrancone, the truffle hunter, and his two most intelligent dogs. We present a figure of Mr. Lanfrancone, Sr. and his truffle dog. This was taken several years ago when Mr. Lanfrancone was a younger man than he is today. We also present a figure given us by Prof. Mattirolo, showing a truffle hog and a truffle dog. I did not see any truffle hogs for they use only dogs in northern Italy, but I am told they are employed in southern France and Italy, and in Sardinia they have trained goats. The hog needs no training for he hunts truffles naturally, and when he finds one his master rewards him by a crack on the nose, and takes the truffle away from him.

THE LYCOPERDACEAE OF VITTADINI

Prof. Mattirolo has succeeded in finding and bringing together practically all of specimens of this classical writer. They are preserved in the museum at Torino under Prof. Mattirolo's care. I was much interested in going over them although most of them had been seen as cotypes either at Kew or Paris, for Vittadini distributed his specimens very liberally to both Berkeley and Montagne. There is therefore but little to add to what I have written in my early volumes.

Geasters.—Of the ten species, two (tunicatus and Schaefferii) are wanting and the former is found in Saccardo's herbarium, Schmidelii, elegans, marginatus (minimus), mammosus, floriformis and hygrometricus are as I have published on them. Geaster vulgaris is for me rufescens.

Geaster lageniformis.—We believe we have this right in our Geaster pamphlet, although only a form of Geaster saccatus with more narrow segments. Geaster saccatus occurs typically in Italy and Vittadini never distinguished it from Geaster lageniformis.

Lycoperdons.—All of Vittadini's sixteen species are preserved, and every one of them is exactly the same as we have published under other names mostly. Plumbeum, nigrescens and tomentosum are Bovista now. Defossum is Catastoma subterraneum. Dermoxantha is Lycoperdon cepaeforme. Fragile, Bovista, caelatum are Calvatia lilacina, giganteum and caelatum. Hiemale is Lycoperdon pratense. Marginatum is Lycoperdon cruciatum of our work though as stated on page 214 Lycoperdon marginatum on its merits has the most just claim for adoption. Perlatum is gemmatum. Polymorphum, atropurpureum, velatum, excipuliforme and pyriforme are same as we use.

Lycoperdon velatum.—(Fig. 2500, type of Vittadini.) We give a figure of Vittadini's type, although we have previously illustrated it. It is rare, but found in England which is rather surprising, for it is evidently of a southern range. Petri should be felicitated on using the name Lycoperdon velatum. If he had been a rabid priorist he could not have used it. Old Micheli, two hundred years ago, gave a good figure of this plant and Batsch (1789) called *this figure* Lycoperdon stellatum, and Persoon (1801) called *this figure* Lycoperdon mammaeforme, and any date dictionary will show that 1789 and 1801 are earlier than 1842.

Calvatia gigantea.—The specimens preserved in Vittadini's herbarium under the name Lycoperdon Bovista are the rare Calvatia candida which seems to be rather common in Italy, at least Prof. Mattirolo has collected it abundantly. Petri only cites one reference. It is evident that Vittadini's account under Lycoperdon Bovista mostly refers to Calvatia gigantea and he must have had the large species, but those he preserved were Calvatia candida, much smaller and different in other respects.

Bovista tomentosa.—(Fig. 2501, from Vittadini's herbarium.) We are not absolutely convinced yet as to the true history of this rare plant. We devoted a page to it (page 392, vol. 2), in 1908 and we have not really learned anything more definite since. We believe our conclusions then are right. Vittadini's specimen (Fig. 2501) is the young tomentose condition, hardly suggestive of the smooth brown plant (Bovista brunnea) which we hold to be the mature form. But Vittadini says, "Cortice denudato, nitide castaneum," and that ought to mean something.

Tylostoma Vittadinii.—(Fig. 2502, mouth enlarged.) There has been a bad confusion as to the Tylostoma names in Europe, and Vittadini did not clear it up much. He only records one species, which he published as Tylostoma mammosum. His figure is not mammosum, and I have taken it to be Tylostoma granulosum, and his specimens which he has labeled Tylostoma brumale, is neither brumale nor granulosum. In fact

Tylostoma mammosum in sense of Vittadinii is quite distinct from any species I have seen before. Petri has called it Tylostoma Vittadinii, which name we adopt. It is the same statue as Tylostoma mammosum, but the peridium is a uniform brown, and the mouth truly fimbriate. In fact it is the first real fimbriate mouth I have seen and it raises the question if it is not Tylostoma fimbriatum as named by Fries. Full notes on the latter plant are given in Tylostomaceae (vol. 2, pages 23 and 24). While no type of Fries' plant exists I do not question but that it was Tylostoma granulosum, for it was a northern plant and Tylostoma Vittadinii is only known from Italy. We give (figure 2502), an enlargement of the mouth which is the first really fimbriate mouth we have seen.

Fomes gibbosus, abnormal.—(Fig. 2503.) A specimen of Fomes gibbosus from Sarawak which I found in Cesati's herbarium at Rome, illustrated the old adage, "if at first you don't succeed, try, try again." This unfortunate individual tried to perfect a pileus in vain, four consecutive years, one abortive below the others in form of a stipe. The fifth year must have been a good season for a perfect pileus was formed, and its life mission attained. The chief problem in the minds of fungi, as other biological individuals, is to reproduce their species and this being accomplished they usually die.

Polyporus Cesatii.—(Fig. 2504.) This is based on a plant collected in Ceylon by Beccari and misreferred by Cesati to Favolus ciliaris. It belongs to the Polyporus arcularius group (section 46) as does Favolus ciliaris, but this plant has the surface covered with dense, large, brown squamules. Polyporus arcularius varies much as to surface scales, but this collection has them developed to a degree I never saw before.

Polyporus furcatus from R. E. Holttum, Malay.—(Fig. 2505.) Mesopodial with a pale stem which is divided above in a most curious manner. Pileus, pale buff; glabrous, faintly zoned, with a depressed perforate center, caused by the imperfect union of the supporting branches of the stem. Pores, minute; drying reddish. Context and pores tissue, white. Cystidia, none. Clusters of adhearing spores are found on the hyphae. They are globose, or irregular about six mic., hyaline, smooth. The odd manner in which the stem is divided above is, no doubt, a constant feature of the species. It suggested at once the plant from tropical Africa which was published and figured in vol. 5, p. 699, as Polyporus unitus, and which had five distinct stems producing one perfect pileus. We at first thought it might be the same thing but the abundant, large spores and brown stems of the African plant do not agree at all.

Polyporus Sembilanii, from R. E. Holttum, Malay.—(Fig. 2506.) Mesopodial, growing "on ground" but doubtless attached to a buried stick. Surface smooth, buff, with faint indication of zone. Margin, slightly exceeding and recurved. Stem, dark, black in part, with dilated base. Pores, minute, grey concolorous, both mouth and tissue. Cystidia, none. Spores, abundant, subglobose, 6 x 7½ hyaline, smooth, each with a large gutta. A single specimen was collected of this (No. 9834, Negri Sembilan), but it is unique. It belongs in section 49 but does not suggest the elegans-varius group which comprise most of the section.

Morchellas of the Market in Italy.—I was in Torino, April, 1923, during the Morchella season and I looked over the stock of an old woman every day who sold them on the place San Carlos. I did not see them in the markets and I think they are not much consumed. This old woman who sold them probably has a select trade, for she only had about a peck a day. I afterwards, however, did find them in the delicatessen stores. With the exception of a very few specimens of the Morchella semilibera all appeared to me to belong to two types, and they were all a different species, I am sure, from our American common species, which we call Morchella esculenta. They had a different general appearance. While specimens could be picked out that would match up to several of Boudier's species I am afraid he has cut his cloth too fine. It did not seem to me practical to hold them as different species excepting as to two types.

Morchella rotunda.—(Fig. 2507.) A few of them were large like Boudier's figure but most were the statue of (Fig. 2508) which corresponds to Boudier's var fulva, and as to coloration they more nearly matched the latter. Rarely were they as bright as his figure, and rarely they had a reddish tinge like his Morchella Hetieri, but for me a variation. The feature of Morchella rotunda is the uniformity of color. There is no contrast between the edges and sides of ribs as there is in the next species. This comprised about three-fourths of those offered for sale.

Morchella vulgaris.—(Fig. 2509.) About a fourth of the specimens were evidently different. They had dark sides to the ribs and light edges as shown in Boudier's figure of the above. Most of them were, however, the statue of his Morchella umbrina, which for me is the same thing. The whole plant is much darker than Morchella rotunda and it is a type that we do not have at all in America.

Morchella deliciosa.—(Fig. 2510.) There were many of a little form as shown in our figure and illustrated by Cooke under the above name. I can not be sure, but I believe them to be the young of the previous species.

Morchella semilibera.—(Fig. 2511.) This plant appears to me exactly the same as our American plant

under the same name, or called Morchella hybrida by Boudier. It seems to me foolish to perpetuate under any excuse, priority or any other reason, an old delusion that the plant is a hybrid, when the same plant has an appropriate name that is about as old, and does not carry any false associations. One can call a Morchella a Phalloid with just as good reason and just as good authority as he can call Morchella semilibera as Morchella hybrida. It was very rare, apparently, in Italy as I saw but two specimens that appear in our figure.

Morchella conica.—I did not see among these Italian specimens any that correspond to Morchella conica as illustrated by Boudier, while on this subject I am well convinced that the plant we have called Morchella conica in American traditions is quite another species from the true species of Europe.

Morchella hortensis.—(Fig. 2512.) Most of the specimens previously noted have more or less irregular isometric pits. A few specimens had more elongated ribs and pits, but I could not convince myself that they were other than a variation that could not be distinguished by any sharp lines. A few specimens occurred of both the Morchella rotunda and Morchella vulgaris coloration, and I think only alterations from the normal. There was another point that impressed me very strongly in connection with these Italian plants. Morchellas must be studied fresh for their main differences are contrasts of color, which disappear when dried. I think it is futile to try to determine dried Morchellas.

Trametes aurora, from R E. Holttum, Malay. (Fig. 2513.) We determined this for Mr. Holttum as an unusual form of Fomes dochmius and we still believe it. Same context color, texture, pores with soft mouths and all essential characters. Why the specimen has concentric raised zones and why the dark spots on the surface instead of uniformly colored as usual we do not know. By reference to our figure of Fomes dochmius (Fomes pamphlet, figure 575), one could say they are not the same, but we wish we were as sure of all our determinations. Since we received the plant from Mr. Holttum we have worked over Cesati's herbarium at Rome, and we find that Trametes aurora, named by Cesati, from Borneo, is exactly the same plant, same ridges and all. We, therefore, use the name but with a conviction that it is a form of Fomes dochmius. Murrill has published that it is a synonym for Polyporus atypus but as he never saw, in his life, a specimen of either, it was a very bad guess.

Lenzites alborepanda, from V A. Putterill, Cape Town.—(Fig. 2514.) A pure white plant with entire gills (not daedaloid, as in usual Lenzites repanda), we have labelled as above. We gave the same plant, page 1004, figure 1836, as a variant of Lenzites repanada, as it is no doubt, but a second collection coming in from Mr. Putterill, we feel entitled it to a separate name. It is a different texture to Lenzites albida, the lenzitoid form of Hexagona albida.

Polystictus puroalbus, from R. E. Holttum, Malay.—(Fig. 2515.) Pure white, flat, about two cm. in diameter, with a short lateral stipe. Surface, glabrous. Pores, minute, shallow, pure white. Spores, not found. A fine little species belonging to the section Petaloides. There is none of this section in Europe and we have but one (Polystictus conchifer), in the States. As I remember I believe this is the fourth one that has been named.

Poria Cocos, from F. A. Wolf, North Carolina. —(Fig. 2516.) Mr. Wolf sent me a fruiting specimen of the tuckahoe with this Poria developed on it about a year ago. I, of course, did not publish it until his article appeared (Jour. Elisha Mitchell Soc., Sept., 1922), as he was working on the subject. The Poria, I am satisfied, has not been previously named. I made the following notes. Pure white, soft, with none or very thin subiculum and no sterile margin. Pores, large, soft, irregular. Cystidia, none. Spores, white, cylindrical, straight, 4 x 8, smooth.

Mr. Wolf is well convinced that the Poria is the fruiting bodies of the tuckahoe, and that he has solved an old standing mystery, for the nature and origin of tuckahoe has been a question for many years. I doubt if the tuckahoe is a true sclerotium, for it always grows in connection with pine roots and true sclerotia are produced by fungi, or supposed to be at any rate. In Samoa I collected the large sclerotia-bearing Lentini, and there was no connection between them and any other plant. Mr. Wolf produces the Poria by culture from tuckahoe tissue many times, and concludes that this proves that it is the proper fruit of the tuber. It proves that the tuber is well permeated with the Poria mycelium and it is possible that this mycelium, through some exciting action, may cause the tuckahoe growth on pine roots analogous to the way in which galls are formed. But that the Poria produces the tuckahoe seems impossible to me, and if Mr. Wolf will grow a tuckahoe from the Poria I should be much more convinced. I believe Mr. Wolf is on the right track in explaining this mystery of the origin of tuckahoe but I do not feel he has the full solution yet.

Echinodia Theobromae, from R. E. Holttum, Singapore.—(Fig. 2517, enlarged.) We discussed this curious plant on pages 934 and 1006 but these two specimens from Mr. Holttum are the finest received and they settle the question to my mind for one is "stilboid" the other, polyporoid. I think Echinodia is only a conidial condition of a Polyporus and why not? Most everything else has conidial forms, but very rare in Polyporus. We give again (Fig. 2517), an enlargement of these

curious stilboid (conidial) hairs, and also (Fig. 2518), the stilboid and polyporoid form.

Polyporus Theobromae, from R. E. Holttum, Singapore.—(Fig. 2518.) This is a perfect Polyporus and the same as the previous without question. The remains of the "stilboid" hairs are still present. It may have a name as Polyporus or Trametes but I think not. To the eye it strongly suggests the common Polyporus ochroleucus of the East. It is uniformly yellow with minute pores, and is trametoid in its general nature. It has no cystidia and spores seen globose, hyaline, 3½ mic., are probably not its basidial spores. I think that these specimens demonstrate beyond question that Echinodia is only the conidial state of a Polyporus.

Hexagona Fioriani.—(Fig. 2519.) This is known only from type, in Saccardo's herbarium from Fiori, Eritrea an Italian colony in northeastern Africa. It belongs to the section "Tenuis" and is quite close to Hexagona polygramma, differing chiefly in being more conchoid and uneven. The color is a uniform brown, and the surface is faintly ridged, zoned and faintly striate. Our photograph will show its differences if it has any from Hexagona polygramma. The above notes were made in Saccardo's herbarium but it seems to be a mss. name. At least I do not find it in my index. I think as we have a name for it, it should be recorded.

Stereum Valdezii, from N. A. Nunez Valdez, Ecuador.—(Fig. 2520.) Thick, rigid, conchoid, attached by a short dorsal pseudostipe. Surface with short brown, matted tomentum, variegated with raised zones and different shades of brown. Context, pale, the hyphae, yellow in potash mount. Hymenium cinereous, brown when wet. Basidia, narrow, hyaline, in section (potash) contrasting with the yellow hyphae. Cystidia, none. Spores, not found by me. When this plant is wetted there are indications of a red shade on the pileus between the tomentose zones suggesting zones of Stereum fasciatum. Notwithstanding the pseudostipe the species is closely related to the Apus section. Its closest relative is, I believe, Stereum hirsutum.

Lenzites imponens.—(Fig. 2521.) This is only known to me from the cotype at Kew (Fig. 2521). As seen from this figure it is a Lenzites with no suggestion of Daedalea as named, but the cotype does not agree with the description. The prominent features are the dark brown context and surface covered with strigose branched hairs. In these features it does somewhat suggest Trametes Philippensis, but that there is any connection between them as has been stated I can not believe. Much less do I think it possible to refer Trametes Philippensis of Philippine Islands to Lenzites imponens, as has been done. This was written before we had seen the ample type at Rome from which we got a much better idea of the plant as follows:

Lenzites imponens.—(Fig. 2522.) This is a most wonderful distinct species, and there has never been but one collection made, viz., by Beccari at Sarawak. There is a cotype piece at Kew but it never gave me the same idea as the abundant and variable collection at Rome in Cesati's herbarium. This varies from large dadaeloid to lenzitoid gills, and as to surface, from densely covered with branched scale-like coarse fibrils to almost bare of them. There is a plant with minute, round, regular pores in the Philippines which Murrill called Trametes Philippensis. Bresadola refers it as a synonym to Lenzites imponens. That to me does not seem in the range of possibility. I am glad to see the original of Lenzites imponens for while I was familiar with the piece at Kew I never realized its wonderful variation until I saw the type. But I do not believe it ever varies into a Trametes with minute, round, regular pores.

Polystictus occidentalis, from Kurt Zenker, Africa.—(Fig. 2523.) A form, the first we have noted, with a reduced, stem-like base. Usually it is sessile and broadly attached. Anyone could take our photograph and say, "that is not Polystictus occidentalis." Hundreds of specimens are in the museums and they do not have stems. But for me it is not even worthy of a varietal name.

Dacryomyces cupularis, from L. Rodway, Tasmania.—(Fig. 2524.) Sessile, 3-4 mm. in diameter, concave, cup shape. Color, pale yellow with a slight greenish tint. Basidia, forked. Spores, not found.

The specimen is evidently immature as no spores are found. Most Dacryomyces are cushion shape, no others we know concave when soaked. There is a species in Sweden, Dacryomyces chrysocomus, that dries with a depressed disc, but that soaks out cushion shape and is deep orange yellow.

Campanella cucullata, from H. C. Beardslee, Florida.—(Fig. 2525, lower soaked.) We gave, on page 815, figure 1358, an account of this tropical and marked genus that I collected in Samoa but hardly expected it to come in from Florida. It is widely distributed in the East but Prof. Beardslee's specimen is the first one I feel sure about in American tropics. In looking it up again at Kew I ran across another synonym (in addition to those cited on page 815). It is Cantharellus capensis in sense of Berkeley's Ceylon determinations and no doubt also of Fries from South Africa. Dr. Cleland's collection was the first I had seen from Australia but in this same "Cantharellus capensis" cover is a collection from New Zealand.

Stereum parvulum, from R. E. Holttum, Malay.—(Fig. 2526.) Small, thin, orbicular, with a short lateral stipe. Color (dried), reddish brown. Surface, glabrous. Hymenium, pale, glaucous to eye. Cystidia, none. Spores, globose, small 2½ mic. hyaline. A little thin

species that closely recalls Stereum obliquum (Cfr. Stereum pamphlet, Fig. 562), and goes in same section (9), but differs as to shape and long stipe. It is about same size and color as Stereum spectabile but has no cystidia and differs in several characters.

Guepinia lutea.—(Fig. 2527, enlarged.) The fungi of the Harriman Alaska expedition which was named mostly by Saccardo and preserved in his herbarium include only this one of interest to me. I think it does not occur in Europe or the States. About the same size, shape and color as Guepinia peziza, it differs in having a more slender stem which is black at the base and is not striate as in our rare little species. The type consists of only two little specimens and, of course, I could not soak it, hence our enlarged photo is made from a dried specimen. The plant is very closely related to Guepinia peziza and not to Heterotextus occidentalis as suggested on page 600.

Guepinia petaliformis.—(Fig. 2528.) In connection with above, we present the type figure of Guepinia petaliformis from the two specimens (all known) at Kew. They were collected by Peters in Alabama. While no doubt a freak form of Guepinia spathularia it is quite curious in shape. It is spathulate and crisped lobed at the top bearing the smooth yellow hymenium only on the inner face of these lobes.

Stereum Thozetii, from L. Rodway, Tasmania.—(Fig. 2529.) As to general shape and color this is close to the more common Stereum elegans. But it grows more separately and distinct. The dried plants have a thin cartilaginous appearance and a glaucous hue. It has no cystidia and the spores globose, hyaline, smooth, 4 mic. It appears to have grown on the ground but I am not sure as to that. It is rare and only occurs in Australasia.

Lentinus tenuipes.—(Fig. 2530.) This species was found in herbarium of Saccardo and came from Malay, and it is well named from its slender, smooth, black stem. The infundibuliform pileus is smooth and devoid of striations. Our figure tells the rest. I think the species is only known from this collection. There is a book species called tenuipes as var. of strigosus but no type has been located and there is no further use for the name. We therefore feel that Saccardo's name need not be changed on this account.

Xerotus Berterii, from H. C. Beardslee, Florida.—(Fig. 2531.) A common and widely distributed species in the tropics, it has had so many names that we have never been able to settle on one. We called it, Note 165, 1914, Xerotus lateritius; Note 338, 1915, Xerotus nigritus; Myc. Notes, 1922, Xerotus Berterii. Prof. Beardslee's collection reached me when I was at Kew and I went through the covers to decide on a name. I think Xerotus Berterii has the best claim. Berteri's Chilian collection was one of the very early foreign fungi, and the first when this species was named. The specimens are in evidence both at Kew and Paris. Berkeley mostly used the name in his references although I believe he discovered the same thing (or slight variations of it), to be a "new species" on eight different occasions. We considered Xerotus fully on page 1154 and we will not go over it again, nor the bull that Kalchbrenner made in ascribing to it black spores. We will only add the synonyms that we believe apply to it in looking through the covers. Possibly anatomical dissections may disclose some differences in some of these but if so they were not known to the namers and our views are based on the appearance of the plants to the eye, as it should have been to those who discovered each collection to be a "new species." The following are, we believe, the synonyms of Xerotus Berterii.

Xerotus proximus, Australia.

Xerotus lobatus, India.

Xerotus lateritius, Cuba also Ceylon determinations, Rav. Am. 414, S. Car. Hong Kong determination and Note 165, Letter 53.

Xerotus viticola, Florida also Ellis 1590 and Rab. 3531, both from Florida.

Xerotus fragilis, Bonin Island.

Xerotus fuliginosus, Hong Kong also Philippine determination, Merrill 3497 also Note 338, Letter 60.

Xerotus glaucophyllus as discovered by Messrs. "C. and M." from New Zealand.

Panus melanophyllus, South Africa, Fries specimen at Kew.

Xerotus nigrita, Iles Lucon, cotype spec. at Kew, South Africa. Cooke determination, at Kew.

Anthracophyllum nigritum, South Africa, Kalchbrenner's. Copeland, 146, Philippines Bres. naming, Sydow 52, Ceylon, Petch collection. (The genus Anthracophyllum as found in Saccardo is a bull and Berterii is no synonym for nigritum or any sacred principles of priority.)

Anthracophyllum Beccarianum, Ceylon, Cesati. The type at Rome is the merest little frustule that appears to me like some resupinate black subiculum and I could find no gills at all on it. It should be "zu stricken."

In addition the following three could well be considered variations of Xerotus Berterii:

Xerotus Rawakensis.—(Fig. 2532.) Sense of Berkeley Australia is to the eye very close to Berterii but has a distinct stem. It is only known from one collection, at Kew.

Xerotus Archeri, Tasmania is very similar to Xerotus Berterii but seems to be a paler plant.

Xerotus Drummondi, Australia, is really same as Berterii but is smaller and brighter reddish. It has a distinct stem as no doubt is same as Rawakensis above, but much smaller and shorter stemmed.

Xerotus Belangeri.—(Fig. 2533, enlarged.) The genus Trogia in which this was included, originally was based on channeled gills ascribed to this species in error, for the gills are not channeled. It might still be included in Trogia on the character of Trogia crispa, crisped gills, but this appears to me in this case due to drying. A specimen of this originally came from India to Montagne (about eighty years ago), is at Kew. For me it is a Xerotus in every respect. The color, forked gills, both are the original idea of Xerotus. (Cfr. page 1154.) As we explained (page 1115) there are only two species known of Trogia in its original idea, and but one of them have we ever found a specimen. The genus Xerotus is quite difficult to maintain from Panus and Marasmius, but if it is to be maintained "Trogia" Belangeri must be included in it.

Cantharellus cystidioides, from J. E. A. Lewis, Japan.—(Fig. 2534 and Fig. 2535, the cystidia enlarged.) Sessile, dimidiate brown, about color of Jew's ear. Consistency homogeneous, no distinction of pileus and gills. Pileus, smooth to the eye. Gills, thick, close, with obtuse edges. Pruinose under a hand lens from the white cystidia. Basidia, small, clavate, hyaline. Spores, not found. Cystidia, large, dense, about 20 x 80, thick walled, hyaline, smooth excepting the beak which is somewhat rough thickened, hollow. The figure by Miss Wakefield will give an idea of this exceptional feature. They are so dense and large that they can be seen with a hand lens. Of course this is not a Cantharellus but we so class it to avoid proposing a new genus. Its texture to the eye is gelatinous, but under the microscope it does not have gelatinous hyphae. More curious things will yet be discovered in Japan than are known to this day. Figure 2534 is the plant soaked. Figure 2535, the cystidia magnified. Figure 2536, the gills enlarged six fold.

Cantharellus buccinalis.—(Fig. 2537.) Our figure is really the type of Trogia infundibuliformis from Ceylon but the plant is a Cantharellus and the specific name is occupied in Cantharellus. We explained that on page 881 where a fuller account is given.

Cantharellus bicolor.—(Fig. 2538.) Our figure is all that exists of this, named from Ceylon many years ago as Trogia. It has a general resemblance and may be Cantharellus buccinalis. But to the eye it has a different habit and smaller, also there is a contrast between the hymenial face and surface of pileus not seen in Cantharellus buccinalis.

Pterula Tasmanica, from L. Rodway, Tasmania.—(Fig. 2539.) Rigid, branched, with a horny appearance. Branches, slender, acute. Cystidia, none. Spores, 8-10 x 16, hyaline, smooth, obtuse at both ends.

We illustrated all the Pterulas we found in the museums in Myc. Notes, page 863. We do not find this there, nor at Kew. The spores suggest the genus Tremellodendron but it is a basidial question not possible to state from dried specimens. Still there is but little doubt in our mind that the plant really does belong to the genus Tremellodendron.

Hydnum muscoides.—(Fig. 2540.) In Cesati's herbarium is found a collection of a peculiar Hydnum labeled "Hydnum papyraceum Mihi," collected in prov. di Como, 1862. It was never published, I think, and it is too late to use Cesati's name, it now being occupied. It belongs to that rare section, Pleuropus, of which I have seen but one other from Europe. (Cfr. Hydnum luteolum, page 941.)

The plant grows in connection with a sphagnum moss. It has a slender black stem and the color now is cinereous. Pileus is very thin, cuneate or cut into segments. Teeth on one side only are mostly cinereous and caducous now. The spores are hyaline, globose, 4 mic., smooth or very minute, tubercular. I am confident this is a most rare plant and regret Cesati did not publish it.

Hydnum Holttumii, from R. E. Holttum, Malay.—(Fig. 2541.) Mesopodial, fleshy, growing on the ground. Surface "dull yellow" when fresh, reddish brown, dry, glabrous. Stipe, pale. Teeth, long, dense, irregular, matted, pale reddish. Spores, globose, 10 mic., smooth, opake hyaline. Cystidia, none. Growing on the ground and about same statue and color as the European Hydnum rufescens but the long, irregular, crisped teeth quite different. If Hydnum Caput medusae were not preoccupied it would be an excellent name for this plant.

Tremella neglecta.—(Figs. 2542 and 2543, enlarged.) This apparently was well named, for I find no reference to it either before or since Tulasne named it (1872). I do not think it is as rare as all that but collectors are not looking out for little tremellaceous plants as we wish they were. I could see no fungus on the type in Tulasne's herbarium, but of course I could not soak it up. In Saccardo's herbarium is a collection from F. Fautrey, France; which when soaked is surely Tulasne's plant. It is a small, white, cushion-shaped tremellaceous plant, 2-3 mm. in diameter, and seems to grow on little Sphaeria's which are erumpent through the thin bark of alder or some frondose wood. The basidia are hyaline, globose, usual and typical. The spores (not recorded by Tulasne) are slender, about 4 x 16 hyaline, straight. It raises the same old question

as to distinction between Exidia and Tremella and I am beginning to think we will have to abandon the idea o spore distinction.

Thelephora fuscella (Fig. 2544), **Thelephora soluta.**—(Fig. 2545.) Two collections made in Borneo by Beccari of (true) Thelephora were referred under the above names by Cesati as forms of the American. Thelephora multipartita, a little species that suggests neither. It was a case of fitting plants to a name. Both are true Thelephoras, a genus rare in the tropics. The spores are typical of the genus.

As Thelephoras are distinguished by form chiefly, our photograph will enable them to be recognized if ever found again. Of course nothing can be told now as to their odor, but both have the general appearance of being forms of Thelephora palmata.

Stereum glabrum.—(Fig. 2546.) The plant from Mattang (which is in Borneo), that Cesati referred to Guepinia palmiceps has no suggestion whatever of this species, and is not a gelatinous plant, nor a Guepinia. I would refer it to Stereum glabrum (Synopsis Stipitate Stereum, page 38, Fig. 560). Cesati's specimen (Fig. 2546) is more lobed and larger but I believe the same species. A section shows a pallisade layer of clavate basidia, with no suggestion of the basidia of Guepinia. This is not the first time this Stereum has been called Guepinia. Cooke got it from Malay and called it Guepinia flabellata. A mycologue who does not know a Guepinia from a Stereum is highly competent to discover "new species."

Aleurodiscus ochraceo-flavus, from G. H. Cunningham, New Zealand.—(Fig. 2548.) Resupinate with upturned edges, 4-5 mm. in diameter. Color, ochraceous with pale margins. Paraphyses, filiform, unbranched, nonseptate, hyaline. Dendrophytes, cylindrical, spiny, but rare. Spores, compressed globose, 16 x 20 mic. (or 24, including apiculus), smooth, slightly uneven surface, somewhat unilateral, pale, slight yellowish cast. This grew on standing Leptospermum scoparius branches. To the eye about same in size and color and appearance to our little Stereum ochraceo-flavum of our southern States. The genus Aleurodiscus is growing by leaps and bounds. Less than two years ago we gave a résumé of the eighteen species of our museum. (Myc. Notes page 926.) Since there has been several added and at Kew we find a few more as follows:

Aleurodiscus australiensis.—(Fig. 2547.) This was published by Miss Wakefield and we reproduce (Fig. 2550), her structural sketch, and (Fig. 2547), a photograph of the type. It was collected in Australia, 1912, by C. T. White. The salient features are: Resupinate, without free margins, crustaceous, yellowish with a rosy tint. Spores, elliptical, 15 x 24 mic., aculeate. Paraphyses, undulate moniliform. Dendrophyses, aculeate.

Aleurodiscus botryosus.—(Fig. 2549.) This grows on grape vine twigs and was distributed from Farlow's herbarium. We had not seen it at the time we figured the other species of the genus.

Aleurodiscus griseo-canus.—(Fig. 2551.) Our illustration is from a specimen sent to Kew by Hoehnel. It appears a very distinct species differing in general appearance from others. To the eye it gives the impression of being soft and friable.

Lycoperdon Lewisii, from J. E. A. Lewis, Japan.—(Fig. 2552, enlarged.) Globose, 1-2 cm. in diameter, brown and strongly wrinkled in drying. Peridium, single, no sign of a cortex in the specimens but it may have disappeared. Gleba of imperfect cells, pale olive in color and no sterile base. Capillitium, hyaline, 4 mic., thick, long, intertwined. Spores, globose, 3 mic., very pale, smooth, with no apiculus.

It appears to differ from all Lycoperdons in absence of cortex and imperfect deliquescence. Also from most in absence of sterile base. It is quite close to Lycoperdon Curtisii in its hyaline capillitium and spores. The peculiar corrugated surface also seems peculiar but it may be only an effect of drying.

Cyphella lutescens, from P. Martens, Belgium.—(Fig. 2553, enlarged from dried specimen.) Monsieur Martens is a close observer to collect this little plant on moss. It is the first time I have ever gotten one, and I can not place it in Fries at all. It is yellow (at least now) and it must be this plant as described by Persoon, the only yellow Cyphella recorded on moss. I trust the Bruxelles conspirators will pardon digging up this old name of Persoon, but it appears to me the only thing to do though it is strictly against the law, for Fries, who never saw it, gives it as a variety of Cyphella muscicola and it is forbidden to go behind Fries. It is an entirely different shape and color from Cyphella muscicola. If one looks up the figures of the Cyphellas that grow on moss, he will find none other of this shape, excepting Cyphella Neckerae, Bonorden's old figure, which was "candida" and of which I find no specimen except Fuckel Exsic. which is pure white. How small this unique little species is can be seen from our figure which is enlarged six fold.

Tylostoma Giovanellae.—(Fig. 2554.) A specimen of this rare or rather casual species, for it is only known from one collection, made in Triol by Rev. Bresadola many years ago is in Saccardo's herbarium. It is the first I have ever seen. The species has the general statue and color of Tylostoma granulosum, but the mouth is definite round, but hardly tubular. Spores, globose, pale colored, 5-6 mic., smooth or very nearly so,

Shortly after this was figured (Fungi Tridentini, Plate 72). Quélet came out with a statement that it was a synonym for Tylostoma brumale. Bresadola controverted it as he should have done, for Tylostoma brumale was Persoon's name and the just name for Tylostoma mammosum, and the museums have many old collections so labeled. Tylostoma Giovanellae is about three times as large and very different in other ways and if Quélet did not know any better he should not have made a display of his ignorance of the subject.

Tremella roseo-tincta, from J. E. A. Lewis, Japan.—(Fig. 2555, soaked.) Thin foliaceous, caespitose, confluent from a common base. Dried, dark brown. Soaked, pale pinkish buff. Hymenium, amphigeneous, smooth, both surfaces same color. Section shows a thin, hyaline, central layer of gelatinous hyphae, very distinct from the hymenial layers which are compact, pale colored. Basidia are elongated, cruciate parted and resemble the basidia of Sebacina rather than those of the usual Tremella. Spores, globose, 8-10 mic., hyaline, apiculate, many opake, others translucent with a large gutta.

When first received I thought the common Tremella frondosa, exactly the same to the eye and color. But it soaked out quite a different color, and sectional characters are not at all the same.

Guepinia Brefeldii.—(Fig. 2556 and Fig. 2557, enlarged.) I found in Saccardo's herbarium surely a very rare tremellaceous plant which was labeled "Calocera palmata Monticella." It may be Calocera palmata in sense of Brefeld, but not Fries, I believe which for me is a branched form of Calocera cornea. Surely Fries would never have called this plant "slender" nor compared it to Calocera cornea. But if it is Brefeld's plant, which is very doubtful, it is not a Calocera, for a close inspection shows that the hymenium is not amphigeneous as in Calocera but on the discs or one side only. That would make it a Guepinia and it is quite close to our Guepinia spathularia, but paler yellow color and glabrous stem. The basidia are furcate and spores I did not find. In this connection it is a curious fact in distribution that Guepinia spathularia is found common in America and Pacific Islands, Australia and Africa but has never been collected in Europe. This rare species only known to me in Saccardo's herbarium is the nearest to Guepinia spathularia that they have in Europe and it is most rare. We do not know if the plant grows in the position shown in our figures. It may grow the other direction.

Dacryomyces roseotincta, from J. E. A. Lewis, Japan.—(Fig. 2559.) Soft, sessile, slightly cerebrine, an inch or more in diameter, pale rose color. Basidia, forked, hyaline, slender, with close sterigmata. Spores, large, 8 x 24, hyaline very slightly curved, gutulate and divided in germination with 8-10 septae.

This large Dacryomyces soaks up a fine pale rose color and to the eye appears to be a Tremella. There is nothing at all like it in the States or Europe. The only other large Dacryomyces (aurantia) is yellow and curious enough both of these large species have similar large multiseptate spores. We present two figures as it dries down to almost a film (Fig. 2558), and as it soaks out (Fig. 2559). It is a fine thing.

Guepinia varians.—(Fig. 2560, enlarged.) The little piece that I have does not tell much but I think it has a stalk and a disc hymenium, but I am not sure. It is very pale yellow and the stalk dark at the base. As to shape I am not sure, I would know it at once, however, if it came to me. Cesati published it from Borneo as Dacryomyces, years ago and I believe it has never been seen since. It can not be a Dacryomyces with a distinct stalk.

Exidia Richenii.—(Fig. 2561.) This was distributed, Rick. 210, as Protomerulius Richenii. On soaking it out it is found to be a white, gelatinous membrane, easily separable from the host, and about 2 mm. The surface is uneven, tubercular, not poroid at all, hence I think does not belong to Moeller's poroid genus. It is as doubtful as an Exidia, but the tremellaceous genera particularly Exidia have not yet their boundaries clearly defined. Spores, 8 x 16 or shorter, hyaline, smooth, with granular contents, straight (not curved at all). Basidia, globose, 16 mic., subhyaline. The plant has a few white, conical multicellular papillae. While it is not a good Exidia, it is nearer than to any other and Exidia is the only genus where papillae are found.

Auricularia squamosa.—(Fig. 2562.) This marked species seems frequent in tropical Africa, but it got away from the old namers. It has been named in recent years, however, often enough to make up for it. It is the largest, thickest, most shaggy species known of Auricularia. Our photograph is made from a specimen given us by Miss Wakefield from Uganda. We have gotten it several times from tropical Africa.

Hydnum alpestre.—(Fig. 2563.) This is found in Saccardo under the old name Hericium, supposed to be a Hydnum with the teeth erect. But I think that is an entire mistake. The teeth grow down surely and Hericium is same as section Merisma of Hydnum. Hericium Notarisii, a type of which is at Upsala, is Hydnum erinaceum with an abnormal long stalk. I did not find it in any Italian collection. Hericium alpestre very rare in the museums and known principally from an old collection by Carestia (on Abies) in 1858. It is on the order of Hydnum Caput-Ursi, in fact I am not sure it is different, at least in the American sense. (Cfr. Atkinson, Fig. 196.) But in the European sense

(Fries Icon. t. 7) it is surely different. Persoon, who named the plant, described the teeth as "dense." They are not in this Italian collection. We present a figure of a fine specimen preserved in the Orto Botanico at Rome, but it is not sure it is correctly named.

Kalchbrennera clathratum, from a drawing from H. A. Dade, Gold Coast, Africa—(Fig. 2564.) We present a photograph of a drawing made by R. H. Bunting from a fresh specimen of a phalloid that is stated to grow rather frequent in the region of Old Calabar and which we at first took to be the South African Kalchbrennera corallocephala. On reconsidering the subject I am quite sure it is the same plant that was published in our Synopsis of Known Phalloids, Fig. 88, page 67, as Simblum clathratum based on an inaccurate drawing by J. W. Holland made in the same Botanic Garden at Old Calabar, Africa. At the time we named this Simblum we were under the impression that the protuberences were broken arms of the net, but it is evident from Mr. Bunting's drawing that this is not the case and that they have the same general nature, but more slender than nobs shown on Kalchbrennera corallocephala. Mr. Dade finds the plant growing rather common around rotten wood in shady places. The color of the gleba-bearing net and projections is bright red. We think the plant is better classed now as Kalchbrennera and that it is a species closely connecting Kalchbrennera to Simblum. We hope Mr. Dade will procure for us a photograph of this plant, fresh, for a good photograph is really what is needed to illustrate it. We would also be glad to get a photograph of Kalchbrennera corallocephala for that is only known by a figure reconstructed by Kalchbrenner from a dried specimen and while it seems to be fairly good it would be much more satisfactory if we had a good photograph.

Bovistella sinensis in museum at Torino, from Rev. G. Bonardi, a missionary of Shantung.—(Fig. 2565, as found in commerce.) Globose, 2 inches in diameter, no sterile base (apparently). Peridium, very thin, papery smooth, suggesting the peridium of a Bovista. Color (now), light yellowish brown. Capillitium, long, intertwined, branched, 4 mic. in diameter. Spores, globose, 4 mic., smooth with long prodicels, 8-12 mic.

This was sent to Prof. Mattirolo whom I would prefer to publish it but he declines. It belongs to section four of my résumé of the genus Myc. Notes, vol. 2, page 285. This plant was sent by Rev. G. Bonardi in a collection of 260 Chinese drugs, and our photograph shows it as tied up in bundles for sale in the shops. It is called Ma-pus by the Chinese and used in pneumonia. It was surprising to find that it is a Bovistella, but the Chinese would probably collect as the same any Lycoperdon or Bovista of the same size.

Irpex fusco-violaceus, from J. E. A. Lewis, Japan.—(Fig. 2566.) With texture, color, surface, everything in fact, same as Polystictus abietinus excepting the irpicoid teeth, this must be held as a hymenial variant. And yet, there is no polyporoid arrangement to the teeth at all and it is a good Irpex. The teeth are distinct and arranged in a lamellate manner. We present (Fig. 2567), an enlargement of the usual Polystictus abietinus hymenium. Though the two appear so different they are exactly the same thing. Fries' latest view was, however, "from Polystictus abietinus certainly different." Our figures are the hymenii enlarged six fold.

Cudonia convoluta, from J. E. A. Lewis, Japan.—(Fig. 2568.) We refer this to the plant published from Japan (Geoglossaceae, p. 18). It is different from all other Cudonias in its convolute capitate head and as previously stated it tends to unite Cudonia and Mitrula. There is a color and slight spore difference, however, between this collection and that we previously received. This when dry is pale yellow "not brown with no red" and, on its color, could be called a new species. The spores are also some few microns longer. But the photographs could not be told apart as shown in our enlargement (Fig. 2569) and it is quite peculiar.

Holwaya ophiobolus, from E. C. Smith, Pennsylvania.—(Fig. 2570.) This is a celebrated plant, the source of much discussion and bitterness between Massee and Durand many years ago. Massee treated Durand rough. Burt has lately published that Massee was dealing in myths, but Burt kept mighty quiet at the time. It would have been a proper thing to say twenty years ago, when the quarrel was on, not wait until Massee is dead to dig it up and make the charge. If he knew Massee was putting out myths and was unjustly charging Durand why was he not man enough to come out with it at the time?

Holwaya ophiobolus is named as above in Saccardo and as the genus, although wrongly defined, is accepted, it seems to me the simplest and most honest way would be to take the name. It is one of those plants that takes different conidial and asciferous forms. Every time Ellis or Peck found it, they discovered it was a new species in five different genera. Durand was the first to know the plant well and bring these synonyms together as to the American plant, but of course Durand had to concoct a "new combination" based on a conidial stage, Holwaya gigantea, to which he added "Durand." This, however, is not the final juggle. Holwaya, though based on a description of this plant by a man who never saw it, was described as a gelatinous genus with filiform hyaline spores. That was a bull as shown by Durand. This is a black, leathery species with filiform hyaline spores not gelatinous at all, as Durand first

showed. It therefore falls in the "Patellarieae Scolecosporae" and as there seems no genus to cover it Prof. McGinty proposes the genus Jugglerandia to commemorate the juggling that has been done with it, and the name will become Jugglerandia gigantea (Peck) McGinty.

Burt read a paper once on "Is there a Basidiomycetous stage in the life history of some Ascomycetes?" and his paper was based on this plant. His conclusion seems to have been that there is no such "stage" in connection with this plant, but Burt is the only savant, I believe, that ever suggested that there is ever any "stage" between a basidiomycete and an ascomycete. It appears to me even in those infantile days Burt should have known better than to ask any such foolish question.

But our American discoverers and jugglers who have been so busy discovering new species and combinations for the plant should first spend a little investigation on its European history. Baron Stefan Schulzer von Müggenberg von Oesterreich, in 1860, which was about the time Burt and Durand were born, published and figured the plant as Ditiola mucida which was compiled in Saccardo as Crinula mucida and now becomes Jugglerandia mucida Baron Stefan Schulzer von Müggenberg von Oesterreich and McGinty. One of these therefore seems to be its "valid" name under those sacred principles of priority employed by Messrs. Durand, Burt and McGinty. Our figure is an enlargement made from a cotype from Holway at Kew.

The Genus Sclerodermatopsis.—Under the above name Father Torrend sends this plant as a "New Genus of Pyrenomycetes. The unique specimen; well developed." We feel that it must be held as a "new genus" for surely no other like it. The globose head is borne on a distinct stipe of a different texture. It does not suggest anything in the Pyrenomycetes, but without cutting it might well be thought to be a stalked Scleroderma.

Sclerodermatopsis nasihensis, from Rev. C. Torrend, Brazil.—(Fig. 2571.) Sporophore globose black, solid, smooth, all carbonous. Cortex, carbonous but not as black as the perithecia. Perithecia, globose in a peripheral row, large, 1 mm., mostly contiguous, carbonous, jet black. Ostioles but slightly projecting, hardly visible to the eye. Spores, fusiform, dark, acute at both ends, 4 x 12. The head is borne on a short, thick, distinct stipe over an inch long. The tissue of the stipe is subcarbonous but not truly. Rev. Torrend does not indicate its habitat but probably on a log. While we put the onus of this new genus on our correspondent, as a matter of fact, there are a lot of things in the tropics that can not be included with any logic in European genera and, as a usual thing, they are not of much importance.

Reticularia Lycoperdon, from Burtt Leeper, Ohio.—(Fig. 2572.) This specimen, a flattened pad, gives me a new conception of the species. Heretofore those I have seen were more globose than flat. The silvery cortex has peeled off the specimen excepting one little piece. Miss Wakefield tells me it occurs in England often this shape, but rarely this large. It must be rare with us in this form. I never saw it before, looking like this.

Camillea Bomba, from Rev. J. Rick, Brazil.—(Fig. 2573.) It is quite evident that Camillea Bomba is a plant variable as to size. The usual size, 4-6 mm., we illustrated, Large Pyrenomycetes, page 8, Fig. 844. Then we got a small size, 3 mm., from Father Rick, which we illustrated, page 778, Fig. 1172. Now he sends a collection (Fig. 2573) so large (7-8 mm.) that we were at first disposed to question it. We find, however, all are exactly same, excepting as to size. The spores of this plant are rather peculiar. They are pale color and elliptical, or rather an ellipse with straight sides, the ends rounded. We think this shape has a distinctive name, but if we ever knew it we have forgotten it.

Daldinia Asphaltum ,from Rev. J. Rick, Brazil,—(Fig. 2574.) As this strongly varnished form of Daldinia concentrica has been called. In the tropics Daldinias often eject the spores in masses, as shown on our photograph (Fig. 2574). If examined under the lens these masses are found to be made up of spores arranged in lines showing that for some reason each ascus expels its spores all together. Rev. Rick has based on this phenomenon the name Daldinia barbata.

Isaria anisopleura, from R. E. Holttum, Singapore.—(Fig. 2575.) This is the first time we have gotten the plant, but not the first time we have seen it. Berkeley, from Ceylon, referred it to "a conidial condition of Xylaria anisopleura" to which it has no more relation than with a burr dock, but it gives us a name at any rate. What it is no one really knows. We call it Isaria for convenience but that it really is an Isaria condition of something else is only conjecture. These are questions that can only be worked out by observation in the field. Our photograph is from the Ceylon specimen at Kew and will fix the plant for some one who may work out what it really is.

Irpex elongatus.—(Fig. 2576.) In Saccardo's herbarium is found a fine specimen labelled Irpex formosus, Mexico Galeotti. It is the type as published. Surely it is an Irpex and a good one on its hymenium. And just as surely it is only a hymenial form of Polystictus elongatus. There are no "genera" and very few "species" that are always true to form. Their recognition is only a question of experience and handling

them and their names in many cases, as in this instance, is too often only a question of inexperience along the same lines.

"Tylostoma" Beccarii.—(Figs. 2577 and 2578, enlarged.) Based on the specimen collected in Sarawak and published by Cesati as Tylostoma pusillum. A most interesting thing and a pity it is so scanty. Cesati made a bad guess when he referred it to Tylostoma pusillum, for this is no Tylostoma but something most unique, but so scanty that I would not refer it to a family even. The entire plant is covered with a white spiny exoperidium which extends over the stipe. The peridium is black and lined with a white coat and it certainly never contained any powdery gleba and it is not a Lycoperdaceae at all. The contents of the peridium is now all gone, but from Cesati's sketch it seemed to have contained peridioles. I am satisfied nothing anyways related has ever been named. While of course the data, a sketch only, is very vague I think it will be classed near the Nidulariaceae when known. Surely it has no relation whatever to a Tylostoma. It is an evidence how imperfect fungi are known from tropical countries, where this most novel genus is only known from a single specimen, now practically gone and made sixty years ago. But if it ever comes in I would recognize it at once. I do not wish to name genera, I do not know even to what family they belong however I have turned it over to Prof. McGinty who calls it Fauxtylostoma.

The Genus Grammothele.—(Fig. 2579, hymenium enlarged.) In Berkeley's earliest foreign work (Decades No. 18), he proposed the genus Hymenogramme based on a resupinate fungus of Java, the hymenium narrow plates or lines. It is placed in the "Agaricaceae." It would be better considered, I think, as a Poria with lengthened pores. In his Cuban work he proposed the genus Grammothele with a similar hymenial nature but the surface covered with little papillae, hence classed in Hydnaceae. The original Hymenogramme has these papillae also but only seen under enlargement. I think both are virtually the same genus, but as only the original Hymenogramme is known, and several Grammothele have been proposed it is better to unite the former with the latter though the reverse view would afford some beautiful juggles. As we gave, vol. 5, page 581, an account and photographs of the species of Grammothele we will content ourselves here with an enlargement (Fig. 2579), only showing the arrangement of the hymenium of Grammothele polygramma.

Grammothele Javensis.—(Fig. 2580 and Fig. 2581, enlarged.) This was an old Zollinger, Java collection (969) and only known to this day from the original. It is white, has the hymenium in lines and would easily be known from our enlarged figure (2581). It was called Hymenogramme Javensis and as an "Agaric" alliance, but for me it is rather a Poria with elongated pores. Its close relationship to Grammothele will be evident on comparing Figs 2579 and 2581. There are three species of "Hymenogramme" compiled in Saccardo, the original is a better Grammothele, one other is a Poria (sic.) and the third, a Favolus (sic.).

Grammothele crocicreas.—(Fig. 2582 and Fig. 2583, enlarged.) We dug out of Cesati's old collection from Borneo, a most interesting plant which he had named Merulius crocicreas. It never had any suggestion of a Merulius. I was familiar with a very similar plant, which is common in the Philippines and Malay, and known by a coincidence as Hymenochaete crocicreas. It is not a good Hymenochaete but that is another story. At any rate I thought that Cesati's plant and the Philippine were the same until I came to compare them. Then they are evidently different. Cesati's "Merulius" has the hymenium in lines (Fig. 2583, enlarged) and is for me exactly Grammothele. The "grannules" are of the nature of imbedded setae, but they are hard to make out clearly. The color of the whole plant is brick red. It is quite hard, closely adnate, and so close to the next species the two would naturally be confused.

Hymenochaete crocicreas, from H. A. Lee, Philippines.—(Fig. 2584, Fig. 2585, hymenium enlarged.) Determined by Miss Wakefield. This is coming in quite abundantly both from the Philippines and Malay. It was named by Berkeley, from Ceylon. It is not a good Hymenochaete, for the setae are not typical of the genus, but rather tend toward metuloids. They are colored at the base but hyaline thickened walls above. As they are collected into bundles the plant was classed as Veluticeps by Cooke. Patouillard has also proposed a genus for it, and while I have not seen his specimen I judge from his description what he had was "Merulius" crocicreas rather than "Hymenochaete" crocicreas. It is curious at least that these two plants so similar to the eye, that they have been confused, so similar as to color that by a coincidence both were named "crocicreas" and yet belong to two quite different genera.

Scleroderma Bovonei.—Photographed in Herb. Mattirolo.—(Fig. 2586.) To the eye this would be Scleroderma Cepa, but it has truly smooth spores. That was hard for me to believe until I confirmed it, for we had been so convinced that all Scleroderma spores were rough and about the same that we rarely take the trouble to look at them. Scleroderma Bovonei with its smooth spores came from Elizabethville, Katanga, Africa, and was published by Prof. Mattirolo last year. It is said to be hypogeal and used by the natives as food. I have my suspicions of hypogeal Sclerodermas for it is a well known fact that Scleroderma Geaster and perhaps others are hypogeal in their early stages only. The smooth spores not known to me otherwise, are its features.

Polystictus licmophorus, from R. E. Holttum, Malay.—(Fig. 2589.) This collection has been compared and is exactly the same as Polystictus licmophorus which came from the same "type locality." It is close, too close, perhaps to Polystictus sepia which I recently named from the Philippines. In my Stipitate Polyporoid pamphlet I referred it as a pale form of Polystictus affinis. These closely related forms are hard to definitely fix.

Roestelia cancellata.—(Fig. 2588, enlarged.) We found in Prof. Mattirolo's herbarium a specimen of the above plant which we thought would make a fine enlarged photograph. That is our only excuse for presenting it for we know but little of this class of fungi and nothing as to the merits of their confusing nomenclature. They are Prof. Arthur's special pets. Roestelia cancellata is the Aecidium or Roestelia stage of Gymnosporangium Sabinae and is often labelled with the latter name. It is usually found on the leaves of the Pyrus.

"Mylitta" Pseudo-Acaciae.—(Fig. 2589.) The genera Mylitta and Pachyma as found in Saccardo, vol. 8, are very much in the nature of a joke. Most of them are sclerotia and some, no one knows what they really are to this day. Mylitta Pseudo-Acaciae came originally to Fries from Chaillet Neuchâtel. It consists of little tubers about the size of peas that are attached to the roots of the locust tree. I have never seen the original but in Cesati's herbarium is an abundant collection "ad radices vivas Robiniarum Vercellis, Nov. 1850." De Toni the learned compiler of the Gasteromycetes in Saccardo Sylloge, probably saw this same collection. At any rate he thought it was probably a Hysterangium (sic) as found in Sylloge, vol. 7. A microscopic examination shows that it does not have fungal tissue and Miss Wakefield suggests and I believe correctly that it is a gall.

Hexagona subaculeata.—(Fig. 2590.) This is the same color and rigidity and about same pores as Hexagona polygramma but quite different in its aculeate surface. I think a good species and our figure will express it better than we can in words. It is only known in Cesati's herbarium.

Polystictus ochrohirsutus, from J. E. A. Lewis, Japan.—(Fig. 2591.) Of course this is only a color form of the common Polystictus hirsutus. Exactly the same excepting it has yellow pores. We have seen several hundred collections with cinereous or pale pores but never one before with yellow pores.

Polyporus discipes, from R. E. Holttum, Singapore.—(Fig. 2592.) We have heretofore called this Polyporus maliensis which is a thin form of it. Our figure is the usual form and should be called Polyporus discipes although the "discipes" part is only incidental and not always in evidence. The Parisian name Polyporus aratoides is same exactly as Polyporus discipes. We give also Fig. 2593, Polyporus maliensis, which is the thin foliaceous form of Polyporus discipes.

The Genus Thamnomyces. We presented on page 906, all that we know as to this genus and little can be added from the Kew specimens. We did not find at Kew, however, any South American specimens with large spores as Moeller claims and we would rather confirm his measurements. As to the structure of the perithecia it developes from the sections made by Miss Wakefield that there are different types. The original species is as we indicated on page 906 and as Moeller and Ehrenberg have stated. Each fruiting body is a simple terminal perithecium with but a single cavity as shown in Fig. 2594. But Thamnomyces dendroidea was most inaccurately depicted by Cooke as having perithecia imbedded in the walls of the fruiting body. There is nothing suggesting that even, but the central cavity is divided by four or five longitudinal partitions into four or five compartments as shown in Fig. 2595. The structure is so absolutely different from that of Xylaria that it is astonishing that any systematist could put them together as is done in Saccardo. We are indebted to Miss Wakefield for her help in the matter and her drawings. The context is shown white in the figures as a means of contrast but of course the whole plant is carbonous and black and there is no white about it. There are spore discrepancies that we can not explain and will await further data.

The socket of Camillea Leprieurii.—(Fig. 2596, enlarged six fold.) When we figured the odd Camillea Leprieurii (Large Pyrenomycetes, Fig. 826; reproduced, Fig. 2597) we failed to note the peculiar manner in which this plant is attached at the base. The specimens we photographed (Fig. 2597) were glued on to a card and were cylindrical bodies an inch or more long and about 3 mm. in diameter. As they grow there is at the base a little saucer or socket into which the base of the cylinder is inserted. The plants easily break away leaving the disc with the socket separate. At Kew, specimens collected by Spruce in Brazil, were in a little box and these peculiar bases (usually lost) were preserved. We photograph the one (x6) and present Fig. 2596. Montagne noted and figured these "bourrelets" but it was overlooked by us on our previous accounts. Camillea Leprieurii is a rare plant evidently. I have never gotten it. Montagne knew only the originals from Leprieur, French Guiana. Berkeley, in addition, had specimens from Spruce, Brazil, but neither Moeller, Ule, Rick or Torrend have ever found it I believe. At New York, in addition, however, there is a collection from J. B. Stevens, Brazil.

Tylostoma pulchellum.—(Fig. 2598.) This species, published 1889, rests on a single little specimen (Fig. 2598) made in Australia by Tepper. While it is not

fair to form an opinion of a "species" on one little specimen, this must form a section by itself. The very short stem is itself a departure from all others and the stem does not appear to be inserted in a socket as in all other true Tylostomas. The color is now chocolate brown, the surface, under a lense, scurfy. The mouth is simply an indefinite opening. Gleba, rust color. Spores, unusually large for a Tylostoma, 8-9 mic., globose, pale colored, smooth.

Tricoderma paradoxa, from J. E. A. Lewis, Japan.—(Fig. 2599.) It is a coincidence perhaps that we should receive this from Mr. Lewis about a week after we were working on it at Kew and the article on page 1205 was written. These are the first specimens we have gotten and the first ever collected in Japan. We have not changed the previous article though these specimens modify it. The spores are in globose asci when young, and Massee's claim that they are basidia spores is only one of his usual bulls. It is a question where to class Trichoderma. It does not have any relation to anything else apparently. The ripe gleba suggests a "puff-ball" but they do not, of course, have asci. And in everything it differs from other Ascomycetes. But wherever it goes it is of much interest to get it from Japan.

Merulius crispatus.—(Fig. 2600 and Fig. 2601, enlarged.) We find a specimen in Cesati's herbarium, locality not evident to me. Surely this must be a rare plant. I note no record excepting Fries who states "rare on alder" and bases it on the old figure, Flora Danica, t. 716. It does appear to be this figure. It is not a good Merulius, however. The shallow pores are permanent and not a true meruloid hymenium. The plant is resupinate with greenish tinge with no distinct margin. Pores, shallow sinuate. Better than a Merulius it could be classed as Poria with sinuate pores, or resupinate Daedalea as such Porias should be classed but are not. This makes a beautiful pattern when enlarged as shown in Fig. 2601.

Polyporus Hookerii, from V. Demange, Tonkin.—(Fig. 2602.) Although we have already figured this plant (Apus Polyporus, page 348, Fig. 683) we present another of Monsieur Demange's specimen which is the finest we have ever seen. For us it is a rare form of Polyporus gilvus with fibrillose-strigose surface, but those who are familiar with the common Polyporus gilvus in the United States would hardly recognize our figure as having any relation to it. Monsieur Demange collected this specimen on the top of a mountain (2700 feet) at Tam Dao, French-Indiochina.

Polyporus Mollerianus.—(Fig. 2603.) We present a photograph of the type in Saccardo's herbarium, that is, what is left of it. The species as we have published is only a stipitate form of Polyporus vinosus, a rather frequent species in the tropics. The type was collected Ile de Princeps, Africa, Occ. Newton, 1887, and named for A. Moeller who was associated with Newton in the collection. Polyporus vinosus is a rather frequent plant in warm countries but this stipitate form is only known from Africa.

Guepinia peziza, from Miss Ann Hibbard, Massachusetts.—(Fig. 2605, enlarged.) Our first impression when we examined this under the lens was that we would have to make a new species of it. Guepinia peziza (Fig. 2604, enlarged) has simply a striate stem and this has a shorter stem with strongly distinct branching and prominent veins (Fig. 2606, enlarged). But, however, marked the difference may be a character of this kind does not make a species. Guepinia peziza is one of the rarest little tremellaceous plants and we considered it at length on page 921. It is quite rare both in Europe and the States. The European plant (Fig. 2604, enlarged) has a slender stem, striate on the back, and Miss Hibbard's collection is more stocky with a shorter stem and the striations, when dry, are really veins (Fig. 2606, enlarged). At first we thought we would have to hang a name on that. When we soaked it out the veins became striations and it is evidently the same plant Mr. Weis sent us (Cfr. page 921) and same as the European species.

Geopora brunneola, from Miss Ann Hibbard, Massachusetts.—(Fig. 2607 and Fig. 2608, section enlarged.) No species received from a correspondent for a long time has been as interesting to me as this for several reasons. While hypogeal fungi are now being collected in California in considerable numbers by Parke no one is specially hunting for them in our Eastern States and Miss Hibbard was most fortunate to find them. "They were found in a small pile of pine needles heaped over an underground stone." It seems to me, however, on Miss Gilkey's showing and Harkness' uncertain record that her Geopora annulata must be Harkness species, for Harkness' "description" fits as well as any of his descriptions and the number he cites (102) she cites as being "probably also" but does not take Harkness' name as the spore measure is smaller. It is the first Geopora I have studied and we get from it an idea that we do not derive from Harkness' drawing (Plate XLV, Fig. 34), but which is exactly the idea expressed by Miss Gilkey (omitting the part in our parenthesis which does not apply to this species) viz. "inner cavity originally single but divided by infolding of wall (or by projection from inner surface) into narrow labyrinthian canals." Our enlarged section shows this well. Geopora, according to this photograph, if observed carefully is a very simple matter. It is simply a globose "peziza" without opening, having a peridium lined with a continuous palisade layer of hymenium exactly as a peziza is lined but having the peridium

infolded and convolute, forming in reality one continuous chamber or canal. This chamber is interrupted where folds of the peridium are contiguous and coalesce, but in those cases the chambers formed are not part of the hymenial canal but are false chambers and do not have hymenium. It is a similar idea to what one finds in Genea, excepting in Genea the hymenial layer following the convolutions but the layer is imbedded in the flesh (analogous to other Tuberaceae). In Geopora the hymenium lines the chamber as in Peziza

Geopora brunneola is about 2 cm. in diameter, pale when fresh but dark brown when dried and surface with a short dense coat of velvet. The spores are contiguous in the asci, when young with a thick epispore which press against each other, and the appearance of the lines between them is of septa of the ascus. They are cubical when young and irregularly globose or elliptical when more mature. Young spores are hyaline but a few colored spores were noted and when ripe there is no question that they are brown.

I wish I could end this article here but I must record my reasons for referring it to Geopora brunneola. I might call it a new species or even a new genus for Geopora is defined as having hyaline spores and on a strict appliance the genus could be based on a colored spored character alone. But in a small genus that is only a multiplication of names. We have a suspicion that the rare genus Gyrocratera recently exploited from Europe is the same thing. But we do not know it and can not learn much from the pedantic account that was given of it.

As to species I am well convinced from Miss Gilkey's presentation that it is the plant named from a young specimen of Geopora brunneola and that she has misinterpreted a difficult microscopic feature. She found it in Harkness' collection and there is a slim chance of finding any specimen there that Harkness did not name. That was not the kind of a "scientist" Harkness was. He believed in the good old "scientific" method of naming everything he got in hand and let the other fellow do the study and work with it. Miss Gilky claims he named the same species of what he called Balsamia seven different times and there is no chance whatever of finding anything in his collection that he has not named or (usually) misnamed.

We are indebted to Miss Wakefield for aid in solving this problem, also for the drawings we present of two asci (Fig. 2610), one showing the young spores as they appear swollen in a potash mount and the apparent septa, the other the same in a water mount.

We add Miss Hibbard's collection notes and a copy of her drawing. "Outside, pale reddish ochre, smooth, becoming pruinose in process of drying. Hollow, whitish to pale ochraceous inside. This fungus is not composed of one substance as in Elaphomyces granulatus but of several irregularly rounded bodies joined together to make one whole. Taste, mild. No special odor. Found in a small pile of pine needles heaped over an underground stone. Saw no mycelium."

Our figure (2609), made from a photograph of Miss Hibbard's drawing, does not do it justice but it is hard to photograph a colored drawing.

Cudonia lutea.—(Fig. 2611.) At Kew is a nice specimen of this (Fig. 2611, natural size) distributed in the Farlow Reliquiae. While we had never seen it before we got a wrong impression as published in Geoglossaceae. It is a small plant growing over rotten leaves, and is only about one-fifth as large and surely no "form" of Cudonia circinans as we surmised. The color now is reddish brown (no yellow) but it has probably changed since fresh. Stems, strongly striate.

Aleurina atrum, from Otto A. Reinking, Philippines.—(Fig. 2612.) Cup shape, sessile, about an inch in diameter, dark, almost black, fleshy. Surface to the eye, soft, hairy, but under the glass the hairs are (setae) rigid, colored, straight. Paraphyses, none that I can find. Asci, brown. Spores, elliptical, smooth, 12 x 32, pale brown.

I know precious little about Pezizas but this is so exceptional that there should be no trouble in finding it if it has been "discovered" before. Surely it is not European, nor one of Rehm's from the Philippines. In old days it should no doubt have been called Lachnea, but nowadays no two men ever have the same generic name for a "genus" of Pezizae. I imagine if the genera could be brought to some order there would be no trouble in locating species of Pezizae for they have such marked and different characters. Very few are dark like this and very few have colored spores. It is an Aleurina of Rehm's classification, subsection Trichalerina. Clements states (by inference) that this is mongrel Latin for he would change it to Trichaleuris. At any rate there are only two species listed in this section, both little fellows with small spores. Our figure is only the half of a dried specimen. Mr. Reinking probably only found one specimen for he cut in two. On dead wood, No. 9114.

Didymium squamulosum, from Miss Ann Hibbard, Massachusetts.—(Fig. 2613, enlarged.) We do not often present figures of Myxomycetes for it has been so well done by Lister and McBride that it is rather superfluous. However, Miss Hibbard sends a fine collection of this which we believe will make a good example of what photography can do with the Myxomycetes. It is curious the way the plasmodium creeped up to the very top of the moss in order to develope its fruiting stage. The Myxomycetes are the one section of Mycology that has been well worked by Lister and McBride, and well illustrated so that one

can take the books and work out the names. Unfortunately some are only juggled names but there is always a fly in the ointment.

Craterellus taxophila, from Miss Ann Hibbard, Massachusetts.—(Fig. 2614, drawing by Miss Hibbard.) We considered this rare little species before on page 1008 there as a Clavaria. The drawing from the fresh plant Miss Hibbard sends shows a definite truncate apex hence technically a Craterellus. Miss Hibbard has the happy faculty to collect some most rare things. This the second collection known. Originally it was found and named at Ithaca (1904). Compare Mycological Notes page 1008.

Scleroderma maculatum, from Pierre Martens, Belgium.—(Fig. 2615, and Fig. 2616, cortex enlarged.) We gave a note on this plant on page 1058. Mr. Martens is the only one who has found this species in Europe. It was named by Peck from the States. As we do not like the original figure of the enlarged surface we published (Fig. 1981) we are giving another, also a figure of this rare plant.

Lycoperdon scobiculatum, type in Museum Botanicum R. Horti Romani.—(Fig. 2617, enlarged.) This probably is a good species. To the eye it resembles Lycoperdon epixylon and same general habits excepting this grew on the culm of some Graminaceae. It is globose, about 5 mm. in diameter and is wrinkled (in drying no doubt). The gleba is olive. Capillitium, hyaline, nonseptate, few branched threads. Spores, globose, 4 mic., pale colored, smooth, with no evident apiculus. There was but one specimen collected (Fig. 2617, enlarged). It was named Lycoperdon scobiculatum by Cesati, compiled as Bovista scobiculata by De Toni, and again referred to Lycoperdon by Massee who never saw it, as far as evidence at Kew, and who records its spores as "globose even, yellowish, 12 mic." Massee did not have to see specimens to give their microscopic details and if De Toni had an elementary knowledge of puff ball classification he should have known it was not a Bovista.

Mitremyces insignis.—(Fig. 2618.) I have for many years been curious about that figure that Cesati shows of Husseia pachystelis with a thick volva of about ½ inch thick. The specimen from which it was drawn is in his herbarium (Fig. 2618) though it is not so labelled. It is a large specimen, the largest Mitremyces I ever saw, but surely it is only an unusually large specimen of Mitremyces insignis, other specimens of which, usual size, are also in his herbarium (Fig. 2619). The volva is exceptional in this species, for it does not break up into pieces as others do, but dried down to a membrane as shown in the figures. I can not believe, however, it is ever as thick, by half, as Cesati has reconstructed it. The coarse, raised, rayed teeth are more pronounced in Mitremyces insignis than in any other species (Fig. 2620, enlarged). Mitremyces insignis is one of the rare species of the East (only) and known from but very few collections.

Polystictus semiincrustans, from S. Rapp, Florida.—(Fig. 2621.) Pileus growing somewhat merismatoid "on branches," thin. Surface, glabrous, white. Pores, rather large, laciniate, irregular, pale rose color. No cystidia nor spores found. This species is hard to assign as to a section. It has a suggestion of Polystictus pergamaneus but surely is not. Also there is something about it that suggests Polyporus amorphus. Had the habitat "on branches" not been stated I should have thought it grew on sticks and twigs for it has incrusted with a layer of pores, twigs, etc., that came in its way.

Ptychogaster Fischeri.—(Fig. 2622.) There is an authentic specimen from F. A. Fischer at the Orto Botanico, Rome. A rare plant I judge for I have seen it nowhere else. It is soft brown, with large cavities (pores?), and spores not found which is surprising for a Ptychogaster, for often they are practically all spores. As to the normal plant from which derived I would not like to guess even.

Cyclomyces fuscus (as should be). Favolus transiens (as published). Hexagona transiens (as labelled). —(Fig. 2623.) It is an intermediate plant between Cyclomyces fuscus and Polystictus cichoriaceus but much closer to Cyclomyces fuscus, and for me a variation of it. It never was a Favolus nor a Hexagona. We present a figure of the type in Cesati's herbarium.

Podocrea Petersii.—(Fig. 2624.) A single specimen (as far as known) collected by Peters in Alabama is at Kew. It is black now, but roughly the shape of a deformed Agaric. The spores subglobose are subhyaline, apparently, with a slight trace of color under the lens. There is some discrepancy as to the history of this plant. In Peters herbarium (at Tuscaloosa) there is no specimen but a sketch which shows a simple club-shape body in no ways suggesting the "type" at Kew. What Peters had and drew and what Berkeley had and named "Hypocrea Petersii" were surely two different things. There has never been collected with us another specimen that corresponds to the Podocrea that Peters figured as Hypocrea Petersii and preserves in his herbarium. Seaver's suggestion that Podocrea Petersii may be same as Podocrea brevipes of Cuba was a very bad guess for there is no possible resemblance between them.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 71 (Vol. 7, No. 6) January, 1924

PROF. A. H. R. BULLER.

There is not another genius that has come to the front in mycology in the last few years as prominently as the subject of this sketch. His recent books "Researches on Fungi," in which he records the startling and unexpected facts he has found out about the life history and development of the obscure phases of fungus growth and phenomena have amazed the mycological world. There is no line of inquiry too complicated or difficult in connection with his subject but to have his attention. Some of the facts he demonstrates are almost unbelievable but he fortifies his findings with such experiments and proofs they can not be controverted. But two men before, I believe, even worked and published much on a similar line, De Bary and Tulasne, and they both have been dead these many years. To these two men and to Prof. Buller we are indebted to what we know about most physiological and morphological problems. Prof. Buller is about fifty years old, an old bachelor, a most entertaining talker and lecturer but rather somniferous in his writings. He is so enthusiastic and untiring in his investigations and presents his subject in so much detail that it is hard to follow him. He explained this to me that he does not expect his books to be popular reading but to demonstrate the facts he has learned in such a way and detail that they can be confirmed by following his methods. It will be many a long day before another one is found with the skill, patience and enthusiasm that Prof. Buller has for this line of inquiry. It is told of him, that he will sit up all night, with his eye watching the microscope and the development of a spore, to find out just how long it takes and just how it is done, and all the facts involved.

Prof. Buller sets a good example in using a binomial only as the name of a fungus, and in not one single instance is there any doubt or question as to the fungus to which he refers. He does not raise the question of "authority" for names, but accepts the names as designating the plant. If pathological and morphological men will generally follow him in this regard, it will not be long before the taxonomic sharks interested mostly in names for objects of natural history, and chiefly in their own names to be annexed, will find their occupation gone, and fungus names will take some stability. By this method also Prof. Buller avoids some criticisms that he might have incurred had he cited "authorities". Thus he brings out some most interesting new facts in regard to Dacryomyces deliquescens, as he knows it, and as it is known in England, and no one in England but knows to what he refers. If he had written "Nees" after it as most writers would have done then he could be charged with telling stories directly contrary to what "Nees" states. As it is he has it right, and no one can dispute it. If he had written "Nees" then he would have assumed the responsibility of the identity of the English plant so known and the plant so known to "Nees," a question not in his line fortunately, for he can devote his attention to much more important questions than the disputes of taxonomists. We shall not attempt to itemize the new results of Prof. Buller's work for they are too many, but when we want to know about things we have been guessing on, as "which is the apicular end of a Ganodermus spore" we ask Prof. Buller and he sets us right. Personally, Prof. Buller is a most pleasant and genial man to meet. He is one of those men that everyone likes that knows him. While an old bachelor he is never as happy as rigged out in full dress and in the presence of the ladies. There is, therefore, still hope.

We add some statistical data kindly furnished by one of his professional associates.

Born, Birmingham, England, August 19, 1874; son of A. G. Buller, magistrate and county councillor.

Educated at Queen's College, Taunton, Mason College, Birmingham (Heslop Gold Medal). Has a B.Sc. from the University of London. From 1897 to 1899, worked with Prof. Pfeffer at Leipzig, and obtained a Ph.D., Leipzig *summa cum laude*. From 1899 to 1901 he worked in Hartig's laboratory at Munich, where he gained further information about fungi. Summers of 1900 and 1901, worked at the Marine Biological Station at Naples. Lecturer and demonstrator at Birmingham University, 1901 to 1904, he obtained a D.Sc. from Birmingham. In 1904 he was appointed Professor of Botany at the University of Manitoba, a position he still holds. He usually works from June to September at his home in Birmingham, England.

He has been Secretary Section K, British Association, 1909; President, British Mycological Society, 1913; President, Section IV, Royal Society of Canada, 1914-15; President, Canadian Branch American Phytopathological Society, 1919-20; Commissioner for Canada, American Phytopathological Advisory Board, 1919-21; Chairman, Mycological Section, Botanical Society of America, 1921.

NOTICE.

We are overwhelmed with specimens sent for determination and are months behind with the work. We hope our correspondents will not be impatient. We are

doing the best we can. Notwithstanding the above conditions we still solicit specimens, especially from the tropics. We are confident all will be studied and worked over in time.

REPORT ON JAVANESE COLLECTION SENT BY DR. C. VAN OVEREEM.

On my return from Europe I found (in addition to many packages as yet not studied), a fine and extensive collection of Javanese specimens. There are more in the one shipment, I believe, than have been sent before on the same subject altogether from Java in the last hundred years. They were mostly polypores and if other sections such as Tremellaceous plants, Large Pyrenomycetes, Hydnums, etc., were collected in the same abundance we would soon have a good knowledge of the Javanese mycological flora. The specimens were mostly finely selected and preserved and with discrimination for there were few duplicates among them. A number aided in the collection of this fine lot and specimens while mostly from Java, were represented from other East Indies as Celebes, Sumatra, etc. The collections were made by

JAVA—Docters van Leeuwen, P. Philipp, Docters C. van Overeem de Haas, R. C. Bukhuixen v. d. Brink, Dr. D. van Overeem de Haas, P. Dakkus, R. Wind, Dr. Vicher, A. Hamzah, L. J. Toxopens, Mr. Ottens.

DUTCH NEW GUIANA—H. J. Lam.

KRAKATUA—W. Docters van Leeuwen.

ISLAND OF SEBESIE—W. Docters van Leeuwen.

SUMATRA—E. Jacobson.

ISLAND OF BOEROE—L. J. Toxopens.

CELEBES—H. A. B. Bünnemeyer.

As a usual thing we have not specified in our report the exact locality of the common species, for most of them are without doubt generally distributed in the East Indies.

Polyporus imporcatus from Docter van Leeuwen, Java.—(Fig. 2625.) Pileus pure, white, smooth, the surface reduced to a short stipe like base. (Strongly ridged.) Pores small, shallow, isabelline, somewhat meruloid. Cystidia none. Spores (if correctly seen) globose 4 mic., hyaline smooth. We would enter this in Sec. 13. It is close to Polyporus nivicolor of New Zealand. The specimens sent grow confluent on an under side of a branch at Tjibodas, Java. The individuals are not easy to make out, but when separated, are found to be marked (in drying) with strong ridges.

Polyporus vinosus from Dr. C. van Overeem, Java.—(Fig. 2626, spathulate form.) This is a spathulate specimen, first we have seen, and connects the usual dimidiate form with the stipitate form called Polyporus mollerianus. Compare p. 660, Fig. 944.

Polyporus trigonus.—A dark form of Polyporus grammocephalus (cfr. Stipitate, Sec. 18).

Polyporus luteo-nitidus from Dr. C. van Overeem collection by P. Dakkus, Java.—Fig. 2627.) On comparing this with our figure 462 (Pol. stiputate, page 163) from American tropics it will be noted that they are much the same, but the Eastern plant, at least these specimens, have a rooting stem bearing the pileus evidently near the surface of the ground. There is in the East a similar but larger plant named Polyporus cummingii from an old Philippine collection. It has been lately claimed to be the same as the American plant but its much larger size, and different stem and habits, I am inclined to question it. Polyporus luteo-nitidus belongs in Sec. 36 (Pelloporus) and was considered and figured in our Stipitate Polyporus pamphlet. It is found in Saccardo as Polystictus but is a better Polyporus.

Polyporus dictyopus.—A tropical form of picipes smaller and blacker. (Cfr. Stipitate, Sect. 49.)

Polyporus elegans.—Same as the European plant but very rare in tropical countries. (Cfr. Stipitate, Sec. 49.)

Polyporus blanchetianus.—A reduced tropical form of varius. (Cfr. Stipitate, Sec. 49.)

Polystictus incisus from H. J. Lam, collected in Dutch New Guinea.—(Fig. 2628.) Less than a year ago this was published from the Philippines Myc. Notes, page 1155, Fig. 2267, and we are glad to have it come in from a widely different locality. The New Guinea collection is darker and more elongated and has a longer stalk but surely the same species. The color is dark brown. The plant we class in section 22, but it might be looked for in section 17. However, there are no Polystictus in section 17 now.

Polyporus pusillus.—This is Polyporus rhipidium of Berkeley's usual tropical determinations and of our Old Species pamphlet (Fig. 260), but this little form is so constant and common in the tropics and does not occur in the temperate regions where the large plant comes from originally, we feel now the little tropical plant should be called Polyporus pusillus, as originally named in Persoon's herbarium. Compare both on plate 260, Old Species pamphlet, Vol. 3, Sec. 13. The spores are piriform, 6 x 8.

Polyporus rubidus.—This is supposed to be the original of Trametes carnea from Java (Nees.), which name, however, never used in the Java sense (if true) is firmly fixed to an American plant which is not known from Java (Cfr. Stipitate, page 191, Sec. 15).

Polyporus nigroporus from Dr. van Overeem, Java.—Thin for a Polyporus, sessile, incurved in dry-

ing. Surface rich tomentose brown in the Java specimen but the tomentum very minute in the specimen from Amboy. Context bright brown, thin. Pores minute, longer than the context thickness, dark brown, the mouths black when dried. Setae rare. Spores deep colored, small, 3-4 mic. The Java collection is the third we have seen of this. We named it from a Philippine collection, Ramos 36392, but it does not seem to have gotten into print. Then on the Philippine sheets we found a specimen Reliquiae Robinsonianae from Amboy (2111), determined by Sydow as Fomes adamantinus (sic). The two species have not a suggestion of each other. Polyporus nigroporus belongs in section 100A and is most closely related to Polyporus cuticularis. It is most rare, being known, as previously stated, from only one collection, Philippines and Amboy, and three in this lot from Java.

Polyporus nigroporus from P. Dakkus, Java. (Fig. 2629.) A second collection (since the above was written) has been received, collected by P. Dakkus in the Botanical Garden at Buitenzorg. It differs much from previous plant, having strong velvety zones and is reduced at the base, nor is it so dark color. It might be called by a distinctive name, but I expect it grades into the other form so it would be difficult to maintain. It is endorsed "a beautiful species." I do not find on this any setae, but setae are not always a certain factor.

Polyporus gilvus.—Named from States where our most common species are found. Cosmopolitan but most rare in Europe. (Cfr. Apus, Sec. 96.)

Polystictus gilvocolor from Docters van Leeuwen, collected Island of Sebesie (near Sumatra).—(Fig. 2630.) Pilci, small, thin, imbricate, uneven, smooth, dark gilvus brown. Context and small pores concolorous. Setae none, Hymenial elements white. Spores and basidia not found, but no question white. To the eye this appears to belong to the gilvus group but it does not as it has no setae. From its thinness we place it in Polystictus (section 119), but from its rigidity it is probably a better Polyporus in section 95. In connection with its color there can be no question of recognizing it from the figure.

Polyporus Warburgianus from Dr. van Leeuwen, Sebesie.—(Fig. 2631.) Although a slight difference from the type at Berlin, we confidently refer it to the species heretofore only known from one single specimen (Cfr. Stipitate Polyporoids, Fig. 492), from Celebes. The original was darker and smoother. This is dark chocolate color and the surface is not so hard but smooth to the feel from a very minute pubescence. The plant belongs to Sec. 54 Stipitate Polyporoids, page 186. Dr. van Leeuwen found it on rotten wood, Island Sebesie, which is a small island north of Sumatra. Murrill has recorded Polyporus Warburgianus in the Philippines, but his misdetermination was based on Polyporus rhizophorae, a common plant in the East. This is very rare, and as previously stated, only the second collection ever made.

Polyporus elatinus from Dr. C. van Overeem, Java.—(Fig. 2632.) Evidently growing on the under side of the "rotten stems" and every specimen (about 20) the same shape, conchoid, often confluent, and attached by a short stipe. This pendulose habit I am satisfied is a usual character of the species. Surface reddish brown. Context firm, pale, almost white. Pores with dark mouths when dry, but when fresh "beautiful color of pearl." Pore context pale, but darker than the context. Cystidia none. Spores abundant, smooth, with a large gutta. If there were only one specimen of this peculiar shape we would not attach much importance to it as we would attribute the form to position of growth. But two collections sent of over 20 individuals and each has the same character and peculiar shape. We received this same species from Java from Dr. Bernard (Cfr. Myc. Notes, page 879, figure 1503) and referred it from our photograph and notes of the type to a species named by Berkeley from India. It is not sure it is correct but we believe it is. It is doubtful in Sec. 80 and might be sought in Sec. 21 of Stipitate Polyporus.

Polystictus affinis.—This thin form typical, also collections thicker and doubtful.

Polystictus subaffinis from Dr. C. van Overeem, Java.—(Fig. 2633.) Cfr., Vol. 5, Fig. 755. We are getting this plant now from several countries of the East and it is variable as to stipe. The color, pores and surface, however, seems to be uniform. In looking up this collection we find it is also the same plant we doubtfully referred to Polystictus Baurii from Africa (Vol. 5, page 698). The plant could be entered in either section 13 or 23 and we find we have it entered in both.

Polystictus affinis-microloma.—It is too dark for Polystictus affinis and too thin for Polystictus microloma. These similar species all grade together.

Polystictus affinis-luteus, but much closer to affinis.

Polystictus luteus.—It is misnamed for never yellow. It is too close to P. affinis; same color and shape, but much thicker.

Polyporus rugosus.—It belongs to the rare section Amauroderma and Polyporus rugosus is the only fairly common species of the section. (Cfr. Myc. Notes, page 1196, Fig. 2433, Sec. 5.)

Polyporus dorsalis.—Myc. Notes, page 1005. This is the usual Philippine analogue of Polyporus lucidus with a different stipe attachment. Often misnamed Poly-

porus amboinensis in lists. These collections are not strongly laccate as usual in the Philippines. (Cfr. Myc. Notes, page 1005, Figs. 1841 and 1842, Sec. 2.)

Polyporus (Gan.) Williamianus.—Named from Philippines where it is not rare. Distinguished from related species by its large rough spores. (It belongs in Polyporus Ganodermus, Sec. 103.)

Polyporus (Gan.) mangiferae.—It is recognized always by the light colored margins. It belongs in same group as Polyporus lucidus.

Polyporus rhizophorae.—A characteristic species of the East with its pale hard surface and stipe black at base. It occurs in our Stipitate Polyporus pamphlet as Polyporus scopulosus (Sec. 11), a name based on priority and ignorance of its nature for it is not "scopulose" except rarely effete specimens. It was finely illustrated as Polyporus rhizophorae.

Polyporus rhizophorae (Dimidiate) from Docters van Leeuwen, Sebesie, Sumatra.—This is the second collection we have received. Compare Vol. 6, page 996, Fig. 1794 (in error as rhizomorphae). It seems improbable that this is any form of Polyporus rhizophorae, a plant normally and rather common with a stipe but we are convinced of its correctness notwithstanding its seeming improbability. It has every feature the same as far as we can note excepting this is sessile and the usual collections are stipitate.

Polyporus lignosus.—This is the most serious disease of rubber trees, that kills the roots before its presence is known. Compare Petch on diseases of Hevea, who devotes much space to it, unfortunately, under the name Fomes semitostus, a quite different species.

Polyporus lignosus, tending toward zonalis.—None of these are typical of P. zonalis, although the two species run together (Cfr. Apus Polyporus under P. zonalis). Zonalis is a smaller plant, more strongly zoned, and spores abundant, not found in these.

Polyporus semilaccatus.—It is surprising only one collection was sent of this for it is an abundant species in the Philippines. (Cfr. Apus, Sec. 91.)

Polyporus anebus.—(Cfr. Apus Polyporus, page 338, Sec. 91.) A frequent plant in the East.

Polyporus pruinatus, or it is too close to Polyporus anebus.

Polyporus Schweinitzii.—I did not suspect this at first for it is exactly same context color as Polyporus nigroporus. When I could not find spores, however, I knew it could not be that. On comparing it I find no real difference between it and Schweinitzii except it has thinner context and does not usually incurve in drying like this.

Polyporus spongia from P. Dakkus, Java.—This was sent as Polyporus Schweinitzii, and it is a small pored form of it. The spores of Polyporus Schweinitzii are hyaline as are most of these, but there are surely some slightly colored.

Polyporus fruticum.—Its peculiar habitat encircling living branches of shrubs easily points it out. Rarely, however, it grows sessile on logs. (Cfr. Apus, Sec. 101.)

Polystictus Lamii from Dr. C. van Overeem, collected by H. J. Lam in Dutch New Guinea.—(Fig. 2634.) Petaloid, spathulate, reduced to a short but distinct stipe. Surface white or with a faint indication of grey, faintly zoned with raised zones, smooth but dull surface. Pores minute, white. This was received as Blumei (?) from which it differs entirely in its pores. (Compare page 1031.) It suggests somewhat meleagris. The only plant to which it is closely related is Polystictus substipitatus, a rare plant at New York from American tropics. We would enter it in section 26. It grew on dead wood.

Polystictus Sebesiei from Docteurs van Leeuwen, collected Island of Sebesie (near Sumatra).—(Fig. 2635.) It is pleuropodial with a very short stipe but otherwise same as Polystictus sepia (page 1155, Fig. 2265), excepting as to color. This is cinnamon-buff (of Ridgway, compare his plate 29 for both colors). Sections 23 and 45, which comprise one natural section (Microporus) is quite variable as to stipe, color and insertion, etc., but all have a general color basis excepting Polystictus sepia (1. c.) and this Polystictus Sebesiei. We enter this in section 23 on account of lateral stipe.

Polyporus hydnophorus from Dr. C. van Overeem, Java.—(Fig. 2636.) My first acquaintance with this fungus was specimen from T. F. Chipp, Malay, sent as Echinodia theobromae (Cfr., page 934, Fig. 1704), a "new genus" as named for him supposed to be a derivation of a polypore. Then I got fine specimen from Holttum, Malay, a perfect Polyporus, which we published (page 1225, Fig. 2518) as Polyporus theobromae and demonstrated that "Echinodia" is only a conidial state of the Polyporus. Then we read in Petch, Ceylon Polypori, his account of Polyporus hydnophorus, which is so surely the same plant that we have no hesitation in taking the name. It is compiled in Saccardo as Poria and we never worked closely the Porias, hence the delay in getting on its track. Petch's account, which agrees exactly with Dr. Overeem's specimen, is "forming pulvinate cushious which may bear pores in the center or stilboid processes only." Hence the genus Echinodia fades away as only a conidial Polyporus, and as about everything else has conidial conditions, why not Polyporus? We have already figured this plant several times but give another (Fig. 2636) of Dr. van Overeem's

specimen. Poria hydnophora has recently been published as a Grammothele, but I do not believe it.

It is evident now that there has been an extended notice of this plant in Holtermann's Javanese book. The classification was so faulty, however, and figure so inaccurate that we did not recognize it until we became well familiar with the plant. He called it Ceriomyces bogoriensis, "new species." It developed (see above) that Berkeley had named it years before and that by no stretch of logic can it be included in "Ceriomyces." Ceriomyces itself is only a juggle for Ptychogaster as these anomalous productions were generally known, and still known to most mycologists. They are anomalous polypores which bear conidial spores, in exceptional cases, in great abundance on the inner hyphae of the context of polypores which are usually so distorted and changed that the normal form is not recognizable. That is an entirely different idea from a Polyporus which normally has an early surface conidial stage of special stilboid bodies. There is no connection whatever between the two, and no justification to refer these early conditions to the genus Ptychogaster. It appears to me that Holtermann's figure (T. 8, Fig. 3) is so poor it would never be recognized, and Patouillard could hardly be criticized for not knowing anything about it when he proposed the "genus" Echinodia.

Polystictus cinerascens from Dr. van Leeuwen from mountains near Buitenzorg.—(Fig. 2637.) It is probable that this is the original species as it came from "the type locality" and no type is known, and it agrees exactly with the description. (Compare Note 580, Letter 65.) The African plant we so referred (Cfr. 1. c.) is probably not same, for while it has the same "uniform dark grey" pileus and fits the description, it is a much thicker and larger species.

Polystictus seytinus from Dr. C. van Overeem, collected by H. and B. Bunnemeyer, S. W. Celebes.—(Fig. 2638.) This was sent as Polystictus occidentalis, as it really is, a thin form with larger pores, and different in appearance from the usual plant. Polystictus occidentalis, like most common species, is so variable in surface, hairs and thickness, that it is difficult to apply the form-names (Sect. III).

Polystictus torridus from Docter van Leeuwen, Sumatra.—This is best held as a strongly hirsute form with larger dark pores of Polystictus occidentalis. It is so much darker that it hardly suggests the usual plant. At first I thought it must be a species with colored spores, but when I found not, then its only reference is to the occidentalis group.

Polystictus leiodermus from C. van Overeem, Java.—(Fig. 2639.) This belonging to section 15, the pink or rose section, and is quite close to the more common Polyporus rubidus. It is much thinner, with a rengulose surface and larger pores. I suspect it is same as the old Polyporus mariannus, named by Persoon from Marianne, but the name has not been used for so long and has since been appropriated for a plant in Europe that it would be difficult to establish it now in its original sense. Polystictus confundens in sense of recent Philippine determinations is also quite close but is thicker and more even.

Polystictus xanthopus.—Common in East.

Polystictus tabacinus.—Well named from its color. This has setae like Polyporus gilvus.

Polystictus tabacinus.—This is the thick form called (but not described originally) as Polyporus badius. In usual sense (Berkeley) however, the name badius applied to an entirely different plant.

Polystictus hirsutus.—Common in Europe and States, but not exactly this tropical form.

Polystictus hirsutulus.—But for me only a form of P. versicolor.

Polystictus elongatus.—This is common in warm countries. It is an analogue of Polystictus pergamenus.

Polystictus flavus.—It takes irpicoid forms but usually is a better polyporoid. Named and finely figured by Junghuhn from Java, hence why write "Klotzsch" who claims to describe it from Arctic regions where it does not grow? There is no use perpetuating these old mistakes in the advertisements.

Porias.—There are 504 so-called Porias named. No one has made a study of them as a whole, particularly the foreign collections. Until someone does it is futile to assume to determine them or name them, excepting as to a few marked things. Dr. Van Overeem sends three Porias that we do not name.

Poria orchidaceae from Dr. C. van Overeem, Java.—(Fig. 2640.) Forming little white patches on the aerial roots of Orchids in the Hortus Bogoriensis. To the eye indefinite elongated pores of a pale yellow color are developed on the little patches of white membranous subiculum. While a section shows the hymenium well distinct from the white subiculum, we are unable to make out any definite spores, basidia or cystidia. We name it as a convenience and it is no doubt well characterized by its peculiar habits.

Trametes crenulata from Dr. C. van Overeem, Java.—(Fig. 2641.) The white Trametes of the East are mostly referable to two species, Trametes lactinea and Trametes Muelleri. Both have very minute pores. This collection has notably larger pores and is rare, the first I have seen excepting the type which was from

India. In every other character excepting pores it is same as Trametes Muelleri and for me a large pored form.

Trametes Persoonii.—Common and variable plant. It was Montagne who named it in honor of Persoon, and I think Fries never used it. Persoon had three collections of the plant and named it three times as Montagne first showed when he gave the name as a collective name for the three. Montagne's endorsement are on a sheet at Berlin (why sent to Germany I do not know). Modern jugglers use these old Persoonian names with a great show of priority learning (all three published at same time), but it would be more just to Persoon if they would follow the Montagne proposal. One collection is a thin (Polystictus) form with little pileate development.

Trametes (or Polystictus) versatilis.—A frequent plant in the East, named from the Philippines. I am informed in the Philippines it is common on railroad ties.

Hexagona murina from Dr. C. van Overeem, collected by A. B. Bunnemeyer in Celebes.—(Fig. 2642.) Thin, 4 mm, dimidiate. Surface glabrous, slightly rugulose (not zoned). Color grey. Context thin isabelline. Pores small, about one mm, round, firm. Setae none. The hymenial surface is velutinate with projecting hyaline hyphae, but I think a misnomer to call them cystidia. Spores not found. It goes in section Tenuis, best perhaps, though thicker than the usual species of the section.

Hexagona tenuis.—As named on label, and for me a common plant in both the East and American tropics, although that has been disputed.

Hexagona albida.—When fresh, as I have collected it in Samoa, it is pure white, but this specimen (discolored?) is what was called Hexagona Cesatii. Compare on page 1215.

Favolus molluccensis from Dr. van Leeuwen, Sumatra.—(Fig. 2643.) Pileus thin, usually with a short lateral stipe, auricular, reniform or spathulate. Surface glabrous, dark chestnut brown, usually with faint lines. Pores dark in dried specimens, small, flacid but not deep. This is a rather frequent species in the East and is the same for me as the original Favolus multiplex. I believe it is the basis of many of the Favolus tener records, no type of which exists.

Favolus tessellatus.—Quite close to Hexagon Miquelii, but this is a Favolus with deep elongated pores and Hexagona Miquelii has more shallow round pores.

Favolus Junghuhnii.—Compare Vol. 6, page 921, Fig. 1648. A rare plant and only known from Java.

Favolus spathulatus.—Published as Laschia. In those early days when Junghuhn wrote he had not a correct idea of Favolus, Leschia, etc., which Fries had proposed. (Cfr. Remarks in Vol. 3, Letter 37.)

Polystictus ferruginosus from Dr. C. van Overeem, collected by P. Dakkus, Java.—(Fig. 2644.) Mesopodial with a slender ferrugineous stem. Pileus pale cinnamon, glabrous, thin. Pores large, about one mm., thin, shallow bright cinnamon. Setae none. Spores 4 x 10, narrow, straight, smooth ,pale colored. This grew on the roots of Quercus in the Botanical Garden at Buitenzorg. It belongs to section 37 and close to Polyporus focicola, which, however, is a terrestrial species as are all others of this section excepting P. dependens.

Polyporus Krakatani from Docters van Leeuwen, Island of Krakatan.—(Fig. 2645.) Pileus spathulate to a short stipe. Surface smooth, brown. Context thin, white. Pores minute, brown (when dry) of a different color from the context. Mouths concolorous. Cystidia none. Spores not seen. A peculiar spathulate plant, strongly incurved in drying and suggests Polyporus Guilfoylei, Sec. 54. but the stipe is not black and we would place it in section 15, but quite different from others of that section. The dark pores contrast with the pale context on a section but they have probably changed in drying.

Fomes applanatus.—A most common species in every country. Slight variations are called Fomes australis, Fomes tornatus, Fomes leucophaeus, etc.

Fomes leucophaeus.—But only a form of the common Fomes applanatus with a pale hard crust.

Fomes gibbosus.—This is the name applied to the polymorphic Fomes applanatus when it takes stipitate forms as it does in the tropics, but rarely in temperate regions. It is not a species.

Fomes tornatus.—This is one of the forms of Fomes applanatus. We would restrict it to the form with thin context and long pores (Cfr. Myc. Notes, page 1164). There is a note with the specimen that it occurs four feet in diameter.

Fomes annularis.—As figured, Fomes, pamphlet, page 267. For me it is only a condition of Fomes leucophaeus or Fomes tornatus due to scanty food supply and slow growth. This specimen is a dozen or fifteen years old from its rings, but no larger than it would have been the first year under favorable conditions.

Fomes fasciatus (bis).—Certainly only a form of the polymorphic Fomes applanatus. It is what Léveillé called Fomes fasciatus (in duplicate), but these forms are hard to definitely name. It should be renamed if these forms were worth renaming.

Fomes javanicus.—The first specimen I have gotten. Compare Fomes synopsis, page 251.

Fomes senex.—The true original species from Chili. Not the plant Montagne so named from Cuba. It is much more common in the East than in American tropics. Bad mistakes have been made in the identity of this common species.

Fomes rimosus.—The small globose colored spores and absence of setae place it without question. The species usually grows on Leguminosae trees. With us in the States it is very abundant on the locust trees (Acacia).

Fomes lamaensis.—This is a common species in the East and a destructive root disease is caused by its mycelium. Though so frequent, it was not named by the old namers until Murrill stumbled over it in relatively recent years. There are abundant specimens at Leiden, collected in Java, about 100 years ago, and misreferred to Fomes igniarius.

Fomes pseudoaustralis from Dr. C. van Overeem, Java.—This is the second specimen we have seen of this. The orjginal is at Kew, collected in Philippines (Curran 13748). Compare Synopsis Fomes, page 269. Its characters are the hard heavy minute pores with thick walls (section 74, Ponderosus), and the strongly laccate, hard, black pileus surface. Species with these hard dark pores are well distinct from the usual "Ganodermus" of the applanatus group. Polyporus fornicatus and Polyporus mastoporus (Cfr. Stipitate Polyporoids, page 104), with the same type of pores belong to a corresponding section of stipitate "Ganodermus."

Daedalea flavida.—This is subhexagonal form. It is a most frequent species in the East and every collection has a different hymenial form. It has been discovered to be a "new species" on twenty-three different occasions. (Compare page 1000.) It has its Javanese history also. Holtermann discovered it was a "new species" (after it had been named about twenty-two times before). He gave a characteristic figure of the lenzitoid and hexagonal forms (Tab. 9, Figs. 13 and 14) and called it Daedalea veriabilis.

Lenzites flavida.—A lenzitoid form of Daedalea flavida, a most polymorphic species which rarely has same hymenial form and which has twenty-three different names.

Lenzites repanda.—Most common in all tropical countries. Never a lot comes in from any tropical country but this is in abundance.

Lenzites repanda.—This is the pale-colored form illustrated by old Palisot and called now Lenzites Palisotii. It is a question if it is a good form even.

Lenzites polita.—But only Lenzites repanda with a polished surface. Compare Myc. Notes, page 1131.

Grammothele crocistroma from Dr. C. van Overeem, collected by E. Jacobson, Sumatra.—(Fig. 2646, the wood rot.) While we are convinced that this is the same plant called from Borneo, Merulius crocicreas by Cesati, and by us as Grammothele crocicreas, Myc. Notes, p. 1232, Fig. 2583, we are forced to present it under a different name, for it has a most unusual character that the type of "Merulius" crocicreas does not have. Both have the same hard brick-red context, the same also as one finds in Hymenochaete crocicreas (Cfr., page 1232), and all three plants probably are really one species and should be classed under the same name, notwithstanding their wide difference. This is not a Hymenochaete, for it has no "chaete," but the surface while not so marked, is similar to Grammothele crocicreas (Cfr., Fig. 2583), but to the eye almost even. A section shows an exceptional feature such as never noted before by me in any fungus. It is cellular in its nature, of large filled cells, the walls much darker color than the contents. A section reminds one of a section of parenchymous wood tissue. I do not believe it is analogous, however, but although they are not hollow, more on the nature of the "vesicular organs" found in Stereum tuberculosum. But these are contiguous without tissue between them. The structure was of much interest for never seen by me before. Grammothele could be held as a lengthened Poria. All three of these "species" cause a peculiar pocket rot of the host as shown, Fig. 2646.

Hexagona flavo-fusca from Dr. C. van Overeem, Java, collected by Messrs. Van Leeuwen, Dakkus, and Bruggeman in West Java.—(Fig. 2647.) While not exactly the same on comparison, we refer it to a Philippine collection published on page 1156. It is the only Hexagona known to me with yellowish context. Compared with the Philippine collection, the Javanese is thinner, and the surface has a whitish coloration rather than "pale buff." But with same (exceptional) context color, same pores and hymenium there is no doubt in my mind the same species. It is most rare, this the second collection known.

Grammothele javensis from Dr. C. van Overeem, Java.—(Fig. 2648.) We gave recently an account of the genus Grammothele (Myc. Notes, page 1232). This is the first specimen we have gotten of this species but the original (an old Zollinger collection) is found in several museums in Europe. First it was called Hymenogramma (sic.) as still found in Saccardo, Vol. 5. The plant was sent as Hydnaceae. Berkeley classed it as Agaricaceae, and we would refer it to Polyporaceae. For us it is a Poria with elongated spores.

Lentinus Sajor caju.—This is the commonest Lentinus of the East. It is readily recognized by its yellow

color, smooth pileus, and a remanent of a ring on the stem.

Lentinus candidus.—I believe this is as above recently named from the Philippines, but my notes and photos of Lentinus are at London and I can not be sure.

Lentinus subnudus.—The common white Lentinus of the tropics.

Stereums.—I spent some months studying the species in all the historical museums. Compare Letter 46, Vol. 4. But my notes and photographs are at London and it has been some years ago I would not pass on collections I do not recognize as familiar species. Large numbers of unnamed foreign collections have accumulated in our museum. Dr. van Overeem sends three. Some day I hope to study and publish them in connection with the named specimens in the museums but that work should be done in Europe.

Stereum princeps.—(Named as Thelephora.) This is the largest, thickest Stereum known. It is not Thelephora in present sense which is restricted to species with colored rough spores. It is very abundant in Java and produces a pocket rot in the wood. Dr. J. C. Koningsberger sent it to us from Java in 1911 in great abundance. Compare Vol. 3, Letter 38.

Stereum lobatum as badly named. It is practically same as Stereum fasciatum, so abundant in the States. Stereum concolor, named by Nees, from Java, are forms or better conditions, I think.

Stereum Mellisii.—(Cfr. Synopsis Stipitate Stereum, page 28, Fig. 546.) A most marked species on account of its abundant metuloids. It was confused by Lévillé with Stereum affine and his mount at Paris represents both species.

Stereum (Hymenochaete) adustum.—A common plant in the tropics. For me, only a dark form of Stereum villosum.

Irpex flavus (?).—We do not like to refer this to Irpex flavus for the color is not right, being brown, with no trace of yellow. Still we get simliar plants from Philippines that we have so referred. It has same teeth, pileus surface, and cystidia, but is darker in color. Irpex flavus is only a hymenial form of Polystictus flavus finely illustrated by Junghuhn.

Radulum mirabile (resupinate).—It has large metuloids and called also Lopharia on that account, but the man who proposed Lopharia did not know it.

Resupinate Thelephoraceae.—We hope will be determined by Miss E. M. Wakefield, the only one who is in position to do reliable work on this group, having at her reference the most of the foreign species which have been named. We do not name them and have never studied them.

Corticium salmonicolor, as named by Dr. C. van Overeem. This is a distinctive root disease in the East. The latest information on it is found in Petch Diseases of the Cocoanut, where the plant is considered in detail. We are most glad of this fine collection from Dr. van Overeem.

Xylaria nigripes.—The usual plant on ant nests. Petch gave an extended account of it. It forms the curious sclerotia often found in nests. It has been considered and illustrated several times in Mycological Notes.

The Genus Lycogalopsis.—This was proposed from Java years ago and the leading feature was the single peridium seated on a thick definite subiculum. We got it (1910) from Dr. Bernard (Fig. 2651) typical as originally described. In addition the gleba consists mostly of a mass of small pale spores with but a few threads or rather shreds of an imperfect capillitium. We present again (Fig. 2651) an enlargement of Lycogalopsis Solmsii, we believe, in its original sense.

Lycogalopsis subiculosus from Dr. C. van Overeem, Java.—(Fig. 2649.) We received this from Dr. van Overeem as Lycogalopsis Solmsii which we think it is in fact, but there is a discrepancy between it and our previous publication which calls for an explanation The previous collection we got from Dr. Bernard had each little "puff-ball" seated on a definite circular disc base, a subiculum as originally described and we think it was correctly referred although there are no large cells in the gleba as shown in the original figure. This collection does not have a definite cup shape subiculum, but an effused mycelial pad on which the whole cluster of puff balls are seated. If one will compare our Fig. 2651 of Lycogalopsis Solmsii with Fig. 2649 of Lycogalopsis subiculosus the difference will be seen at once But in reality they are both the same species for all that and the same as Glichoderma cincta of Europe also in my opinion.

Lycogalopsis reticulatus from John E. A. Lewis, Japan.—(Fig. 2650 enlarged.) We reproduce our figure of this in order to bring the species all together. Small, 3-4 mm., globose, seated on a thick subiculum which forms a cup at the base in manner suggestive of Catastoma. Endoperidium thin, glabrous, reticulate on upper surface. Sterile base none. Gleba pinkish olive composed mostly of spores with scanty capillitium. Capillitium of hyaline threads, or rather shreds, for they appear flattened, irregular as though torn from a membrane. Spores globose 5-6 mic., smooth or minutely tubercular. In its leading feature this agrees closely to the Javanese species, but we think entirely distinct in its

habitat on the ground, and its materially larger spores. It must be rare, but at same time an evidence of close observation that Mr. Lewis made a fine collection of it.

Dendrosphaera Eberhardti from Dr. C. van Overeem, Java.—(Fig. 2652.) We are very glad to get specimens to illustrate this most curious genus, for while it was published (Bull. Soc. Myc. France, 1907, p. 69), it was not figured and a mere word description does not give much of an idea of it. We happen to know it for we have seen it in Paris, otherwise we would probably not have been able to name it. At first view it appears to be a "puff-ball" and was sent as Chlamydopus Meyenianus. It has not real relation to "puff-balls," but is an ascomycete related it is said to Onygena. As shown in our photograph, to the eye it recalls a cluster of terminal buds at apex of a rooting stem. The peridium is smooth and does not appear to dehisce. The gleba, pale yellow, consists of a mass of spores mixed with remnants of the asci remains. There is nothing to suggest capillitium. The spores are globose, 8-10 mic., smooth, pale yellow, and each has a large gutta. The asci are globose but disappear at an early stage. When nature planned her genera she seemed to delight in producing exceptional things. This genus, as the genus Trichocoma (Myc. Notes, page 1205, Fig. 2490), except in having asci when quite young, appear to have no other even remote suggestion to any other ascomycetes. Originally this was from China, named by the French. Then Sydow got it from Java but what he called it I have forgotten. Naturally he must have called it something else. This, the third collection, was made at Boeroe, Molucca, by L. J. Taxopens.

Thelephora pusilla from Dr. C. van Overeem, Java.—(Fig. 2653.) A photograph of these specimens also (Fig. 2654) one of the type which came from India. We believe them to be the same, although the Javanese collection has more narrow segments. Thelephora pusilla is a true Thelephora with typical spores and the hymenium on one side only of the segments. Dr. Overeem's collection is the second only I have seen.

Thelephora radicans from C. van Overeem, Java.—(Fig. 2655.) Thelephoras are rare in the tropics and this, the most frequent species. We have it from Africa, Samoa, Australia and Brazil. It seems to grow in connection usually with palm roots. While it is a good Thelephora for me, the spores are paler and less rough than most species. It was endorsed "on the ground in Bamboo wood. When fresh, violet with white margin." I got it in Samoa and I thought it had some connection with the roots of cocoanuts. In a recent paper this was included in Stereum. It is doubtful in either genus. The spores, very pale color, are perhaps closer to Stereum than to Thelephora, but the dark hymenium and slightly rough spores point to Thelephora.

Stereum javanicum from Docter van Leeuwen, Java.—(Fig. 2656.) Pilei dimidiate, plane, usually confluent, rigid. Surface brown, faintly zoned appressed tomentose. Context pale, with a darker hymenium. Hymenium cinereous, soft to the feel. Spores not found. A section shows a medial layer of longitudinal pale-colored hyphae which curve into the hymenium, become darker, and projecting hyaline. They are but little specialized and I presume they are basidia. The species I did not find named in the museums of Europe and is same as "No. 8," recorded Letter 46 from J. B. Mousset, Java.

Stereum fomitopsis from Dr. C. van Overeem, Java.—(Fig. 2657.) This was sent as Polyporaceae and my first impression was a Fomes. But when we examine it we find no pores either in old or new growth. Then we thought a Stereum parasitic on a Fomes. but we are convinced it is one growth, white when young and brown when old. It is hardly worth while describing it for there has never been a Stereum collected that in any way suggests our figure. A section shows a thick uniform tissue of hyaline hyphae which merge into the brown hyphae of the old growth. We find no spores or basidia but there is a surface coat of projecting, hyaline, irregular thin walled cystidia. Our conclusions regarding the plant were so exceptional as to it being a Stereum that we sent it to Miss Wakefield for her opinion before we ventured to publish it. She has not yet advised me.

Septobasidium cladoderris from Dr. C. van Overeem, Java.—(Fig. 2658.) Our first impression when we saw this was a species of Cladoderris, but when we sectioned it we find no hymenium but hyphae similar to those usually found in species of Septobasidium which support the hymenium. We therefore conclude that it is a Septobasidium that has not developed a hymenium but of course that is only a conjecture. The upper surface is peculiarly striate with a pale coloration as if whitewashed. The under surface is pale, costate ribbed like a Cladoderris, but a section shows it has no hymenium, but a dense mat of hyphae about ½mm. thick. A marked change in color of these pale hyphae takes place in potash mount for they at once turn black. This mysterious plant should be observed and studied fresh, to find out what it really is. It seems to be close to Septobasidium fisso-lobatum (Myc. Notes, page 888, Fig. 1540).

Stereum roseo-hirsutum from Dr. C. van Overeem, Java.—(Fig. 2659.) Pileus thin, sessile, dimidiate, uniformly colored light brown, with strong raised zones, strongly hirsute. Section pale-colored. Hymenium reddish. Metuloids large, hyaline, thick-walled. It suggests the involutum section which was illustrated as to forms on plate 196. But the hymenium does not have the waxy appearance, the pileus is not reduced in attach-

ment, and the surface is more strongly hirsute. It is also close in hymenium color and metuloids to Stereum latum of the East, which, however, is mostly resupinate with a narrow reflexed pileus.

Stereum auriforme from Dr. C. van Overeem, Java.—(Fig. 2660.) Pileus elongate, spathulate to a reduced base. Surface striate, smooth to eye, dark brown, faintly zonate. Context pale. Hymenium dark fuliginous. Metuloids none. Spores (if correctly seen) globose, 6 mic., very slightly rough. To the camera this is about same as Stereum involutum, Vol. 4, Fig. 563, but the hymenium color and absence of metuloids are entirely different. We would put it in same section 10. Under the microscope a section shows a medial layer of longitudinal hyaline hyphae which curve abruptly into the hymenium and surface layer of yellowish hairs. There are apparently irregular crystalline bodies near the hymenium surface but I do not make out basidia or any distinctive organs.

Polyporus albojavensis from Dr. van Leeuwen, Java.—(Fig. 2661.) Pileus dimidiate or largely resupinate, pure white, thin, hard. Surface smooth, dull, zonate with raised zones. Context white, hard. Pores minute. Cystidia none. Spores, if correctly seen, small, 3 mic., globose hyaline, smooth. We would put it in section 82, but it is hopeless to name the white Apus section, with expectation that they will be recognized in future. They can only be determined by comparison with those that have been named.

Geaster subiculosus from Dr. C. van Overeem, Java.—(Fig. 2662.) This was named from Java as Geaster stipitatus (Cfr. Myc. Notes, Vol. 2, page 314, Fig. 149), but it is really the same plant as Geaster subiculosus named from India (Cfr. Myc. Notes, Vol. 2, page 314, Plate 100). Our Fig. 2662 are unopened specimens but show the abundant mycelial growth from which it derives its name.

NOTES ON XYLARIA.

On the last trip we made to Europe just previous to the war, we photographed all the historical specimens we noted at Kew and Paris of the genus Xylaria. With the aid of these photographs we were enabled to get a correct line on most of the species that had been named. During the past year we have several times gone over the specimens at Kew, studied and examined them, also those at Paris, Rome and Padua. We did not have time to study them in detail before, and we find we would change our conclusions as to three species and would correct them as follows.

Xylaria scopiformis should be Xylaria caespitulosa as named by Cesati. While we have been correct as to the plant Montagne so determined and he listed it first, we are convinced now he misinterpreted Kunze plant which he unfortunately cites.

Xylaria multifida should be Xylaria ianthino-velutina. While our views of Xylaria multifida were based on a cotype at Kew, it was another of those old species that Montagne had taken up an old Kunze name. We found a Kunze distribution in Montagne's herbarium, also in Cesati's. It is quite a different plant from what we interpreted the single specimen at Kew. And it is unfortunate for there is nothing "ianthino" about it as far as I have ever seen specimens.

Xylaria rhopaloides should be Xylaria hippoglossa. To the eye the photographs are very similar, but the plants are not. Xylaria hippoglossa is the usual tropical form of Xylaria corniformis, but we have hunted in vain for a valid name for it. It is rhopaloides of Theiszen records, not Montagne's. We use a Spegazzini name for it, though no specimen is in Europe. It seems to answer the "description" and if it is wrong no one will probably ever find it out.

THE XYLARIAS OF CESATI.

The Xylarias collected in Borneo by Beccari were published by Cesati in 1869. Cesati was an active Italian mycologist, well versed in local mycology, but he had no way of knowing the foreign species that had been published, and as a result most of them were wrongly recorded. It is the same story that has been told over and over again, when men attempt determinations from the literature. We would redetermine Cesati's records as follows:

Xylaria polymorpha is Xylaria hippoglossa, the plant I have been calling in error Xylaria rhopaloides.

Xylaria Guepini Borneo has no suggestion of the Italian plant, which Cesati so misnamed on the French type.

Xylaria rhopaloides. This is correct, although much thicker than the type and more rugulose. My first impression was a different species.

Xylaria stromafera.—(Fig. 2663.) The plant from Sarawak referred to Xylaria axifera by Cesati, may fit the description, but quite different as will be noted on comparison, with our figure on page 534. It has a peculiarity few species have. It is developed from a black subiculum, and the only other species, we know with this character is Xylaria pumila, we considered on page 984. The globose head with a short beak is similar to Xylaria praefecta (Cfr. page 1181 as encephala). The spores I did not dig into. At Kew there is an immature collection sans locality, under the manuscript name Xylaria maculata, which has a similar subiculum, but the latter does not seem carbonous. It may be an immature condition, but I think, not of this plant. I am confident that Xylaria stromafera is only

known from this one specimen from Sarawak in Cesati's herbarium.

Xylaria intermedia and Xylaria masula are both Hypoxylinas and will be considered when we present that genus.

Xylaria caespitulosa.—(Fig. 2664.) This is a valid and frequent species misknown in my records, and as to Berkeley and Montagne in part as Xylaria scopiformis. Under the latter name I published and figured it in Myc. Notes page 675, figure 1001. Under the name Xylaria scopiformis, Berkeley had two plants, a sterile and a fertile plant. I took the latter to be correct, but I believe now neither is correct. Cesati's Xylaria caespitulosa is the valid name and should be used for the frequent species usually misnamed Xylaria scopiformis.

Xylaria Beccarii.—(Fig. 2665.) Clubs short, ½ inch, with short pannose base, black, no cuticle, growing caespitose on bark. Stroma white, solid. Perithecia imbedded, only ostioles slightly protruding. Ostioles black, shiny, slightly protruding. Spores 3½ x 8 mic.

Based on specimens from Sarawak referred by Cesati to Xylaria corniformis. I can well understand how it might from description be so referred as it has same pannose base. But in reality it has little resemblance as our figures will show. Also spores are much smaller. This has no connection with Xylaria Beccariana from Africa the type of which is unknown to me. Xylaria Beccarii is close, perhaps too close, to Xylaria botuiformis (Myc. Notes, page 926, Fig. 1665).

Xylaria complanata.—(Fig. 2666.) The type Sarawak in herb. Cesati are simple clubs, two from each short stipe. They are black with no pellicle. Surface smooth to the eye, is slightly moriform under a hand lens. Stroma pithy and probably hollow when old. Spores 5 x 10 mic. The plant is only known from the two specimens we photograph, and a cotype at Kew.

Xylaria fissilis.—(Fig. 2667.) The type ex Sarawak in herb. Cesati has the same club as Xylaria Hypoxylon. Black, hollow, slender, simple. But, the short stipe is slender and smooth. It grew caespitose on wood. Spores are 6 x 14 mic.

Xylaria exabata Cesati det. from Ceylon is Xylaria dealbata in its true sense.

Xylaria scopiformis var elatior is X. gracillima as illustrated Xylaria Notes, Fig. 1158.

Xylaria rhizocola, no specimens found.

Xylaria rhizomorpha is not a Xylaria at all, but a rhizomorpha of some kind. It is about two feet long and has no suggestion whatever to Montagne's plant, and no suggestion to a Xylaria.

Xylaria dichotoma is X. ianthino-velutina.

Xylaria melanaxis. The types in Cesati's herbarium are the same size, shape and appearance to the eye and same small spores as Xylaria nigripes, excepting that it is black.

It is not sure how it grew, but I believe on wood. It is best to refer it to Xylaria nigripes unless better known.

Xylaria Culleniae. At Rome I found a specimen of the above, sent by Berkeley to Cesati. This is surely ianthino-velutina. (Cfr. Myc. Notes, page 1246.)

Xylaria gigantea is X. tabacina. Xylaria allantoidea is X. Cubensis.

Xylria plebeja. No type found at Rome. The cotype at Kew is probably the only one that exists.

Xylaria Hypoxylon var. mucronata. No specimen found. There is little doubt it was what is now known as Xylaria apiculata.

XYLARIAS IN THE HERBARIUM OF SACCARDO.

The historical specimens are those named by Saccardo, viz.: a collection by Fiori from Eritrea and Gillet from Congo, and by Penzig from Java and a few scattered others. In addition there are the usual exsiccatae, and a set of Rick's distribution. The latter is the most ambitious collection ever made in the tropics but unfortunately Theiszen had not the opportunity to work with authentic specimens, and the collection is mostly misnamed. We give our views as to classification of Saccardo species, and in a few instances those found in exsiccatae that we have seen in his herbarium.

Xylaria botrys.—(Fig. 2668.) A cotype ex Balansa Tonkin, has two little subglobose heads and large moriform perithecia. Spores teste Patouillard are 5 x 12. I think good but imperfectly known, as not collected for thirty-five years.

Xylaria longipes.—(Fig. 2669.) A characteristic photograph shows its form, the surface is rugolose, Allescher and Schnabl No. 633 on Acer Bavaria. Our photograph shows its form, the surface is rugulose, the stem with slight pannose base. It is found in Saccardo as a variety of Xylaria polymorpha but it is really a form of Xylaria corniformis, if indeed it is distinct.

Xylaria oocephala.—(Fig. 2670.) A most unique little species on fallen sticks. The globose head appears to the eye (enlarged) as greyish, punctate with darker ostioles. Spores (teste Saccardo) 3-4 x 9. This most marked and distinct species is only known from this one Javanese collection.

Xylaria venosula.—(Fig. 2671.) The specimen distributed Rehm 1421 came from Brazil, collected no doubt by Ule but bears only the name "Dr. V. Höhnel" who

was never within a thousand miles of Brazil. It is a unique little species attributed to "Speg" whether correctly or not I do not know. It has an ovate pointed carbonous head and appears to me immature but I did not dig into it. The stem is peculiar character. Not carbonous in its nature as all others I have noted. But fleshy yellow, scurfy. The stem is the feature of the species. It does not appear to me to answer "Speg's" description surely not his dimensions, and Höhnel was evidently only guessing. Nor has it the most remote suggestion of Xylaria grammica as stated in Saccardo.

Xylaria encephala.—(Fig. 2672.) A remarkably distinct species, but known from one ample collection (Malacca 35 years ago). It has a subglobose head, and a short protruding apex. The interior is soft, pithy, hollow. The surface (Fig. 2673 enlarged) peculiarly rugulose, and greyish rather than black to the eye. As I remember it I doubt now my Phillippine determination Myc. Notes, page 1181, Fig. 2382, which had a thicker stem, more globose blacker head, and more obese habits. I would rename the latter Xylaria praefecta. I feel I was justified in referring the Philippine specimen to Saccardo's figure, but when I came to see the type I found it different.

Xylaria rugosa.—(Fig. 2674.) Type Congo has same spores, rugulose surface, and too close to X. polymorpha if not a form. It is more rugulose, however, and under a lens the surface is not smooth but scurfy.

Xylaria corniculata (Fig. 2675) is a peculiar species, one collection Congo. Gillet (1901). It reminds me much of Xylaria Cornu-Dorcas (Fig. 2498). Spores "8-10 x 18-20."

Xylaria brevipes (bis, Fig. 2676) was based on a collection by Dr. Fairman, on wood at Lyndonville, N. Y. I have a cotype at home. It is quite close if not X. Berkeleyii (Myc. Notes, page 1030, Fig. 1861). Spores teste Saccardo 4-4½ x 11-12. I am sure Dr. Fairman is the only collector in the U. S.

Xylaria brevipes var. Africana is surely Xylaria Berkeleyii. Spores 5 x 9-10.

Xylaria leucosticta type all Java is conidial, immature, badly named, not well figured, and should be dropped.

Xylaria ophiopoda. A single specimen as well illustrated by Saccardo. It has same surface and spores as X. polymorpha and I still think as I have published, it is an anomaly of the European species. (Compare Myc. Notes, page 768, Fig. 1151.)

Xylaria heloidea is a very peculiar little species well illustrated by Penzig, but appears to me his perithethia are too strongly shown. The little species has a black head and stipe, and seems to grow from a black subiculum. Spores 6 x 15-17 (teste Sacc.). This is something unique.

Xylaria brachiata appears to me too close to apiculata to be maintained on a single specimen. It is a more slender form and I have used the name page 894, Fig. 1665.

Xylaria capillacea. The type collection (all) from T. Gillet, Congo. It appears to me to be a conidial Xylaria ianthino-velutina, the same hairy stem, but the conidial branches I have not seen before. There is one fertile club with it (X. apiculata) but I think an accidental mixture.

Xylaria Fioriana. Only the Sacc. types which grow on a Euphorbia. They are immature and are the same for me as Xylaria myosurus, probably.

Xylaria tuberoides. Surely is obovata Myc. Notes, page 728, Fig. 1090.

Xylaria trichopoda. I found no type. Surely figure is the same as Xylaria juruensis of Brazil and too close to ianthino-velutina, although its habits are not the same as those of the latter. The specimen has a smooth stem and is not same as the figure, I think. Penzig made his trip to Java and drew his figures in the field which he turned over to Saccardo with the specimens. In this, as in a few other cases, I was in doubt if his specimens are the same as his figures.

Xylaria oligotoma. While I think good does not stand out very distinct for me, I should compare it with X. Hypoxylon. The clubs are acute, with a pithy interior, and no doubt become hollow. Where they are broken off there appears a central white axis. Spores "3-4 x 9-12." Only known from the old collection, Malay.

Xylaria torquescens. Type, Congo is Xylaria variabilis of Currey, and perhaps better the African form of X. grammica. We discussed this on page 648 and Xylaria Notes, page 25.

Xylaria vermiculus is same as Xylaria marasmioides (surely) and also annulipes I believe. I see no indication of any ring on the stem however. Spores teste Sacc. 4-5 x 6-8.

Xylaria polystica. I found no type. I wonder if any Xylaria ever existed with polystichous perithecia as figured. I doubt it. I never saw one, although I know a couple of figures. But a man could draw a figure and get this wrong, particularly if he was not impressed with the importance of the difference (compare the next).

Xylaria xanthophaea. Type all is a single little specimen that should not have been named. There is nothing suggestive of yellow about it now. Penzig figures it yellow with polystichous perithecia. Neither proposition is justified by the type in Saccardo's herbarium.

Xylaria varians, three collections from Java, all immature and not surely same and should not have been named. I think specimens do not correspond with figure.

Xylaria torrubioides. Type, a scanty little immature specimen that should not have been named. The illustration is no doubt Xylaria nigripes.

Resume.—Of the ten species figured in Penzig and Saccardo, two, viz.: Xylaria heloidea and Xylaria oocephala were real additions to the subject. The other eight can be spared without much loss.

MISCELLANEOUS SPECIES OF XYLARIA

Xylaria Assamensis.—(Fig. 2677.) Obovata, about 1 x 1½ inches, from a short woody stipe. Crust a thick white membrane, cracking when old but apparently not disappearing. Ostioles small black points which permeate the crust. Stroma white, fleshy pithy, disappearing when old so the plant becomes hollow and usually splits. Spores 8-10 x 20. Based on a collection at Kew which had been referred to Xylaria dealbata. It was from R. S. Hole, Assam. The plant differs from X. dealbata in several ways, and our figures will show they are not the same. It is, however, similar to the only good specimen in Berkeley's herbarium labeled Xylaria dealbata but which proves to be a mistake (Cfr. page 1252). Which is the specimen figured that we so presented in error (Xylaria Notes, page 8, Fig. 1212) based on this specimen. But the crust is not same color and doubtfully same species.

Xylaria rhizophila.—(Fig. 2678 enlarged, Cfr. Myc. Notes, page 936, Fig. 1713.) As we have pointed out this has a thick membranous crust covering the perithecia and is really a "new genus." The prominent ostoides project through this membrane. There are the types at Kew but due to Massee's liberality a better lot at New York. Cooke received the plant from Bailey (or probably Kew did) and wrote "Xylaria rhizophila." Massee added "C. & M. Grev., Dec. 93" and put most of the sending in his private collection afterwards sold to New York.

Xylaria Morganii.—(Fig. 2679.) Morgan sent his Xylarias to Cooke and he referred them in his usual uncertain way. Among others a species that Cooke referred to Xylaria conocephala, but neither in shape, spores, nor crust does it agree with this tropical plant. The remarkable thing about Morgan's specimen is that it is one of those that go hollow and has a thick crust, like Xylaria tabacina, excepting that the crust is black, not brown. I have never met another of this type of plant before in the States or Europe. That the plant becomes hollow, that it has a thick dark crust, and spores 8 x 22-24 are the leading features of Morgan's plant not shown in our photograph (Fig. 2679). Xylaria Morganii could be held to be black Xylaria tabacina, but the latter has no business growing out of the tropics. It is quite close to Xylaria cubensis as to dark crust but spores much larger and shape not same. This collection from Morgan is the basis of the record of Xylaria conocephala in Ellis' book, which should be deleted. In the New York Botanical Garden, there are two other collections, I believe, of this species. One by B. O. Dodge, the other by Dr. Murrill, both from Virginia.

Xylaria Schweinitzii.—I have been mistaken as to identity of this species. The type which I photographed (Fig. 2680) appears to be solid and I took it as related to Xylaria polymorpha, but I find that it is one of the hollow species, close if not same as Xylaria cubensis (Fig. 2681). The spores are 10 x 24. My mistake has been in supposing Xylaria Schweinitzii to be a solid species. It is at first but it becomes hollow at length. The usual plant Berkeley so determined (and probably the type) is same as Xylaria cubensis. (Xylaria Notes, page 4, Figs. 1204, 2680). I am not sure it is of the type (my notes being in London) but it is about the same if not.

Xylaria rhytidophloea.—(Fig. 2682.) Montagne sent Berkeley fine specimens of this. It is a black plant with a short slender stipe. The surface is moriform with the protruding perithecia but the aspect is different from usual as the ostioles do not protrude but are rather depressed. Spores are 8 x 18. I believe it has never been collected since this original from Leprieur, French Guaiana.

Xylaria spathulata.—(Fig. 2683.) Very distinct though known to this day by a single specimen the only one found by Thwaites in Ceylon in 1868. The shape is spathulate though it may not always be, but it has a thin rust colored crust (not otherwise noted) and close ostioles, and spores quite small 3½ x 5. If ever collected again I believe it could be recognized by these characters with little regard to shape.

Xylaria cupressiformis. From the herbarium at Torino.—(Fig. 2684.) The only collection probably known of this is the old distribution in Erbar Critt. Ital. No. 1278. There are three good examples on the sheet at Torino from which our figure has been made. We think now that Beccari is correct and that we were in error in referring here a plant from Africa (Myc. Notes, page 936). But our plant is closer to the old Micheli figure on which the species rests. Micheli shows a plant with a slender smooth stem growing on wood. Beccari specimens have a strongly pannose stem and for that reason I could claim that Beccari was in error. I do not because I think he is right and it is the old Micheli figure which is not accurate as to its stem. The spores of Xylaria cupressiformis are about 7 x 22 and the clubs take various shapes. In its relations the plant is very close to Xylaria corniformis. The perithecia are somewhat protruding, and when magnified the ostiole is in a definite annular area. Saccardo gives it as a variety of Xylaria Hypoxylon. It has no relation to this species but could be held as a variety of Xylaria corniformis.

Xylaria corniformis.—(Cfr. Myc. Notes, page 599, Fig. 1582.) This must be rare in Europe. The only English specimen at Kew is Berkeley, Speke Hall, which he first referred to Xylaria polymorpha. I suppose his distribution (277) is same collection. In this connection Xylaria corniformis was illustrated by Plowright in Trans. Brit. Myc. Soc. as Xylaria longipes. Spores of English plant are 6 x 12.

Xylaria platypoda.—(Fig. 2685 enlarged.) As far as I know only represented at Kew and Paris from a type collection Gourdot Grenada. It is peculiar, not only as to shape but it has a white crust through which the ostioles protrude. The perithecia (Fig. 2685 enlarged) are moriform and characteristic. The spores unusually large 12 x 48 taper to sharp ends. It is a very distinct species but only known from one collection 80 years ago. Montagne's referred from Guyane is not correct.

Xylaria hispidula.—(Fig. 2686.) Known from but a single specimen at Kew (Cuba) is not well named for I see nothing hispid about it even with a lens. The short head has a thin brown crust and scattered ostioles. Spores are 8 x 20. I expect it is good, but good and rare.

Xylaria Cornu-Damae.—(Fig. 2687.) There is a good specimen from Schweinitz at Kew, also correctly named from Morgan and Ravenel. It has been confused by us in America with Xylaria digitata (Cfr., page 976). It is a black plant with perithecia reminding of Hypoxylon multiforme, and spores 8 x 24. It is badly named for it does not suggest a deer-horn. When I go over the European specimens of Xylaria digitata at Kew I am not sure there is a real difference between it and our Xylaria Cornu-Damae. The surface and spores are same but general habits at first appear different. There is a cotype from Persoon at Kew also others from Europe and at first view quite different, short clubs united at base into a common substroma, as in the original Persoonian figure. This figure is ideal as to shape and habits (that is Persoon's idea). But not always thus in Europe, for other collections are more like a rooting base and Jack, etc., exsic. 432 (Baden) could not be told from Xylaria Cornu-Damae. I believe it would be better labeled if it were Xylaria Cornu-Damae which, however, is not recorded from Europe.

Xylaria guyanensis.—(Fig. 2688.) A good cotype from Montagne is at Kew. It has a thin brown crust, and is closely related to Xylaria allantoidea. The perithecia are scattered and the mouths on a definite disc (Fig. 2688 enlarged). These discs are caused by circular pieces of the brown crust which fall away from over the ostioles. I know no other Xylaria with this character. I am not sure the perithecia are carbonous. They appear under a hand lens to be brown. The spores are 6 x 24.

Xylaria comosa. Specimen from Rev. Rick, Brazil, at Torino.—(Fig. 2689.) This is the finest specimen we ever saw, and although we gave a good figure on page 727 this is worth another figure. We also give an enlargement of the marmorate spots that characterize this most peculiar species. Rev. Rick finds the species not rare and has distributed it (unfortunately) as Xylaria tigrina, probably the same thing.

Xylaria correcta.—(Fig. 2691.) The developments on previous page necessitated renaming the plant published from New Zealand as Xylaria cupressiformis on page 936. We still believe that the New Zealand plant fits the old Micheli figure much better than the plant the Italians so refer, but their plant has the advantage of being from the "type locality." Xylaria correcta is very similar to Xylaria cupressiformis for all that, the same general size, surface and spores but it has a slender pubescent stem and the Italian plant so referred by the Italians has a strongly pannose padded stem.

Xylaria obtussima.—(Fig. 2692.) The single specimen from St. Dominica and it is "only known from the type locality" is somewhat of a mystery. The friable stroma and shape to a measure suggests Xylaria dealbata but not possible as it has a thin brown crust. It has been suggested as being Xylaria allantoidea but for me the ostioles are different. Henning determination Ule 790 from Brazil now pasted with the "type" at Kew has as much suggestion of it as a piece of licorice has to cucumber, and such is "science."

Xylaria salmonicolor.—(Fig. 2693.) The "salmon color" refers to the stroma which really does have a red coloration in the only example known. Hence the species, based on a single broken specimen, India many years ago, is good and would be recognized at once if found again. Externally it is black, without a crust, and it is immature. I find no perithecia or spores.

Xylaria Readeri.—(Fig. 2694.) This is known from collections made by F. Reader in Australia in the Wimmera Desert. It grew deep rooting in the sand on roots of sedges. The perithecia form a head around the stalk near the summit but not really terminal. They are black (no crust) and slightly protruding. Spores are 4 x 8. While it is no doubt confined to sandy regions, and may never be found again, it is quite peculiar. While the advertisement attached to this plant is "Massee" it should be Mueller, for he so named it and distributed specimens to several museums of Europe so named. Many specimens that Massee never saw are so named and before Massee published it.

Xylaria deceptivus from R. E. Holttum, Malay.—(Fig. 2695.) Very slender, 5-6 inches long. 1-2 mm. thick, with long tortuose root. Growing in the ground. Perithecia small, immersed in the slender club, with only

the ostioles visible and they so small they are only seen with a lens. Spores immature. This is a deceiving species for to the eye it would be taken for a sterile specimen. We know but one other species of this same general nature, viz.: Xylaria phyllophila and we were entirely mistaken as to that for we always supposed our photograph of the type represented sterile specimens until we examined them with a lens on our visit to Paris a few weeks ago. These specimens from Mr. Holttum are immature and some have olive conidial patches. We never before noted a Xylaria with olive conidia, but practically nothing is known of the conidial states of tropical Xylarias.

Xylaria ianthino-velutina.—(Fig. 2696.) A most common and peculiar species in all tropical countries, always grows on fruits of some kind, and usually the large pods of Leguminosae. It has in our writings been called Xylaria multiplex, but many specimens in the museums are labelled Xylaria Culleniae and Xylaria Apeiba. We gave, Xylaria Notes, page 25, and Fig. 1343, an extended account of the plant under the name Xylaria multiplex. What a pity it is that we have to adopt another name for this now. Xylaria multiplex was neither a very good nor a very bad name, but "ianthino" has no application to it whatever. A species which always grows on fruits but many kinds of fruits should have a name referring to this peculiarity. It is the victim of a scanty knowledge on the part of its namer.

Xylaria Culleniae.—It is probable that this is the same as Xylaria ianthino-velutina. But it is strange that the only fertile one from Ceylon at Kew should have short fasciculate head and spores 5 x 8 while the normal fruit of this wide spread species is so different and spores 5 x 12. The Ceylon collection grow "on the prickly capsules of Cullenia excelsa."

There are two Xylarias that grow only on fruit so it appears, Xylaria ianthino-velutina and Xylaria carpophila, and it does not seem to make any difference what kind of fruit it is, but it must be a fruit. I think Xylaria Culleniae is same as Xylaria ianthino-velutina except as to one specimen of the "type."

Xylaria bulbosa.—(Fig. 2697.) This old Persoonian species is rare and grows on ground in pine woods. It has a bulbose base and spores are 5 x 10, surface black, moriform with general appearance of that of Xylaria digitata. It is not surely known from the States. Schweinitz record is based on Xylaria corniformis. I am not so sure about our Xylaria acuta not being this plant.

Xylaria microceras.—(Fig. 2698.) It develops that this is quite close to Xylaria muscula published Myc. Notes, page 994, Figs. 1780 and 1781. The type has a very short stipe and spores 5 x 12 pale colored. Xylaria muscula has long stipe and is young (no spores). Both however are same general type of plant, and both have a white crust through which the black perithecia protrude. Xylaria microceras is known at Kew from Montagne's sending, and also Wright 289, Cuba, surely same.

Xylaria ellipsospora.—(Fig. 2699.) Three specimens from Tasmania. Two are obtuse, other with prolonged apex, smooth to the eye but under lens surface cracked. Hollow with only a little white stroma between the unusually large perithecia. It does not have a distinct crust but faint indications of a rust colored layer. Spores 8 x 12 (largest I found, not 8 x 18 as indorsed on label). And this usual shape of Xylaria spores so the name is inapt. We have published that this is probably Xylaria Schweinitzii but on our revised view of the latter (viz. cubensis) we believe this quite distinct.

Xylaria anisopleura.—(Fig. 2700.) Good types from Montagne are at Kew. Spores are 10 x 35. Berkeley referred Ceylon specimens (No. 66) of some conidial plant (page 1231, Fig. 2575) to Xylaria anisopleura that have no more probable connection to it than to a cocoa-nut tree. We called it Isaria anisopleura but what it is no one knows.

Xylaria nigripes.—(Fig. 2701.) From recent specimens and notes of Maitland, Uganda additional light is thrown on the early stages of Xylaria nigripes. The conidial bodies (Fig. 2701 left) first appear and 10 to 14 days later they begin to develop the asci in the middle of the club (Fig. 2701 middle), and as the club grows it appears to produce conidial spores above (and below?) and the asciferous portion extends until at last a perfect fruiting club is formed (Fig. 2701 right). This is not usual in Xylarias. Our familiar species have the conidial clubs formed before not concurrent with any part of the asciferous club which comes after. Petch has shown that Xylaria nigripes produces many slender conidial clubs that never develope into asciferous clubs.

Xylaria juruensis.—(Fig. 2702.) Based on Ule 2860, it is very similar in general appearance to Xylaria ianthino-velutina (simple) and I have heretofore supposed a probable synonym (Cfr. Xylaria Notes, page 26). It differs in habits (not on fruit) larger, and more free perithecia, and more simple stem. The perithecia are axillary and it should be classed in same section with Xylaria melanura. It is too close to Xylaria ianthino-velutina however.

Xylaria Mellisii.—(Fig. 2703.) We reproduce our figure of type and we doubt now very much after a close examination of the types if our Fig. 1232 is the same species. The original from St. Helena has the

fasciculate clubs developed from a common sub-stroma in the manner of Xylaria digitata. I believe this to be the character of both species (true).

Xylaria cynoglossa.—(Fig. 2704.) I believe nothing but a large obese specimen of Xylaria allantoidea, same brown crust, same spores, 5 x 12, same hollow nature. Our figure is of the type all that exists. We believe now that Xylaria ocellata (Xylaria Notes, page 6, Fig. 1209) is an old condition of this plant. We do not place the stress now on the white rings around the ostioles we did at one time. Xylaria gigantea in original sense is no doubt same plant.

Xylaria cerebriformis.—(Fig. 2705.) A single specimen is at Kew from Mueller, Australia. As to the thin brown crust it might well be an anomalous form of Xylaria allantoidea, but the solid white stroma forbids. It is immature and no spores found. Xylaria lobata also from Australia is surely same thing. I can not say as to the hononym from New Caledonia, but believe that also about the same. The crust is darker (not brown), but it is same nature crust and I think an old condition.

Xylaria hirtella.—(Fig. 2706.) Under a lens it does have hirsute hairs not only on stem but on club. I know no other. Otherwise it is quite close to apiculata. It was recently named from Loyalty Island and the type is at Kew.

Xylaria Froggattii.—(Fig. 2707.) Club sub-sessile, irregular globose, lobed. Surface uneven, covered with a thin reddish coat. Perithecia imbedded, not protruding. Stroma white, solid, soft, much more fleshy than usual stroma of Xylaria. Spores small, elliptrical, 5 x 8. We received this from Walter W. Froggatt and referred it to Xylaria cinnabarina which had been named from Australia. A recent study of the latter plant at Kew shows that it is quite different (an Entonaema) and necessitates renaming Mr. Froggatt's sending.

Xylaria fulvella.—(Fig. 2708.) The "type" Wright, Cuba, is immature and altogether doubtful. One single specimen from Peter's, Alabama (Fig. 2708), is good and not known otherwise. It looks to me just like Xylaria phosphorea of Australia, same shape and size, brown coat, protruding perithecia, but spores 5 x 8 are smaller. Xylaria fulvella will have to be taken in the sense of the Peter's collection, for nothing will ever be known from the "type" Cuba. But in all our Southern states one specimen collected in fifty years of a species, is a sad commentary on the activities of our southern collectors.

Xylaria hypoxyloides from R. E. Holttum, Malay.—(Fig. 2709.) Clubs growing caespitose on bark, black (no crust), slender, hollow, brittle, acute, with a short glabrous stipe. Perithecia slightly moriform. Spores small, 3 x 6. In a general way this suggests Xylaria hypoxylon and no doubt has been determined as a tropical form. The clubs have that general appearance, but the quite small spores shows a marked difference.

Xylaria castorea.—(Fig. 2710.) The only specimens in the covers at Kew are the type from New Zealand and Morgan's sending to Cooke which are the basis of its tradition in American mycology. Cooke correctly referred it, but it is not rare in many countries. In short, it is small spored Xylaria polymorpha. Spores 6 x 10, but otherwise same in every respect. It never takes the elongated club shape common form of Xylaria polymorpha, but short, ovate, or subglobose forms.

Xylaria dealbata.—(Fig. 2711.) In rummaging about in the museums no other one thing gratified me as much as to get a Berkeleyan name for this common tropical Xylaria which I have been calling Xylaria Ridleyi, as named by Massee. While I photographed all "types," I found Xylaria Ridleyi was the only photograph that I had of this characteristic plant. There is little remaining of the "type" of Xylaria dealbata. The type sheet has nothing left on it but the label, but there is a little pill box in which are preserved little fragments of two at least of Berkeley's Xylaria dealbata and the fragments can be recognized, that is, after one learns the plant. The specimens that I photographed (Xylaria Notes, Fig. 1212, Venezuela), of Berkeley's naming is a different species with a brownish crust. There were three collections so labelled by Berkeley, two had entirely disappeared excepting some little fragments and the third being a fairly good specimen, I photographed. As fate would have it, the third, so named by Berkeley, is an entirely different species from his type fragments. That is all the excuse I have to offer for presenting in Xylaria Notes, page 8, a photograph of a plant as Xylaria dealbata that has but little suggestion of it. But if the author did not know his own discovery a few years after he made it, how could one merely going through to photograph the types expect to catch it. I had a feeling that when I investigated I would find a valid name for this common and most characteristic species. It did not seem right to me that Massee should at such a late date discover this common species as a "new" one. As a matter of fact if he had made a search he would have found two good collections in Cooke's herbarium from Australia, one labeled Xylaria cretacea, the other Xylaria dealbata and one from New Guinea and perhaps others. Since above was written at Kew I have found in Montagne's herbarium at Paris a good characteristic specimen (Wright, Cuba) of Xylaria dealbata, so named by Berkeley, and the identity of Berkeley's species is surely established.

Xylaria pyramidata.—(Fig. 2712, head enlarged.) Although only known but from one specimen collected in Ceylon nearly sixty years ago, if we were looking for new genera we would find one here. A globose head of half-free perithecia is hardly a good idea of a Xylaria. We considered this plant on page 895, Mycological Notes. The squamules on the stem that were shown in our photograph and were much of a mystery to us are nonexistant. They are due to deceptive photography as we would not pull the unique specimen from the sheet, and photographed in situ. The shadows gave a scaly appearance to it. We are not sure even that the perithecia are carbonous, and of course we can not pick the specimen to pieces to find out. The spores (3 x 6) are Xylaria spores and that is all we know certainly about it. But we would know it at a glance if we ever saw it again.

Xylaria phosphorea.—(Fig. 2713.) There is only one good specimen at Kew and others too broken to tell much. It has a brown crust and when ripe it appears that the perithecia are protruding, the black mouths perforating the crust. Spores are 5 x 12. It is quite close, but I think not Xylaria Timorensis. I do not see any application of the name nor suggestion of a "morning star," but perhaps Berkeley did. Berkeley was a most prolific man. Father of fifteen children (not to mention 1,500 alleged new species) and it kept him hustling to feed all those little mouths. I was told by one who knew him that he habitually got up about four o'clock in the morning and probably he named this bright and early some day when he started to work.

Xylaria Feegensis.—(Fig. 2714.) Although based on a few small specimens, it has a pannose base, same surface and spores (6 x 12) as the tropical form of Xylaria corniformis, called now Xylaria hippoglossa. The shape is not same, however, and I would not feel like taking the name. It would have no application anyway.

Xylaria obovata.—(Fig. 2715.) The "type" collection was from St. Vincent in Hooker's collection, but is not found now at Kew. There are, however, seven collections of Berkeley's determination and all are as we have considered and illustrated it. In the Clinton herbarium are specimens of Wright's Cuba collection labelled Xylaria obovata, which are not same as those in Berkeley's collection from Wright, Cuba. (Cfr., page 983.) As Berkeley is supposed to have determined the Wright, Cuba collections, I though he must be responsible for the name on the specimens at Buffalo, but from specimens in his own herbarium it seems not. It therefore appears that neither Berkeley nor I (Cfr., page 983) made a mistake as to Xylaria obovata, but the gentlemen who labelled up the set of Wright's, Cuba collections that were sent to Judge Clinton. These specimens are Xylaria dealbata, as the same Wright number is found labeled elsewhere, also specimen from Spruce, Brazil, in Montagne's herbarium and British museum.

Xylaria fistulosa.—(Fig. 2716.) Known from a single broken specimen at Kew, from Java, and a better one at Paris, is close but it is not Xylaria allantoidea, although Cooke and Massee so misreferred many collections. It really has a thin brown crust, but the perithecia are protruding (under a lens) and remind one of those of Hypoxylon multiforme. Spores are 5 x 12.

Xylaria grammica.—(Cfr., Myc. Notes, page 648. Fig. 925.) This well-known South American species takes a larger and more slender form in Africa, called Xylaria variabilis. There are specimens at Kew nine inches tall. When young, the conidial state is white with black base. I have puzzled over these conidial conditions of specimens received from African collectors and am pleased to have them solved. Mr. Maitland, from Uganda, has sent Kew some collections of a "stag horn" branched conidial state which he thinks is an early condition of this plant. That, to my mind, is quite improbable, and I would suggest rather Xylaria cristulata. Myc. Notes, Fig. 1357.

Xylaria sicula.—The little imperfect, immature specimens distributed by Maire (100) tell nothing whatever. From description it appears to be a little species with a globose head, filiform stem and grows on fallen olive leaves. Shear has found recently in our southern states a very similar species. Xylaria sicula was from Sicilia, but I found no specimen in either of the principal Italian herbaria.

Xylaria zealandica.—The type New Zealand is scanty but is probably the same as Xylaria apiculata of American tropics. I did not get the spores. It has a slender stipe and our reference, page 1202, Fig. 2472, of a sessile plant to this name was probably an error.

Xylaria tentaculata.—The type Ravenel 1300 is the conidial state (Myc. Notes, page 995, Fig. 1787). There is no evidence in any museum that Berkeley ever saw the fertile form (Fig. 1791), although his description seems to fit it. He referred specimens from Cuba. United States and Ceylon to Xylaria tentaculata and all are conidial and are evidently, on the face, three different things. And it is not sure that either is a Xylaria state. In Ravenel's herbarium there is no fertile specimen and at New York is a Ravenel specimen of the conidial form, in evidence that at one time Ravenel referred it to Xylaria comosa (sic.).

Xylaria hystrix.—(Fig. 2717.) Known from only very immature collection Cuba, it seems peculiar in its method of growth, and might be recognized if found again. But the "type" will never tell anything.

SPECIES BETTER "ZU STRICKEN."

Xylaria fimbriata.—Only one collection as illustrated, Myc. Notes, Fig. 1083. It is conidial and should not have been named.

Xylaria acicularis.—All the specimens in Berkeley's writing are immature excepting one from Montagne, which Berkeley indorses "Xylaria rhopaloides, young." I believe that is right and that Xylaria acicularis should be "zu stricken."

Xylaria australis.—A single specimen, much broken, but with brown crust and spores of Xylaria allantoidia, which it is for me.

Xylaria cordovensis.—A comparison with Xylaria Berkeleyi convinces us they are same, a conclusion we have already published.

Xylaria elastica.—A single specimen sliced and not much can be told from it. Sessile (?), globose, an inch in diameter. A large Hypoxylon (?), surface black, even, carbonous, no crust. Stroma fleshy. Spores 8 x 12. I see no application of the name and I suspect it is Sarcoxyton compuncta, but that is quite uncertain.

Xylaria Emerici.—Only the old collection by Berkeley's son in India. In size, shape and general appearance much like Xylaria titan from Texas and probably same. Spores 8 x 16. The stroma is black and becomes hollow it appears.

"Xylaria" fulvolanata.—We suggested (page 1057) an examination should be made of this. We believe that is not worth while. The "type" is obviously immature and probably not a Xylaria at all.

Xylaria furcellata.—Only one collection, India, as illustrated, Myc. Notes, Fig. 1087. It should not have been named.

Xylaria lingua.—While this is Léveillé's claim, the specimen preserved is one he sent Berkeley. It is immature and I do not recognize it, but it is a safe statement that there is no named Xylaria characterized by being "shape of a tongue." Any cylindrical Xylaria is liable to take flattened forms but there is no special significance or value based on a species discovered years ago, "the shape of a tongue," and never found since. We have noticed several flattened specimens of Xylaria allantoidea in the museums.

Xylaria mascarensis.—Specimen so immature it should not have been mentioned, much less named, and if referred to young Xylaria tabacina no one could have claimed a misdetermination.

"Hypoxylon" natalense.—This is not a Hypoxylon as originally labeled and surely not a Xylaria as published, and it may not be a Pyrenomycete. We believe we could recall it if material ever comes in, that we can soak up and find out something about it. We will have a name even if it has no suggestion of its genus.

Xylaria persicaria.—A little fragment, immature specimen from herb. Schweinitz is at Kew. It tells but little, but enough to indicate that my reference to Xylaria carpophila is an error if this is true. This is more my idea of Xylaria subterranea, the perithecia scattered along the rachis.

Xylaria scruposoides.—At Torino I found a specimen labeled by Rev. Rick "Xylaria scruposoides Rehm. Original." It is the first I have seen, but surely only the common Xylaria corniformis.

Xylaria stilboidea.—I did not pick the scanty types to find out what they are. They are little stalked heads but do not appear to be Xylarias at all.

Xylaria subularis.—Karsten's immature, imperfect distribution (559) tells nothing whatever, excepting to raise the question if there is any difference between it and Xylaria filiformis.

Xylaria tabacina.—There is no question but that this is same as Xylraia involuta, although only fragment of type of latter is found. Berkeley so indorsed them where Cooke no doubt got his pointer. As tabacina is a good name, and a good figure was given, I shall adopt it for there is no certain evidence as to involuta. The few fragments of the type that remain where it was glued have same spores (8 x 20) and probably the same plant. But why guess when one has a name that is sure?

Xylaria Thwaitesii.—This is the same plant as Xylaria cubensis and the figure Xylaria Notes, 1205, is a perfect representation of it. It really has a crust, same as Xylaria allantoidia, but the crust is darker. The spores are 4 x 8.

Xylaria tortuosa.—This old specimen from Sowerby's herbarium sent to Dawson Turner and over a hundred and twenty years old is at Kew in good condition. Surely it is an anomaly for it so appears and if normal it would be refound in all these many years. The spores are 5 x 20 and were I to guess on its derivitive form I would suggest Xylaria hypoxylon. It was Cooke, I believe, who enhanced "science" by the publication of this valuable acquisition to British mycology. The remarks I made somewhere as to Xylaria scotica were due to a mental confusion on my part and were based on my (erroneous) memory of Xylaria tortuosa. Xylaria scotica is quite a normal and distinct species though known but from one collection many years ago in Scotland.

Xylaria Wrightii.—(Fig. 1203.) Notwithstanding its different shape I am convinced this is same as Xylaria tabacina, Xylaria Notes, page 3, Fig. 1200. The thick

brown crust, surface, color and spores 8 x 24 are same. There were two collection named Xylaria Wrightii. The one we figured (308) and another not numbered at Kew. The latter is more cylindrical and more the shape of the usual Xylaria tabacina, but it has a longer black stipe.

Xylaria zeylanica.—Type all broken in little bits appears to be same as Xylaria cubensis. It is hollow, has smooth black surface and spores are 6 x 12.

NOTES ON MISCELLANEOUS XYLARIACEAE.

Penzigia cretacea.—(Fig. 2718.) We are unable to illustrate this by a photograph for we found no type at Kew or British museum. We have looked in all the covers where we thought there was any chance of finding it. Fortunately there are some little frustules of the type in Cooke's herbarium that he had abstracted from Berkeley's herbarium. Berkeley published it as Hypoxylon (Trans. Linn. Soc., 2nd Ser., Vol. 1), and gave (45) evidently a good figure of it (reproduced Fig. 2718). It is globose, about an inch in diameter, has a short stem, a white, smooth crust, carbonous peripheral perithecia, and large spores 10 x 36. So many of the features agree with Xylaria dealbata that we compared them to be sure that it was not a globose form. We feel sure not, for the soft white stroma shows no tending to become blackened as it does in Xylaria dealbata. As to classification it is not so simple. Berkeley put it in Hypoxylon, Cooke in Xylaria, and it does not fit in either, nor in the buffer genus Hypoxylina. Saccardo erected a genus to cover it, viz., Penzigia, with pale crust, and soft nonzonate stroma. The genus is hard to maintain for it includes Xylaria dealbata and Xylaria obovata. And in addition the impossible genus Sarcoxylon has no place in Penzigia as found in Saccardo. I did not find in Saccardo's herbarium any specimen of his genus and I hunted specially for it, but I feel he has given a good enough figure so that we know what he had in mind.

Engleromyces Goetzei.—(Fig. 2719.) A fine specimen of this has been received at Kew with a collection note that gives the first real information we have had of its habits. Compare our previous account in Large Pyrenomycetes, page 15. It grows around the bamboo stems and only in the mountainous regions of Africa. The original specimen that we figured (857) was an old specimen and was black. This recent specimen is young and is covered with a closely adnate yellowish crust that had disappeared from the old specimen. Mr. W. J. Dawson, British East Africa, sent the specimen to Kew with the following interesting note:

"This curious fungus was first brought to my notice by Mr. R. B. Woosnam, Game Warden for the Protectorate, who collected two large specimens from the bamboo forests on the Aberdare mountains during the rainy season. Mr. E. Battiscombe, Chief Conservator of Forests, and I crossed the same country in the dry season and only came across fallen fragments of old specimens. The present specimen was collected by Mr. E. Battiscombe, a little later in the same locality. It is about one-third grown and now considerably shrunk, but when fresh was nearly spherical save for the groove on one side, and of a bright pink color. It was firm to the touch but not hard and a good deal smoother (see the surface near the groove). This fungus is apparently saprophytic upon the bamboo (Arundinaria Alpina) and is found clasping the uppermost branches so tightly that it can not be removed. I enclose a small fragment taken from a piece of an older specimen showing the development of the surface markings which become coral-like."

The nature of this large fungus growing on a small twig was quite mysterious to me. It can not be saprophytic as suggested in above note, for the bamboo stem was alive and a saprophyte grows on dead wood. Nor did it seem possible that such a large body could be parasitic on such a small stem, but Major Braid kindly examined the wood tissue with the microscope and found evidence of parasiticism. We have therefor to accept that it is a parasite.

Poronia agariciformis.—(Fig. 2720.) There are only two specimens of this at Kew, and one I cut down the middle. We did not know what the inside looked like, and it was time we found out. The stroma is white, loose, flocculent (Cfr., Fig. 2720), and unlike any other Poronia or Xylaria either for that matter. For me it is a Poronia (Cfr., page 939, Fig. 1726) rather than a Xylaria, but it is a question that could be considered either way.

Daldinia cudonia.—(Fig. 2721.) Berkeley called this Xylaria cudonia and we never closely examined it before. It is a Daldinia with zonate, carbonous stroma of the genus. It is peculiar in its perithecia which are polystichous, not monostichous as in all other species. Spores are 8 x 12. This American plant is supposed to be rare and known from only one collection, Curtis, 3220, Santee Canal. We have noted lately, however, that Ravenel found it but it was lost as he distributed it as Daldinia concentrica (sic.). It is about same shape and size as Daldinia angolensis (Xylaria Notes, page 688, Fig. 1028) and at one time we suspected they were the same. They are not, for the latter has white stroma and Daldinia cudonia black carbonous, zonate stroma. The stroma is black, carbonous, but Cooke shows a section with white stroma. The specimen was not cut at all at Kew until I cut it, and Cooke never saw inside it, but it was not hard for Cooke to draw a figure without even seeing it. He could draw an inside picture without taking the trouble to look inside.

Kretzschmaria Kurziana.—(Fig. 2723, enlarged.) We discussed on page 1033 the probabilities of this being same as Kretzschmaria truncata. We believe now it is, although the former grew in the ground attached to buried sticks, and the latter on sticks. Otherwise we can find no difference. As to genus, surely it is not a Xylaria, nor is it a good Kretzschmaria. It has a thick permanent membranous coat covering the perithecia and a "new genus" should be made for such plants. It would be a solution for such things as Hypoxylon Morganii, Poronia ustorum, "Xylaria" Kurziana and several others that are anomalous in the genera where now placed, and all of which have this permanent membranous coat. Our figure is an enlargement of specimen at Kew recently received from Uganda.

NOTES ON HYPOCREA.

Hypocrea insignis.—(Fig. 2722.) Based on Wright 516, 755 and 765 Cuba, it is a fine thing and well named, although all these collections seem immature. The young asci are, however, evident and surely it is a typical Hypocrea. A recent collection, Maitland Uganda, Africa (which we figure) is surely the same as determined by Miss Wakefield. This collection has the typical Hypocrea spores. While it appears growing to be a sessile species it is really stipitate with a short stipe. The species is only known from the old Wright collections (Cuba) and a recent acquisition at Kew from Africa.

Hypocrea Glaziovii.—(Fig. 2724, enlarged.) This species is advertised "Sacc. in Hennings Fungi, Brazil," hence I suppose the specimen found in Saccardo's herbarium is the type. This surely is no ordinary Hypocrea and I do not believe it is a Hypocrea at all. Our enlargement shows a white resupinate layer like a Corticium with relatively large punctures, ceftainly not like ostioles of perithecia as Saccardo evidently thought. I could make nothing of the little frustule I took, but Miss Wakefield made a section and found nothing in the fungus itself but some perithecia imbedded in the host beneath the layer. They had elliptical hyaline spores arranged not like the usual Hypocrea in a row but diagonally in the ascus, and each spore separating into two sections. While that of course suggests Hypocrea spores (or Hypocreaopsis of Seaver) they are not the usual Hypocrea spores, and there is no evidence that they have any connection with this overlaying white layer. We present (Fig. 2724) an enlargement of this layer. It appears to me that anyone who is familiar with Hypocreas should have known this is no Hypocrea from its general appearance. We have seen what is supposed to be a cotype of this species at New York. We do not remember it, but if same as the type we would probably have noted and questioned it. And since above was written we have seen a specimen "ex Berlin" at British museum. We did not examine it under a microscope but to the eye surely is not same plant as in Saccardo's herbarium and the latter is the sacred "type", hence it does not make much difference what Henning's specimen is.

Hypocrea inclusa.—This is quite exceptional, being the only Hypocrea that is known parasite in a Tuber. It is true that Harkness has recorded another, but he did not know the genus and his is no Hypocrea. Four instances have come to my notice where Sphaeria spores are found in tuberous specimens, evidently parasitic but Sphaeria spores and Hypocrea spores are two entirely different things. It was so exceptional that a Hyporea should be found in a Tuber that at my request Miss Wakefield examined and confirmed them. The spores are hyaline, globose, about 4 mic., smooth, but instead of being 16 to the ascus as in the true Hypocreas they are only eight. The Hypocrea asci seem to develop in the Tuber without any special stroma of their own. But one collection of Hypocrea inclusa was ever made, viz., by Broome at Hanham, near Bristol, Nov., 1869, not 1871, as printed on Rab. Exsic. No. 1610. Any one looking for a new genus can surely find it here, but Hypocrea jugglers have fortunately not done much work as yet.

Hypocrea pezizoides.—(Fig. 2725.) This is a most deceiving plant that Berkeley correctly referred but would ordinarily be taken for a Peziza. It is exactly the shape and appearance of a flat Peziza, bright red, the color retained in these old specimens. There is no trace of perithecia or ostioles to my eye on the surface, but the imbedded perithecia were clear in a section. The spores 16 mo., hyaline, sub-globose and the plant as to asci and spores is a typical Hypocrea, but as to its grosser aspect a Peziza, and no other known species anyways close. Hypocrea pezizoides is known from one abundant collection (308), collected by Thwaites in Ceylon (1868). It grew on the bark of a tree.

Hypocrea Carteri.—(Fig. 2726.) The type all known (Fig. 2726) is scanty but quite distinct. It is thick but appears to have been effused. Color pale, spores are elliptical, 8 mo., 6 x 12, hyaline, septate, Bombay. H. E. Carter (1862), type (all) is at Kew.

Hypocrea fungicola and Hypocrea pulvinata.—These two species have been confused but surely are different, and go in different sections for me. Both are brown and grow on Fomes or Polyporus hymenial face. I am not sure, however, that Hypocrea citrina also grows on same host and is further confused with above two (viz., Rehm. 677). Winter got the two right as far as descriptions and sections and then cites Rehm. 678 as being fungicola when it is really pulvinata.

Hypocrea fungicola.—(Fig. 2727, enlarged.) Resupinate, effused, pale brown, flat, the perithecia but little

protruding. Spores hyaline, typical, 16 mo. Our figure is from a specimen distributed from Farlow's herbarium. We think Hypocrea fungicola, pulvinata and citrina have been confused and we are not sure they are straight yet.

Hypocrea pulvinata.—(Figs. 2728 and 2729, enlarged.) Cushion shape, congregate, somewhat confluent, 4-5 mm. in diameter with no effused subiculum. Brown when old, pale yellow when fresh. Ostioles not prominent. Spores cubical, 16 mo, hyaline. This rarely grows on old Polyporus in Europe, not in America as far as I know. Originally on Polyporus belutinus. Rehn distributed it 678 (as Hypocrea Karsteniana n. s. (sic.) on polyporus pinicola (?) (sic.). His host may be small pored form of Fomes pini, but most assuredly not "Polyporus pinicola." There is an intimate relation between this plant and Hypocrea fungicola, possibly the same species, but the latter is described as effused which does not at all apply to this. Hypocrea pulvinata has recently been found in England for the first time.

Hypocrea ustulinoides from Rev. J. Rick, Brazil.—(Fig. 2730.) As named by Father Rick. The name is not inapt for it has a general resemblance to young Ustulina vulgaris. Resupinate, hard. Color grey. Perithecia peripheral in one layer. Spores 8 to ascus, tardily separating into 16 cubical. There is a possibility that this is Hypocrea Glaziouii in sense of Henning's (cotype at New York), but it is not in sense of Saccardo (Cfr., page 1256), and specimen in Saccardo's herbarium is the "type".

Hypocrea maculata.—(Fig. 2731.) Thin, effused, closely adnate. Color (now) brown with a narrow white margin. Ostioles minute not protruding, surrounded by a brown spot which is darker than the other surface and largely covers it. Spores hyaline, cubical, 8 to ascus, probably dividing into 16 at a later stage. A single specimen at Kew, on a thin black layer, no doubt dried Exidia glandulosa, on denuded wood. It was named by Ravenel at Kew as "Sphaeria citrina," viz., Hypocrea sulphurea, but the color and margin called my attention to it at once. The specimen that Ravenel distributed 3/52 as Hypocrea citrina, appears to be Hypocrea sulphurea as "Hypocrea citrina" in American tradition, mostly is. This is surely different.

Hypocrea polyporoidea.—(Fig. 2732.) Although this is known from a single chip, Peters, 6110 on beech (Fig. 2732), it is a very distinct species. Crustaceous with a white adnate subiculum so densely covered with the minute brown perithecia the subiculum is hardly seen. It is badly named for its suggestion of a Polyporus is not obvious. The spores globose, hyaline, 16 mo., are typical of Hypocrea.

Hypocrea Maitlandii.—(Fig. 2733.) A Hypocrea with typical hyaline, 16 mo. cubical spores and to the eye much like Hypocrea lenta is a recent acquisition at Kew from Maitland (No. 170) Uganda. It is more concave than lenta, not black and shiny, but brown and rather dull, and the projecting ostiodes are conspicuous (not on lenta). I think it worthy of a name though Miss Wakefield put it in the collection without naming it.

Hypocrea cerebriformis.—(Fig. 2734.) Globose about 2 cm. in diameter, tubercular, with dark convolute aciferous layer, it is not inaptly named. The stroma is white and ligeous (now). The spore globose, cubical, hyaline, 16 in ascus are typical of Hypocrea. It was collected by Guilfoyle in Australia (1870) and only known from this collection.

Hypocrea subcitrina.—(Fig. 2735.) Effused, closely adnate to host, old wood. Crustaceous. Spores 16 mo., globose, hyaline. Known only from Africa. Port Natal Kew (type). Uganda (Kew), Congo, Belge (Kew). It is close to citrina but more crustaceous.

Hypocrea Borneensis.—(Fig. 2736.) Cushion shape, congregate and confluent, 4 mm. in diameter. Color reddish brown. Ostiodes numerous, protruding, not much darker than the surface. Spores 16 mo. hyaline, cubical, 4-5 mic. A typical Hypocrea, we find it distributed by H. S. Yates from North Borneo. It suggests H. lenta, but some different color and more prominent ostioles. Also we know no other growing confluent in this way.

Hypocrea peltata.—(Fig. 2737.) I was most glad to get a name for this for I found it abundantly in Samoa (which was named as a "new species," Hypocrea mesenterica, Myc. Notes, Vol. 1, page 50). Afterwards I found it collected by the old Dutch botanists and many specimens at Leiden. I think they were without name there but I did not look up the named "Sphaeriaceae" as I was not working on the subject then. An old specimen from the Philippines was labeled "Sphaeria peltata Junghu," by Berkeley and there are but two other collections at Kew, both Indian, viz., Bombay Carter and Darjeeling Hooker. Although Junghuhn did not illustrate Sphaeria peltata, there is no doubt it is his plant. It is "peltate" lying flat on the host but attached by a small attachment, the lower sides white, and sterile. The upper is more or less undulate or lobed, brown and smooth. The perithecia are entirely imbedded, and spores globose, hyaline, 16 mo., are typical. I believe it is a common plant in the East in general, but few specimens have reached Europe. I recently saw it at Paris named Hypocrea Eberhartii, by Patouillard. Our figure from the dried specimen at Kew is not good, but we have at home fine photographs of the fresh specimen (Samoa) which we will some day publish.

Hypocrea Colensoi.—(Fig. 2738.) Cushion shape, 5 mm. in diameter, attached by a reduced base. Stroma white. Color reddish brown. Perithecia imbedded, the ostiodes slightly darker. Spores globose, hyaline, 16 mo. (typical). Based on a specimen at Kew from Colenso (b. 982) New Zealand (1885) misreferred by Cooke to Hypocrea saccharina. It has a suggestion of H. rufa, same color and spores but much larger and different attachment.

MISCELLANEOUS HYPOCREACEAE.

Sarawakus lycogaloides.—(Fig. 2739.) Cushion shape, brown, 5-8 mm. in diameter, growing on bark. Surface even, the perithecia not prominent. Stroma has appearance of being cartilaginous-fleshy color of dark brown sugar. The flesh soaks up soft, cartilaginous-fleshy brown. Perithecia contiguous, forming a peripheral layer, brown but not carbonous, same color as stroma. Spores elliptical, brown (phaeospora) 10 x 15, with surface marked with rows of tubercular markings. We find this at Kew under two labels. Hypocrea rhytidispora as named and figured by Cesati from Sarawak, and Hypoxylon lycogaloides, Ceylon, by Berkeley. We can not see how by any stretch of characters it can be included in either genus. It has nothing in common with Hypoxylon, nothing carbonous about it, and the peculiar spores are not those of Hypoxylon. Neither is it a Hypocrea, although as to texture it does belong to the Hypocreal alliance, but no other genus with such general habits and appearance or spores. We believe the two localities cited above are all that are known. It is found in Saccardo as Clintoniella, which was a bad bull, and nothing whatever to suggest the genus even. Cooke classed it with Sarcoxylon compuncta, two plants that have little in common, one with carbonous perithecia, the other membraneous, a difference that would put the "genus" in two different families on usual classification. I am unable to find any genus that covers it, although the monotypic genera are more a nuisance than they are good.

"Cordyceps" peltata.—(Fig. 2740, enlarged.) Under the name Cordyceps peltata, Miss Wakefield gives an excellent figure and account of a most novel fungus that proceeds from a borer larva buried in the wood. It came from the West Indies. The fructification appears on the surface and to the eye is in every respect a Hypocrea. Miss Wakefield finds by dissection, however, that it forms a felt-like mycelium around the buried larva. The spores, 3½ x 72-90, are hyaline, fusiform, bent and articulate in the middle and multiseptate. It is unique as to spores. They differ entirely from Cordyceps spores as does the plant in shape and habits. There is no genus with just such spores though it approaches Hypomyces. I am sorry Miss Wakefield did not propose a genus, for Saccardo, in compiling it, would surely have done so, had he been alive. It would be rather embarrassing to consider it systematically, other than as a new genus. As to spores it is close to Hypocrea fusigera, but this is not a good Hypocrea and its spores are not septate like this. We present an enlarged photograph of the fungus seated on the surface of the wood and the white larva is shown in its burrow where the wood has been cut away. Also we reproduce Miss Wakefield's figure of its peculiar spores. We have not decided on a plan to treat generically the Hypocreaceae. The old system of calling most everything a Hypocrea does not appeal strongly, although Saccardo, in the main, adopts it, which was rather strange, for as to most of the Pyrenomycetes he makes his genera (artificially) on spore character and then fits his species in on this one feature. This would be Clintoniella peltata (or nearest) on spore character alone.

Konradia bambusina.—(Fig. 2742.) The genus Konradia, to the eye, appears much like the following, a black plant on the culm of bamboo. It is only known from Java and was proposed by Raciborski. Its systematic characters rest on its spores. These are filiform, septate and disarticulate into many secondary spores 3-4 mic. long. In general nature the spores resemble those of a Cordyceps, but they are colored. I think Konradia is only known from Java, though no doubt it occurs in other countries where the bamboo grows. Our figure is from a specimen at Kew sent by Hoehnel from Java.

Stereocrea Schizostachyi.—(Fig. 2743.) A nice specimen of this from the Philippines is found at Kew. It was recently named by Sydow and appears to me to be novel as far as I have noted. The genus is hypocreal and closely related to Echinodothis tuberiformis (Myc. Notes, page 924, Fig. 1654), both in habits and general appearance. It grew on culms of Schizostachyi, and is a black plant but not carbonous. The spores are given as "flavidae" elongate, clavate, 8 x 48-70 mic., 8-12 septate, and furnished with a flagellate appendix. On their characters the species could be included in the artificial genus Broomella of Saccardo, and the genus would be no more heterogeneous than it is now. We believe that our figure will afford a clearer conception of the plant than the pidgin Latin in which it is described.

Podocrea alutacea.—There are a number of collections at Kew, most of them with pine needles at the base, and it appears to occur only in acerose woods. Plowright records it in company with "Spathularia flavida," but the old idea that it was an infected state of Spathularia flavida is now well exploded. Atkinson, however, a few years ago, had a very learned paper to show that Podocrea alutacea is antonomous, a fact that is evident on the face.

There is no trace at Kew, nor is it known to English mycologists, any explanation of Sowerby's figure t. 159 which appears to be a white Podocrea alutacea. Rab. 246 "alutacea var. albicans Pers" is as yellow now as any other collections, and "Pers" only based the variety on Sowerby's figure. Sowerby must have found something like that which he figured for he was reliable but no one else apparently ever did.

"Xylaria" abnormalis.—(Fig. 2744.) The type Spruce, Brazil, is something immature and about all that can be said about it is that it has no suggestion whatever of a Xylaria. It has a hard horny context and is no doubt a Hypocreaceae, probably one of Moeller's genera Ascopolyporus or related. Cooke called it Glaziella, but Gaziella for Cooke was only a dump for anything he did not know about.

Balansea clavula.—(Fig. 2745, enlarged.) When I photographed the Xylarias at Kew on my previous visit, I did not do this for it was no Xylaria. It rests on a few little black stipitate heads (Fig. 2745 enlarged) on fragments of grass stem, and was collected in Texas by Wright so it is said. Berkeley labeled it Hypoxylon clavulus and published it as Xylaria clavula and he should have known it was neither. The material is so scanty I did not wish to pick into it but Miss Wakefield found the spores to be filiform hyaline, and the plant is a Balansea and the only true Balansea recorded in the United States, so that in addition to the mistakes made in naming it the plant otherwise is of particular interest. Our Fig. 2745 is an enlargement six-fold.

Cordyceps ophioglossoides from J. T. Paul, Australia.—(Fig. 2746.) We first took this for a conidial Xylaria but when we found it a Cordyceps with same spores, and color as Cordyceps ophioglossoides, it was still hard to refer it to this species, so much larger and more robust. But it must be that. Nor did I ever note a Cordyceps with a grey powder. The microscope shows this powder to be the exuded spores of the Cordyceps, and it seems incredible that the spores can be ejected in such quantities. Cordyceps ophioglossoides is a well known and rather frequent species both in Europe and the United States. It grows parasitic on an Elaphomyces which Mr. Paul overlooked and did not dig up. This is the first collection of the species made in Australia, nor has the other, Cordyceps capitata, which grows on Elaphomyces, ever been collected in that country.

Podocrea grossa.—(Fig. 2747.) Seventy years ago when Sir Joseph Hooker made his trip to the Himalayas he brought back a large orange Clavaria-looking plant that Berkeley named Hypocrea grossa. The plant is black now, but Hooker made a drawing which is bright red. A little frustule mashed shows large cuticular color cells in which no doubt the color resides. The secondary spores as I see them are hyaline, cylindrical with square ends. They probably become 16 mo. with cubical shape when mature, but are shown on the drawing on the sheet as globose. But one collection of this was made or is known, but Podocrea cornu damae from China is very close if not the same. This grew evidently in the earth and the swollen base is of the stem of the plant rather than a ball of earth as it appears. The Chinese plant is said to grow on a log. Our figure is a photograph of the original at Kew. We have a plant recently collected in Malay by T. F. Chipp which is quite close if not this species, and these three collections are all similarly known.

Ascopolyporus maculaeformis.—(Fig. 2748.) This rests on a single specimen Wright 767 Cuba and is the only member of this curious genus that ever reached Berkeley, and the only one to this day known from Cuba. Moeller found and illustrated this novel genus from Brazil (Cfr. Myc. Notes, page 1118) in great detail, but Berkeley had it before him, but he did not know it. The brown hymenial layer is only partially developed over the stroma. That it eventually covers it is probable. The spores are filiform, hyaline, hence it does not belong in Hypocrea where placed. It does not grow on a "yellow deformed Polyporus" as Berkeley assured but on its own stroma. This stroma a cm. or two in diameter is tough, fleshy, pale internally with a yellow exterior. While nothing can be told from its habits it without question grew on small branches as shown in Moeller's illustrations of other Ascopolyporus. The spores are filiform (not "10 mic" as recorded but 10 times 10 and more), hence it should have been included in Hypocrella for those who define the genus as being Hypocrea with filiform spores. For me however Hypocrella shall be the very peculiar Hypocreaceae that develop from scale insects and are found on leaves in the tropics. Prof. Petch recently published a critical revision of them.

Hexagona sericata.—(Fig. 2749.) This recently named by Miss Wakefield from Africa. I would hold as good on the characters of the velutinate zone at the base. As to color, thickness and pores however it is quite close to Hexagona Henschalli (Hex. Syn., page 11, Fig. 286).

Hexagona subvelutina from same region is very close to sericata, and photograph could probably not be told apart. It is however a much paler plant. Miss Wakefield suggests they are forms of one species, and I think H. Henschalli should also be added to the group.

Polyporus simulans (tris).—(Fig. 2750.) This proposed by Miss Wakefield for a collection from Maitland, tropical Africa, impresses me as one of the most distinct species (of the section Ganodermus) I have

seen. Its characters a jet black rugulose surface. White context, cinnamon pores, large very rough spores 12 x 20, all are very different from anything previously named except perhaps from Polyporus Alluandi and it is sufficiently distinct from that. To the eye, and also the unusual character of white context Polyporus simulans (tris) strongly suggests Polyporus leucocreas (bis) (Myc. Notes, page 999, Fig. 1811) but the spores are markedly different.

Those using sectional names of Polyporus as generic, should find specific names not used in Polyporus, for it makes it awkward for those who do not feel that one section of Polyporus has any more claim to generic rank than other just as good sections. Saccardo if he were alive, in compiling it would have to change the specific name, as he did in several of Murrill's juggles, until Murrill got wise and picked out specific names that Saccardo would not have to change, when he compiled them. We believe our photograph will fix definitely Polyporus simulans (tris) and if its name is changed we would prefer someone else should do it.

Polyporus Mylittae.—(From photograph from McAlpine at Kew.) (Fig. 2752.) We gave in Vol. 4, page 533, a photograph from specimens received from E. Cheel, which shows well the Polyporus which is developed from the Australian "native bread." It was not attached however to the sclerotium. At Kew we find a photograph from D. McAlpine which we reproduce showing the Polyporus on the sclerotium. It was "found at root of a tree fern, tree gully, Victoria." We infer from this that the polypore developes naturally from the sclerotium. We were under the impression that it was only known from cultivation. Our photograph is not as good as we would wish and it or the original was undertimed. It looks like one of Burt's crude efforts at illustration.

Daedalea favoloides.—(Fig. 2753.) While this is a good "Daedalea" on its hymenial form (Fig. 2754 enlarged) it is as to color, form, thickness, surface, zones, everything excepting hymenium, Hexagona tenuis. For me it is a hymenial variant of this common species. It came from Mexico and was recently named by Mr. Murrill. Friesian system of classification is based on hymenial configuration and it is the only practical system there is, but it does not always express the true affinity of forms, and neither do names.

Polyporus epileucus.—(Cotype of Polyporus Hoehnelianus at Kew.) (Fig. 2755.) We present a photograph of a good specimen from Hoehnel at Kew. We found the plant at Upsala and we have little doubt it is same as Fries called Polyporus epileucus. The plant is white when fresh but dries yellowish. These specimens are more pronounced rough on surface than our previous figure, but I think are same species.

Polyporus Coffeae. From type at Kew.—(Fig. 2756.) Mesopodial, irregular, surface pale, soft, spongy. Flesh is isabelline, hard below, and soft spongy above. Pores drying black, shallow, irregular. Spores 4 x 5-6, abundant, straw colored, aculeate.

This was published by Miss Wakefield from specimens sent to Kew from Uganda. It grew at the base of a dead coffee bush, the roots of which were sheathed with a fungus growth supposed to be the mycelium of this, and hence a disease of the coffee shrub. The pileus to the eye is soft, spongy and reminds me of Polyporus rufescens. We would enter it in that section (Spongiosus 33) although the pale colored spores rather indicate section 35. Our photograph of the plant is about one-half reduced.

Poria Ravenalae from Kew Herbarium.—(Figs. 2757 and 2758 enlarged.) This is rather a common Poria in tropical countries and is peculiar from its color mineral grey (Ridgway) and habitat usually on the dead leaf stalks of Palms. It grows throughout the East and we have it in our southern states on the Saw Palmetto. It is very thin, closely adnate, and one soon learns to know it from its color. It was named not from our celebrated southern collector Mr. Ravenel, but from a genus of endogens called Ravenala, and a native name of Madagascar. It strongly reminds me both in color and general appearance to Merulius crispatus, as considered on page 1234. Surely both are cogeneric, though found in classification in different genera.

Polyporus lentus.—(Fig. 2759.) Fresh specimens of this came to Miss Wakefield and I photographed them as it is a rare plant in England. It is a tough nature and quite on the order of Polyporus brumalis, and same color with which it has been confused. Polyporus lentus differs in the smooth surface and stem and the pores decurrent on the stem. The latter feature seems more pronounced in some specimens than others but never noted on Polyporus brumalis. The spores are 3 x 6. I am afraid our figure will not give a correct impression of this specimen. It is really a stipitate species, the pores decurrent on the stem but was not photographed in a position to clearly show that.

Cyclomyces Greenii (Polyporoid form). From Dr. W. H. Ballou, New York.—(Fig. 2760.) Cyclomyces Greenii reported to be a rare plant (Cfr. Myc. Notes, pages 488 and 633) is a fairly dependable species as to it's cyclomycoid hymenium. This specimen with it's polyporoid hymenium was by me referred to Polyporus Schweinitzii and the error was caught by Overholtz when working in my museum. The spores of the two species are entirely different and would not be confused if I had examined them. We have previously gotten this polyporoid form from Japan (compare page 843) but we believe this the first American speci-

men. The plant when perfect is a stipitate species which probably threw us off our guard in the first determination.

Polystictus cinnamomeus var. polycephalus, from Dr. Charles E. Fairman, New York.—(Fig. 2761.) With exactly the same color. surface, texture as the usual Polystictus cinnamomeus this we feel can only be referred as a form or rather an aberration, although our figures hardly suggest the same plant. Had it been collected in old days it would have been a wonderful new species. Usually Polystictus cinnamomeus has a simple stem and a simple pileus and why this individual developed in this manner we do not pretend to say. As it is the first collection ever made it is as unusual as it is strange. A comparison of the figure with the normal form (Vol. 3, Fig. 200) would raise the question if they are the same species, but we feel sure they are for all that.

Polyporus raphanipes (Type at Kew).—(Fig. 2762.) As stated when published this is quite close to Polyporus Tricholoma and probably best held as an African analogue of the American species. It is same on comparison, excepting the American plant has a slender uniform stem, and grows on wood. The African a swollen rooting stem and grows in the ground, probably from buried sticks. Both have same color, pores and ciliate margin. As the American species is not known from Africa, the record of this is of much interest. While our descriptions and spore records do not accord entirely we have an idea this is same plant we subsequently named Polyporus Vanderystii (page 758), and that we will have the pleasure of suppressing the latter name.

Polyporus (Amaur) infundibuliformis.—(Fig. 2763.) Six to eight inches tall with a thick mesapodial stipe attached to the base of a dead tree. Infundibuliform, strongly rugulose, dark, the surface as that of the stem dull, dark, not strongly laccate. Context thin, pale. Pores minute with brown tissue and fuliginous mouths (when dry), "purplish when fresh." Spores subglobose, 10 mic. even, or minutely punctate, pale brown.

This was published by Miss Wakefield in 1917, Kew Bulletin, from D. T. Maitland, Uganda. It belongs to the section Amaurodermus and is the only large infundibuliform species known. Our Fig. 2763 of a half specimen is much reduced.

Polyporus (Gan) Mindoroi.—(Fig. 2764.) Sessile, dimidiate, about 1½ x 3 inches. Surface smooth, hardly zoned, slightly laccate, reddish brown, reminding one of Polyporus mangiferae as to color. Context thin, about 4 mm., zoned, light tawny color. Pores minute, about twice as thick as context, darker color. Spores colored 4 x 12, smooth.

I note this at Kew from Philippines Copeland 380, referred by Murrill to Fomes tornatus, a convenient name for him, for most any tropical sessile specimens of the section Ganodermus. For me it is no Fomes, but belongs to the rare Polyporus sessile section (103) of Ganodermus. The light colored and zonate context and the narrow spores are both exceptional features of this related species. It was collected in 1905 on stem of Areca Catchu, Island of Mindoro.

Stereum (Hym) contrastum, from S. Rapp, Florida.—(Fig. 2765.) Effuso reflexed, growing along underside of limb, thin flexible. Pileus surface dull to eye but glabrous, slightly ridged, pale greyish. Hymenium bright chestnut brown, velutinate to the eye. Setae slender, sharp exserted about 60 mic. Spores not found. A species that reminds one of Stereum tabacinum, but the pale pileus surface contrasting with the bright brown hymenium is a feature that is noted at once. The hymenium appear velutinate to the eye. The plant has in addition to the slender usual setae of Hymenochaete section, fine, pale, dense, projecting hyphae on the hymenium.

Trametes gilvoides.—(Fig. 2766.) In our early days in Florida, we collected a pileate plant which had gilvus brown context and setae, and evidently closely related to Polyporus gilvus. We published it as above (Myc. Notes, Vol. 4, page 520). It has since been referred as an anomalous condition of Poria contigua. On examination I concede that it is not a true species, notwithstanding its apparent normality but I see no more warrant to referring it to Poria contigua, than any other species, nor as much, for why should Poria contigua take a pileate form in Florida and never in Europe, and why conclude that this imaginary pileate form should be strigose hispid on the surface? We think the better way would be to hold it something abnormal and let it go at that. We are reminded of all this on finding a specimen at Kew (Fig. 2766). But our original photograph published on page 520 is much the better figure and it has no suggestion whatever of Poria contigua.

Polystictus cristatus.—(Fig. 2767.) We reproduce a memorandum indorsed on the sheet. "Lloyd's figure (1892) and statement of the pore size of this, is not correct." That there may be no question on this score we reproduce a photograph of the type (2767). On comparison with the figure (1892) we previously gave, it can be noted that our previous figure has smaller pores, but not enough to make a fuss over. This whole section of Polystictus (113) given on page 1035 could be called one species if one so desires. Junghuhn was really the first to name it Polystictus floccosus. Then Berkeley named it Polystictus Zelanicus and his type in the British Museum has large pores. Cooke

many years later named it Polystictus cristatus, an excellent name, from its peculiar hairs but Cooke knew nothing of Berkeley's or Junghuhn's previous naming. As Cooke's type had small pores compared to those of Berkeley's type, I took that feature to distinguish the name, for unless one does Polystictus cristatus has no standing whatever, as against the previous naming of Junghuhn and Berkeley. Cooke did not base the "species" on the pore sizes, for he included both small and large pored specimens under the name. The only basis of Cooke's work was, that he knew nothing of Berkeley's work in the British Museum, and the only feature on which his name can be maintained is on the character that his "type" has small pores.

Amylocarpus encephaloides.—(Fig. 2768 enlarged.) Currey collected this in 1857, growing on fragments of wood on the sea shore near Swansea, England, and no one has ever found it since. It is as tiny as it is rare, hardly as large as a hemp seed, and dried resembles little drops of amber. Our photograph is an enlargement six fold. Currey states that the mass filling the peridium is a mass of spores. The asci rarely seen disappear at an early stage. Our examination shows same excepting we did not find asci. The spores hyaline, globose, 10 mic. with large nuclei are smooth to my eye. But Currey states and Miss Wakefield confirms that the spores have delicate hair-like hyaline "rays" (rather than spines) only seen by good eyes and good microscope. As to classification the plant notwithstanding its habits and departure in most features can only be classed in Tuberaceae as Currey classed it. The peridium filled with a mass of spores with but little tissue remains, suggest that the asci formed a compact mass, not imbedded in tissue as others of this family.

Currey found that treated with iodine the spore mass turned blue, hence the name. He was much interested in this feature for in those days the occurrence of "amorphus starch" was but little known. Now it is so commonly observed in connection with asci of Discomycetes that they even erect "new genera" on this chemical phenomena. Our figure is enlarged six fold of this delicate and rare little species.

Hypogaeal fungi in the Movies.—In "A Woman of Paris," the scene of which was located in Paris (and made in Hollywood) and directed by Charlie Chaplin, they show a view in a "French" restaurant where truffles are fried in hot champagne (sic.) and served whole in a cloth to keep them warm like we serve baked potatoes. It impressed me as being one of the most comical stunts that "Charlie" ever put over, and if the picture is ever shown in Paris will cause as much amusement as Atkinson's discovery of the genus Dictybole did in mycology. Charlie must have gotten his knowledge of the culinary use of hypogaeal fungi from Prof. Burt, at least it is about the kind of information that some of his students have given us on the classification of the subject.

One of Prof. Burt's ex-students told me recently that he had learned nothing of hypogaeal fungi from Prof. Burt—in fact had not studied it under him—I felt confident from his publication that he had not learned much of the subject, but I assumed he had studied it under his preceptor, for it was the only subject on which he had published in mycology since his course, and I naturally assumed it was the subject he studied. Some years ago, when I criticised some name juggling that had been done by a student, the preceptor, in conversation, I could see felt hurt about it, and told me that he held himself to a degree responsible for the student's work. I am glad Prof. Burt is not responsible for this work, but I never felt that he knew enough of hypogaeal fungi to teach it.

THE PERSONAL SITUATION

When I came home from Europe last August, I intended to finish up my work here and go back to Kew, where I like to work best, and I expected to get back by Christmas. But I am getting further behind every week. Packages are coming in much faster than I can work on them, and I am afraid my correspondents will become impatient. I have 48 packages unopened now—many more than I had when I started to clear them up last August. I trust this situation will not interfere with the packages, however. I believe they will all be worked up in time—if not by me, by someone else. There never has been another accumulation of large fungus specimens as we have, with the aid of an army of collectors all over the world, been able to get together. Most every country is well represented. So send your packages in as collected and we will try to do the best we can with them, and as soon as we can.

It is probable, however, that I will not continue in this work much longer. But if I stop, I will turn it over to someone else. Another reason is my old eyes are wearing out and I can not see things as clearly as one should, to decide many questions that arise. I have, however, a pair of young eyes which I am training at Kew, and will probably depend on them for help in this line. Another reason is I am an old man now, and my observations are, and I am well convinced, that most old men make fools of themselves. I can not expect to be any exception to the general rule. I hope before that condition arrives, however, that some of my friends will get out the chloroform bottle, *for Osler was surely right.*

Specimens Received from Correspondents

The Lloyd Museum is my private fad, and I have built it up without any material help from anyone else, excepting the army of correspondents and contributors who have made this fungus museum the largest in existence in its particular field. We only cover a small section of the fungus world, viz., the large fungi exclusive of agarics and exclusive of a few other fleshy genera like Boletus. There are more specimens of these plants in our museum—several times over than in all others combined. No one who is ambitious to learn the truth about the large fungi can afford not to visit Cincinnati and study this collection. And all will be welcome who are real students. But we expect them to be honest about it. We do not want them to come here and get their main information and then go into print and misrepresent by innuendos that they have gotten it somewhere else. That game was put over some years ago by a neighboring college boy, who, I am glad to say, has learned much better since, and is now doing good and honest work. We feel that those who are gathering fungi should send their rarer specimens into this museum, particularly if they are publishing on them. Or if from the tropics where the collections have been few. We will work them over when we get time, but at present we are overwhelmed and hope our correspondents will take the circumstances into consideration and not be impatient if we appear slow.

Allen, E. E., California: Polystictus ochraceous.

Ballou, W. H., New York: Bovista pila—Calvatia rubroflava—Secotium acuminatum. The latter two are rare puff-balls in our eastern states.

Bechtel, Prof. A. R., Indiana: Geaster triplex—Calvatia rubroflava—Calvatia craniiformis—Calvatia lilacina—Geaster rufescens—Lycoperdon pulcherrimum—Geaster saccatus—Lycoperdon Wrightii—Geaster minimus—Bovistella Ohiensis—Lycoperdon piriforme—Lycoperdon subincarnatum—Lycoperdon umbrinum.

Bessey, Prof. E. A., Michigan: XYLARIA PEDUNCULATA.

Bethel, Prof. E., Colorado: Calvatia sculpta.

Van der Bijl, P., South Africa: Tremella mesenterica—Scleroderma Cepa—Auricularia auricula.

Bisby, Prof. G. R., Canada: Tylostoma albicans—Tremella mesentrica—Tremella lutescens—Lycoperdon cepaeforme—Dacryomyces aurantia—Clavaria cinerea—Pterula penicellata.

Bose, S. R., India: Polyporus leucophaeus—Guepinia spathularia—Stereum (Hym) villosum—Stereum (Hym) teniussimum—Auricula reflexa—STEREUM ALTERNUM.

Braendle, Fred J., Washington, D. C.: RENILLA RENIFORMIS.

Brenckle, Dr. J. F., N. Dakota: CALVATIA DEFODIODIS—Polyporus adustus—Sclerotinia minor (?)—Lachnum leucophaeum.

Butignot, Dr. Delemont, Switzerland: Polyporus hispidus—Sarcoscypha coccinea—Polyporus brumalis.

Caldas, Dr. Diogenes, Brazil: Stilbum rubesceus—Auricularia auricula.

Charles, Vera K., Washington, collected by C. R. Orcutt, California: Tylostoma Americana.

Chase, Mrs. E. P., California: Acetabulum vulgare (collected in Elesmere Canyon).

Coker, Dr. W. C., North Carolina: We are particularly glad to get these tremellaceous plants and Clavarias, for they are of historical value, having been published by Dr. Coker. The fact that he finds so many novelties in North Carolina, where Curtis did so much collecting, demonstrates the scanty attention that is usually given to these little gelatinous fungi. When the final story is told the North American species will be doubled from what our records are now. Plants are all listed as labeled by Dr. Coker. Dr. Coker has in hand a paper on Clavaria which has not as yet appeared, we believe. Clavaria subdecurrens—Clavaria australis (as var.)—Clavaria longicaulis—Clavaria gelatinosa—Clavaria grandis—Clavaria amethystina—Clavaria verna—Clavaria angulispora—Clavaria subspinulosa — GEASTER LEPTOSPERMUS — Seccoblastia ovispora—Tremella carneoalba—Ditiola radicata—Tremella virens—Platygloea caroliniana—Dacryomyces pedunculatus—Dacyromyces pallidus—Naemetelia quercina—Rhizopogon parasiticus.

Demange, V., Hanoi, China: We are much pleased to again receive specimens from Monsieur Demange, for the sendings have been interrupted by the war, and we formerly got most interesting specimens from him. The first specimen, while not at all novel (Cfr. Apus Polyporus, p. 348), is such a fine collection that we shall give a photograph of it in Mycological Notes. POLYPORUS HOOKERII—Polystictus sanguineus—Lenzites repanda.

Demetrio, Rev. C. H., Missouri: PORONIA LEPORINA. A number of other small Pzrenomycetes were also received from Rev. Demetrio, which as yet I have not found time to work over.

Fairman, Dr. C. E., New York: Polyporus Ballouii—Tremella frondosa—Xylaria polymorpha—Clavaria cinerea—Polystictus cinnamomeus—Calvatia lilacina.

Fassett, N. C., Massachusetts: Many of these collections were made in Maine. Mr. Fassett always sends interesting specimens and includes many little tremellaceous species that the usual collector does not see. Polyporus rhaedes—Stereum ochraceoflavum—Polyporus adustus — Polyporus poculus — TREMELLA FLAVIDULA—Docryomyces abietinus—Polystictus pergamaneus—Trametes carnea—Polyporus adustus—Polystictus pergamenus—Stereum sericeum—Stereum rufum—Cytospora betulina—Tremella lutescens—Stereum fasciatum—Lenzites betulina—Trametes sepium—Trametes abietes—Exidia glandulosa—Dacryomyces deliquescens—LENZITES VARIEGATA—Stereum spadiceum—Dacryomyces aurantius — RADULUM PALLIDUM — Dacryomyces deliquescens—Poria marginella—Phlebia reflexa—Poria punctata.

Fawcett, Prof. H. S., California: Polyporus fumosus—Polyporus Patouillardii.

Garrett, A. O., Utah: Secotium acuminatum—Lycoperdon umbrinum.

Gossweiler, John, Angola, Africa: Polystictus Dybowski (bis.)—Hexagona tricolor—Hexagona hystrix — Trametes cingulatum — Fomes geotropus — Xylaria hypoxylon—Stereum concolor—LASHIA RUBELLA—TRAMETES OBSCUROTEXTUS — LASCHIA GOSSWEILERI—Xylaria scopiformis.

Grelet, L. J., France: Aleuria sepiatra—Cillaria confusa—Aleuria cerea.

Grelet, Rev. L. J., France: A further contribution of Discomycetes that we are very glad to get in the museum. Rev. Grelet, since Boudier's death, seems to be the only one in Europe who is specializing on this group. The specimens are listed all as named by Rev. Grelet. Galactinia olivacea—Galactinia badia—Aleuria umbrina—Aleuria vesiculosa var. minor—Acetabula vulgaris—Urnula melostoma—Plicaria leiocarpa—Helvella venosa—Leptopodia atra—Chlorosplenium aeruginosum —Humaria humosa—Melastiza miniata.

Grover, Prof. F. O., Ohio: Auricularia auricula—Odontia fimbriata—Lycoperdon umbrinum—Lycoperdon Wrightii—Polystictus pergamenus—Clavaria mucida—Polyporus caesius—Hydnum Caput Ursi—Lycoperdon gemmatum—Calvatia craniiformis—Polyporus dichrous —Polystictus pubescens—Trametes malicola—Stereum (or Hymenochaete) rubiginosus—Hydnum ochraceum—Lycoperdon elegans — Hydnum glabrescens — Odontia fusco-atrum—Crucibulum vulgare—Tylostoma tuberculatum—Scleroderma tenerum.

Hesler, L. R., Tennessee: Geaster saccatus—Stereum fasciatum—Polystictus Spraguei—Panus stipticus —Stereum complicatum—Tremellodendron pallidum—Hydnum zonatum—Polyporus gilvus—Polystictus cinnabarinus — Hydnum ferrugineum — Hydnum amicum — Guepinia spathularia—Polystictus hirsutulus—Tremellodendron merismatoides — Geaster velutinus — Stereum fasciatum—Mitremyces cinnabarina—Daedalea unicolor —Xylaria Coru Damae—Polystictus versicolor—Stereum fasciatum — Fomes rimosus — Stereum complicatum — Thelephora vialis—Stereum sericeum—Trametes carnea — Crucibulus vulgare — Cyathus stercoreus — Daedalea confragosa — Polystictus pergamenus — Polyporus dichrous—Lentinus betulina—Sebacina incrustans—Lentinus strigosus—Hypoxylon coccineum—Fomes applanatus—Lycoperdon gemmatum—Fomes fomentarius—Polystictus cinnamomeus—Polystictus versicolor—Stereum albobadium—CRATERELLUS ODORATUS.

Hibbard, Miss Ann, Massachusetts: Chlorosplenium acruginosum—Tremellodendron merismatoides — TRICHODERMA VIRIDE — DIDYMIUM SQUAMULOSUM—ISARIA FARINOSA—CRATERELLUS TAXOPHILA—Solenia fasciculata—GUEPINIA PEZIZA—GEOPORA BRUNNEOLA.

Holttum, R. E., Malay: Xylaria dealbata—XYLARIA RHOPALOIDEA—Polyporus aratus—Tremella undulata—Polystictus porphyrites—Stereum concolor—Trametes Persoonii—Echinodia Theobromae—Cyclomyces fuscus—Fomes oroflavus—Pterula Serodontium—Fomes oroflavus—Lentinus Sajor Caju—Trametes versatilis—Polyporus durus—Fomes lamaenensis —FOMES TRICOLOR—Trametes lactea—Trametes Muelleri—Auricularia Brasiliensis—Tremella fuciformis —Polystictus Gaudichaudii.

Konrad, Paul, Switzerland: Marasimus remealis —Marasmius prasiosmus—Polyporus fumosus, forme simple d'imberbis — Polystictus spumeus — Polystictus adustus—Fomes torulosus—Lenzites abietina—Trametes Trogii—Merulius tremellosus—Poria Vaillantii—Hydnum furrugineum—Hydnum erinaceum—Hydnum auriscalpium—Radulum orbiculare—Radulum molare—Stereum pallidm—Thelephora terrestris—Stereum purpureum—Stereum hirsutum—Clavaria pallida—Clavaria abientina—Clavaria pistillaris—Clavaria truncata—Cyathus striatus—Cyathus vernicosus—Scleroderma tenerum — Galactinia succosa — Otidea cochleata — Spathularia flavida — Cidonia circinans — Ciliaria trechispora — Dasycypha bicolor—Arachnopeziza aurelia—Necteria cinnabarina.

Latham, Roy, New York: Helvella elastica—Xylaria polymorpha—Polyporus gilvus—Daedalea con-

fragosa—Polystictus pergameneus—Stereum sericeum—Stereum ochraceoflavum—Dacryomyces deliquescens—Tremella lutescens—Lycoperdon piriforme—Schizophyllum communre—A MINUTE DACRYOMYCES—OIDIUM DACRYOMYCES.

Lowater, W. R., Ohio: A nice collection with critical notes of Hypocreaceae, a subject which we are much interested, but very few collectors are close enough observers to find much material. It was easy to refer them, taking advantage of Mr. Lowater's notes, and his spore records on which we have relied without examination. Our notes on this subject are at London, and if we have made any errors in determination they are errors of memory. Hypocrea sulphurea—Hypomyces lactifluorum — Hypocrea lenta — Hypomyces roseus — Hypocrea rufa — HYPOCREA LACTEA — Hypocrea aurantiaca—Hypocrea patella—Hypocrea gelatinosa—HYPOCREA STIPATA.

McDougall, Prof. W. B., Illinois: THELEPHORA ANTHROCEPHALA (American tradition)—Calocera cornea—Pilacre faginea.

Martens, P., Belgium: Fomes pomaceus—Lenzites betulina—Stereum spadiceum—Polystictus versicolor—Lenzites tricolor—Stereum hirsutum—TREMELLA FIMBRIATA—Otidea leporina—Clavaria inaequalis—Cyphella lutescens—Crucibulum vulgare—Trametes serpens—Xylaria Hypoxylon—Discina sylvestris—Polyporus amorphus—Thelephora terrestris—Rhizopogon rufescens—Polyporus (or Daedalea) rufescens—SCLERODERMA MACULATUM—Polystictus versicolor—Hydnum imbricatum—Scleroderma flavidum.

Mattirolo, Prof. O., Torino, Italy: During a visit (April, 1923) to Italy, Prof. Mattirolo kindly placed all of his material for my inspection and gave me specimens as follows. Many, of course, are rare specimens and I only took little frustules for microscopic examination. Lycoperdon spadiceum—Calvatia candida—Bovista nigrescens—Tylostoma melanocyclum—Lycoperdon echinatum—Trametes hispida (form)—Bovistella paludosa (frustule)—BOVISTELLA SINENSIS (type ex China)—Tylostoma Vittadinii—Diatrype pentagona—Gymnosporangium sabinum — SCLERODERMA BOVONEI (type)—Lycoperdon stellare—Lencogaster badius (type)—Lycoperdon spadiceum—Isaria arachnophila—Jaczewskia phalloidea (type)—Leucogalopsis fragrans—Elasmomyces Mattiolianus (type)—Lencogaster floccosus—Lencogaster tiosporus—Maccagnia carnica—Gastrosporium Beccarianum—Elaphomyces asperulus (fresh collection showing its attachments to roots).

Miyabe, Prof. K., Japan: A large collection containing many novelties. It has not all been worked over, for many which we would like to publish are too scanty to make good photographs. Trametes Dickinsii —POLYPORUS (AMAURODERMUS) AURISCALPIUM—Polyporus volvatus—Polystictus grammocephalus—Trametes carnea—Lenzites repanda—Polystictus occidentalis—Polystictus cinnabarinus—Trametes Persoonii —Polyporus elegans—Polyporus croceus—Trametes protracta — Polyporus squamosus — Irpex lacteus — Exidia recisa—Lenzites betulina—Lenzites flaccida—Lenzites variegata—Lenzites flavida—Fomes Robinsonii—Irpex lamelliformis—Hydnum coralloides—Lenzites saepiaria—Trametes protracta—Irpex elongatus—Trogia crispa—Daedalea confragosa—Lenzites indica—Polyporus benzoinus—Polyporus picipes—Polyporus hirsutus—Polyporus radiatus—Trametes sanguinea—Polystictus ochraceus—Lenzites tricolor—Polyporus caesius—DACRYOMYCES ROSEOTINCTA—TRAMETES NIGROASPERA — POLYPORUS SAITOI — STEREUM DICHROIDES — THELEPHORA SOLUTA — STEREUM NIPPONICUM—STEREUM RADIATUM—FOMES ROBUSTUS—POLYPORUS ITOI—CALOCERA FLAVIDA—CYPHELLA (?) INVOLUTA.

Moir, Wm., Massachusetts: Daedalea confragosa —Trametes carnea—Phlebia radiata.

Nelson, Ralph M., Minnesota: Fomes connatus—Stereum birsutum—Polystictus hirsutus—Stereum bicolor—Polyporus adustus—Polystictus versicolor—Lenzites saepiaria (daedaloid)—Polystictus velutinus—Irpex unicolor—Trametes piceina—Poria ferruginosa—MERULIUS SUCCINEUS—Polystictus Grayii.

Overeem, Dr. C. Van, Java: A fine lot of Javanese specimens as considered in detail on page 1238. Dr. Overeem was assisted in their collection by several other mycologists as stated (same page). POLYPORUS IMPORCATUS—Polyporus dorsalis—Polyporus albojavensis—Polyporus vinosus—Polyporus lignosus—Polyporus rhizophorae—Polyporus semilaccatus—Polyporus hydrophorus—Polyporus Warburgianus—Polyporus spongia—Polyporus Blanchetianus—Polyporus dictyopus—Polyporus elegans—Polyporus anebus—Polyporus pusillus—Polyporus luteo-nitidus—Polyporus trigonus—Polyporus Schweinitzii — Polyporus gilvus — POLYPORUS NIGROPORUS—POLYPORUS KRAKATANI—Polyporus rubidus—Polyporus rugosus—Polyporus elatinus—Polyporus fruticum—Polyporus (Gan) Williamianus—STEREUM FOMITOPSIS — Thelephora radicans — Stereum lobatum—Stereum princeps—Thelephora pusilla —Stereum Mellisii—Stereum javanicum—STEREUM ROSEOHIRSUTUM — STEREUM AURIFORME — Stereum (Hymenochaete) adustum—Xylaria nigripes—Irpex flavus (?)—Radulum mirabile—DENDROSPHAERA EBERHARDTI—Geaster subiculosus—Lenzites repanda — SEPTOBASIDIUM CLADODERRIS — Grammothele javensis—Lentinus candidus—Lenzites polita—GRAMMOTHELE CROCISTROMA—Corticum salmonicolor—PORIA ORCHIDACEAE—Lenzites fla-

vida—Daedalea flavida—Polystictus tabacinus—Polystictus torridus—Polystictus leiodermus—Polystictus affinis—Lentinus subnudus—Polystictus affinis-luteus—Polystictus incisus—Polyporus (Gan.) mangiferae—Polystictus bogoriensis—Polystictus hirsutulis—Polyporus hirsutus — Polystictus cinerescens — Polystictus scytinus — POLYSTICTUS SUBAFFINIS — LYCOGALOPSIS SUBICULOSUS—Trametes Persoonii—Fomes lamaenensis—Fomes applanatus—Fomes leucophaeus—Polystictus elongatus—Fomes Javanicus—Favolus tessulatus—Favolus Junghuhnii—Trametes (or Polystictus) versatilis—Trametes crenulata—Hexagona albida—Hexagona murina—Hexagona tenuis—Hexagona flavofusca—Lentinus Sajor Caju—POLYSTICTUS GILVOCOLOR—POLYSTICTUS LAMII—POLYSTICTUS SEBESIEI—Fomes psendoaustralis—Fomes fasciatus—Polystictus luteus—Polystictus tabacinus—Polystictus flavus—Polystictus xanthopus—Fomes annularis—Fomes tornatus—Fomes gibbosus—Favolus spathulatus—Fomes rimosus—Fomes senex.

Parish, Prof. S. B., California: Fomes oroflavus — Hypholoma perplexum — Stereum hirsutum — Coniophora suffocatum—Boletus bovinus.

Paul, J. T., Australia: Polystictus sanguineus—Morchella conica — CORDYCEPS OPHIOGLOSSOIDES.

Rajan, D. M., India: POLYPORUS RHODOPHAEUS—Lycoperdon gemmatum—Polystictus Zelanicus—Polystictus floccosus—Polystictus luteo-olivaceus—Stereum Cocoa—Polyporus rigidus—Fomes lamaenensis—AURICULARIA CRASSA—Polyporus Patouillardii.

Rapp, S., Florida: STEREUM CONTRASTUM — Clavaria fuciformis — Rosellinia byssiseda — POLYSTICTUS SEMI-INCRUSTANS—XYLARIA APICULATA—Polyporus sulphureus—Aleurodiscus rivosus—Polystictus pinsitus—Stereum tabacinum—Guepinia spathularia—Auricularia polytricha.

Rhoads, Arthur S., Missouri: Microstroma juglandis—Fomes pomaceus—Poria xanthopora—Polystictus pinsitus—Auricularia auricula—Hydnum pulcherrimum—Polyporus Curtisii—Daldalea ambigua—Urnula Craterium—Polyporus brumalis.

Seaver, Fred J., collected on Island of St. Croix: Polyporus colossus.

Steward, Albert N., China: Polystictus versicolor.

Stillinger, Prof. C. R., Washington: Lycoperdon gemmatum — Lycoperdon piriforme — Rhizopogon provincialis—Helvella Californica—Fomes oroflavus—PORIA WEIRII—Exidia glandulosa.

Stoker, Dr. S. M., Minnesota: Geaster triplex—Merulius tremellosus—Polyporus frondosus—Lycogala Epidendron.

Thaxter, Prof. Roland, Massachusetts: Lycoperdon piriforme—Lycoperdon polytrichum.

Torrend, Rev. C., Brazil: LENTINUS VILLOSUS — POLYPORUS SQUAMOSUS — DAEDALEA FUSCO-STRATOSA.

Toro, Rafael A., Porto Rico: Polyporus lucidus.

Towne, Prof. S. S., California: Tylostoma campestris—Tricoderma viride—Stereum hirsutum—Stereum albobadium—BOVISTELLA FLACCIDA—LYCOPERDON POLYCEPHALUM.

Van Hyning, T., Florida: Isaria crinita.

Wakefield, Miss E. M., Kew, from Tropical Africa: Polystictus flabelliformis—Trametes badia—Polyporus ostreiformis—Stereum bicolor—Polystictus modestus—Phyllachora ulcerata—Polystictus vittatus—Ganoderma colossus—Hymenochaete luteo-badia—Stereum Schomburgkii—Polyporus cinnamomeo-squamulosus—Hexagonia Pobeguini—Xylaria faveolis—Xylaria tabacinus—Xylaria cristatula—Polystictus malaiensis—Xylaria cubensis—Daedalea stereoides—Polyporus favoloides—Hypoxylon placentaeformis—Xylaria variabilis.

Wakefield, Miss E. M., Kew, from Japan: Polyporus gilvus—Shitaker cortinellus (Shiitake).

Wakefield, Miss E. M., Kew: Poria hymenocystis—Clavaria stricta—Coniophora arida—Corticium subcoronatum—Peniophora cremea—Hypochnus fumosus—Phlebia nerismoides—Odontia farinacea—Stereum purpureum—Grandinia papillosa—Clavaria muscoides—Clavaria cinerea—Clavaria fusiformis—Merulius Corium—Eichleriella spinulosa—Coniophora puteana—Grandinia helvetica—Corticium lividum—Corticium confine—Stereum hirsutum—Peniophora quercina—Peniophora sanguinea—Peniophora cinerea—Corticium laeve—Corticium sambuci—Poria eupora—Exobasidium Vaccinii—Grandinia granulosa—Corticium porosum—Peniophora setigera—Corticium praetermissum—Peniophora pallidula—Corticium confluens—Hydnum udum—Peniophora incarnata—Peniophora gigantea—Exidia glandulosa—Stereum rugosum — Peniophora laevigata — Corticium arachnoideum—Hymenochaete corrugata—Peniophora glebulosa—Peniophora velutina—Hypochnus violaceus.

White, Richard P., Kansas: Polyporus obtusus—Polystictus ochraceous—Catastoma subterraneum—Trametes hispida—Poria xanthospora.

Wilson, Malcolm, collected in South Africa: Lentinus Sajor Caju.

Yasuda, Prof. A., Japan: STEREUM JAPONICUM — Daedalea albida — Polyporus semisupinus — HYPOXYLON PULCHERRIMUM—LYCOPERDON BISPINOSUM—Fomes endotheius—Peridermium gi-

ganteum — Daedalea Dickinsii — Pterula penicellata — Aleurodiscus amorphus—Trametes Dickinsii—Stereum plicatulum—Penicillopsis clavariaeformis—Daedalea betulina—Lenzites repanda—Polyporus bicolor—Fomes applanatus—Polystictus crenatus—Irpex lacteus.

TSO KAY

"I am amused at the use of the little 'god' in your last Mycological Notes. It is a nice photograph of him as he was some years back." Extract from letter.

Permit us to introduce TSO KAY, the little god who's smiling face brightened the dead walls of London in recent years. I do not know what cult he originally represented. I understand a very worthy one, but there is behind his cheery countenance just a little hint of hypocrisy that symbolizes much of the work done in mycology. In these sheets he represents chiefly the cult of Kuntzeism and other name jugglers, who propose legions of "new combinations" to which their own name is invariably added and pretend they do it under their obligations to priority. There is a lot of hypocrisy always in connection with name juggling. Some jugglers have the nerve to follow the principles to extremes, but usually when it makes "new combinations." And these same fellows will pass priority by if it produces results they do not like, on such trivial excuses as "it would cause confusion," "it would segregate small genera." It would establish a name of Persoon that Fries failed to compile and hence against the law, etc., etc. Mycological literature is full of such instances as these. Men who try to blow hot air out of one corner of their mouth and cold air out of the other. But TSO KAY has and will illustrate other practises of dubious standing.

On page 1203 he points out a practice of Cooke, who formulates his genus with no more care or attention than he should employ in buying a shoe string.

On page 1211 he points to a practise of Berkeley who in his old age named as a "new species" every collection he got from foreign countries as the easiest way to get rid of them and let some other fellow do the work.

On page 1212 he points to a little piece of deception on part of Atkinson who got his information from Bresadola and claimed it as his own, misrepresenting the matter in order to bolster up his proposed "new genus."

On page 1213 he points to a practise of Burt fibbing like a little kid in order to give the collection of his Alma Mater an importance it does not have and his own easily accomplished compilation an authenticity it does not merit.

TSO KAY will probably be kept busy in the future and we hope his efforts will afford others as much amusement as he does the writer.

PROF. McBRIDE'S SECOND EDITION

The most delightful book ever written on the subject of Mycology has recently appeared, the second edition of Prof. McBride's "North American Slime-Moulds." It makes one wish to take up the study to have the subject presented in such a fascinating way. Prof. McBride can be congratulated in having his life-work presented in a book that will (or should) always in America be our best authority. In the style adopted he has set a new standard—a new era—in mycological literature. Most writers are chiefly statistical, often pedantic, and about as entertaining as the crop statistics. This book is a literary gem, and is mostly devoted to facts about the plants (or fungi, or animals, or whatever they may be). It is interesting to read, and a student taking up the study with such help must have a most pleasant pursuit. If we had had such a book in our early days it is probable that our work would never have gotten beyond this group. We can well remember in the old days how Morgan and Rex and perhaps McBride were sending their specimens to Lister because everyone must get a start, and Lister was then, and his book is today, the best source of information on the world's species. But we in America do not have to call on our English cousins now, as to this group at least. I do not know which to admire most, the clearness and lucidity in which the facts are set forth, the elegance of the style, or the thorough knowledge of the subject that the author has.

A large part of the text is devoted to views of different authors as it affects the names. The name, of course, is the main thing. While I know very little as to Myxomycetes, I am well convinced there has been a lot of name shuffling on very little merit. Our old friend Prof. Morgan did a lot of this work the latter years of his life on Myxomycetes, and much to his discredit. On the face some of the name changing produces startling effects. Thus I read in an English journal recently that "Trichia decipiens McBride" can be gathered every month of the year in England. It looks to me that the English should be ashamed of themselves, and it is humiliating on the face if, after gathering this plant for a hundred years every month, they have to send to America for talent to name it.

Prof. McBride has for several years been in poor health. It is very gratifying that he was able under these conditions to complete his second edition, which is mostly rewritten. The first edition was exhausted a number of years ago. But the second edition is 100 per cent. superior in the style in which the matter is presented.

Since above was written and submitted to Prof. McBride, I have a very cordial letter from him, ending with the following. It was not written for publication, but it is such a clear exposition of the situation we trust Prof. McBride will pardon us in presenting it to our readers. We fully agree with it in all particulars, excepting if anybody's name is to be written after Trichia decipiens it should be *Persoon,* and no other, and it would be better if the plant were called simply Trichia decipiens. In reading over Prof. McBride's remarks, please bear in mind they were his views in a private letter and not intended for publication, but they hit the nail squarely on the head and some day they will be accepted, and when they are, then the days of the name jugglers are past: "But now about names: I think you know my attitude. I have dodged every difficulty I could. I have no doubt that some succeeding student of the (near) future will find that the whole matter must be revised. Take Trichia decipiens, for example. Persoon in his original work called it by two names, T. decipiens and T. fallax. Why he did that no one can tell, I'm sure. His work is fine for his time. I revere him; but what can one do? I selected the name I liked best. Neither is specially descriptive to the present student. Persoon had a personal (no pun) reason for saying fallax; decipiens, of course, is in meaning just the same.

"But our authors in England have this rule: If a name is changed the author who makes the change is the authority henceforth. My idea is entirely different. If I make a change I follow the universal (exc. England) rule by acknowledging the fact; writing my sign manual after that of the real author, in the understanding that once the change (for reason cited) is approved, and in use, the second name will disappear. That is correct procedure. But the next comer will do his pleasure. I am writing too much. I thank you for what you propose. I assure you I am content, if I have been to anyone a source of help in the enjoyment of only a little bit of the beauty that has come to form in this strangely beautiful, fascinating world.

"Authors should write: T. decipiens Persoon, or at worst T. decipiens (Pers.) Macbr. T. decipiens Macbr. is nothing; doesn't exist; can not be.

"With all best wishes, I beg to remain."

——!! ——!! The Printers.—The recent issue (69) has a page (1218) inserted without beginning or end, and which had never been proof read. We had miscounted our pages for the form, and when making up the pamphlet they put in to fill out the first page lying around that came handy. At the best, we are very poor proof readers, and too many errors are overlooked in every issue; but we would hardly pass over "Polyporus squanosus." The first article, without beginning, to make sense, should read as follows:

Cordyceps sobolifera.—On my last visit to Paris I noted a nice specimen of this which Monsieur Camus no doubt found in some old herbarium. "Ex herb. Mesatiano." It is indorsed "Martinique." I have gotten fine specimens of this (Cfr., vol. 5, page 584), but I believe this the first I have seen in any museum of Europe. This is evidently the identical specimen that Tulasne illustrated and probably the only one he ever saw. When I first looked up Cordyceps in Europe about eight years ago, I did not find a specimen of Cordyceps sobolifera in any museum.

Messrs. Dodge and Zeller.—These gentlemen did us the honor to work some days in our museum and I was glad to know them personally. Mr. Dodge had visited me befofe, but Mr. Zeller I had not known and I had a wrong impression of him. I had deduced from his publications that he was a young lad who had studied Hymenogastraceae (sic.) under Prof. Burt, and I thought from his treatment of the subject that he had not learned a great deal from his preceptor and that his publication was premature. I am convinced now that he is going to do good work and give us a straight account of the subject. These elusive fungi that are mostly hidden beneath the ground are only brought to the surface by some enthusiast with search and patience. These is a genius out west now, H. E. Parks, who hunts and finds them in quantities. His material goes to Messrs. Dodge and Zeller, and Mr. Zeller is an enthusiastic hunter himself, so that they are getting a practical contact knowledge of the plants as they occur, the only knowledge that is worth putting into print. We hope they will give us a straight account of the subject that will enable others to determine them. Harkness, the only previous hunter of the group, was not a real student and got four things wrong for every one he got right. We believe that Messrs. Dodge and Zeller are going to straighten all that out and hope they will do it in good, plain English and not hide it in Latin, or Russian, or Polish, or some other language that only Mr. Dodge understands. The only danger is that both being college graduates they may adopt the dry statistical, pedantic style that college men are prone to use. What is needed is a plain, straightforward account of what they know and one that will be of human interest. They have kindly promised to deposit a set of their specimens in our museum, where they will be of service to others who may want to learn them.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 72 (Vol. 7, No. 7) June, 1924

ELSIE M. WAKEFIELD.

In our series of portraits, this is the first lady we have presented, and we are glad to honor Miss Wakefield. She occupies now the most prominent position in European mycology, being at the head of the department at Kew. As I recently stated, I doubt if there is another who could fill her place.

Fourteen years ago she came to Kew as an assistant under Massee. She has had every opportunity to learn the subject, for the work was mostly turned over to her, and when the time came for Massee to step out, she had improved the opportunity and was fully competent to step in. I know of no one else who I believe is as generally informed as she.

While working at Kew, if a problem comes up that I do not understand, I take it up with Miss Wakefield, and she either solves it or puts me on the track of it.

She specializes on resupinate Thelephoraceae of England, and is the only one, I believe, that knows much about them. She is an enthusiastic collector, and never is missing at a fungus foray of the British Mycological Society. We append some statistical data giving the leading events in her life:

Born at Birmingham. Daughter of Harry Rowland Wakefield, a lecturer in science, first under the Birmingham School Board, and later under the Swansea Education authorities—now Juvenile Employment Officer for Swansea. Her father has been from boyhood a keen general naturalist, and from him she acquired her first knowledge of botany. Educated at Swansea High School and Somerville College, Oxford, where she took the Final Honour School in Botany. After leaving college, she proceeded to Munich with a Gilchrist Fellowship, and worked for nearly a year in the Forstbotanisches Institute under Prof. von Tubeuf. Was appointed at Kew in 1910, to work under Mr. G. Massee. In 1920 was granted a Mary Ewart Traveling Scholarship from Somerville College, and by the kind offices of the Director of Kew, arrangements were made for her to utilize it in travel in the West Indies and United States. Spent six months in West Indies, and then two months in the States and Canada, visiting the chief botanical institutes there. At present, is the head of the mycological department at Kew Gardens, and has charge of the collection.

ECHOES OF THE TOMBS.

The figure (Plate 282, Exhibit F) which was published to represent Clavaria mucida was not found in the tomb of Tutankhamen, as would naturally appear, but is a recent production of Prof. Burt in his post-Osler days. The art of illustration was in a much more advanced state in the days of old King Tut, 3,000 years ago, than Burt is now employing. In order to show how utterly bad it is, we reproduce a good figure (2769) of Clavaria mucida, from Atkinson. What a pity it is for an old man to issue such work as Burt is now publishing in "illustrations" and other matter. After graduating from Harvard, had he taken a post-graduate course in some kindergarten, he could have greatly improved his work in this direction. And such is science, as practiced by collegiate graduates.

Interesting Fungi Received from Correspondents

Polyporus Saitoi from Prof. K. Miyabe, Japan.—(Fig. 2770.) Mesopodiae with concolorous stem, pileus and pores. The entire plant is glabrous and reddish (chestnut) brown. Context and pore tissue pale. Pores minute round, Cystidia none. Spores not found. This belongs to Section 45c (Lentus) and close to Polyporus brumalis, but perfectly glabrous and a different color. It was collected by A. Saito on a Quercus branch in Japan.

Renilla reniformis from Fred J. Braendle, Washington, D. C.—(Fig. 2771.) This was sent as "a little fungus undoubtedly growing on wood somewhere in the Rockies." It was unknown to me, I thought not a fungus but probably a lichen. Prof. Fink assured me that it was not a lichen. At a gathering of twenty or more of the pathological scientists in Cincinnati (December, 1923), representing the most learned men of the profession, it was submitted and not a man could name it. Several were so unkind as to suggest that it was something I had faked up. I was just on the point of turning it over to Professor McGinty for name and description when Dr. Hoyt was able to determine it. There is a probability that our correspondent was in error as to finding it on wood in the Rockies as it is a sea animal and its probable habitat was a curiosity shop.

Polystictus schizodon from Otto A. Reinking, Honduras.—(Fig. 2772.) In several museums of Europe are covers for Hydnum (sic) schizodon as named by Lévillé from one of Zollinger's old specimens eighty years ago. It never was a "Hydnum" and always impressed me as a smooth form of Polystictus elongatus or pergamaneus. I believe these are the same; if so, it is better considered as above. It grows densely imbricate as shown in our figure, and the surface is more glabrous, and in these specimens dark zoned, that appear to have darkened in drying. This recalls to me a plant named by Murrill Polystictus alabamensis, but on comparison I find the pores are quite different.

Daedalea glabra from Father Sanchez, Philippines.—(Fig. 2773.) Dimidiate, 1-1½ cm. thick at base, but reduced to a thin sharp margin. Surface glabrous, pale isabelline, faintly zoned. Context and pores concolorous. Pores elongated tending to trametoid. In general color and affinities this reminds one of Daedalea quercina, which never takes this form nor otherwise known from Philippines.

Fomes pseudoferreus.—(Fig. 2774.) This is a name proposed by Miss Wakefield for a Fomes which was imperfectly developed but which is supposed to cause a disease of the rubber roots. It came from Malay and is there known as "Brown root disease of Malayar rubber." The species, I think, is very good for the features, brown context and pure white pores, are not known as to another. The specimens are all immature and no spores are found. The white pores are remarkable for a brown context species. At first, before I noted the context, I thought of Fomes hornodermus. I would enter it in section 69, but it is the only species in that section with white pores.

Polyporus nigro-rugosa from G. M. Reyes, collected by Father Sanchez, Philippines.—(Fig. 2775.) Thin, sessile, dimidiate, hard, pale but covered with black rugulose, fibrils. Context pale, hard. Pores minute, pale, hard. This we would add to section 82. It reminds us much in hard texture to Polyporus Spaguei.

Cyclomyces isabellina from G. M. Reyes, Philippines.—(Fig. 2776.) Sessile or with a short lateral stipe-like attachment. Color uniform isabelline. Surface smooth. Pores cyclomycoid. Mr. Reyes sent only the two specimens photographed. The cyclomycoid pores places it as to genus but it probably is a phase of something else. However, I do not know of any Daedalea or Lenzites from which it could be derived. Taking into account that the color is pale isabelline, the figure tells the story. Hexagona albida takes similar cyclomycoid forms, but that is a white species.

Daedalea fusco-stratosa from Rev. C. Torrend, Brazil.—(Fig. 2777.) A Fomes-Daedalea that has the woody thick perennial habits of a Fomes, is something new in Daedalea. We recorded one on page 1147 (Daedalea stratosa) with stratified pores, but that otherwise hardly suggests a Fomes, but this would be taken for a Fomes until the pore shape was noted. It is a large woody specimen, four inches in diameter, and eight to ten inches long. Surface is rough and has a black apparently resinous exudation. Context color, Prout's brown. Pores long, daedaloid, woody, the confluent stratae of pores forming the bulk of the specimen. Spores, if correctly seen, 8 x 16, colored, smooth.

This is same color, and it may be a Fomes form of Daedalea Sprucei, but that would be an unwarranted ground to take on the evidence. Daedalea Sprucei varies much as to pores, but they are distant, not close, as these are.

Polystictus lenis from Otto A. Reinking, Honduras.—(Fig. 2778.) This for me is only a thick, fine-haired form of the common Polystictus occidentalis (Fig. 2779). We show them in contrast and our photographs will give a better idea of the distinction than we can put in words. But variations of Polystictus occidentalis have many names, very difficult to apply. Compare Polystictus scytinus, page 1241, Fig. 2638.

Polystictus sanguineus (Stipitate) from Otto A. Reinking, Honduras.—(Fig. 2780.) The common red polyporus of the tropics is really a stipitate species and was included in our stipitate pamphlet. Rarely, however, does it take as pronounced a stipe as this collection. Our temperate region analogue which runs into it at times, Polystictus cinnabarinus, is always dimidiate I believe. Mr. Reinking also sends a *black* specimen which I refer to Polystictus sanguineus. I think it has "gone wrong" some way, for on the underside I see a little indication of the "red" still in evidence.

Ptychogaster frondosus from L. B. Walker, Nebraska.—(Fig. 2781.) When Miss Walker was visiting the Science Meeting at Cincinnati, she left on my desk a collection of some mysterious fungus she had collected originally on a frondose log. She had increased it by culture, but it had not changed its nature. It is a soft, brown body, about a cm. in diameter, with no sign of a peridium. A section shows it composed of labyrinthine chambers, and an enlargement would give the effect of an enlarged Hymenogaster gleba. The spores are globose, hyaline, 3 mic., smooth. A curious feature is abundant hyaline, slender, sharp setae, projecting from the walls of the chambers. Ptychogasters are supposed to be abnormal developments of some polypore probably, but it is difficult to believe that this had a polyporoid origin. What it is derived from we are not able to guess even suggestively.

Hexagona Friesiana.—(Fig. 2782.) Balansa 3402 is found good specimens in Saccardo's herbarium. I

have seen them before. We have referred them to Polystictus pinsitus and we still think not a bad reference. But it is covered with a dense coat of appressed hairs and the pores are larger. We would still hold it as a form, at least, of Polystictus pinsitus.

Polyporus semistipitatus from Elam Bartholomew, Kansas.—(Fig. 2783.) Pure white, subsessile or substipitate. Growing at base of dead shrubs attached to old leaves. Surface white, dull, soft to feel, glabrous but not shiny. Context white, light, dry. It might be classed as Polystictus. Pores small, white, round decurrent to very base. Cystidia none. Spores 3½ x 4½, hyaline, smooth. We put this in section 26, Stipitate Polyporoids, for want of a better place, but it does not go well there for it is not petaloid. The dried specimens could be called Polystictus as well as Polyporus.

Trametes obscurotexta from J. Gossweiler, Angola, Africa.—(Fig. 2784.) The easiest way to describe this is, same as Trametes strigata excepting a dark context color and pores. The surface-color, size, shape and all are the same. The colors of the context and spores differ about like blackish brown differs from hasel in Ridgeway, and that is quite a difference. I have an idea that this is same as Trametes Curreyi, but not according to my notes of the type, which are as follows: "Berkeley described Polyporus xerophyllaceus from Spruce, Brazil (1856). Currey so refers a plant from from India (1876) and gave a fine figure of it. Currey's abundant specimens at Kew were indorsed by Berkeley (mss.) Pol. Curreyi. Cooke lists it as a Fomes (sic) and on the sheet Cooke states a synonym for Trametes strigata which it undoubtedly is." I do not know, however, that I compared context color when I made above note.

Favolus grammocephalus from Miss Wakefield, collected by W. Greenwood in Fiji.—(Fig. 2785.) We received this from Miss Wakefield as Polyporus grammocephalus var. favoloides which is correct as named by Henning and found in our Stipitate Polyporoid pamphlet. But surely the plant is a typical Favolus and if classed as a Polyporus we might as well abandon Favolus. The varietal name can not be used as Favolus for it is occupied, or rather was occupied for a brief period once on a time. It was used by Patouillard and I believe it was the first "new species" he named, and specimens are still found in the museums under this name. However, his plant is exactly the old well-known and common Favolus Europaeus, the only species, rare but well known in Europe, and most abundant in America.

NOTE.—Polyporus favoloides Stipitate Polyporoids, page 174, is an entirely different plant from the plant considered on page 137, as a variety of Polyporus grammocephalus.

Polyporus orinocensis from G. M. Reyes, collected by M. Ramos, Philippines.—(Fig. 2786.) This we considered in our Hexagona pamphlet, page 36, Fig. 325, in section 166 of Hexagona. While on its pore size it is a Polyporus, its affinities are all with Hexagona cucullata, in fact a small pored form for me. We gave an account and figure of this in our Hexagona pamphlet. These specimens from M. Ramos are so much larger that we give another. Polyporus orinocensis is more yellow and the pores much smaller, but in every respect it is a small pored Hexagona cucullata. In going over our specimens we find we have gotten this before from the Philippines, E. Fenix, 3887, determined by Bresadola as "Hexagona cucullata (Mont.) Murrill." This is an instance of the value of advertisements. Hexagona for Murrill was only a juggle for Favolus as Bresadola well knows. If he wishes to take it in the sense (or nonsense) of Murrill he should call it Favolus according to his own views of all others of Murrill's Hexagona-Favolus juggles. Why cite it in one case only? The advertising features of modern mycologists have about as much uniformity (or logic) as a crazy quilt.

Stereum dichroides from Prof. K. Miyabe, Japan.—(Fig. 2787.) To the eye it seems to be a thin polystictus form of Polyporus dichrous, same coloration, but a section shows no pores but an even hymenium, hence a Stereum. It is similar also to Stereum dichroum (page 1158, Fig. 2295) from Bahamas, but that is a thick spongy species and this a thin fleshy plant. The hymenium does not have the waxy appearance of that of Polyporus dichrous to the eye, but otherwise very similar.

Trametes Feei from Rev. James Wilson, Australia.—(Fig. 2788.) There is in Australia (common) a samilar species as to color, Trametes lilacino-gilva, but with large pores. This has minute pores and corresponds to Trametes Feei of American tropics. It is rare in Australia. We have previously received from Dr. Cleland from Australia a similar plant as to color and pores but with a different surface. We referred it to Trametes Feei. We feel both should be so referred, but if either demands a new name it is Dr. Cleland's collection, for Rev. Wilson's corresponds very close to the Brazilian plant.

Trametes Philippensis from E. D. Merrill, Philippines.—(Fig. 2789.) Sessile, applanate, about a cm. thick. Surface with coarse, branched, rigid brown hairs. Context and pore tissue brown. Pores medium, 1 mm. in diameter, with thin walls. Hymenium pubescent with projecting hyphae which are paler (and somewhat specialized at times) than the hyphae of the tissue.

This remarkable species is only known from the Philippines and was one of Murrill's finds. It is a very dis-

tinct and very uniform species. Bresadola refers it as a synonym to "Daedalea imponens" (Borneo). I can see no possibility of it. Cfr. Figs. 2522 and 2789, and make your own decision. Graft states that "a slight tendency is shown in some specimens towards a Polystictus type of pores." I have seen, I believe, every collection cited from Philippines, and the pores are the same in all, not the slightest tendency towards anything but Trametes. Specimens: Copeland 157, Williams 8914, Elmer 12493.

Merulius insignis.—(Fig. 2790.) Pileus bright orange when dry, thin, dimidiate. Flesh white. Pores orange when dried, rather deep. Spores 3-4 x 4-6. A bright-colored species closely suggesting Merulius similis. It was named by Miss Wakefield from S. Nigeria. The plant so closely recalls the species named from the Philippines (page 1122) as Merulius consimilis, that notwithstanding the spore (record) difference, I suspect they are the same. If so, and I would not state except on comparison, the latter will have to be abandoned.

Favolus lutescens from Otto A. Reinking, Honduras.—(Fig. 2791.) Large, 2-3 inches, with short, thick, excentric stipe. Surface glabrous, even, yellowish color. Pores large, more elongated than usual in the genus, decurrent to very base of stem. Cystidia none. Spores not seen. This belongs in section 169 and the salient features are the smooth, yellowish, pileus surface. I do not recall any other Favolus that suggests yellow.

Trametes nigroaspera from Prof. K. Miyabe, Japan.—(Fig. 2793.) The variable Daedalea confragosa is common in the United States, usually on willow. It has a dozen or more names but all are in accord now that it is virtually one species. It is likewise common and variable in Japan. But the variations run usually in a different line from the American. This specimen (Fig. 2793) would hardly suggest to a beginner Daedalea confragosa. The harder context, nearly round pores, and the black asperities on the top are all features not found or at least not prominent in our plant. But in Japan it takes forms rather close to our plant. We figure such a specimen (2792) from Prof. Miyabe that no one could refer to other than a thick form of Daedalea confragosa.

Thelephora "anthocephala" (Am. Tradition) from Prof. W. B. McDougall, Illinois.—(Fig. 2794.) This is the above of Burt's paper and American traditions but not correct in my opinion as to the European plant. The American has a long stem which divides into narrow compound segments at the top. This is quite a different idea from the European plant which bears its separate pileoli from the top of the stem. Our photograph of Prof. McDougall's plant will show the character of the American plant and in contrast with Bulliard's figure and European plant how it differs. Recently Coker published a good figure of the American plant and misreferred it to Thelephora multipartita and then comments that he strangely has not found "Thelephora anthocephala." He found it (in American sense) but he did not know it. Coker seems to fit this specimen to a name just like the Italian author did fifty years ago as to this very same name "multipartita." (Compare page 1228.) Thelephora anthocephala (in American traditions) should be renamed.

Thelephora anthocephala.—(Fig. 2795. Made from European material.) This was based on Bulliard's old figure (reproduced Fig. 2796) and shows a plant with broad segments proceeding from the top of a short, thick stem. I concluded from examination of the specimens in Europe that the stem is mostly buried, the pileoli resting near the surface of the ground. Thelephora anthocephala does not, as far as I know, occur in the United States. It was well illustrated by both Bulliard and Sowerby and specimens in the museum well carry it out. Berkeley's figure is very doubtful. We present a figure of a European specimen which will, at a glance, show how far American authors are wrong on it.

Thelephora multipartita.—(Fig. 2797.) We present a figure of this plant just to demonstrate to Prof. Coker how uncertain it is to go into print on such a scanty investigation. The plant takes both cup shape forms and forms with narrow segments. That was brought out in Burt's paper and is our own view. It is always quite a small species, and should not be confused with either of the previous considered plants. It does not grow in Europe as far as I know.

Thelephora regularis.—(Fig. 2798.) We agree with Burt that Thelephora regularis (with more entire pilei) and Thelephora multipartita (with narrow segments) are in reality same species. Not only are specimens of both forms collected together, but both are same in texture and color; both more brittle and paler color than are other species.

Merulius succineus from Ralph M. Nelson, Minnesota.—(Fig. 2799.) Pileate, dimidiate, with narrow sulcate pileus. Upper surface, when dry, pure white and smooth to eye with a compact layer of villose hairs. Hymenium bay (brown) with shallow meruloid pores. Cystidia none. Spores 3 x 5 mic. A section shows an upper layer of hyaline hairs, a subhymenial layer of about equal thickness of compact nonincrusted hyaline hyphae and a narrow hymenial layer following the inequalities of the shallow pores, and consisting of a palisade layer of hyaline club shaped basidia. It is related to Merulius Corium but the hymenial face a different color and darker. Under a hand lens the pores are subtransparent and remind in appearance of dark amber.

Polyporus discipes from Miss Wakefield from tropical Africa.—(Fig. 2800.) We gave recently a figure (2592) of the type and usual form of this plant.

It is quite frequent in Philippines, Africa and the East. Polyporus maliensis, a name we have mostly used, is a thin form (Fig. 2593). Usually it is a plant with very minute pores. This collection however has pores larger than usual but hardly entitled to a distinctive name.

Stereum nipponicum from Prof. K. Miyabe.—(Fig. 2801.) Effuse-reflexed the little pileoli about a cm. Surface pale with white hairs. Hymenium brown. Emergencies none. A section shows four zones. A hymenial zone of narrow colored basidia. Subhymenial pale, bordered with a dark zone bearing the pubescence. To the eye it has the general effect of Polystictus abietinus. In relationship it is close to Stereum hirsutum. It grew on Alnus and was collected by S. Kamei.

Thelephora soluta from Prof. K. Miyabe, Japan.—(Fig. 2802.) This is the second collection known. The type came from Borneo and was named by Cesati as a var. of Thelephora multipartita. It has no suggestion of Thelephora multipartita an American species. We gave an account of it on page 1228, figure 2544.

Irpex ochrosimilis from Rev. James Wilson, New Zealand.—(Fig. 2803.) Pileus caespitose, confluent from a common base. Surface pale, striate, not hairy. Spines short, ochraceous, irregular. Generic classification is often only a convenience. Notwithstanding it has different habits, surface and spines and (technically) belongs to a different genus. I opine this is only a species-form of Hydnum ochraceum. If the name had not been used we should call it Irpex ochraceus.

Lenzites variegata from N. C. Fassett, Massachusetts.—(Fig. 2804.) If the many and varying forms of the common Lenzites betulina merit separate names, this collection does. But the forms intergrade so that in looking through our collections of 200 or more it appears impractical. They differ in color, pale to antique brown, and rarely pale ochraceous, in zonations from broad strong zones (usual) to fainter zones as this collection. Also sometimes the zones are narrow. In gills from white to pale colored. Usually the gills are regular, sometimes irregular or cyclomycoid as Lenzites Guineensis (page 626). While we have no distinctive name for the plant Mr. Fassett says there should be. It is closest to Lenzites variegata. Our three common book species Lenzites betulina, flaccida and variegata are variations of Lenzites betulina with the following ideas (not much value) of distinction. Lenzites betulina pale pileus, dark gills. Lenzites flaccida, thin, pale pileus white gills. Lenzites variegata, dark brown zonate pileus. In addition Mr. Fassett's plant with its antique brown faintly zoned pileus might have a name. Lenzites fuscata is a tropical form with narrow distinct gills. Lenzites murina is a smoothish grey plant. Lenzites Guineensis is a Cape form with irregular gills. But what is the use? They all run together and the names are only applicable to extreme forms.

Lenzites betulina (thick form).—(Fig. 2805.) This common species usually is thin 5-8 mm., and the thin form is also called Lenzites flaccida. There is but one species in this group with white context, pubescent surface and lammellate hymenium. But it differs in thickness and coloration of the surface hairs. If very thin it is called Lenzites flaccida: If it has bright colored zones Lenzites variegata: If fauve color Lenzites Berkeleyi: If somewhat daedaloid gills Lenzites Guineensis: A marked form with striate pileus was called Lenzites radiata (as var.) but it is very rare. This plant appears to be as common and variable in Japan as it is with us. Prof. Miyabe sends several varaitions. While in Europe the plant is usually thin we present a figure of a thick form we photographed in the museum at Upsala collected by Mr. Romell. It is rarely that thick, and this thick form has no special name.

Lenzites abietinella from specimen from Dr. Murrill.—(Fig. 2806.) While on the subject of Lenzites we present a figure of another species named by Dr. Murrill which is good for us. It is close to Lenzites striata in color (rather than Lenzites abietina) but is thinner and has a tomentose surface. It is only known to me from one collection made by John Macoun (1885) and sent to Ellis. While so close to common Lenzites striata of tropics as to color and form, this is evidently alpine in distribution as Macoun collected in the Canadian Rockies. Weir I think has recorded it in Idaho.

Lenzites saepiaria.—(Fig. 2807.) Of course we are not presnting this as any novelty for it is one of our most common species in pine woods. Very rarely it occurs also on frondose wood. It is readily recognized by a peculiar bright reddish brown color, by which it differs from our other common Lenzites trabea on frondose wood. The surface is matted tomentose and usually zoned.

Lenzites trabeiformis from specimen given us by Mr. Murrill from Mexico.—(Fig. 2808.) For me this suggests in color Lenzites saepiaria rather than Lenzites trabea, but has a glabrous smooth surface and closer gills.

Lenzites saepiformis from Otto Reinking, Honduras.—(Fig. 2809.) In coloration same as Lenzites saepiaria but with tomentose even pileus, and it is brighter color. There is another form in our Southern States Lenzites rhabarbarina (named as Daedalea rhabarbarina) which is same as Lenzites saepiaria (up North) but much brighter color. The feature of the species for me is the tomentose pileus. There are two collections in the lot. One with even pileus surface, the other faintly zoned.

Stereum Japonicum from Prof. A. Yasuda, Japan.—(Fig. 2810 enlarged about two fold.) Pileate, stipitate, pure white. Pileus about a cm. in diameter, plain, glabrous, pure white. Hymenium smooth, even, white with a little cream color when dry. Cystidia none. Spores 4 x 5-6, smooth, abundant. Stipe slender, white, about 2 cm. long.

A single specimen that grew on a leaf of Machilus. It hardly suggests to the eye any other Stereum, rather Polyporus gracilis except when the hymenium is closely examined. It is more a fleshy plant than a Stereum should be, and habitat on leaves not usual for a Stereum.

Stereum Miquelianum from Otto A. Reinking, Honduras.—(Fig. 2811.) We considered this in our Stipitate Stereum pamphlet but gave no figure of it. The salient features of it are that it grows on wood, and the hymenium is white. Stereum pusillum is very similar to the eye but grows on the ground.

Dacryomyces roseotincta from Prof. K. Miyabe, Japan.—(Fig. 2812.) While these are much smaller specimens than the original from Mr. Lewis (Cfr. Vol. 7, p. 229, Fig. 2559) they are evidently same species. The feature is the pale rose color and the large multiseptate hyaline spores.

Cyphella (?) involuta from Prof. K. Miyabe, Japan.—(Fig. 2813 enlarged.) This is a most interesting little species but rather small for my old eyes to work with. It is not a good Cyphella but we do not know any genus for it. It has a close resemblance to eye, color and habits to Cyphella anomala of Europe. Also the rigid surface hairs are similar. But this is entirely different shape. It appears to me to be composed of three involute lobes which do not form tubes. Our enlargement will show appearance of the upper surface. There are no cystidia and the slender basidia persist. But we did not find spores. It is an interesting thing and we hope Prof. Miyabe will observe it fresh and give us a good figure of it. We are not satisfied with the imperfect account we have given.

Daedalea stereoides from Kew Herbarium, Uganda.—(Fig. 2814.) This was given me as Irpex durescens, the name that Cooke applied to the African plant. I have only known it from the American tropics under Fries name as Daedalea stereoides and I do not know that it takes the Irpex form in American tropics. In Africa however it appears to be usually an Irpex as our enlargements (Fig. 2815) will show. But it varies from Daedalea to Irpex in the same collection. This plant has about same coloration as Polyporus rubidus and reminds me of it. Two species have been recently named from the Philippines, Daedalea gilvidula by Bresadola and Daedalea maculata (Myc. Notes, p. 1155, Fig. 2264) and all four names are practically the same species.

Polyporus Itoi from Prof. K. Miyabe, Japan.—(Fig. 2816.) Pileus sessile, ungulate, several inches in diameter. Surface brown, with minute pubescence, soft to the feel. Context pure white, unchangeable, rather firm but friable. Pores dark with appearance of having changed in drying, minute, round, but splitting and gapping, no doubt in drying. Cystidia none. Spores globose, 4 mic., smooth, hyaline or perhaps very pale colored. We would enter this in section 81, but we do not know any other in that section with soft, pubescent surface. It was collected on Salix at Sapporo, Japan, by S. Ito.

Lentinus Bostonensis from Miss Ann Hibbard, Massachusetts.—(Fig. 2817.) Evidently growing in the ground with a strong rooting stem. Pileus fleshy-tough, infundibuliform, pale, probably white when fresh. Surface fibrillose, uneven. Gills pale, strongly toothed and cut, decurrent on the stem to its very base. Spores hyaline, smooth, 4 x 6. Evidently a rare plant and close to Lentinus cochleatus from which it differs in color, surface and habits. It was collected by members of the Boston Mycological Club at Newton, Mass., September, 1923.

Phlebia merismatoides.—(Fig. 2818.) I have never been able to make anything definite of this name. I think we have but one real species, viz., Phlebia radiata. When growing over the moss it takes irregular growths which I believed was the original of Phlebia merismatoides. The English think they find both species and record them common. I have seen their Phlebia merismatoides on beech (Fig. 2818), and while it does have a hymenium with tubercular protuberances, tending toward Radulum, I believe it only a luxuriant form of our common plant Phlebia radiata. I have collected it in a dark situation under a log, when it had not developed any orange coloration, and then it becomes, I believe, Phlebia albida. The spore "difference" in our Note 479 we think probably an error, at least we would not affirm now to it being true.

Tremella incisa from Dr. C. E. Cummings, Buffalo Society of Natural History.—(Fig. 2819.) We have in the United States a group of Tremellas and the group is absent from Europe. It grows from the ground (contrary to the habits of all our other species) and is erect in its habits, sometimes growing around the base of grass, etc. (Fig. 1948). Dr. Cummings' species is the fourth that has come to our notice. It is quite close to Tremella sparassiodea (Myc. Notes Vol. 6, page 920, Fig. 1562), but differs by its more open growth and incised lobes as shown by a comparison of the figures. Tremella vesicaria is our most frequent

species of this group but has obtuse lobes and is more compact. (Compare Vol. 5, Fig. 1486, and Vol. 6, Fig. 1948.) Tremella clavarioidea (Vol. 3, Fig. 224) is a similar plant but quite different in its form. In addition I am confident I have seen in Judge Clinton's herbarium, at Buffalo, a collection misreferred to Tremella vesicaria, but I had no opportunity to soak it out and photograph it. I believe it unnamed and not a form of Tremella vesicaria. Dr. Cummings writes that Tremella incisa "was a very beautiful plant blue white in color." Our best thanks are due him for the fine photograph.

Femsjonia luteo-alba.—(Fig. 2820, reproduced from Buller's Researches.) Among the many interesting things in Prof. Buller's recent book are some fine photographs. We note one of Femsjonia luteo-alba, the first we have noted from a fresh plant, and we take the liberty to reproduce it. It settles a question about which I was in doubt (Cfr. page 1053). The hymenium is inferior, not superior as I had supposed. In that case it raises the question of classification and the generic name. I had thought Femsjonia good and distinct, supposing it grew like a Dacryomyces with the hymenium up. But as it grows down, then how does it differ from Guepinia. Its turbanate form is the only difference, and good genera should have other differences excepting form. It also throws in doubt other species like Dacryomyces dubius (page 1149), for one can not tell from specimens how the hymenium grew. Collectors of little tremellaceous plants should note whether on top or underside of the host, for that is a vital point in classification.

Auricularia scutellaeformis.—(Fig. 2821, enlarged.) This is known only from the type locality (Peters, Alabama), little applanate, flat, thin, black bodies that look like an incipient Auricularia, but too scanty to examine. It was named as Hirneola. I think it can just as well be forgotten. But, Ravenel distributed a definite species (Rav. Amer. 133), misnamed by Cooke Hirneola scutellaeformis (Cfr. the next). Farlow states he has examined "an authentic" specimen and found it to be Exidia scutellaeformis, but there is a possibility he examined the Ravenel and not the Peters' collection. He surely had both and makes no note of them not being the same.

Exidia bullata.—(Fig. 2822, enlarged.) Ravenel distributed (Fung. Amer. No. 133) a very definite little tremellaceous species under the name Hirneola scutellaeformis as determined for him by Cooke. It is quite small, about one mm., brown and with the hymenium on a definite concave disc. As to spores, I did not find any; but the basidia are globose, and it appears to be best classed as Exidia. A comparison shows it very different from "Hirneola" scutellaeformis (type), as our Figs. 2821 and 2822 will show. This is brown, stands out from the host (bullate) and is definite as to size, the abundant collections made by Ravenel being all about the same size, and no doubt its full size. It can not be Hirneola scutellaeformis (type) which is a black applanate thin plant, probably an incipient Auricularia or "Hirneola." This little species has not been collected, I think, since about 1876. Coker had not found it, and naturally Burt did not consider it, as he had not read about it in either Coker or Mycological Notes. The most prominent fungi on this type as photographed are Sphaerias of some kind, but the very different little concave Exidia can be readily made out on close inspection.

Campanella Sarasinii.—(Fig. 2823, enlarged.) This, which was from New Caledonia and named Favolus Sarasinii by Miss Wakefield, is surely anomalous in the genus Favolus. Its gelatinous nature and general appearance is not that of a Favolus and it is too poroid to be a good Campanella. The gills to the eye (magnified) are somewhat amber color, more yellow perhaps, and have a waxy appearance. It soaks up soft gelatinous. The layers of clavate basidia are persistent, but the plant has no cystidia nor glandular cells. It is known from a single specimen at Kew from New Caledonia.

Tremella fimbriata from P. Martens, Belgium.—(Fig. 2824.) This is found in our textbooks as "common in Europe," and while named by Persoon, it was really based on Bulliard t. 272 which was represented as growing erect and named Tremella verticalis. It may be "common in Europe" but I have never found it in a museum, nor until the receipt of this specimen from Prof. Martens have I ever seen a collection that resembled Bulliard's figure. Our photograph will show it well, and its erect habits and dark color are the only differences from the usual Tremella frondosa. There are three of these closely-related "species," Tremella frondosa, Tremella foliacea and now Tremella fimbriata, which differ some in color and form but in reality are about the same. Compare Vol. 5, page 793, and Vol. 6, page 1097.

Auricularia crassa from D. M. Rajar, India.—(Fig. 2825, dry; Fig. 2826, soaked.) This I consider only a dark thick form of Auricularia delicata, but it is much thicker and much darker, and although I feel quite familiar with the latter plant both dry and as it occurs fresh in Samoa, I did not recognize even as to affinities Mr. Rajar's plant, until I had soaked it up. If we had to pass on it as a museum-named specimen, we could not question it. But when soaked the peculiar hymenium of Auricularia delicata is developed (Fig. 2826) and when fresh it would rightly be referred to Auricularia delicata, though much darker. Auricularia delicata, as I know it well in Samoa, is a very pale plant, and dried specimens of it do not suggest this when dry.

Tremella flavidula from N. C. Fassett, Massachusetts.—(Fig. 2827.) Thin, foliaceous, very pale yellow (almost white). Basidia globose, cruciate, 12-14 mic., pale yellow. Spores globose, 8 mic., pale yellow. Grew on living Viburnum twig. A very distinct species suggesting as to form the tropical Tremella fuciformis, which, however, is pure white. It also suggests Tremella lutescens but much thinner and much paler color. This has only a tint of yellow which it retains when dry. It must be a very rare species. The distinctly yellow basidia and spores are also a feature.

Pilacre pallida from E. Bethel, Colorado.—(Duplicate of type collection; Fig. 2828, enlarged). I know nothing of the world of Hyphomycetes and my old eyes would not permit me to study them now if I were so inclined. My attention was drawn to Pilacre many years ago when I found it in a museum as a Gasteromycete, and I get it not rarely from correspondents. (Cfr. Mycological Notes, page 2207.) I never could see but one species in the specimens examined from America, Europe and Brazil, but Pilacre pallida is evidently to the eye an entirely different species if not a different genus. The peridia do not dehisce the same way. Pilacre faginea has a thin peridium which breaks and peals off like a Calvatia. Pilacre pallida dehisces in a circumscissile manner. The top comes off leaving a permanent cup-shape base. The species was published by Ellis on specimens collected by E. Bethel, Colorado. In compiling it, Saccardo had to add "An potius Hymenomyceta?" It has nothing more to do with a Hymenomycete than with a puffball; I do not pose as a basidia expert but I think Pilacre is a Hyphomycete as found in Saccardo pure and simple and the up-to-date classification as related to Auricularia is absurd—the result of a "basidia craze" and running it into the ground. For me the septate hyphae of Pilacre are no more analogous to basidia than the septate capillitia of some puffballs are. But to give a modern "scientist" a microscope is like giving a boy an air gun. He is bound to hurt somebody and usually it is himself. Someone starts a story of this kind, and then they all follow along like a flock of sheep. It would be no more incongruous to classify Amanitia muscaria as a Hyphomycete, than to classify Pilacre as a Basidiomycete.

Hydnum Sanchezii from Father Sanchez, Philippines.—(Fig. 2829.) Dimidiate, thin. Surface reddish brown, smooth glabrous. Context pale. Teeth regular, obtuse, reddish brown. Cystidia none. Spores elliptical, subhyaline (but slightly colored I think), 3 x 4 smooth. This belongs to the pulcherrimum group, but the spine is different, being darker and blunt. The color and thickness also differ.

Radulum pallidum from N. C. Fassett, Maine.—(Fig. 2830, dried.) We gave in our Genus Radulum pamphlet a figure (963) of the fresh plant. As the appearance of the dried specimen is different and forms a nice pattern we present (Fig. 2831) an enlargement of this collection from Mr. Fassett. There is a contrast between the dried brown tubercules and the white subiculum. Radulum pallidum is rather a rare plant and usually grows on burnt wood. Often it has a narrow reflexed pileus, though at other times resupinate as this collection. (Compare Radulum pamphlet, page 2.)

Secotium globososporum from I. M. Johnston, Pikes Peak, Colorado.—(Fig. 2832.) As to description there is not much to say, for the plant to the eye is exactly the same as a small specimen of our common Secotium acuminatum. But the spores which in our common species are elliptical are in this perfectly globose, smooth, about 8 mic. There is a previous globose spored Secotium known from Texas (Compare Myc. Notes, Vol. 1, page 139), but that has large rough spores, 10-12 mic. in diameter. These three species of Secotium are the same to the eye and can only be distinguished by the spores. We have always contended that there are very few species of puffballs or other fungi of value that one can not learn to recognize by the appearance to the eye if one is familiar enough with them, but we have to withdraw it as to these three Secotiums.

Dr. Johnston found Secotium globososporum two plants on a gravelly oak-covered hillside just below the pine belt growing in a grassy clearing. Altitude 7,500 feet, Long's ranch, three miles N. W. of Manitou, Colorado. Mr. Johnston is a most careful observer and collector and these are not the only species that he sends in that no one else has ever found. Much is yet to be learned about our Western "puffballs" and there should be more Western men looking for such things.

There is a tendency nowadays to "transfer" the globose sporea Secotiums to the genus Elasmomyces, thus making "new combinations" for them all. That impresses me as pure jugglery. It adds not one iota to classification, and only makes a lot of new names for a lot of old Secotiums. Tulasne, who proposed Secotium, included both elliptical and globose spored species, and for eighty years Secotiums have been so named and classed. To propose now that the names should be changed on spore shape is not only unnecessary, but smacks of trickery. There are many old established genera as Clavaria, Inocybe, Clitocybe, Lycoperdon, etc., that could be changed on just such a claim, and there is no end to such jugglery.

Broomeia congregata.—(Fig. 2833.) We present a photograph of a fine specimen we found in the British Museum, the same as was described by George Murray in Journal of Linnaean Society, Vol. 20. We have previously figured this plant twice, but have never before seen as fine a specimen as this. As we gave full accounts

in our previous writings (Cfr. page 917), we will content ourselves now by giving the figure only. Broomeia is a most peculiar puffball found only in South Africa. When we began work on the subject years ago, it was scantily known, and it was a long time before we got a clear idea of it.

Arcangeliella Borziana from Prof. O. Mattirolo, Italy.—(Fig. 2834, base enlarged.) Prof. Mattirolo sends me a specimen in alcohol and I readily see on it the reticulate base as shown in our figure, enlarged. This reticulation is due to absence of peridium from a limited area at the base and the showing of the walls of the gleba cells. It is an erroneous conception to call it "lamellate." The presence or absence of peridia in the Hymenogasters has probably been too strongly emphasized by the old workers. The genus Gautieria was based on absence of peridium and Gautieria morchelliformis in the museums has never I believe the slightest trace of peridium. However, Gautieria graveolens has on some specimens a slight trace. Messrs. Dodge and Zeller neglect entirely this old distinction between Gautieria and Hymenogaster. I do not feel it can be brushed aside so lightly. In fact both genera can not be maintained excepting on this character, and if one disregards this, there is but one genus.

Arcangeliella Borziana was described as having a columella. That does not show in our enlarged section (Fig. 2834), but columellae appear to be rather elusive, for as we have published they are quite plain on fresh specimens of Octaviania Ravenelii, but not seen on the dried specimen, to the eye.

Lycoperdon bispinosum from Prof A. Yasuda, Japan.—(Fig. 2836 and Fig. 2837 the cortex enlarged.) Subglobose with short stipe-like, sterile base. Thin, pale beneath, but black on surface. Cortex very peculiar, of two kinds of spines. A very minute black scurfy spine which covers the surface. Large pale cruciate spines which are scattered. The latter are the true spines, the former probably best held as a scurfy covering. Spores globose, dark, strongly echinulate, 4-5 mic., mixed with caducous, separate, persistent sterigmata. Capillitium long, intertwined, pale, 4-5 mic., thick. A most unusual species as to having a scurfy peridium. I do not recall another. Prof. Yasuda sent it as Bovistella, but it has neither capillitium or spore character of the genus. The separate, caducous, persistent sterigmata are a different idea from truly pedicellate spores. Lycoperdon species, atropurpureum and umbrinum and others of this group have these same persistent sterigmata mixed in the gleba.

Mitremyces Junghuhni from R. E. Holltum, Singapore.—(Fig. 2838, enlarged.) In our second volume we gave systematic accounts of the genus Mitremyces. This we called Mitremyces orirubra, which was named from Perak, but it is not different from Mitremyces Junghuhni. The warts are stronger but the specimens are younger. Mitremyces orirubra should be "zu stricken." There is nothing in the puffball world as unique as the genus Mitremyces and this species is the one usual of the East, but it is rare.

Simblum spaerocephalum. Photograph from Joseph C. Gilman, Iowa.—(Fig. 2839.) We gave in our phalloid synopsis (page 6) a record of the known stations of this rare plant. Prof. Gilman found it September 28, 1923, at Ames, Iowa, and kindly sends us a photograph which we reproduce (Fig. 2839). Elam Bartholomew has also refound it (Clyde, Kansas, May, 1923), and sends us specimens. These two collections are the first records since twenty years. (Compare Myc. Notes, Vol. 7, page 1209.)

Bovistella flaccida from S. S. Towne, California.—(Fig. 2840.) Globose, about ¾ inch in diameter, with adherent patch or sand case at base. Sterile base none. Exoperidium no doubt thick, and nature of a sand case. Endoperidium rich brown color, smooth, shining, thin, flaccid. Capillitia of separate threads running out into pointed branches. Spores globose, 5 mic., colored, smooth, with permanent hyaline pedicels, 12-16 mic. long. It is difficult to place this in a genus for it has characters that suggest and characters that depart from three genera. In spores and capillitia it is a Bovista or Bovistella, but as to peridia it is neither. To the eye with its adherent sand case it is a Catastoma and probably in its manner of growth "mouth down," but flaccid peridia are not found in the genus. We would enter it for convenience in the third section of Bovistella to which it comes nearest.

Hymenogaster Behrii from Dr. I. M. Johnston, California.—(Fig. 2841.) About an inch in diameter, irregularly lobed. Peridium thin, white, but only partially developed, giving the surface a lacunose appearance. Gleba cells large, irregular. Gleba in dried plant is dark brown. Spores 12 x 16, colored, elliptical with equal extremities, with corrugated tubercular surface and short, hyaline apiculus. This seems one of the frequent species in California named by Harkness as Splanchnomyces Behrii. It differs from most species in shape of spores which are similar to that of Hymenogaster Klotzschii of Europe. The latter species differ in small size and ferruginous gleba color.

Mr. Johnston sends the following collection notes: "Accidentally unearthed in a chaparral mainly of Ceanothus, near a solitary oak tree (Quercus chrysolepis). The fungus grew in very rocky ground with only a very little humus. It grew but an inch or so below the surface. The altitude was about 4,500 feet and on a steep slope facing the north."

Laternea cristata from F. L. Stevens, collected in Costa Rica.—(Fig. 2842.) Not much can be told from the specimen excepting it is not a named species. It appears to be a two-armed Laternea with one arm broken, but that is not sure. It has a feature, however, that none of the Laternea have, viz., the outer cells of the receptacle are broken into cristated processes. No phalloid of that nature has ever been published unless it be Laternea Spegazzinii (Phalloid Synopsis, Fig. 63), and that is known only from a figure, and if the same plant, it was most inaccurately figured. I do not believe it is the same thing for the cristations are of an entirely different nature from those shown in Spegazzinii's figure, but one can not place much dependence on these old reconstructed figures. We present a photograph of the plant as received from Prof. Stevens, and pressed on a newspaper as received. A photograph of the fresh plant would have definitely fixed it and it is unfortunate Prof. Stevens did not secure one. While the phalloid subject is in a fairly good situation now, there are still many novelties in the tropics and still much to be cleared up as to the inaccurate and vague records of the past.

Octaviania carnea from Prof. O. Mattirolo, Italy.—(Fig. 2844, section of alcoholic specimen enlarged.) A section of this from alcoholic material appears somewhat different from one made from a dried specimen. Compare our previous Figs. 2152 and 2153 in number 67.

Cremeogaster levisporus by Prof. O. Mattirolo, specimen from I. M. Johnston, San Antonio Mountains, Southern California.—(Fig. 2845, photograph; Fig. 2846, section enlarged; Fig. 2847, spores magnified.) Fungus black, subglobose-difformed (1-3 cm.), drying rugulose and granulate. Peridium simple, black, thin (120-150 mic.). Gleba cream color, divided by white tramal plates into many unequal round cavaties, with walls of dense, intertwined, hyaline hyphae, bearing four spored, apical, clavate basidia. The cells after deliquescence of the basidia are filled with spores. Spores hyaline, even, ovate-elliptical, averaging 7 x 11 mic.

Le Genre Cremeogaster, quoique bien simplement construit, ne manque d'importance, car il présente le trait-d'union entre Leucogaster et Sclerogaster d'un coté, et Melanogaster de l'autre; c'est-à-dire est une forme intermediaire entre les Hymenogasterées et les Sclerodermacées.

L'Hyménium régulièrement constitué qui est aussi propre des Rhyzopogon; est moins distinct dans Leucogaster et moins encore dans Sclerogaster et mangue dans notre noveau Genre, chez le quel les Basidies se prolongent dans les logettes hyméniales, tout-à-fait comme dans Neo-saccardoi, Melanogaster, Scleroderma. Les Basidies qui sont renflés à l'extrémité (clavata), portent 4 spores et se dissolvent bientôt, de manière que les logettes de l'Hyménium restent remplies par les spores, tout-à-fait comme dans les Sclerodermacées.

Le Péridium, noir, ne présente rien de spécial: il est formé par une couche d'eun épaisseur de 130 a 150 microns, constituée par des filaments assez fins, de laquelle part le réseau de la Trama, d'une blancheur qui détache sur la couleur fondamentale de la Gleba, couleur crème. La plus grande partie des Champignons hypogés étant trop homogène dans leurs caractères externes, ainsi que dans la structure interne, on est forcé de considérer les spores pour la création des Types. Notre nouveau Genre est bien distinct par la forme et les caractéres des spores. Leucogaster se reconnait aisement par le révétement gélatineux qui entoure ses spores réticulées. Sclerogaster a de petites spores granulées; Melanogaster, spores lisses, brunes, ovato-oblonguées; tantis que les éspéces du Genre Scleroderma ont des spores réticulées, verruqueuses, ou spinuleuses; Cremeogaster possède des spores transparentes, à peine coloriées en jaune trés pâle, lisses, ovato-elliptiques de 11.05 x 7.04 mic. remplies par des matériaux oléagineux. Je place Cremeogaster dans la Famille des Hymenogastrées, à la suite de Leucogaster et de Sclerogaster, mais on pourrait aussi le classer parmi les Sclerodermacées, et je pense que le mycologue qui aura la chance de pouvoir étudier ce Champignon à l'état jeune, pourra mieux décider sur sa position systématique, car moi je n'ai étudié que des échantillons secs, dejà trop avancés dans leur dévelopement, dans lesquels il était bien difficile de observer les basides.

Lycoperdopsis arcyrioides from T. Petch, Ceylon.—(Fig. 2848.) The figure shows a little puffball about the size of a pea growing on profuse white mycelial threads. The feature on which the genus was based is unique among puff-balls. The capillitia a matted mass of slender dark-branched threads, the surface marked with tubercular nodules. It came from Java and was named and crudely figured by Hennings (Fig. 2849). As far as I know Petch is the only recent collector, and he records but one collection. The history is not complete with the above records. I have seen an old collection of the plant in one of the museums classified as a Myxomycete (sic). A mycologist who does not know that Myxomycetes do not develop mycelial strands is ignorant of the first elementary nature of the family and should write a book on them (if he has not already done it). We made no note of the incident at the time, hence can not give it in detail, but some day we may look it up and turn it over to Prof. McGinty for comment and name juggle.

Calocera flavida from Prof. K. Miyabe, Japan.—(Fig. 2850, enlarged.) Pale yellow, much divided. Hymenium amphigenous. Spores 6 x 12, slightly curved, apiculate, hyaline, one septate in germination. Our figure will show that this is much like Calocera rufa (page 1196, Fig. 2436) from Tasmania, but Calocera rufa is deep,

and this very pale yellow. The plant is quite close to what Calocera palmata is supposed to be in Europe, but I never saw this very cut plant in Europe.

Geaster leptospermus from W. C. Coker, North Carolina.—(Fig. 2851, natural size.) While we have never seen this before, it was one of Atkinson's discoveries and we always doubted it on general principles. We think it is well entitled to a name from its small size and peculiar habitat "in moss on trunk of trees." It could be referred as a small variety of Geaster coronatus without stretching the situation very far. But Geaster coronatus is a pine wood species and this grew on an elm trunk. Habitat has much specific value to my mind, if in connection with other differences. Atkinson named it Geaster leptospermus "small spored" and describes the spores 1.5 x 2.5 mic. and smooth. I make them 4 mic. and minutely but distinctly rough. They are about the usual spores one finds in most Geasters. I do not believe there are any smooth-spored species of Geaster and that was why I have always (heretofore) doubted the species. I am glad of specimens to be set right on it.

Calvatia defodiodis from Dr. J. F. Brenckle, North Dakotá.—(Fig. 2852.) This is the second collection of this little and most peculiar species. It was originally by Simon Davis in Wyoming and was named Letter 44, Note 45. Its habits are quite unique among puffballs. Dr. Brenckle's notes which are in accord with those of Mr. Davis (Cfr. 1. c.) are: "It grows underground or rather sunk into the ground so that the top just emerges when it is ripe. As the ground dries out it compresses the mass and forces the contents of the ball out upon the surface." Our figure shows specimens natural size and section. Dr. Brenckle sends a sketch showing the puffball imbedded in the ground, the torn peridium even with the surface.

The Genus Hydnocystis.—Tulasne proposed this for two small and rare species found years ago in the sand in Southern France. A little frustule at Kew tells nothing. First Tulasne considered them Pezizas, then he transferred them to Tuberaceae, for he states they are usually closed. They are hollow with a definite palisade layer of cylindrical asci following the cavity, and are Discomycetes as to hymenium. Tuberaceae as to habits. Genea is the corresponding true Tuberaceous genus, but this has the hymenium imbedded in the flesh and following the internal convolutions of the hymenophore. Prof. Mattirolo tells me he has collected Hydnocystis species in the sand and that the genus is a typical Discomycete and not a Tuberaceae.

Hydnocystis Thwaitesii.—(Fig. 2853.) At Kew the only real specimens under this name are some nice collections from Ceylon which Berkeley named as above. Petch finds it abundant and has given a good figure which we reproduce and a good account of it. It grows on a log (not hypogeal) and is white, fleshy, with the hymenial layer spores, asci, habits and mouth up, of a true Pezizae. In short, it is a globose Peziza with a small opening. It has naught to do with Tuberaceae. I do not think it necessary to change the name now, but believe it will be called Sphacrosoma Thwaitesii when the genera Sphærosoma and Hydnocystis are well known. I do not catch the exact difference which Tulasne explains on page 185. The proposal to call it Genea Thwaitesii, however, is not tenable, for it is not a Genea in any event.

Sarcosoma godronioides from Rev. J. Rick, Brazil.—(Fig. 2854.) This was published by Rev. Rick in 1906, but has never been illustrated. The genus Sarcosoma is a gelatinous Discomycete, the hymenium on a concave disc, and the spores hyaline. As shown in our figure, the fungus is a cluster of little cup-shape bodies that have a general resemblance to Cyathus cups, but they are not cups. The color wet is black. A section shows the interior pale greenish, subhyaline, gelatinous. The hymenial on the disc consists of asci and numerous filiform, multiseptate, hyaline paraphyses. The spores hyaline, or with pale olive tint, are (teste Rick) elliptical fusoid with acute apices, reticulate, 15 x 30 mic. It grows on branches of pine. Fig. 2855 is enlarged six fold.

Xylaria Maumeei from W. R. Lowater, Ohio.—(Fig. 2856.) Clubs cylindrical or flattened, surface black, even. Ostioles mammaeform, obtuse, slightly protruding. Stroma white, hollow. Spores 7 x 12, slightly curved, obtuse both ends, when young guttulate. From Mr. Lowater's notes the plant had a short pannose base, but specimens sent were not perfect. The plant may have had a crust when young as I can detect remnants with a lens. I hope the species may be found again and perfect specimens sent for illustration. I believe we have no other species with a hollow stroma in the States (excepting Morganii).

Otidea leporina. Photograph from C. E. Cummings, Buffalo Society of Natural History.—(Fig. 2857.) This is a fine photograph of a cluster and shows well the ear-shape form which characterizes this genus. In absence of a dried specimen the species is not sure, but we refer it to Otidea leporina, which is the most common one with us of this genus. If so, the color is brown when fresh. We have other species more rare which are more yellowish. We thank Dr. Cummings for the privilege of reproducing this fine photograph.

Xylaria squamosa (?) from W. R. Lowater, Ohio.—(Fig. 2858.) On page 1180, Fig. 2374, we gave an account of a curious species found in a cellar from Canada which we thought was abnormal, as scales like these are not normally developed by Xylarias. We think

the specimens from Mr. Lowater are the normal form probably, for same hollow type, same large acute spores, and same surface (exclusive of scales). The old clubs split and the photograph could be taken for X. cubensis, a tropical species, which has much smaller spores. I do not believe there is any other species out of the tropics of this general nature, and our photograph is characteristic.

Geaster Reinkingii from Otto A. Reinking, Honduras.—(Fig. 2859.) We formerly referred this to Geaster Hariotii (Compare Vol. 2, page 312, and Plate 99, Fig. 9), where we discussed this same question. We conclude now that this plant differs from Geaster Hariotii in having a broad limb and recurved exoperidium and sulcate mouth. We present Fig. 2860 the type of Geaster Hariotii and Fig. 2859 that of Geaster Reinkingii which will show the difference, although formerly we held them to be the same.

Nummularia pezizaeformis. From specimen in herbarium Carestia, Italy.—(Fig. 2861, enlarged.) We found in an old herbarium of Italy a specimen collected by Carestia and if we are not mistaken it was distributed Ersb. Critt. Ital. No. 473. It was labeled Hypoxylon poculiformis which is a tropical species never found in Europe, a Camillea, and has no suggestion of this. (Cfr. Large Pyrenomycetes, page 9). For me there are two kinds of Nummularia, the true and the false, and this is a true Nummularia, somewhat pezizaeform, with the perithecia on the disc only. Our photograph enlarged shows it distinctly and we believe it is characterized by its shape, and it is much smaller, about one third, the size of Nummularia discreta and repanda, the more frequent species. We have not found in Traverso any reference to it. As to spores we do not know, as we do not wish to cut the scanty material we have.

ADDITIONAL NOTES ON CAMILLEA.

Since we wrote our paper on Camillea (1917) we have gone over the specimens in the New York Botanical Garden where are preserved the material from tropical America on which Ellis based his publication. We have also looked over again those at Kew and Paris which together comprise practically all known. The genus proposed by Montagne and named in honor of himself is quite heterogeneous and logically should be broken up into several genera as previously pointed out. The easiest way to define it is any large Pyrenomycete that Montagne did not feel like referring to Hypoxylon or Xylaria.

Camillea turbinata.—(Fig. 2862.) This characterized by its obconic or turbinate form was named from Brazil; the type at Kew is a black plant and well shown in our figures. We got the same plant, same shape from Rev. Rick (Fig. 2863) but the color (brown) is different from that of the type (black). We think it the same plant however. In this connection Rev. Rick in his published account has made an error in referring here the "Pyrenomyxa invocans" of Morgan which has no suggestion of it.

Camillea globoso-turbinata from Rev. Rick, Brazil.—(Fig. 2864.) We received from Rev. Rick abundant specimens of a plant which is very close to Camillea turbinata, same color, structure and spores, but differs in shape, which is not turbinate but depressed globose. A comparison of our figures will show this at a glance. While we received from Rev. Rick abundant specimens of both forms, each collection is distinct and shows no indication of running together. The plant we named Camillea discoidea (Myc. Notes, page 1181, Fig. 2385) is probably only a sterile form of Camillea globoso-turbinata. Rev. Rick records that he often finds it sterile.

Camillea poculiformis.—Nothing additional has been added since our publication. The plant is known from only two collections, the old Wiegel exsiccatae about a hundred years ago, and Collins collection in Guatemala which was correctly referred by Ellis. We since have it from Otto Reinking, Honduras.

Camillea africana.—(Fig. 2865.) We were in error in considering this as a synonym for Daldinia angolensis (Large Pyren., page 26). It differs having black stroma, and much shorter stipe. Spores 5 x 10. Perithecia periperal, contiguous. Stroma carbonous, not zoned. While we believe this well classed as Camillea, its nearest affinities are Daldinia angolensis, all of which goes to show that names do not always express affinities. Camillea africana comes from Uganda and is one of the few Camilleas known outside the American tropics. It breaks away from the bark most easily.

Camillea Williamsii.—(Fig. 2866.) The genus Camillea is known by but very few collections except in the American tropics but there is at New York a collection from the Philippines (Williams 1761) misreferred in Europe to "Hypoxylon turbinatum Berk." It has same shape as Camillea globoso-turbinata but is a black plant (not brown) and there are remains of a conidial coat on it.

Camillea Zenkerii.—(Fig. 2867.) This we recently published (Myc. Notes, page 1202, Fig. 2478) from Africa. It differs from Camillea africana in its cylindrical shape. Camillea africana is capitate. These are the only two species of the genus known from Africa but when the subject is well collected many others may occur.

Camillea pila from specimen at New York collected by C L. Smith, Mexico.—(Fig. 2868 and Fig.

2869 enlarged.) These specimens are in Ellis' herbarium and when we saw them we supposed Camillea globosa (Cfr. Large Pyrenomycetes, page 8, Fig. 847). They are exactly same size, shape, shiny black color, and appear the same externally. But when we cut one we find entirely different. Camillea globosa belongs to the section Phylacia with the contents a powdery mass of spores and hyphae. This does not belong to that section but has permanent perithecia and is close to Camillea Cyclops. Globose, about 8 mm. in diameter sessile. Surface shiny black. A section shows two compartments, the upper filled with contiguous, elongated, permanent perithecia, the lower sterile, black with a small section of white tissue. Spores we did not examine. It is the only Camillea known with white tissue excepting Camillea Sagraena. We are not sure "Smith, Mexico" is the correct locality. On another memorandum we have it as "Smith, Nicaragua." "Smith" collected in Nicaragua and listed his collections but not this. I do not know that he collected in Mexico, but it does not matter much.

Camillea luzonensis from E. D. Merrill, Philippines.—(Fig. 2870.) Growing caespitose on bark obovate with a slender stalk. Head irregular, globose or somewhat flattened, smooth, brownish black, carbonous. Perithecia or their remains filling the upper compartment. Based on a single collection. Williams 177. from Luzon. It is quite close to Camillea poculiformis (Large Pyrenomycetes, Fig. 848) but is a smaller, more slender plant, and longer stiped. Camillea neocaledonica from photograph I have is quite similar to eye but from record has quite different spores.

Camillea labellum.—(Fig. 2871.) Nothing additional has been developed as to this plant only known from the old Laprieur collection at Paris (Cfr. Large Pyrenomycetes, page 4, Fig. 829). Montagne records the spores fusiform dark, 30 mic. long. On my last visit to Paris both Patouillard and I spent much time hunting for spores in the type but neither found them. The following may have some bearing on the plant.

Nummularoidea artocreas.—(Fig. 2872.) Massee did make some of the most astonishing determinations and passed up some curious genera that reached him with a few passing comments. The above came to him from St. Vincent and he published it as Diatrype artocreas (Grev. 21.4). To the eye it has no more suggestion of a Diatrype than that of a Xylaria, nor are the spores those of our familiar Diatrypes. At first I thought it was Camillea Labellum. Exactly same to the eye (Cfr. Fig. 2871) but spores are entirely different to what Montagne records. Perhaps they are different stages of same plant (not probable) and perhaps the spore record of Camillea Labellum is not correct. At any rate the spores of this plant are hyaline, 5 x 12, somewhat lunate, with sharp ends. We might present our Fig. 2871 of Camillea Labellum as being this plant but we do not. We present an original photograph of Massee plant. There are also more abundant specimens of this collection in the Nummularia cover. Since above was written we have examined in vain Camillea Labellum type at Paris, and were unable to find any spores, or to confirm Montagne's account. The name Nummularoidea was proposed by Massee as a subsection of Diatrype but surely the plant has nothing in common with Diatrype.

Camillea Sagraena.—(Fig. 2873, sessile form.) This the most common Camillea in the American tropics, is abundantly represented in all the museums. (Compare Large Pyrenomycetes, page 7.) Usually it is a stipitate plant but at New York I found a collection made by Dr. Murrill in Mexico which consisted of a sessile cluster as shown in our Fig. 2873. Surely however it is same plant. When we wrote our article (1917) we had never seen the collection (Wright, Nicaragua) on which Ellis based the figures on Plate 38. The specimen is in Ellis' herbarium and while it is truly Camillea Sagraena the figure made from it is so inaccurate it would hardly be recognized.

Camillea sulcata.—(Fig. 2874.) If the conglomerate mass they call Hypoxylon, Nummularia, etc., is ever broken up and arranged along some logical lines this may not be called Camillea. Starback called it Hypoxylon, we have called it Camillea and it only developed on our last trip to Paris that Montagne referred it as a variety of a plant best called Nummularia. We first got it from Rev. Torrend, Brazil, and named it from Starbäck's photograph. He had called it a "new species" unaware (naturally) that Montagne had named it sixty years before as a variety of "Hypoxylon" heterostroma. Theiszen determined it, and Rick distributed it (307) under Montagne's "type" name, but it has no connection at all with the "type" form. Therefore Starbäck's discovery is valid and he will get the advertisement just as though he really had "discovered" something new. Camillea sulcata is so characteristic it can not be confused from a photograph, and if it had been properly illustrated at the start, there would not have been all this muss about it. But what a commentary on "science" that Montagne should publish and name this plant in 1842, and for eighty years not a mycologist has had any idea however vague of what he named, although several had the species in hand.

Camillea bacillum.—Heretofore only known from the old Leprieur collection at Paris, it was gathered by Dr. Fred J. Seaver in Trinidad and illustrated, page 1180, Fig. 2377.

Camillea bomba.—This is a common plant in American tropics and we get it abundantly from Rev. Rick

and Torrend, Brazil. It varies much as to size and spore size. (Cfr. Large Pyrenomycetes, page 8, Figs. 844, 845, and 846. Myc. Notes, page 1167, Fig. 1172; page 1231, Fig. 2573.)

Camillea bilabiata.—(Fig. 2875, enlarged.) This is only known to me from specimens collected by Smith, Nicaragua, in Ellis herbarium and was no doubt determined by Ellis from the name, probably true, at least very appropriate. A section shows a similar structure with Camillea Cyclops as in our enlarged Fig. 835. The spores we did not find, and have not been recorded by others.

Camillea Leprieurii.—(Large Pyrenomycete, page 3, Fig. 826. Myc. Notes, page 1233, Figs. 2596 and 2597.) It is a most peculiar and a most rare plant. It is only known from Leprieur French Guiana at Paris. Spruce, Brazil, at Kew and J. B. Stevens, Brazil, at New York.

MISCELLANEOUS NOTES.

Xylaria pedunculata.—(Fig. 2876.) This was originally published by Dickson (1785) and well figured. Then it reached Sowerby from Dr. Abbott in 1805, and as an instance of how well things are preserved at Kew this identical specimen is still in good condition and is presented in our photograph (Fig. 2876). It grows in manured ground and it is rare both in Europe and the States. With us an old collection from Dr. G. Engelman, St. Louis, is at Kew. At New York I found two collections (unnamed). One from Earle, Alabama, the other from E. S. Southwick, on "Park dump," New York City. Though not a matter of usual record or collectoin I think if Xylaria pedunculata were carefully dug up it would be found to always grow from a sclerotium. I have noted them rarely on herbarium specimens of the (near) small form and Sowerby records "one of the specimens had a rough tuberous base." Xylaria vaporaria which for me is an obese thick form of Xylaria pedunculata was originally developed by culture from a tuber found in a mushroom bed.

Xylaria pedunculata from Prof. E. A. Bessey, Michigan. Since above was written a third collection has been received from Prof. Bessey. It grew in a cornfield, summer of 1915 in Eaton Co., Michigan, and was rather abundant but has not been collected since. This field had been manured and plowed under and the length of the stems varied from a few inches up to 8 or 10 according to how deep the sclerotia had been buried. This collection is more obese than those previously collected and could be called Xylaria vaporaria, but this and Xylaria pedunculata are in reality the same thing.

Xylaria vaporaria.—(Figs. 2877 and 2878.) The species is a rare plant in Europe and has only been collected in the States twice. There are a few old English collections at Kew and a couple of more recent collections at Paris. It grows on manure or manured places and in habits, general shape, spores, and development from sclerotia, Xylaria pusilla, Xylaria pedunculata and Xylaria vaporaria are all one species. They differ in relative size principally. Xylaria vaporaria was originally named from a specimen that was cultivated from a sclerotium found in a manure pile. Afterwards they found it growing naturally in England and France. Many years ago I had a correspondent Miss Mary Fitzgerald in North Carolina and she sent a nice collection, the only one ever made in the States. Xylaria djurensis "discovered" by Hennings in Africa is from his account surely the same thing. We present Fig. 2877 an English specimen at Kew and Fig. 2878 Miss Fitzgerald's collection from North Carolina.

Xylaria pusilla.—(Figs. 2879 and 2880.) There is no question whatever that this is the small form of Xylaria pedunculata as held both by Berkeley and Tulasne. The latter called it var. pusilla and Nitschke changed it to Xylaria Tulasnei (but why the change?). Although abundant specimens are in the cover at Kew, Massee got it from England and called it a "new species," Xylaria coprophila, on label. Massee's "new species" were for the most part of this nature. Xylaria pusilla grows usually on rabbit dung, at least that is the only host recorded for it at Kew. Why not on more common dungs like sheep dung I do not know. Usually the little heads appear on the surface and Plowright states with hardly any stem but if the earth in the vicinity be searched the heads will likely be found with a long stem buried in the ground and often attached to the remains of a sclerotium. Our figures show balls of rabbit dung with the fungus heads protruding, also the Xylaria with its slender stems dug up from the earth. The latter is from a mounted card in Currey's herbarium. The only specimen I have seen of this little form from the States is in Peck's herbarium collected in Indiana by Banker, and a single head.

Hypoxylon simile from Rev. James Mitchell, New Zealand.—(Fig. 2881.) Globose, black, about an inch in diameter, surface smooth, black, the ostioles not protruding nor visible to the eye. Perithecia broad, elongate, contiguous, forming a peripheral layer. Context brown, carbonous, not at all zoned. This is similar to Hypoxylon fissum (Vol. 7, page 1121, Fig. 2141). Same size, perithecia, context and spores; but this has no sign of a thick reddish conidial layer found on the American plant. It may however be the same, but we would not be justified in so referring especially as long as each is known from each country from a single collection. At any rate both are very rare in their respective countries.

Lycoperdon polycephalum from S. S. Towne, California.—(Fig. 2882.) Fruting bodies several, about an inch in diameter, one to five, sessile, at top of a thick rooting base. Exoperidium thick, felty, breaking up into areas. Dehiscence doubtful, may be a Calvatia. Sterile base none. Gleba brown, no purplish tint. Capillitium, long intertwined, colored, 3-5 mic. in diameter. Spores globose 5 mic. colored, smooth or very minutely rough. The peculiar habits of growing several at apex of the root is an unusual feature also the thick exoperidium breaking up into areas. It's nearest relation appears to be with Lycoperdon cepaeforme.

Xylaria ramus from W. R. Lowater, Ohio.—(Fig. 2883.) We wish we felt as sure of everything as we do that this was the original of Xylaria Cornu-Damae as named and described by Schweinitz. It answers his description but it is not the plant supposed to be the "type" in his herbarium nor the "cotype" at Kew, neither of which answer to his description. (Compare page 1250, Fig. 2687.) It is one of the misfortunes that "scientists" have to follow "types" even in cases where it is evident that some mistake has bene made as to the "type." I never saw this plant but once before. In Peck's collection there is a specimen labeled "Xylaria Cornu-damae Schw. conidial, formerly referred to Xylaria Hypoxylon." Peck had it right from description I am sure though afterwards when I saw Schweinitz' type I thought he had it wrong. Mr. Lowater sends one conidial collection and one unripe collection, but we believe no ripe specimens are known. Our photograph will fix it surely but we hope someone will find mature plants. Similar conidial forms are known from Africa and Brazil but we do not believe they (either) are our species.

Xylaria Sanchezii from Father Sanchez, Philippines.—(Fig. 2884.) Growing in the ground with a long, thick, tortuous root. Clubs borne from top of this root, about a cm. long, cylindrical, obtuse, with thin, brown cuticle. Stems slender, black, smooth, about a cm. long. Ostioles strongly protruding, giving the club an asperate appearance under a lens. Conidial spores abundant, globose, 2 mic. hyaline. Ascous spores not found in this specimen. The specimen is immature but would be recognized from our figure. The plant is quite close to Xylaria Brasiliensis (page 893).

Bolinia Petersii from W. R. Lowater, Ohio.—(Fig. 2885 and Fig. 2886, section enlarged.) A rather rare plant that has had a curious history. It is Hypoxylon of Berkeley. Bolinia for me, and recently Peridoxylon for Shear. I have puzzled a lot about consistent genera for the larger Pyrenomycetes. The old fellows called all the sessile ones mostly Hypoxylon but it is an unwieldly assortment of heterogeneous things. Two genera Solenoplea and Hypoxylina have been recently proposed, and both will be most useful when the species (mostly tropical) are sorted into consistent genera. I may be mistaken about the genus Bolinia for the only specimen I have seen that resembles the original figure is Fries' sending at Kew. This I decided was the plant originally figured, (the only one known) but if so the perithecia were not correctly shown, for I am sure they are polystichous in this specimen. Schweinitz specimen from America at Kew does not resemble his original figure from Europe. Another feature of the plant is that the context is not carbonous, but rather brown, tough, corky. I have noted three plants of this nature viz. "Bolinia Tubulina," "Nummularia flava" and "Hypoxylon Petersii," and I think they should all be brought under one genus, Bolinia, and the definition changed to Sessile, cushion shape. Perithecia polystichous. Context fleshy-corky, not carbonous.

Shear bases his genus on a separable crust that the plant has when young which he calls a peridium, and shown in our figure. Of course a genus can be based on that, but it is going to complicate things for Xylarias, Hypoxylons, Kretzschmarias, Entonaemas, Sarcoxylons, Engleromyces, all have species without crusts, or have thick persistent felty crusts. The nature of these crusts in no other species as far as I have noted are the same as in this species where the crust flakes off in pieces and disappears, but that is a question of degree. And this fact in reference to this species is an embarrassing one practically, for the "type" and most collections have no sign of the crust remainnig. Morgan had the same idea of basing a genus on this twenty years ago, at least he so told me, but I think it never got into print. Bolinia Petersii is a rare plant, as I remember only two specimens known to Berkeley. One from Cuba, the other Peters, Alabama. They look different and at first I thought were not same but finally concluded that they were. Morgan found it around Cincinnati. He sent it to Cooke and also Ellis. Cooke referred it to Sphaeria Clypeus "Schw." although there is a fine specimen of the latter plant from Schweinitz at Kew and it has no suggestion of it. That however was where Cooke got his idea that he insisted on, that Sphaeria Clypeus is not Nummularia Bulliardii, which it surely is, as Schweinitz admits and everyone else knows. Only recently Nummularia Bulliardii was distributed as "Nummularia Clypeus (Schw.) Cooke" but why "Cooke" when he thought Sphaeria Clypeus was a different thing? There is evidence at New York that Ellis sent Morgan's collection of Bolinia Petersii to Farlow, and that is where Morgan and Ellis got it straight as to species. I am rather surprised to get this from as far north as the "Maumee valley" for various collections are of a southern range. We present photograph of three specimens (our collection Cincinnati) showing the crust, and a section enlarged of Lowater collection showing the polystichous perithecia.

Since the above was written, we have looked over our recent notes, and find the rare "Hypoxylon" Scleroderma, known from one specimen at Paris, belongs to this genus Also probably several others scantily known as picea, ovinus, succenturiata, teres, papillatum may belong here.

We have again gone into the subject of Bolinia and we have found no definite addition to the knowledge of the old "A. & S." figure, now 120 years old, nor seen any specimen that corresponds to it. Until one turns up we feel Bolinia will have to be taken in sense of Fries specimen at Kew, right or wrong. If any one in Europe or elsewhere knows anything more definite we hope they will let us hear from them.

Xylaria Longiana from W. R. Lowater, Ohio.—(Fig. 2887.) While it is a common species, in fact one of our most common Xylarias, we present a figure of Mr. Lowater's sending as a typical collection. This common plant has always passed in our literature as Xylaria Hypoxylon, which in fact it is; Ellis always so knew it. But it is a curious fact in distribution that this little form so common with us in the middle West and Eastern States, should not be known in Europe, where the larger type form of Europe rarely occurs but is abundant and typical in the Northwest, Oregon, etc. Long in recent years sent it to Rehm, who named it as above. Neither one of them knew much about the history of this most common plant but as both got advertisement out of the incident I suppose both are happy over it. The plant varies as to its branching. Usually it is simple or few branched. Sometimes it has many branches. (Compare Letter 66, Note 586.)

Hypocrea lactea from W. R. Lowater, Ohio.—(Fig. 2888.) This I think is rather a common species which has been usually referred to H. citrina. They are quite close, both on an effused subiculum which is white in H. lactea and yellow in H. citrina. The spores are globose, 16 mo. Mr. Lowater's collection note is "context white." Species depending on color are always doubtful. The scanty collections of H. lactea which we have noted in Europe (there is a cotype at Kew) are not so luxuriant as the figure we give of Mr. Lowater's specimens.

Xylaria brevicephala from G. M. Reyes, Philippines, collected by Father Sanchez.—(Fig. 2889.) Growing caespitose on the bark of a limb. Stems long, slender, tortuous. Heads short, ovate, black, (no cuticle). Surface even. The species is so characteristic it will be readily known from the photograph. The heads were scanty and I did not find spores in the one I examined.

Hyprocrea stipate from W. R. Lowater, Ohio.—(Fig. 2890.) Broadly effused with a delicate, byssoid, cobwebby, white subiculum. Perithecia superficial, in clusters, and darker in color. Spores by articulation, 16 in. each ascus, compressed and irregular in outline. A rare plant in Europe growing over twigs and fallen leaves. This is the first record in the States. The species is evidently very close to Hypocrea delicatula beautifully illustrated by Tulasne but differs in its spores as first pointed out by Fuckel. Our enlarged photograph (Fig. 2891) will show the delicate cobwebby subiculum, which is the prominent feature of the species.

Poronia leporina from C. H. Demetrio, Missouri.—(Fig. 2892 and Fig. 2893, enlarged.) It was Rev. Demetrio who collected this plant for Ellis thirty years ago and this is the first good collection of it I have ever seen. Ellis distributed it and his specimens are found in several museums but they are so poor I could never get any idea of them. Or rather I got an incorrect idea as published on page 939. There is in Europe a well known species Xylaria pusilla (Cfr. page 1282) that in habits and general appearance very much suggests this plant and from the poor specimens I had seen I got the impression that Ellis had confused it with this plant. The only specimen I had seen of Xylaria pusilla from the States is a single head in Peck's collection, but it is abundant from England and France both at Kew and Paris. Ellis did not confuse it. It was I who had an incorrect view from the poor specimens. Poronia leporina is a most unique little species growing only on rabbit dung as far as known and very rare. In Europe there is only Massee's record, a drawing at New York, and if my memory is right specimens in Crossland's herbarium but which I could not be certain about. I think also Poronia minuta recently proposed from Ceylon will in time be found to be the same thing. It's classification in Poronia is not sure for it has a feature not noted by Ellis that true Poronias do not have. A rather thick permanent brown membrane instead of a white disc as in true Poronias. I feel quite sure that "Poronia" leporina and "Kretzschmaria" Kurziana and "Kretzschmaria" truncata are all cogeneric whatever the genus may be. Ellis' figure is also incorrect showing a filiform slender stipe instead of the rather short thick stipe that the plant has. It is needless to state that we specially thank Rev. Demetrio for these specimens clearing up a mooted question that we have had in mind for several years.

Hypoxylon heamatostroma from H. E. Parks, Tahiti.—(Fig. 2894.) There is a Hypoxylon (?) in the American tropics that is bright red when young and when I collected it in Cuba I was much impressed with it. We have a true Hypoxylon common with us in the States called Hypoxylon coccineum which is rather misnamed for it is not bright enough red to be called "coccineum". And it is doubtful if they are logically classed in the same genus. However, although we

worked some months on it in Europe we have not decided how to treat generically the larger Pyrenomycetes. One thing is sure, it is in a bad muss now. Hypoxylon haematostroma has the perithecia when young covered with a bright red pulverulent coat. It is misnamed because it is not the stroma but the perithecia that are red when young. When old the plant loses this red coat and becomes black to the eye, as the type is today at Paris. An examination with a lens shows red particles adhering to the perithecia, marked features of a microscopic mount. The plant is effused with a layer of elongated contiguous, perithecia, an entirely different idea to the original and usual Hypoxylons of Europe and States. The spores of the type we measure 8-10 x 16 short, thick, blunt, unilateral. Hypoxylon haematostroma is common in American tropics. We have it from C. J. Humphrey, Cuba, Paul E. Siggers, Costa Rica, L. J. K. Brace, Bahamas, and have collected it in Cuba. Our figures shows a young (bright red) specimen and an old black one, but it would take a colored drawing to bring out the difference.

Since above was written we note a collection received from Philippines (Yates 25712) some time ago, which we could not refer at the time. Also, where Miss Wakefield records it from New Caledonia. It is probable that this marked species is of wide distribution in the tropics. But at the present time practically nothing is known as to the identity, or distribution of tropical "Sphaerias."

Camillea Bomba from Otto A. Reinking, Honduras.—(Fig. 2895.) When we first saw this collection we felt sure it was different from Camillea Bomba, as we knew it from many collections. It grows dense on an effused carbonous subiculum, and Camillea Bomba usually is erumpent, often singly, through the thick bark of a branch. But in going through our specimens we find some that do have a small subiculum. Another difference is that Camillea Bomba hertofore is always dull surface. A few of these are shiny blaok like the laccate surface of Daldinia vernicosa. We did not find spores in this, (at least two that we mashed). We conclude that it is Camillea Bomba with unusual development of subiculum.

Holttumia congregata from R. E. Holttum, Malay.—(Fig. 2897, showing the under side of a piece of clusters, and Fig. 2896, the wood from which it has been broken off.) The Pyrenomycetes are turning up the most unexpected genera in the tropics that hardly suggest even the old "Sphaerias" with which the old workers were familiar. This curious genus has little resemblance to any other Pyrenomycete, and the only fungus I know that even recalls it is Broomeia congregata and that is a "puff-ball" with no relation whatever to a Pyrenomycete.

Holttumia looks like a large Hypoxylon but when it is broken off, and it is quite fragile, beneath the carbonous crust there are a cluster of *large* carbonous perithecia about ½ cm. in diameter. Ordinarily a perithecium 2 mm. is a large one. There is little stroma but the large perithecia practically fill the interior of the ascophore. There were 15 perithecia in the specimen sent. When one of these is broken open, it appears hollow, containing a small quantity of a black powder which under the micrscope is resolved into black filaments and a few spores. These spores are mammoth in size 10 x 70 fusiform, acute at both ends, dark color, smooth. Its "structure" is that of the section Phylacia discussed in our Large Pyrenomycete pamphlet, page 6. While there is no sign of asci now, it no doubt had asci in its early stages.

We had but one specimen from Mr. Holttum and in mounting it on a needle to photograph we broke it in pieces. We can therefore only present a photograph of a piece (Fig. 2897). Miss Wakefield has however kindly made a drawing (Fig. 2898) reconstructing the underside of the specimen. We also show the wood from which the specimen has been broken off. Collected at Fraser Hill, state of Pehang, Malay, by R. E. Holttum.

Miss Wakefield suggests, and with good reason, that this could be entered in the genus Ustulina. If so the "key character" of Ustulina must be changed, as it should be. The genus does not rest on the "conidial layer" at the early stage for most Pyrenomycetes have a conidial layer of some kind; but on the large perithecia and crust like or scanty stroma. In this sense however some of the Hypoxylons should be transferred as Hypoxylon polyspernum in original sense, not that of Ellis which has no suggestion. Also it is the same idea that is behind Morgan's comical genus Pyrenomyxa, as drolly suggested in the name. The genus has no more suggestion or relation to a Myxomycete than it has to a "puff-ball." But it does have large carbonous perithecia and scanty stroma. I really think the genus Ustulina should be so defined and extended to include many such plants that are now out of place as classed and found in Saccardo.

Xylaria bambooensis from Otto A. Reinking, Honduras.—(Fig. 2899.) Caespitose on bamboo stem, slender, black tomentose at base, cylindrical-tapering to a sharp apex. Perithecia dense, slightly moriform. Spores 6 x 20, curved, rather obtuse. At first it suggested Xylaria hypoxyloides (page 1252, Fig. 2709) and also Xylaria myrosura as illustrated by Theiszen but the very much larger spores preclude reference to either.

Xylaria guyanensis from Otto A. Reinking, Honduras.—(Fig. 2900.) These are old specimens,

and at first did not recall the species to me. The plants are black, only a trace of the brown crust so prominent in the type remains. The peculiar ringed ostioles also are only seen to my eyes under a lens. Spores 6 x 20. The most marked difference from previous conception is however that the stroma is cinereous, almost black and we recorded it as white in type. We believe this is a feature that must change with age.

"Septobasidium" retiforme.—(Fig. 2901, photographs of type enlarged.) Among the fungi collected in Cuba by Wright was a stirile pad that Berkeley called Thelephora retiformis. It is advertised "Berk. & Curtis," but Curtis never saw it until after it was named and published, but the citation is in keeping with the usual established fiction. Berkeley states that it is "quite sterile," and the "Hymenium reticulate pulverulent grey." It never had any hymenium, but was a sterile pad with holes in it where imperfectly developed. Patouillard, when he was exploiting the genus saw this Wright specimen and included it in Septobasidium, in which, of course, he was only guessing, from its habits. In this age of alleged exact exactness it is a little far fetched to include in a genus based on a peculiar basidium a collection that was no basidium of any kind. The next development in this interesting story was staged by Ellis. He got a fungus from Langlois, twenty years ago perhaps, which he referred on a guess to the Cuba plant, which he never saw, because the surface was "reticulate," no doubt. He overlooked the little discrepancy that the "reticulation" of the Cuba plant was caused by holes in a sterile pad, and the Langlois plant by the nodules swelling of a hymenium, quite a different idea it appears. Then Burt comes along with his learned investigations and sees both collections, itemizes them so there can be no mistake, takes the Ellis plant for his description, calls it "Septobasidium retiformis (Berkeley & Curtis) Patouillard." The plants have no more resemblance to each other than a piece of corrugated paper has to a sponge, and neither Berkeley, Curtis nor Patouillard ever saw as far as there is any evidence or probability a specimen of this plant that Burt advertises as "(Berkeley & Curtis) Patouillard." Ain't "science" wonderful!! Compare our photographic enlargements of the surface of the two plants, both "reticulate" but one caused by holes of a sterile pad and the other by blisters of a hymenium. If Burt were writing a dissertation on raising chickens and made such statements as this every farmer's wife would laugh at him, and yet he presents such work as a "scientific" proposition.

Septobasidium Burtii (McGinty).—(Fig. 2902, enlarged.) Prof. McGinty would change to the above the name of the plant called Septobasidium retiformis, Burt in Ann. Mo. Bot. Garden, Vol. 5, page 338, on the grounds that it has no possible connection with the plant called Septobasidium retiformis by Patouillard (Soc. Myc. Fr. Bull., Vol. 16, page 55) and the further grounds that no one knows whether the latter plant is a Septobasidium or not. Septobasidium Burtii is the second most frequent species of the South, although not found by either Curtis, Ravenel or Schweinitz. It is gratifying that it bears Burt's name, for he by a system of shuffling has proposed to attach it to the only common species that has been known for a hundred years, and adds it to 73 per cent. of those he has seen; that is quite a noteworthy achievement, even in these days of professional name juggling. Croker calls it Septobasidium retiformis, which he got from Burt, without doubt, but adds "(Berk. & Curtis) Patouillard" as his "authority." That is the established method in "science" of quoting "authorities." Something copied from someone else, without knowing himself the slightest glimmering of what plant his "authorites" had, if they have any. But such is "science," and its methods of advertising!!

REV. J. RICK, BRAZIL.

Father Rick is a most liberal collector. We have just spent five days, unwrapping and putting in boxes the specimens he has sent since our arrival in Cincinnati. There are hundreds of them and some most wonderful novelties. To work up and name all these specimens as they should be named would take a year solid study. We can not hope to work them all in detail perhaps during our life, but we do expect to present the most marked species. In the fields we have studied for years we expect to publish all in time. This covers the Polyporus, Tremellaceous plants, and pileate species in general (except agarics). We are gratified to find large numbers of tropical Pyrenomycetes such as Hypocrea, Hypoxylon, Nummularia, etc. We spent several months on this section on our last trip to Europe, but we have not made thorough studies excepting as to Xylarias, and the unusually large genera such as Camillea Daldinia, etc. There is a world of smaller species, Hypoxylons, Hypocreas, Hypoxylinas, etc., that no one knows but we have every confidence they will be worked out in time. It is needless to say that we fully appreciate the kindness of Rev. Rick in sending specimens in such quantities. Our delay in publishing on them is due to the fact that we are simply swamped with work. But we hope Rev. Rick will continue his sendings for we shall publish as many of them as we can, and all others will be systematically preserved, so as to be available for the next one who wishes to take up this work. One wishing to study the fungi of Brazil can learn more in six months in our Museum from Rev. Rick's specimens than one can by six months collecting in Brazil.

ADDITIONAL NOTES.

Irpex pachylon.—I am much interested in Irpex pachylon, Fig. No. 2306, and write to learn whether or not you named it yourself. You see, my dear old boy, if you were not so allfired modest, you could have answered my question by printing "Lloyd" after the name. I admit it would have multiplied the LLs noticeably but it at least would have been handy.—Extract from a letter from a friendly correspondent.

Irpex pachylon is a common plant with us in America and not rare in Southern Europe. I have collected it in France. It was named as a "new species" in America about 50 years ago by an English gentleman who did not know the "old species" of Europe and still passes under this name in our traditions. The name "Lloyd" was not written after it through any sense of "modesty." It would have been a pretty "nervy" thing to do considering that the plant was named by Persoon about sixty years before Lloyd was born. If you are a subscriber to the Bruxelles "Laws" (of legalized Name Jugglers) you can write "Fries" and be in good form, although Fries never saw it growing in his life and only saw a specimen sent him from France which had been named by Persoon or from his works. But poor old Persoon had no standing with those Bruxelles conspirators.

Poria.—It may seem strange to our correspondents that we usually decline to name Porias, Clavarias, Resupinate Thelephoraceae, Small Pezizas, Hyphomycetes, Myxomycetes, Small Hypocreaceae, etc. We do not name them because we do not know them, and life is too short for us to ever learn them. There is a world of species under each of those heads and one should spend several years in the museums on each of them before he assumes a knowledge of them. The old custom of learning a few generic characters and then proposing everything one does not know as a new species has been worked to the limit and has served its purpose. It was all right in old times but that time is past. Take the Porias for an example. There are 504 alleged species in my index, probably 20 to 50 more if I had indexed up the names proposed in the last few years. I do not believe there is a man on earth that knows 50 Porias and knows them critically, and no one has ever studied the named foreign species, or would recognize the "types" if they were sent without label. Overholts is doing I believe good work locally on the American species, and I hope he works it out, but all fungi are mostly world wide in distribution, and one to get at the bottom of it, must visit all the museums and spend months, if not years on a preliminary study of those that have been named. That is the main reason that we do not name Porias and such things as we feel we have not a fair knowledge of the "old species." We do not know them and there is no use of claiming it by inference even by the usual "new species" route. We have done a lot of work in Sweden and France on the Poria subject, also the States, but when we have one collection named, we have a dozen not named. And our collecting convinces us that Poria species are few in Europe and numerous in the States. I can take a basket round Cincinnati, in a good season and find more Porias in a week than I have as a result of two years collecting in Sweden.

The above remarks are suggested to me on working over a package from New Zealand. Fifteen specimens I named and 11 belonged to sections (mostly resupinate, etc.) that I did not know. If I named up every collection as "new species" that reaches me as Berkeley did in his post-Osler days I would in a short time get the subject in as bad a muss as Berkeley did.

Senseless Advertisements.—"Nummularia Clypeus (Schw.) Cooke" Reliquiae Farlow No. 66. It is Sphaeria Clypeus as per cotypes at Paris and Kew, but notwithstanding Cooke's insistent an entirely different plant from what Cooke referred to Nummularia Clypeus. Hence, what sense is there in adding "Cooke" to the name of a plant directly contrary to Cooke's view. It would have been much better to have called it, as most call it, Nummularia Bulliardii, and avoid this false presentation. Nummularia Clypeus is a synonym for Nummularia Bulliardii, or Sphaeria anthracina, as called in ancient history, and Schweinitz so admitted. The plant Cooke called Nummularia Clypeus was an entirely different species from what Schweinitz called Sphaeria Clypeus, so if anyone wants to take Nummularia Clypeus in place of the established name, why make a further muddle and add "Cooke" to it?

Need of Rules.—Ravenel sent Berkeley "Sphaeria 1846." Berkeley endorsed "viridi-rufa" on label. He no doubt advised Ravenel, Hypocrea. Ravenel issued exsiccatae as "Hypocrea rufa-viridis Berk. et Rav"! Berkeley (or Cooke I think) published it as Hypocrea viridi-rufa. Then Cooke published it as Hypoxylon viridi-rufum compiled in Sacc., Vol. 9. It is neither (for me) a Hypocrea nor a Hypoxylon but that is another question. What is its specific name? Rufa-viridis as originally "published" by Ravenel, or viridi-rufa as subsequently "published" by Berkeley (or rather Cooke). Our law makers have a "man's job" when they assume to make rules to cover all kinds of mistakes. But what is to be done in a case like this?

Works on Popular Fungi.—The following, a reply to a private correspondent, we have concluded to print, as it may be of interest to others.

It is pleasing to know that you have found amusement in reading the "Myths" and I send you some copies herewith that you may distribute to your friends who may be interested in fungi. The average mycologist

is not a practical man, and when he gets a little start in the study he becomes far more interested in names for fungi than in the plants, and usually drifts after a short experience into pedantry. His writings are to show how smart he is, and the more mystery and obscurity he can throw into them the better he is pleased. There is no practical book on edible fungi for the layman in this country, and there is no practical way to know the edible species without an intricate study of taxonomy where you must learn twenty things of no value for everyone of any service. It is a pity for our woods and fields are full of edible species if the people only had any practical way of recognizing them. In Europe there is a more general popular knowledge and every peasant knows the "beef steak fungus," "the chanteral," the morchels," "the field champignon" and a dozen other common species that afford a meal on any visit to the woods. But a little knowledge is a dangerous thing and it is not safe to apply the popular knowledge of Europe to American species. Some years ago an Italian at Washington who was in the habit of collecting a mess of Amanita caesaria in Italy where it is popularly known and eaten, got Amanita muscaria, the American form which resembles the European species and the result was a vacancy in the Italian legation.

It would be feasible, I am sure, to write a pamphlet on the few species that are common enough to be of economic importance, so that those who do not care to study the unimportant species can recognize the common one that can be eaten. That would, I am sure, be practical, but it is a question if it could be made fool-proof. Captain McIlvaine, whom you cite as mycogaphist, was not a mycologist, and had but little knowledge of the intricate field of species differentiation. But he applied a few simple principles to distinguish by physical properties those that were poisonous from those that were not, and he got by with it. At least he died a natural death which under the circumstances was a fortunate chance.

Prof. Burt and his Priority.—Prof. Burt is such a stickler on "priority," particularly in those cases where he can get up a "new combination" and add "Burt" to it. He should be more considerate as to the priority of others, as the following cases will demonstrate. Priority is a kind of a double-edged sword, it cuts both ways.

Aleurodiscus Bertii.—In 1915 Patouillard published Aleurodiscus cremens from China. In 1918 Burt discovered a "new species" from the United States which he named exactly the same name. Prof. McGinty rechristens the latter Aleurodiscus Bertii under the sacred principles of priority.

Stereum Burtissimum.—In 1919 Stereum Sepia was published from Japan. In 1920 Burt uses the same name for a different plant of the States. Prof. McGinty changes the name of the United States plant to Stereum Burtissimum on the sacred principle of priority.

Stereum Burtiasmum.—In 1919 Stereum durum was published based on a plant in Africa. In 1920 Burt uses the same name for a different plant of Mexico. Prof. McGinty changes the name to the above on the sacred principles of priority.

French Bibliographie.—Dr. Fairman calls my attention to a new work, "Now or Not Ever Fungi," cited on page 72 of Costantin, Les Mucedinees. From its title it must be an interesting book and we suppose its author was Prof. McGinty. We have never had the pleasure of seeing it, and it is not in the Lloyd Library.

Historical Data.—In a Xylaria sheet at Kew there is a letter from Berkeley to Cooke, "March 6, 1863," in reference to names for Tasmanian fungi that Cooke had forwarded to Berkeley. It is interesting as showing the date when Berkeley's sun was setting, and Cooke was just peeping above the horizon. But Cooke, I think, selected a cloudy day, for much of his work would have been better done if it had not been done at all.

Craterellus odoratus from Prof. L. R. Hesler, Tennessee.—It is a dubious question to me whether to refer these to Craterellus Cantharellus or the above. Our notes on the museum specimens are in London. Burt distinguishes odoratus by having a hollow stem and on that distinction this is odoratus. But I do not believe it is the plant beautifully illustrated recently by Coker as Craterellus odoratus. The plant appears to be misnamed. Coker states about same odor as Cantharellus cibarius, and that surely does not have strong enough odor to justify a name based on it. Burt publishes a long article (mostly statistical) on the plant, calls it Craterellus odoratus and says not one word about its "odor." It would probably be beneath the dignity of such a learned individual as Burt to devote any space to such a vulgar subject as smell.

Cordyceps necator.—Since our article on Cordyceps Lloydii, page 856, was written, we have gone over the recent additions in the museum at Paris. Several fine species that we had not seen were added from Boudier's herbarium. Our enlarging lens was out of order, however, and we will not consider them until we can present good photographs. Cordyceps necator is the same species we figured (1447) as Cordyceps Lloydii. As there is a doubt of the latter name, as applied to the African species, Cordyceps necator should be substituted for Cordyceps Lloydii as a name for Fig. 1447. There is no question, however, as to Cordyceps Lloydii (Fig. 2475).

Daedalea quercina from G. W. Martin, New Jersey.—The interesting feature of this collection is that it grew on willow (Salix alba var. vitellina). Usually, as its name implies, it is on oak, and generally the chestnut oak. Around Cincinnati, where we have much oak, but not the chestnut oak, Daedalea quercina does not occur. The context color is more rosy than the usual plant on chestnut oak, and it could be called a "new species."

Fomes conchatus. A large specimen.—When I was in Rome, Prof. G. B. Traverso, of the Stazione di Patologica vegetale, showed me a large Fomes, about two by three feet in diameter, which had been found growing at the base of a dead tree. I took a small piece for examination and find it to be Fomes conchatus. This is not a rare species, both of Europe and the States, but I never saw one before over three or four inches in diameter.

Fomes Psila.—At Kew I find a cotype specimen of Fomes Psila, published from Brazil, in our Fomes pamphlet. I have known for some time, and a comparison at Kew further convinces me, that Fomes Psila is a Fomes form of Trametes ocellata. There is but one specimen of Trametes ocellata at Kew, viz., the type, but there are abundant collections at New York.

Fomes oroflavus from Prof. S. B. Parish, California.—As stated when named this is only a form of the cosmopolitan Fomes applanatus with yellow pore mouths. It is quite common in the tropics but in the United States only known from California. Murrill has recently renamed it from California, Fomes Brownii. (Compare also Note 1029, Vol. 6.)

Fomes torulosus from Arthur S. Rhoads, Florida.—This is quite a rare plant with us, the second collection known. It is fairly common in France, although a lost species until we dug it out of Persoon's herbarium. (Compare Fomes Synopsis, page 243.) The species is close to the more common Fomes conchatus and has same "structure," but the dark purplish pore mouths distinguish it at once. As Fries did not know this Persoonian species, and did not compile it, we suppose it is illegal to take Persoon's name. Those who take this view can call it Fomes rubriporus as discovered by Quélet or Fomes fuscopurpureus as discovered by Boudier, both about sixty to eighty years after Persoon named it.

Fomes tricolor from J. H. Burkill, Singapore.—This is a collection with well-developed pilei. Usually it is resupinate. The species is easily known from its red context and spores, and it is coming in often now from the East. Why the old fellows did not get it I do not know, but it was left to Mr. Murrill to name it from the Philippines. It is probably the only Fomes known with red spores, a most exceptional feature, and had its discoverer known it, without doubt it would have been a "new genus."

Glaziella Berkeleyi.—Referring to our account of this plant on page 1204 we forwarded a small frustule of the type to Prof. Thaxter, as we were unable to make out the spores, and he has kindly replied that it has typical spores of the genus Glaziella, in fact as far as he can note exactly the same spores as Glaziella vesiculosa, which was figured in his paper. It is gratifying to have the plant confirmed to the genus Glaziella, although from our familiarity with the West Indies species we had little doubt that it was co-generic. In a subsequent letter he writes, "I was much interested in the photograph you sent of Glaziella Berkeleyi. I can not be sure that the specimen represented is actually chambered, or not merely convolute at Glaziella aurantiaca sometimes is when young or shriveled. If really chambered it would be interesting to know whether spores are produced in the walls of the chambers. The structure and spores of the fragment you sent me seem identical to those of Glaziella aurantiaca."

Hexagona laevis.—I have an idea that this is only a discolored specimen of Hexagona albida, at least as to the specimen in Cooke's herbarium. As Cooke published it I suppose his specimen is the "type" although it is doubtful if same as specimen in Berkeley's herbarium which was cited.

Hexagona pustulosa.—A recent pale specimen of Hexagona Miquelii from Nigeria I find misreferred to Hexagona bipindiensis. It is pale with a yellow tinge, but otherwise exactly the same as Hexagona Miquelii, not rare in the museums, but always dark reddish brown, also practically the same as the more common Hexagona cucculata but tessellate. To avoid inventing a new name we would call this Hexagona pustulosa, though in the original sense this is exactly the same as Hexagona Miquelii. (Cfr. Hexagona Synopsis, page 36.)

Hydnum Holttumi.—Additional information is contained in a letter from Mr. Holttum, Singapore. "In regard to No. 964 the teeth were fairly regular and quite straight when fresh so far as I remember. The whole plant was fleshy, rather than leathery. It grew abundantly at two or three localities."

Hymenogaster (sic) microsporum.—Berkeley naming from Mexico is Arachnion album (sic). One who does not know an Arachnion from a Hymenogaster would not know an oyster from a soft-shell crab. And such is "science."

Hypoxylon pulcherrimum from Prof. A. Yasuda, Japan.—It is only a small-spored form of Hypoxylon coccineum. To the eye the plant is the same, but

spores, 3 x 6-7, are smaller. It is said to be rather frequent on beech branches in Europe also, but rarely listed, as the usual collector does not get out his microscope every time he finds Hypoxylon coccineum.

Isaria crinita from T. Van Hyning, Florida.—We considered and illustrated this species (Vol. 6, page 919, Fig. 1645) from Java. It appears to be a frequent parasite on the wasp in the tropics, but this the first record we know from the United States.

Mylitta pseudacaciae from Prof. O. Mattirolo, Italy.—Since our little note, page 1233, was written, Prof. Mattirolo finds this on the rootlets of the locust tree in Italy. He considers them nitrifying bacterial tubercles, which is no doubt correct, rather than the suggestion in our previous note that they are galls. Locust trees are thoroughly at home in the States and in the limestone regions of Kentucky they are a nuisance to the farmers. I do not know that "Mylitta pseudacaciae" has ever been recorded in the States, but I expect it is because they have not hunted for them. Every farmer will tell you that there is nothing that will enrich the ground like a "locust grove," and I suspect that is due to "Mylitta pseudacaciae."

Polyporus (Amaurodermus) auriscalpium from Prof. K. Miyabe, Japan.—This belongs to the rare section (Amaurodermus). The species, one of the few foreign named by Persoon, is not rare in Brazil. But there are only two other collections known, Africa (Letter 69, Note 773), and this from Japan.

Polyporus Patouillardii (?) from H. S. Fawcett, California.—Growing on willow. The feature of this is the shiny brown context, the deep-colored spores; but it is very doubtful, for the context is strong zoned, which is not the case with the original from Brazil. We might make a new species of it but it is too close to the above. It appears to us it might be Polyporus dryophilus of Murrill's Western Polyporus which he describes as having "zonate" context but not for me, for Polyporus dryophilus is only a synonym for Polyporus corruscans of Europe, which is a species peculiar in having a "mycclial core" not at all in evidence in this specimen.

Polyporus renidens.—Another specimen of this turns up at Kew on the last visit. (Compare Myc. Notes, pages 1144 and 1145, where the known stations were given.) This Kew specimen, which was an old Glaziou collection from Brazil, had been referred to Polyporus lucidus by Berkeley. It is the third specimen known from Brazil, and the only recent collector to find it is Father Rick. In addition to the three Brazilian specimens, six collections have been made in the Philippines by our correspondent, Mr. Reinking.

Polyporus rhodophaeus from D. M. Rajan, India.—This is practically the same plant as the common one known generally as Polyporus semilaccatus, but has pale pores not "darker than the context." (Cfr. Apus Polyporus, page 337.) As we feel it should have a name, we adopt Léveillé's name, though it opens up a lot of ancient history. Léveillé saw it at Leiden from Java labeled "Rosa mala" and misdescribed it as to practically every word. Murrill got it in great abundance from the Philippines and referred it to Polyporus semilaccatus, and numbers were distributed to every museum by the Philippine Institution. The evidence as to Berkeley (who published a Polyporus zonalis var. semilaccatus where Murrill got the name) is most vague, hence I think Murrill should be written after it, as taken in sense of Murrill, and neither he nor anyone else knows **much** about what Berkeley named as a variety of zonalis (sic). Bresadola worked over the Leiden specimens and indorsed Léveillé's type (which he did not recognize as a type) as being Polyporus semilaccatus, getting his idea from Murrill. Then I worked over Léveillé's remains at Leiden, and noted and published Bresadola's error as to Léveillé's type. Then Bresadola adopted rhodophaeus on the sacred principles of priority, ascribing it to Léveillé, which he had not recognized until pointed out to him.

We feel that Polyporus semilaccatus should still be used for the common plant with dark pores which is so abundant in the museums under this name, and we are willing to compromise the matter by calling this pale-pored form Polyporus rhodophaeus.

Polyporus rosea-brunnea.—This was by a slip published, page 1156, as Polystictus. It is better classed as a Polyporus in section 99.

Polyporus Sandakanii.—(Cfr. page 1145.) In running over the covers at Kew we are strongly reminded of the above plant and its resemblance to Polyporus indicus. (Stipitate Polyporoids, page 162.) To the eye they are much the same. But there is a great spore difference and they do not go in the same section.

Polyporus Zambesianus.—When we proposed this (Stipitate Polyporoids, Fig. 424, page 128) we did not find the spores, and placed it in the section Lignosus. A recent re-examination shows us abundant spores, which are large, 14-16 mic., subglobose, subhyaline, smooth and with only a trace of color . While it is rather anomalous in the section, we think its true position is in section Amaurodermus (5). Large-colored spores are the salient character of most of this section, but this is not the first that we so class now with very faint color to the spores. But one specimen is known of this which is at Kew and was collected over forty years ago in Lambesi. Miss Wakefield, in a paper a few years ago, showed that Fomes inbresinosus is also closely allied to the Amaurodermus group.

Poria Weirii from Prof. C. R. Stillinger, Washington.—A perennial form with several layers of pores. Usually it is annual, but this is surely the same, for the large imbedded setae and very numerous surface setae are characteristic. It seems to grow only on Thuja plicata and is common in our Northwest.

Rhizopogon albus of Schweinitz.—In the cover of Berkeley's herbarium, put on the Choiromyces meandriformis sheet by Cooke, is a specimen labeled Rhizopogon albus from Schweinitz herbarium. It is of interest historically, but I think would be called now Rhizopogon rubescens. It is not exactly the same color, and cells are so large and empty that I did not at first think it was a Rhizopogon at all, until I examined the spores. In the early days when they did not find many hypogeal fungi they were liable to call anything they found in that line "Rhizopogon albus." Tulasne points out seven references referring to different plants, and most of them are not Rhizopogons at all now. But this is a true Rhizopogon and perhaps a good species. Schweinitz records it frequently in the woods of North Carolina.

Trichocoma paradoxa from Japan appears on page 1234 as Tricoderma paradoxa. It is correct on page 1205. It is very annoying how these mistakes will constantly creep in, but it is mostly carelessness and a faulty memory. *But Osler was right.*

Trametes floccosus.—Ganodermus areolatus is indorsed in a museum I recently visited as Trametes floccosus, and the indorsement is correct. It was collected and named by Murrill in Mexico in 1910 as Ganodermus (sic). I received this same peculiar species from Dr. Carlos F. Secord, Guatemala (1922) (Cfr. page 1092), and I thought and recorded that it was the first time it had been collected in the American tropics, but it seems there had been a previous collection, which fact was lost in the usual process of discovering it was a "new species" in a genus where it had no reason to be classed.

Trametes sanguinea from Rev. J. Rick, Brazil.—A beginner would hardly concede that this thick red plant is a trametoid form of Polystictus sanguineus. but there is no doubt in my mind. The specimen is over an inch thick.

Trametes sanguinea from Prof. K. Miyabe, Japan.—Same color and same plant as Polystictus sanguineus but has a soft friable texture rather than the leathery texture of the usual plant, and it is thicker.

Trametes versatilis from Arthur S. Rhoads, Florida.—This is exactly the same as the usual Eastern plant named from the Philippines (Cfr. page 1109, Fig. 2051), with large purplish pores. It is abundant in the East. In American tropics this large-pored form is rare, generally replaced by a small-pored form, but the same species. We have figured the latter in Vol. 5, page 704.

Xylaria rhopaloidea from Botanical Gardens, Singapore.—This we believe is the true species of Montagne (not our previous, excepting as to page 1181). Its peculiarity is that when young it has a white crust which when old darkens and breaks up into little areas. (Cfr. page 1181 for further data.)

THE VIEWS OF DARWIN.

Yes, Charles Darwin thought the same as TSO KAY. "I have lately been trying to get up an agitation (but I shall not succeed, and indeed doubt whether I have time and strength to go on with it) against the practice of naturalists appending for perpetuity the name of the *first* describer to species. I look at this as a direct premium to hasty work, to *naming* instead of *describing*. I have been led of late to reflect much on the subject of naming, and I have come to a fixed opinion that the plan of the first describer's name, being appended for perpetuity to a species, had been the greatest curse to Natural History. I feel sure as long as species-mongers have their vanity tickled by seeing their own names appended to a species, because they miserably described it in three lines, we shall have the *vast* amount of bad work as at present, and which is enough to dishearten any man who is willing to work out any branch with care and time. I find every genus of Cirripedia has a half-a-dozen names, and not one careful description of any one species in any one genus. I do not believe that this would have been the case if each man knew that the memory of his own name depended on his doing his work well, and not upon merely appending a name with a few wretched lines indicating only a few prominent external characters."—*From Darwin's published letters.*

And so TSO KAY thinks furthermore that the blunders of self-advertisers, chiefly interested in names of natural objects and particularly in adding their own names to the name of the object, will never cease as long as the chief composition in the average mortal is vanity. And the little tricks, and fibs, and juggles to which they resort to bring about their "new combinations" would be discreditable to the trade known in Paris as "ramasser des mégots." Darwin and TSO KAY are both right, but they can not stop bull fighting by appealing to the matadors.

WANTED SPECIMENS.

We are getting so many packages to determine and are getting so far behind with the work that we have got to take a short cut at it. In future we will determine and advise those that we know and can name on

sight, and we will study and publish those that are good specimens and will make good photographs. In many packages that we receive there are a number of rather indifferent specimens, badly dried, mouldy, or scanty collections, not enough material to work with to advantage. Also many in sections we do not know enough to determine, such as Resupinates, Clavarias, Hypoxylons, Pezizas, etc. In future, until we catch up with the work, we are going to put these aside, and preserve them systematically so if we ever get time we will have them, but we can not promise when that will be. Please send your material abundantly, and make good selections, and dry them well, and most of them will be worked up, and we hope more promptly than we have been able to do in the past.

METHOD OF SENDING.—I am satisfied from much experience that the simplest way to send specimens is to wrap (or twist) each collection in white tissue paper, after they are *well dried,* and note on the tissue paper the number and collection notes that help, such as "growing on willow," "growing on a log," "color red when fresh," "does not change in drying," etc.

Then pack your tissue-paper packages in a light pasteboard box, wrap the box in strong wrapping paper, attach the tag, and send by parcel post. Please do not fail to write your name and address on the outside of the package. Some correspondents go to the trouble to put them up in tin sealed boxes; that is unnecessary, and is useless expense. Some make the specimens into packages, packed closely together, and protected by pasteboard sheets. That is a good way to send, and generally reach me in good condition, if wrapped in good, strong wrapping paper. Do not take the trouble to write labels for each, for the label is written giving collector and locality for each specimen and pasted on the inside of the box lid. Your label, if you send, is put with the specimen, but the same information is preserved if you will make the collection notes on the tissue paper in which the specimens are wrapped.

It is useless to send a list of numbers or notes in a letter. They rarely get with the specimens.

It is so simple to take a basket, go to the woods, cut off or dig up all the large fungi you see (except the fleshy agarics), dry well, wrap in tissue paper with numbers and collection notes in pencil on the paper. Please do not forget, anything that is big enough to see is of interest. The little Hypoxylons, little black balls on logs, branches, etc. Xylarias, black club shape bodies on logs or earth. Tremellaceous plants specially desired, although they may dry away apparently to nothing. They can be brought back by soaking and are the most satisfactory that we deal with. Pezizas, or anything of that nature, although at present we do not know much about them.

We submit the above simple suggestions as an aid to our correspondents. We get more now than we can find time to study and are months behind with the work. But we still solicit them and we are confident all will be studied and published in time.

SPECIMENS FROM EUROPE.—There is no country from which we are more anxious to get specimens in our museum than from Europe. There are now relatively less specimens than from any other country. We ask those who receive Mycological Notes to simply pick up and dry specimens they note of any of the following families: *Thelephoraceae, Hydnaceae, Clavariaceae, Tremellaceae,* (particularly desired) *Pyrenomycetes* (the large ones such as Xylaria and Hypoxylon), *Hypocrea,* particularly desired, *Discomycetes,* the larger Pezizas, particularly. It is a simple matter to pick them up and dry them and at the end of the season ship them to my English address, 119 Sheen Lane, London, S. W., England.

TASMANIAN HYMENOGASTRACEAE
BY L. RODWAY.

A modest little pamphlet under the above title has just reached me from L. Rodway, Government Botanist of Tasmania. While I do not know the details of the subject it impresses me on its face as being a plain and practical presentation of it and I wish we had some workers in this country along the same lines. I believe that anyone in Tasmania can take this pamphlet and determine the species he will find in Tasmania. It is a big advance in mycology when a writer learns his subject and then presents it in a simple, unaffected way that carries conviction. The trouble with our American workers, up to date, has been threefold. First, Harkness, who was a good collector, but had little idea of classification, and who simply copied his descriptions, with all their mistakes, and it made no difference to him whether his names and descriptions had any application to his plants or not. Then we have Miss Gilkey, who wrote on the Tuberaceous in approved college style. A formidable presentation of the subject in big words and theoretical distinctions that does not help much in determining the species. I have not found the work practical, and am unable to get any results from it as to learning the names of the few specimens that reach me. Perhaps it is my own lack of appreciation of college methods, however, in presenting a subject in the most difficult way possible. Then we have a couple of Burt's students who are both fine fellows, but jumped into print very prematurely and before they had even learned the current traditions. They have made some most astonishing discoveries and some that tax our credulity. However, they are both young and impressed us most favorably personally, and we believe are going to learn and handle the subject right. They should learn the species well, a personal-contact knowledge of them, as I think they are in position to do

with the aid of Mr. Parks, the one successful collector of this difficult group. Then if they will present it in a plain, simple, practical manner, as Mr. Rodway has done, our troubles on this branch of mycology will have passed. Mr. Rodway has set a model and if others will follow it there would be but little chance of criticism. First he learns his subject by extensive field experience, and then he presents it in a simple, plain way, so others can learn it. And there has been but precious little of that kind of work done in mycology, since the days of Elias Fries.

THE VALUE OF ADVERTISEMENTS.

The custom which is well established in science of writing "authorities" after names of plants is on its face an implied claim that the man who uses it has studied and followed his "authority." As thus used, it is in the great majority of cases an absolute fraud. Everyone gets his information or misinformation from such sources as he can, and in not one case out of three does he get it from the "authority" he cites, either from his publications or his specimen. Publication in the usual pidgin Latin is a mere form. A lot of meaningless words. In not one case out of a hundred can one take the pidgin Latin "descriptions" as compiled in Saccardo and decide with any probability, much less certainty, as to his plant. The only way to find out first hand is to look up the original specimens if they are preserved, and that is practical to the ordinary student in only a very few cases. Any determination by any other process is only guesswork of the vaguest kind, and if one does spend years looking up these "sacred" types one is often not sure as to his conclusions. So what is the use of citing an "authority" that ordinarily one case in a dozen nothing is known about.

The word "Junghuhn" is written after Geaster triplex. It was originally figured in an obscure Dutch journal in Java. Oudemans, I believe, is the only mycologist who ever noticed it. He sent a tracing to Berkeley. Morgan established the name in the United States. Morgan got it from Cooke, Cooke got it from Berkeley, Berkeley got it from Oudemans, Oudemans got it from the picture, and every blessed one of them writes "Junghuhn" as their "authority" and not one of them knew anything at all about what "Junghuhn" did except by hearesay. But such is "science" in its practical and established methods. It should be called folklore instead of "science."

Berkeley got a sterile pad from Cuba which he called Thelephora retiformis. He wrote "Berkeley and Curtis" after it. Curtis merely forwarded it and he would have known nothing about it if he had seen it. It had holes in it which Berkeley called reticulations. Ellis never saw it but referred to it on a guess a plant from Langlois which had a raised hymenium like blisters. He thought these were "reticulations" and on this slender evidence he makes his reference. Burt saw both Ellis' and Berkeley's specimens but did not distinguish betwen raised surface and holes. They have the same resemblance that a piece of embossed paper has to a sponge. Burt takes and describes it in sense of Ellis and writes "(Berkeley and Curtis) Patouillard" as his "authority." Neither Berkeley, Curtis nor Patouillard ever in their lives saw the plant that Burt claims they named. But he writes their advertisement after it, for it is only by presenting such a showing that he can have the excuse to write "Burt" after his "new combinations," several of which appeared to me to have about as much merit as the case cited above. Ain't science wonderful! !

THANKS.

Cincinnati, 30th December, 1923.

To Mr. Curtis G. Lloyd,
The Lloyd Library and Museum,
Cincinnati.

At the Seventy-fifth Anniversary Meeting of the Founding of the American Association for the Advancement of Science, held at Cincinnati, December, 1923, the Mycological Section of the Botanical Society of America unanimously passed the following resolutions:

"We hereby desire to express to Mr. Curtis G. Lloyd our high appreciation of the hospitality he has extended to us during our visit to Cincinnati.

We also desire to take the opportunity of acknowledging the great service which Mr. Lloyd has rendered to the Science of Botany and, in particular to Mycology, by the establishment and endowment of the Lloyd Library and the Lloyd Museum; by his generous administration of these institutions, and by his untiring efforts to increase our knowledge of fungi."

APPRECIATION FROM JAPAN.

"Dear Sir:

I received your two letters simultaneously today, and I was greatly delighted with your determinations and precise information upon several species.

Thank you very much for your kindness.

I wish you will also be kind enough to determinate the names of specimens which will be sent to you hereafter." K. M.

It is always a pleasure for us to help to the best of our ability those who appreciate it.

Specimens Received from Correspondents

My best thanks are extended to those who favor me by forwarding to me their collections of the fungi of their regions, and particularly those who live in the tropics. Every day it becomes easier to determine the specimens, for the common species have mostly taken definite form and I recognize the larger part of them at sight. Still each lot received brings considerable work, and though I am behind at present, I hope correspondents will not hesitate to send in their specimens on that account. They will all be worked over in time and those that are rare or of special interest will be published. All the large fungi are desired excepting the Agarics.

In the following list I have put in capitals those plants that on account of rarity or novelty are of especial interest and on which articles have been or will be written and published. But do not get the impression that I only want rarities or unusual things. On the contrary, I am more interested in the "old species," their abundance, distribution and variation, and collections of the most common species, especially from the tropics, are always welcome.

In my printed lists I do not give authorities for names, believing that the binomial should represent a plant name, but in acknowledging the specimens to my correspondents I give the "authority" in the event they desire to use it. All specimens are acknowledged by personal letter as soon as I get time to study and report on them.

As a matter of fact, I should not ask for additional specimens, for I am so far behind now with the work it seems improbable that I will ever catch up. The packages come in more rapidly than I can do them justice, and I fear that my correspondents will think that I am not paying proper attention to them. I started this work as a pastime, but it has grown to be a business, and is pretty exacting on the time of a man who thought he had "retired" from business. I still get a lot of pleasure from it however, and am glad to see the packages come in and will do the best I can with them. But I hope those who favor me will not be impatient at the delay.

Specimens can be sent to either of the following addresses:

C. G. LLOYD, 119 Sheen Lane, London, S. W. 14, England.

C. G. LLOYD, 309 W. Court Street, Cincinnati, Ohio.

The following are the packages that have been worked over since the last report.

Bartholomew, E., Kansas: Clavaria ligula--Polystictus hirsutus—Simblum sphaerocephalum—POLYPORUS SEMISTIPITATUS.

Baxter, Prof. D. V., Michigan: Polyporus gilvus—Polyporus Greyii—Polyporus supinus—Fomes pomaceus—Tramella foliacea—Auricula reflexa.

Beardslee, Prof. H. C., Florida: Hydnum ochraceum—HYDNUM RAWAKENSE—POLYPORUS BEARDSLEEI.

Bessey, Prof. E. A., Michigan: GEOPORA CUBISPORA—Xylaria pedunculata.

P. A. van der Bijl, South Africa: Our apologies are extended to Prof. van der Bijl for delay in working over his packages. Many have been on hand for over a year, but we just could not find time to work on them. Polyporus gilvus—Polyporus arenosobasis—Polyporus immaculatus—Tylostoma Purpusii—Lentinus velutinus—Hexagona niam niamensis—POLYSTICTUS LANCOPORUS—POLYPORUS VICINUS—Tylostoma cyclophorum (?)—POLYPORUS PECTUNCULUS—TRAMETES GRISEOLILACINA—Fomes robustus—Ustulina vulgaris—Myriostoma coliformis—Xylaria hippoglossa—Xylaria rhophaloides (?)—Polystictus meleagris—Cyathus Montagnei.

Bottomley, Miss A. M., South Africa: EXIDIA PURPUREO-CINEREA — HYMENOGASTER RADIATUS—STEREUM ADNATUM—SEPTOBASIDIUM PROTRACTUM—POLYSTICTUS DOIDGEI—POLYSTICTUS SUBICULOIDES—TREMELLA HEMIFOIACEA—Lentinus Sajor Caju—Hydnum Henningsii—Geaster arenarius—Geaster limbatus—Lycoperdon gammatum.

Bugnon, P., France: Calocera viscosa—Auricularia auricula—Panus stipticus—Tremella mesenterica—Peziza aurantia.

Chaudhuri, Dr. H., India: Xylaria Sanchezii.

Cleland, Dr. J. B., Australia: Polyporus ludovicianus—Fomes endotheius—Fomes rimosus—Fomes Calkinsii—Fomes robustus—Calvatia rufoflava—Polyporus anebus—Polyporus atrostrigosus—Polyporus atrohispidus—POLYPORUS STRIGOSOALBUS—Fomes senex—Fomes hemitephrus—Polystictus ochraceus—Polystictus versicolor—Polystictus tabacinus—Polyporus caesius—Polyporus Eucalyptorum—POLYPORUS ALBOFUSCUS—Lycoperdon pusillum—Polyporus rufescens—Hydnum zonatum—Bovistella Australiana—Calvatia candida—Tylostoma australianum—Lycoperdon cruciatum—LYCOPERDON NITIDUM—LENTINUS TERRESTRIS—Polystictus radiatorugosus (?)—Geaster floriformis—GEASTER DRUMMONDII—GEAS-

TER STRIATULUS—Geaster Smithii—Tyolostoma McAlpinianum—Geaster Schmidelii—Geaster minimus—Fomes ochroleucus — Tremella frondosa — Catastoma anomalum — CALOPPOSIS DAMAECORNIS — CALOCERA VARIIFORMIS—DACRYOMITRA MINUTA — CALOCERA GUEPINOIDES—TREMELLA PHILIPPIENSIS—CALOCERA FUSCA—Guepinia spathularia — Calocera cornea — NAEMATELIA FUSCOBASIS—Morchella deliciosa—Catastoma subterraneum — HETEROTEXTUS FLAVUS — LYCOPERDON SEMIIMMERSUM—Lycoperdon pratense—Podaxon Aegypticus—POLYPORUS VICTORIENSIS.

Dey, P. L., India: A fine lot of specimens nicely dried and the best collection we have ever gotten from India. They were mostly collected by S. D. Joshi. POLYPORUS SUBHISPIDUS—PTERULA PENICELLATA — Bovistella aspera — SCLERODERMA UNITIDUM — STEREUM ELEGANS — STROBILOMYCES INDICA—STEREUM COALESCENS—Cyathus stercoreus—Lenzites striata—Polystictus flavus — Polyporus lucidus — Fomes gilvus — Auricularia auricula—Schizophyllum commune—Hexagona tenuis—Auricularia polysticha—Polystictus versicolor—Fomes fomentarius — Lycoperdon gemmatum — Scleroderma Ccpa—Polystictus cinnamomeus—Polystictus sanguineus—Geaster hygrometricus—Lenzites acuta—Lenzites flavida—Marasmius aquicrinis.

Dejoux, Abbe J., France: Daedalea quercina—Polyporus lucidus — Polystictus hirsutus — Lycoperdon gemmatum—Lycoperdon umbrinum—Daedalea gibbosa—Spumaria alba — Lamproderma scintillans — Stemonitis fusca.

Dupret, Rev. H., Canada: Fomes leucophaeus—Xylaria polymorpha—Daedalea (or Trametes) confragosa.

Edwards, S. C., California: FOMES LARICIS.

Fawcett, H. S., California: Gyrophragnium inquinans—Polystictus versicolor—Polyporus amorphus—Phalloid egg.

Felippone, Dr. Florentino, Uruguay: POLYPORUS OCHROGILVUS—Polystictus sanguineus—Auricularia auricula—Trametes hispida—Polyporus gilvus—Fomes applanatus—Fomes leucophaeus—Fomes fasciatus—Polyporus lucidus.

Gilman, Joseph C., Iowa: SIMBLUM SPHAEROCEPHALUM.

Grelet, L. I., France: Pseudodis radiculata.

Griffiths, David, Washington, D. C.: Disceda venosa.

Hibbard, Miss Ann, Mass.: Tremellodendron Hibbardii—Tremellodendron pallida—Tremellodendron merismatoides—Stereum undulatum—LENTINUS BOSTONENSIS.

Holttum, R. E.: The Director of the Botanical Gardens at Singapore is continuing the work of collection which was begun by F. E. Chipp, who formerly held the same position. We are begining to get a clear idea of the Malay fungi, thanks to the kindness of these two gentlemen. Many of the species are of those common to the East, but many are novel, as the fungi of the region have previously been but scantily collected. The following list embraces five large packages sent in by Mr. Holttum: Stereum rimosum—FOMES LAMAENENSIS—Polyporus (Amaurodermus) rugosus—Polyporus Mangiferae—Xylaria dealbata—Polyporus sacre—Fomes Petchii—Polystictus hirsutus—Polyporus dictyopus—Polystictus tabacinus—Polyporus similaccatus—Xylaria cubensis—Hexagona albida — Geaster Javanicus — Trichoscypha Hindsii—Stereum Mellisii—Polyporus conchoides—Polystictus phocinus—Polyporus trigonus—CLADODERRIS ELEGANS—Fomes melanoporus—Trametes versiformis — Cladoderris infundibuliformis — Fomes annularis — Trametes cingulatum—Stereum concolor—Tremella fuciformis—Trichoscypha tricoloma—Stereum annosum—Stereum ostreum—Radulum mirabile—Polystictus affinis — Polystictus occidentalis — Trametes Persoonii — Polystictus modestus—Daldinia concentrica—Fomes subresinosus — Auricularia auricula — Craterellus cornucopoides—Stereum villosum—Stereum tenuissimum—Cladoderris dentritica—Auricularia Moellerii—GEOGLOSSUM HIRSUTUM—Xylaria cynoglossa—Xylaria scruposa—Polystictus licmophorus—Polystictus vinosus—Stercum (Hymenochaetc) villosum—Tremetes lactea—FOMES HORNODERMUS — POLYPORUS LUCIDUS—Laschia Chippii—HYDNUM PLEUROPODIUM—LENTINUS SIMILIS—LENTINUS FUSCUS—PTERULA SCLERODONTIUM—STEREUM MIQUELIANUM—STEREUM TRANSLUCENS—IRPEX JAVENSIS—GRAMNOTHELE JAVENSIS—HYPOXYLON SEPERANS—HYPOXYLON NUCELE — POLYSTICTUS DICHROUS — Polyporus discipes—POLYSTICTUS OCHROTENUIS—POLYSTICTUS ROSEOPORUS — Fomes senex — POLYSTICTUS FLORIDEUS — FOMES EXTENSUS — POLYPORUS INUSITATUS—Polystictus cuneatiformis—POLYPORUS BIBULOSUS—POLYPORUS SPADICEUS—FOMES ORONIGER.

Hrdlicka, Prof. A., Washington, D. C.: Polystictus sanguineus.

Kashyap, Prof. L., Shiv Ram., India: Lentinus praerigidus.

Latham, Roy, New York: Thelephora terrestris—Xylaria apiculata—Pleurotus spathulatus—Pleurotus niger — Exidia recisa — Stereum albobadium — DACRYOMYCES DELIQUESCENS—Daedalea quercina—Geoglossum hirsutum — Polyporus brumalis — Lycoperdon piriforme — Polyporus metallicus — LENTINUS TRIGRINUS — Panus stipticus — Polyporus gilvus — Trametes carnea—Polyporus brumalis—Fomes connatus —Dacryomyces aurantia.

Lowater. W. R., Ohio: Xylaria digitata—Xylaria Cornu-damae—XYLARIA LONGIANA—Xylaria corniformis—Xylaria polymorpha—BOLINIA PETERSII —XYLARIA MAUMEEI—XYLARIA SQUAMOSA (?) — XYLARIA RAMUS — Xylaria subterranea — Nummularia discreta—Xylaria fusca.

Martens, Pierre, Belgium: Merulius tremellosus — Polyporus amorphus — Clavaria ericetorum — Panus stipticus—Clavaria fragilis—Polyporus rufesceus—Helvella pulla—Polyporus zonatus—Xylaria polymorpha—Helvella crispa—SCHIZOPHYLLUM COMMUNE—Polystictus cinnamomeus—Leotia chlorocephala—Xylaria Hypoxylon—Clavaria rugosa—Calocera cornea—Clavaria fastigiata (?)—Scloderma verrucosum—Scloderma Cepa.

Martin, G. W., Iowa: Fomes pomaceus—Polystictus zonatus—Trametes hispida—HYDNUM CORALLOIDES—Lycoperdon gemmatum—LENZITES BETULINA—Merulius Americanus—Lentinus ursinus—Polystictus versicolor—Polyporus dichrous—Polyporus fumosus — TREMELLODENDRON PALLIDUM — Polyporus lucidus—Stereum tabacinum—Secotium acuminatum—Crucibulum vulgare—"Thelephora anthocephala" — Nummularia discreta — Daedalea confragosa — Fomes applanatus—Trametes sepium—Stereum corrugatum—Bulgaria inquinans—Polyporus picipes—Polystictus pargamenus—Peziza repanda—Stereum fasciatum—Helotium citrinum—Phallus duplicatus—Polyporus fumosus—Polyporus fuscus—Secotium acuminatum — Polyporus galactinus — FOMES BAKERI — XYLARIA CUSPIDATA—Stereum complicatum—Bovista pila—Aleurodiscus Oakesii.

Masui, Prof. K., Japan: A nice collection, well selected and dried: Hydnum aurantiacum—Cyclomyces fusca—Polystictus ochraceus—Irpex cerasus—Polyporus Mikadoi—Irpex concors—Polyporus sulphureus—Lenzites saepiaria—Cyclomyces fusca—Lentinus torulosus—POLYPORUS JUNCTUS—Poria obliquiformis—Polyporus leucomelas—CANTHARELLUS FLOCCOSUS—Polystictus sanguineus—Stereum spectabile—Lenzites betulina—Schizophyllum commune—Trametes versatilis—Lenzites subferruginea—Polyporus Musashiensis—Polystictus abietinus—Phlebia reflexa (?)—Irpex castaneus—FOMES ROBUSTUS—HYDNUM AFFINE—POLYPORUS SETOSUS—FOMES LONGINQUUS — Polystictus gilvus — Daedalea repanda — IRPEX LAMELLIFORMIS — Irpex lacteus — Lenzites tricolor—DAEDALEA KUSANOI—Polystictus azureus—Fomes lencophaeus—POLYSTICTUS MINUTOPORUS.

Merrill, E. D., China: Fomes pectinatus.

Mille, Rev. Louis, Ecuador: Bovista aspera—Lycogala Epidendrum—Calvatia lilacina—Fomes inflexabilis—PTERULA MILLEI—Merulius lachrymans—Polystictus Friesii—Polyporus dictyopus—Fuligo septica.

Mitchell, James, New Zealand: Fomes applanatus — Polystictus tabacinus — Polyporus dictyopus — MERULIUS DEBRISCOLA—STEREUM FRUSTULOSUM—Geaster rufescens—Nidula microcarpa—Geaster saccatus—FULIGO SEPTICA.

Nelson, N. L. T., Mississippi: Polystictus sanguineus—Polystictus azureus—Polystictus pergamenus—Stereum fasciatum—Lenzites betulina—Polystictus hirsutus—Polystictus velutinus.

Noble, Mrs. M. A., Florida: Stereum fasciatum—Boletinus appendiculatus — Lycoperdon gemmatum — Scloderma Cepa—Trametes hynoides—Lycogala Epidendron—Auricularia auricula—Laternea columnata.

Northcroft, E. F., Chatham Islands: Fomes pomaceus—Nectria tasmanica—Auricularia polytricha—Xylaria plebeja—Polyporus adustus—Stereum concolor —Stereum vellereum—Stereum Miquelianum.

Nunez Valdez, N. A., Ecuador: STEREUM NUNEZII — Xylaria scruposa — Stereum fasciatum — Polyporus adustus—Lenzites repanda.

van Overeem, Dr. C., Java: XYLARIA BOGORIENSIS—Irpex Javensis (correction).

Parks, H. E., Tahiti: LENTINUS SAJOR CAJU —THELEPHORA SPATHULATA—HYPOXYLON TAHITIENSIS—HYPOXYLON HAEMATOSTROMA—Auricularia mesenterica—Fomes tornatus—Fomes applanatus—Polystictus gallopavonis—Guepinia spathularia — Polystictus meleagris — Daldinia concentrica — Polyporus caesius—Fomes pachyphloeus—Schizophyllum commune—Xylaria cubensis—Hypoxylon vinosum—Polyporus lignosis — Fomes Hawaiensis — Auricularia auricula—Auricularia polytricha—Xylaria caespitulosa.

Petch, Prof. T., Ceylon: STEREUM THWAITESII — CLADODERRIS DENDRITICA — FOMES MELANODERMUS—Polyporus caesius.

Reinking, Otto A., Philippines: Grammothele Javensis—Panus coriaceus—Hydnum insulare—Auricularia polysticha — Hypoxylon haematostroma — Xylaria

allantoidea — Xylaria bipindensis — POLYSTICTUS FLAVUS — HYPOCREA BORNEOENSIS — TREMELLA CARNEOCOLOR.

Reinking, Otto A., Honduras: Mr. Reinking formerly in the Philippines is now located in Honduras and forwards two large and interesting packages. Mr. Reinking is probably the most energetic collector who sends me tropical plants. I have still many of his Philippine collections not worked over. Ozonium auricomum—Guepinia spathularia—Auricularia delicata—Auricularia Brasiliensis — Polystictus occidentalis — Schizophyllum commune—Lenzites striata—Polyporus lignosus—Polyporus Freisii—Auricularia polytricha—Trametes hynoides—Daldinia vernicosa—Daldinia concentrica—Lentinus villosus—Auricularia mesenterica—Geaster subiculosus—Geaster saccatus—Polyporus gilvus —Lentinus stigosus—Trametes fibrillosus—Polyporus dorsalis — POLYPORUS SANGUINEUS — LENTINUS VILLOSUS — Hemiarcyria Serpula — Pterula capillaris—Hypoxylon haematostroma—Stereum membranaceum—Trichoscypha Hindsii—Auricularia Brasiliensis—Auricularia Moelerii—Auricularia auricula—Xyllaria Hypoxylon—Xylaria cubensis—XYLARIA HERCULEA—Camillea Sagraena—Camillea Baccilum—Fomes geotropus—Polyporus Curtisii—Polyporus tricholoma—Trametes cubensis—Polyporus gilvus—Fomes tropicalis—Polyporus supinus—Fomes cinereus—Fomes fastuosus—Polyporus Blanchetianus—Fomes marmoratus—Polyporus lucidus—Trametes ocellata—Polystictus elongatus — Polyporus rigidus — Lentinus velutinus — Lentinus villosus—GEASTER REINKINGII—LENZITES SAEPIFORMIS—FAVOLUS LUTESCENS —STEREUM MIQUELIANUM—XYLARIA GUYANENSIS — XYLARIA BAMBOOENSIS — CAMILLEA POCULIFORMIS—Camillea Bomba—POLYSTICTUS LENIS—POLYSTICTUS SCHIZODON.

Reyes, G. M., Philippines: Polystictus occidentalis—Polystictus hirsutus—Schizophyllum commune—Trametes Persoonii—Polystictus byrsinus—Polystictus ochraeceus—Lentinus dichrous—Daedalea flavida—CYCLOMYCES ISABELLINA—Trametes amplopora—Polystictus affinis—Polystictus rigens—Fomes tornatus —Fomes applanatus—Stereum (Hymen) Cacoa—Polyporus Kermes—Auricularia mesenterica—Polystictus cinnabarinus—Lenzites murinus—Stereum (Hyn) villosum —POLYPORUS ORINOCENSIS.

Reyes, G. M. Collected by Father Sanchez in the Philippines: Polyporus (Ganodermus) Curtisii—Trametes fuscella—Trametes flavida—Trametes Persoonii—Polyporus lignosus—Polyporus rubidus—Polyporus occidentalis—Polyporus gilvus—XYLARIA BREVICEPHALA — POLYPORUS NIGRORUGOSA — Daedalea glabra—Xylaria aemulans—AURICULARIA POLYTRICHA — TRAMETES ACUTA — POLYPORUS SEMILACCATUS—Hexagona pulchella—Trametes Muelleri—Favolus spathulatus—Polyporus rigidus —Trametes versiformis—Polystictus gallopavonis—Trametes versatilis—HYDNUM SANCHEZII—Merulius similis.

Reyes, G. M. Collected by M. Ramos on Busuanga Island: Polystictus sanguineus—Polystictus affinis.

Rhoads, Arthur S., Florida: Daldinia concentrica —Polyporus licnoides—Polyporus gilvus—Xylaria apiculata—Trametes hydnoides—Polyporus supinus—Polystictus Friesii — Auricularia polytricha — Polyporus (Ganodermus) sulcatum.

Rick, Rev. J., Brazil: A very large collection from Rev. Rick—more specimens from Brazil than has heretofore been sent from this country altogether. See our previous acknowledgment on page 1189. We have only been able to do a little work with them and list the most marked species. There are large sendings of Hypocreas, Laschias, and many groups that we will have to further study in Europe before we can work them up. The following is only a very imperfect list of the species sent. HYPOCRELLA CERAMICHROA—SOLENOPLEA MICROSPORA—FAVOLUS EUROPAENS—HYPOXYLINA FUSCOAREOLATA—POLYPORUS CORNUCOPIAE — HYPOXYLINA PELTATA — AURICULARIA ALBICANS — LENZITES RUBICUNDA—XYLARIA TRANSIENS—HYDNOCHAETE BADIA—TORRUBIELLA RUBRA—STEREUM VIRIDANS—STEREUM REPLICATUM—WYNNEA MACROTIS—PORODISCUS RICKII—SOLENIS MOELLERI—PTERULA FASCICULARIS — PTERULA RAMOSA — STEREUM RADIANS—FAVOLUS TRIGONUS—TRAMETES OCCIDENTALIS — POLYPORUS (Amaurodermus) VARIABILIS—FAVOLUS MOLLIS—POLYSTICTUS ROSEOLUS (COTYPE)—LENZITES FURCATA — XYLOBOTRIUM RICKII — XYLARIA LEPROSOIDES — ENDOGONE RENIFORMIS — GRAMNOTHELE MAPPA—CORDYCEPS DIPTERIGENA — CORDYCEPS SUBMILITARIS — CORDYCEPS OLIVACEA — CORDYCEPS GRACILIS—ENTONAEMA LIQUESCENS—POLYPORUS EXTENUATUS—Ceracea Rickii—Polystictus occidentalis—Polyporus platenensis—Polyporus Patouillardii—Heterochaete badia—Lenzites variegata—Lenzites betulina—Drepanoconis fructigena—Stereum crenatum—Stypella minor—Camillea turbinata—Polyporus caesius—Volvaria fibrillosa—Psilocybe farinacea—Pholota platensis—Scleroderma tenerum—Polyporus supinus —STEREUM CONCHOIDES—TREMELLA COMPACTA.

Rosen, Prof. H. C., Arkansas: Septobasidium pedicellatum.

Smith, E. C., Colorado: Polystictus abietinus.

Stillinger, C. R., Washington: Bovista pila—Nidula candida—Rhizopogon provincialis—Auricularia auricula—Rhizopogon rubescens—Polyporus picipes—Lycoperdon gemmatum—Lycoperdon umbrinum—Lycoperdon piriforme—Lycoperdon cruciatum.

Taylor, H. P., Mississippi: Xylaria apiculata.

Towne, Stewart S., California: CALVATIA PACHYDERMA.

Walker, Miss L. B., Nebraska: Ptychogaster frondosus.

Weber, G. F., Florida: Cordyceps capitata.

Wilson, C. L., from Samoa: Polystictus flabelliformis.

Wilson, Rev. James, Australia: POLYPORUS EUCALYPTORUM — Hexagona Gunnii — FOMES OCHROLEUCUS—Polystictus hirsutus—Fomes applanatus—POLYPORUS TUMULOSUS—POLYPORUS RUGICEPS—Polyporus distortus (very?).

Yates, Dr. Harry S., Sumatra: Fomes tornatus—Polyporus lignosus—Polystictus phocinus—Polystictus xanthopus—Hexagona tenuis—Polystictus Persoonii—FOMES ALBOTEXTUS—Polystictus affinis—Stereum rimosum—Fomes pseudosenex—Polyporus sterinus.

Zeller, S. M., Oregon: Tylostoma verrucosum—Geaster giganteus—Calvatia lilacina—Tylostoma poculatum—Tylostoma Berkeleyii.

NOTES.

Correction.—The word pargamenus, on page 1036, should be Peradeniae. It was a confusion of name, not plants, on my part, and the result of a faulty memory. Osler was right.

Prof. A. Jaczewski.—A meeting was held in Petrograd, Russia, on Feb. 27, in honor of the thirty-fifth anniversary of the scientific activity of Prof. Jaczewski. We believe that he merits all the honor that can be given to him, and while it was inconvenient for us to attend the meeting we were there in spirit. Prof. Jaczewski is one of the few men that have most favorably impressed us on personal acquaintance with him. Compare Myc. Notes, Vol. 7, page 1169.

Durogaster.—Referring to our bull as to this plant (on page 1173), Prof. Thaxter wrote us (Dec. 5, 1923) but this record was overlooked in our last issue. "I have forgotten whether I mentioned to you that the bit you gave me was definitely determined as Helosis brasiliensis (Balanophoraceae) by Dr. Blake." Our thanks are extended to Prof. Thaxter for setting us right on this.

Auricularia polytricha from Father Sanchez, Philippines.—There are many names for the tropical forms of the jew's ear, but the one usually employed is the above. If one wishes a special name for this form with purplish hymenium, Berkeley called it Hirneola rufa from Ceylon.

Cladoderris elegans from R. E. Holttum, Singapore.—Notwithstanding the vast difference both in hymenium and attachment and surface hairs it is a question if there is more than one real species of Cladoderris. Mr. Holttum sends two specimens marked same collection; number one we refer to Cladoderris elegans, the other with a different hymenium to Cladoderris infundibuliformе, and both are probably the same species.

Favolus Europaeus from Rev. J. Rick, Brazil.—This, a most common species in the States, is rare in Brazil. This is the first collection I have been sure about, although Favolus alutaceous, named from Brazil, I believe to be the same thing.

Fomes hornodermus from R. E. Holttum, Singapore.—As illustrated how ideas change as to species: when we first considered this we gave the dimensions "1½x2 inches" thick. This specimen is five inches thick and over two feet across. It is about eighteen years old. Usually the plant is very hard and compact, but in this specimen the pore layers separate so easily from each other that several were loosened up when a section was sawed. Species can only be learned by familiarity with them. We dislike to advise Mr. Holttum that his specimen is the same species that we illustrated in figure 570 in our Fomes Synopsis. We fear he will be incredulous, but it is true just the same.

Fomes laricis from S. C. Edwards, California.—We have described the pores of this plant as white, but in this specimen they are about the color of Queen Isabella's chemise after she had worn it six or eight months. It is rather a rare plant and usually comes in from Michigan and the Northwest.

Fomes Bakeri from G. W. Martin, Iowa.—Prof. Martin notes as to spores as follows: "Subglobose distinctly yellowish, each with a prominent greenish guttule ⅞ mic. in diameter." I have always supposed the spores hyaline. For me it is Fomes Bakeri just the same, or rather a local name for the world-wide Fomes robustus.

Fomes Lamaensis from R. E. Holttum, Singapore.—Nine out of ten specimens of this species are thin, usually about one or two cm. thick and this specimen is ungulate about as thick (4 cm.) as it is broad. Shape has nothing to do with a Fomes species, although the same species have usually same shapes. Also as to naming, this common thing in all rubber plantations was without a name until a few years ago when Murrill stumbled over it and discovered it to be a "new species" twice on the same article. We have not counted them but there must be fifty collections in our museum now, and when we began work on the subject it did not even have a name.

Fomes melanodermus from T. Petch, Ceylon.—Although this is not ungulate, but thin, I think it is this species as described in our Fomes pamphlet. Its features are the black surface, rhei context, and abundant colored spores. It has the "imbedded" hyphae, although I do not see them projecting as setae. The plant has a close suggestion of Fomes lamaensis so common in the East but differs in its abundant colored spores. There is also a relation between it and Polyporus nigroporus recently published from Java, Myc. Notes, p. 1238.

Fomes ochroleucus from Rev. James Wilson, Australia.—Usually this is a Polyporus, but these fine specimens are as typical Fomes as one would wish.

Fomes robustus from Prof. K. Masui, Japan.—Much has been written on this in our publication, for it is a common and widespread species hardly known at all twenty years ago, but which comes in to me from many countries. Its features are its rhei context and hyaline spores. This specimen from Prof. Masui is unusual as to shape being thin, 1½ inches thick and seven inches broad. Usually it is hoof shape. Shape of Fomes however is the result of conditions. If a Fomes, the normal shape of which is ungulate as this is, when growing on a standing host, is developed from a fallen trunk, it takes this thin form. Fomes robustus varies as to setae. In Europe it has none as far as I have ever noted, but this from Prof. Masui does have a few setae.

Laschias from J. Gossweiler, Angola, Africa.—We are always glad to get these little species for their mycroscopic study is most interesting. They appear common in the tropics but we do not often receive them for they are so small the usual collector does not find them. Mr. Gossweiler sends three species. Laschia rubella (Cfr. page 1192, Fig. 2340). This appears the most frequent Laschia of tropical Africa. It is characterized in sections by the very numerous color cells both on pileus cuticle and hymenium. Spores 6 x 8, hyaline. I do not find on this collection the cristated cells I have previously noted, but I think the same species just the same. Another collection (315) soaked up much paler but has same color cells and no doubt a pale variety.

Laschia Gossweilerii from John Gossweiler, Angola, Africa.—Small 3-5 mm., orange red, with a slender stipe. Cristated cells none. Color cells abundant both on cuticular layer and hymenium, globose, deep red. Spores 7 x 8-9, hyaline guttulate. In the hymenium are found long cylindrical smooth cells (perhaps could be called ducts) with colored contents. Laschia longicellulis (from Brazil, page 837) is the only other species to my notice with such bodies. To the eye this appears to be stalked Laschia rubella, but the microscopic features are different. The specimen did not soak up well enough to make a good figure.

Geoglossum hirsutum from R. E. Holttum, Singapore.—The genus Geoglossum is very rare in the tropics. Not over a dozen collections have been made. Massee monographed (sic) them but he did not know much more about the tropical species than he did those that grow on the moon. This has the aspect and spines of Geoglossum hirsutum and probably the spores, although they are immature in this collection.

Lentinus sajor caju from H. E. Parks, Tahiti.—An abundant species in the East but this the closest we have to the American tropics. Readily known from smooth surface, yellow color, and remnant of a ring on the stipe.

Lenzites rubicunda from Rev. J. Rick, Brazil.—The common white Lenzites repanda is most abundant in all tropical countries. Rarely it takes a reddish stain or coloration called as above by Klotzsch. It is hardly entitled to a separate name.

Polyporus eucalyptorum from Rev. James Wilson, Australia.—The remarkable resemblance to the eye of this Australian species to our Polyporus betulinus has been noted in our previous accounts.

Polyporus ochrogilvus from Dr. Florentino Filippone, Uruguay.—Context color is usually the best text of a Polyporus species. In whatever country of the world you may be located, if you find a thin brown Polyporus with setae, it is Polyporus gilvus. You will not find it in Europe probably, which is a curious fact in plant distribution, but you are liable to find it in any other country. But this plant from Dr. Filippone, while it has the surface color and setae, and hyaline hymenial elements of Polyporus gilvus, has a more yellowish context color. It is about ochraceous tawny (Ridgway). Hardly worthy of a name at that, but it does not occur in North America where the usual Polyporus gilvus is our most frequent species.

Polyporus setosus from Prof. K. Masui, Japan.—(Cfr. Apus Polyporus, page 350, Figs. 686 and 687.) The features of this are the numerous setae and thin context, also its tendency to be largely resupinate. Weir found it in the Larix in Idaho. This the first from Japan. I have noted lately where the species has been given as synonym for Poria tenuis of Europe, but I do not believe it.

Polyporus semilaccatus from Father Sanchez.—Form with pale context. We have noted this before (Cfr. Letter 63, Note 493) from Japan, but we believe this the first from Philippines.

Polyporus lucidus from R. E. Holttum, Singapore.—We refer this to the European species, although it has yellow pore mouths which are always white in Europe, otherwise it is the same. If we gave separate names to every difference we can point out, the subject would soon lose itself in a maze of names.

Polystictus dichrous from R. E. Holttum, Singapore.—Same as to color and everything as our common Polyporus dichrous, but so thin and flexible it would be called Polystictus. It needs no other description. A very similar plant from Brazil is named Polystictus roseolus.

Jansia rugosa.—In the colored figure recently presented by Dr. Cleland, Australia, we note a feature we never noted before in a phalloid. "The gleba is reddish brown to pinkish, attached along the lines of an irregular meshwork on the stem corresponding to the polygonal areas seen below." We did not know that there was any phalloid that had other than greenish gleba. Also that "meshwork" is of great interest. It suggests Floccomutinus which is scantily and I believe inaccurately known from an alcoholic specimen at Berlin from Africa. I wish Dr. Cleland would carefully wash off the gleba, and make us a photograph of this "meshwork." There is a lot yet to be learned about phalloids.

Phallus multicolor. Dr. Cleland recently presented a fine colored figure of this plant which we in our Synopsis were disposed to consider a form of Phallus indusiatus. This bright orange plant that Dr. Cleland depicts is certainly entitled to a name, even if its difference is a color difference. It must be a very striking plant when collected fresh.

Stereum Nunezii from N. A. Nunez Valdez, Ecuador.—We publish this (page 1225, Fig. 2520) as Stereum Valdezii, but he advises me that "my father's name is Nunez, so the name should be Stereum Nunezii." I do not understand why he should sign his name "N. A. Nunez Valdez" but it is probably some Spanish custom that we English speaking people do not know about.

Schizophyllum commune from Pierre Martens, Belgium.—There is no particular novelty in receiving Schizophyllum commune, for it reaches me from every country of the world probably and with us in America is most abundant. In Europe however it is usually rare, and then mostly in the Alps. Its collection in Belgium is worthy of a record.

Trametes acuta thick form from Father Sanchez, Philippines.—We have many specimens of Trametes acuta from the Philippines, none thicker than a cm. It is hard to so refer this thick unguliform specimen to same species, but with same adustus surface, same context and pores it has to be close.

Correction.—Xylaria scotica, our reference to this on page 893 is an error due to a treacherous memory. It was Xylaria tortuosa we had in mind. Also it has since developed that Xylaria Guepini is an entirely different plant from Cesati's plant so named at Kew. (Compare p. 1209.)

TSO KAY NOTES.

D. Blas Lazare e Ibiza.—We notice the death of Prof. Ibiza in a recent journal. He was the final link in the Karsten-Ibiza chain of name jugglers. We do not feel that the mycological world sustains any loss when a name juggler passes away, and we hope Ibiza will always have the "honor" of being the final link.

Pidgin Latin.—We note that on page 1209 we used Guepini through an article for a man who was named Guepin. That was only a slip, due to habit in writing the name of the plant Xylaria Guepini. Our learned lawmakers have prescribed in detail "laws" for forming the pidgin Latin names used in "science." They must have gotten their information from the spirit world. It seems incredible for a crowd of fellows who did not know enough Latin to order a meal of ham and eggs in Latin to decide and legislate as to what the old Romans would have done about specific names. These old warriors knew nothing about specific names, for the advertising system of natural history did not become prevalent until about fifteen hundred years after the last one of them was dead. How any one can decide now what these old fellows would have done is more than I can understand.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 73 (Vol. 7, No. 8) October, 1924

CHARLES CROSSLAND.

While we were in correspondence with Mr. Crossland for some years before his death, we are ashamed to admit that we had a kind of mental prejudice against him. We do not know exactly the reason for it. Perhaps because he was always closely associated with Massee, and we could never see any good in Massee's work. Since we have been at Kew on our last trip we find that Mr. Crossland's herbarium has been purchased at Kew and is now kept separate, or rather it is going to be made the basis of a separate collection of British fungi. His drawings are also purchased and preserved at Kew, and I doubt very much if there were ever any better or more careful plates made except perhaps Boudier's. Crossland had an unusual artistic talent same as Cooke and Massee had, but with the difference Crossland was careful and conscientious in his work, and his figures were a credit to him. It is a pity that the series can not be published. Mr. Crossland, I understand, was a butcher by profession, a Knight-of-the-Cleaver, and he took up the study of mycology as a recreation. He was thoroughly a self-made man, and an exception in his calling, for few of his trade have made their mark as scientific men. This to my mind was very much to his credit, though I think there was a tendency among the "high brows"—the college graduates—to belittle him on account of his trade. How much he accomplished, and what good work he did, I believe is not thoroughly appreciated even in England.

He lived in the classical region where old Bolton, the first British mycological illustrator, resided and he did much to elucidate Bolton's plants, and to add to them. In collaboration with Massee he published the *Fungus Flora of Yorkshire,* a book of about 400 pages, with a complete record of the fungi he had collected. Few men have done more in a life's work, and in the time he took from his trade.

The portrait that we present is taken from the *"Yorkshire Naturalist,"* 1910, where a complete biography of Mr. Crossland is given by Thomas Sheppard. The portrait speaks for itself. A cultured, refined gentleman and a credit to mycology.

PERSOON.

We are much pleased to present here an original article by Len Verwoerd, prepared at the request of Prof. van der Bijl as to the family history of Persoon in South Africa. It corrects an erroneous conclusion that had been deduced from the only published account on Persoon by Fée (1891). We have always been a sincere admirer of the works of Persoon and considered him not only the "Father of Mycology" but the greatest genius that ever worked on the subject. He knew about ten times more of mycology than any one of those scheming conspirators at Brussels a few years ago who tried to outlaw him.—*Ed.*

THE ANCESTORS OF CHRISTIAAN HENDRIK PERSOON.

By Len Verwoerd.

(Contribution from the Laboratory of Phytopathology and Mycology, University of Stellenbosch, Union of South Africa.)

Although it is generally acknowledged that Persoon was the father of systematic mycology, yet very few facts concerning his early days and parentage are known.

With the exception of a biography published by Fée, in Italian, in 1846, and which was translated into French in the Bulletin de Botanique de Belgique in 1891, nothing else has apparently appeared.

As our knowledge of his boyhood was thus limited to the few scanty details given by Fée, Prof. P. A. van der Bijl assigned to me the pleasurable task of searching the Cape Archives for additional data.

I wish to express my indebtedness to Mr. C. Graham Botha, Chief Archivist of the Union of South Africa, for use of documents in the Cape Archives, as well as for his personal interest and willing assistance rendered me. Documents consulted are indicated by numbers in parenthesis and are cited at the end of the article.

Persoon was born at the Cape of Good Hope on the 31st of December, 1761,[1] and was baptised on the 9th of January, 1763, as Christiaan Hendrik Persoon (1).

His father, Christiaan Daniel Persoon, was a native of Usedom in Prussian Pommerania (2) and (3) who had settled at the Cape and had there on the 21st of August, 1757, married Elizabeth Wilhelmina Groenewald, the daughter of a Dutch burger (citizen).

Persoon was thus a South African of German and Dutch extraction.[2]

He had two sisters (1) who were older than himself. The eldest, Johanna Margaretha, was baptised on the 12th of November, 1758, and in 1777, on the 4th of

1 I deduce this date from his age as given in his death notice (5) which I quote later. Fee (Extract in Lloyd's Mycological Notes No. 16, March, 1904, p. 158) wrongly gives the date of his birth as 1755.

2 It has been stated that Persoon's mother was a Hottentot (Vide Mycological Notes cited above), but in the Cape Archives there are no papers to support this contention. The family Groenewald is a respected Dutch family and Persoon's mother was born from the marriage of Burger Johannes Groenewald to Margareta Hatting (6). Both these families still exist in Africa.

May, was married to Christiaan Andreas Stern (1a). The second girl, Maria Catharina, was baptised on the 19th of October, 1760, and was married on the 4th of February, 1781, to Jacob van Reenen (1a), a family still existing in South Africa.

Christiaan Daniel Persoon appears to have been a progressive and a fairly well to do man, who had acquired much property between 1755 and 1772.

At the time of his death he owned seven plots or stands situated in the Table Valley. On five of these seven houses and a storehouse had been erected, while another house was in course of erection (3).

This property must have assured him a good monthly income judging from the fact that on the 1st of May, 1776, the sum of 129 ryxdaalders 30 stuiwers [3] was paid into his estate as rent due from six houses and the storehouse for the month of April (4).

Further we find that at the time of his death he possessed twenty-four slaves (3) including three women and a boy of six years, as well as seven wagon or cart horses of which one was untrained.

In 1775 (7) a new period set in for the boy. At the age of twelve his father sent him to Europe for his studies, where he attended school at Lingen, on the Ems.

Here he appears to have worked industriously and to have gained the affection of his teachers.

On the 22nd of April, 1776 (4), his father died at the Cape (his mother in all probability predeceased his father) and his estate amounting to the sum of 20.690 ryxdaalders and 37 stuiwers was left to his three minor children (4).

Persoon was to receive the sum of 833 ryxdaalders 16 stuiwers or 2,000 Dutch florins on condition that he was to continue his studies (2) and (4). The remaining sum was to be equally divided amongst the two girls.

The will (2) also bequeathed to Christiaan Hendrik Persoon the following articles:

1 golden locket, 28 golden dress-shirtbuttons, 1 golden single link, 5 golden dress-shirtbuttons with agate stones, 1 sidearm with a silver hilt, 2 canes with silver knobs, 1 pr. silver shoebuckles, 1 pr. silver garters with steel ornaments, 1 silver watch and chain, 1 steel seal, 12 men's shirts, 8 long ties, 6 white linen caps (night), 5 white dress-shirts.

The children still being minors their guardianship fell to the Board of Orphan Masters.

On the 8th of May, 1776, the Secretary of the Board wrote (8) to Strucker, Persoon's teacher, informing him of the death of the boy's father and acquainting him that the "Burger Luitenant," Ernst Philip Sparenberg, had appointed him guardian of Christiaan Hendrik Persoon, then at study in Europe. He further requested Strucker to arrange with the Board as to the continuance of the lad's studies.

On the same day the Secretary wrote a letter (8) to the boy in which he acquainted him with the death of his father and that by his father's testament the Board of Orphan Masters was appointed guardian over him.

He also encouraged Persoon to work honestly and diligently as would have been the wish of his late father and informed him that his father had left him 2,000 Dutch florins for his studies, subject to the proviso that it should be cancelled if he failed to continue his studies.

To this letter Persoon replied (9) as follows:

Hoog Edele Geboorne,
Myn zeergeërde Heeren
en Voogden.

Uyt UE. Geboorne Zeergeërde brief van den 8sten May 1776 hebbe ik met de uyterste ontsteltenis het onverwagte overlyden van myn eenigen dierbaaren en nu Saligen Vader gesien. Zoo zeer dat dit onherstelbaare verlies my treft en neffens myne Zusters, van den besten Steun des leevens beroofdt. Zoo reekene ik het dog in het swaarste ongeluk èen niet gering geluk te zyn dat wy onder UE opsicht gekoomen zyn. Zo als ik my bemogen zal, door vlyt en gedrag, waardoor Goode zy dank! tot hiertoe de liefde en geneegenthyedt myner Leeraren verkregen en behouden heb, my ook UE liefde en voorsorge waardig te maaken zoo recommendeeren ik my in deselve op het beste en hebbe de eere my met de uyterste hoogagtinge te noemen.

Hoog Edele Geboorne
Heeren
UE Ootmoedige Dienaar
en Pupil
C. H. Persoon

Lingen
den 9 April
1777

Aan de Weledelen Heeren,
Den Heeren Praesident en
Leeden in 't College van
Weesmeesteren aan
Cabo
Der Goeden Hoop.

TRANSLATION.

Right Honorable,
My Highly Respected Gentlemen,
and Guardians.

From your Hon. Highly Respected letter of the 8 May 1776, I have learned with the utmost dismay the unexpected death of my only beloved and now deceased father. Much as this irreparable loss affects me and also deprives my sisters of their best support in life, I nevertheless, in the gravest misfortune deem it no slight consolation that we have come under your Hon.

3 One Rysdaalder equals 48 stuiwers; 1 stuiwer approx. equivalent to the English penny.

supervision. I will endeavor by diligence and (good) behavior, by which, God be thanked, I have this far won and retained the love and affection of my teachers, to be also worthy of your Hon. love and care. This I commend myself favorably and have the honor to be with the utmost respect,

Rt. Hon. Gentlemen,
Your Humble Servant and Pupil
C. H. Persoon

Lingen,
the 9th April 1777
To the Rt. Hon. Gentlemen,
the President and Members of the
Board of Orphan Masters at the
Cape of Good Hope

From this letter and one (9) written by Strucker on the 13th of April to the Board of Orphan Masters we find Persoon an honest and keen pupil making satisfactory progress. His master seems full of expectations for he writes 'und ich hoffe er wird mit der Zeit ein gelehrter Mann werden. Er wird im Latein, Rechnen und Schreiben bestens unterwiesen; so wie auch in der Lutherischen Glaubenslehre.'

Details of Persoon's further studies have so far not been found in the Cape Archives.

The undermentioned notice of his death appeared in the Government Gazette on the 10th of March, 1837:

Died, at Paris, on the 16th of November, 1836,[4] age 74 years, 10 months, and 16 days, Christiaan Hendrik Persoon, Esq. Doctor of Philosophy, Professor of Botany and member of various scientific societies. He was a native of this colony, left 62 years ago, but up to the latest period kept up a regular correspondence with his family here. Notice of his death is hereby given to friends and relatives. The public loses in him a useful member of society, and we, a most respectable and affectionate brother in law and brother.

C. A. Storm, Sr.
J. M. Storm, born Persoon.

Wynberg, 9th March, 1837.

REFERENCES.

(1) Geslacht Register der Oude Kaapsche Familien—C. G. de Villiers, Kaapstad, 1894, p. 9, No. 705.
(1a) Geslacht Register der Oude Kaapsche Familien—C. G. de Villiers, Kaapstad, 1894, p. 355, No. 926.

IN THE CAPE ARCHIVES.

(2) Testamenten, 1778, Vol. 25.
(3) Inventaris, 1778-1780, Vol. 17.
(4) Boedelrekeningen, 1778-1779, Vol. 10.
(5) Government Gazette, Friday 10th of March, 1837.
(6) Testamenten, 1762-1763, Vol. 14.
(7) Requesten, 1775 (No. 10).
(8) Uitgaande brieven, 1773-1778, Vol. 7.
(9) Inkomende brieven, 1773-1777, Vol. 13.

4 Fée wrongly gives the date of his death as the 17th of February, 1837 (Vide Mycological Notes cited before).

Rare and Noteworthy Species Received from Correspondents

Kupsura sphaerocephala from A. V. Duthie, South Africa.—(Fig. 2903 and Fig. 2904, gleba enlarged.) We name this simply as a convenience in publishing, and to call attention of the South African collectors to it. We do not know what it is nor what family it belongs to. Surely it has a volva but it is not a young agaric neither is it a phalloid. It seems to be on the order of a Hymenogaster-Agaric if there are such things. The entire plant is a soft fleshy texture, and when cut of a subgelatinous nature. The stem and volva need no description for they show in the figure. There is but one membrane (peridium). When cut the interior of the head is composed of large chambers, with no axis and no lamellate suggestion. It looks just like a Hymenogaster and same rust brown gleba color. The microscope does not help much. We make out no distinct hymenial layer but the spores (unattached) appear to be hyaline, globose, smooth, 4-5 mic. We hope some of our South African friends will watch for more material, both more mature and in the egg state, for its present status is only a mystery. Collected at Kupsura, February, 1924.

Picoa Lefebvrei from Prof. R. Maire, Algeria.—(Fig. 2905, Fig. 2906, section enlarged, Fig. 2907, surface enlarged.) We were most glad indeed to receive from Prof. Maire freshly collected specimens of this plant. Tuberaceous material is hard to get especially in the United States. We would be most pleased to receive freshly collected Hypogaeal fungi from any source. If mailed to us promptly we will get them in good shape. We are anxious to make enlarged sections from fresh material for we believe they can be studied to advantage and are characteristic. But the old material we have seen mostly in Tulasne's and Berkeley's herbariums do not tell the same story. They change in color, and the veins become indistinct in time. Picoa Lefebvrei has a brown tubercular thin peridium. It has been called "hairy" but it is not a good term. There is no sterile base, and gleba is white, the fertile areas rather regular, with narrow circumscribing veins. Tulasne called them "spurious veins" but that distinction that he makes is not clear to me. The subglobose asci are imbedded irregularly in the fertile areas. The spores globose, smooth, hyaline, measure 24-28 mic. The genus Picoa was proposed and

figured by Vittadini, one species growing under the Junipers in Italy and named Picoa juniperina. It reached Tulasne also from Algeria and was most beautifully figured by him in the Exp. Sci. de Algeria. Picoa Lefebvrei was named from Tunis as Phaeangium a genus based on "absence of veins," an error as now generally acknowledged, for the veins indistinct in a fresh specimen become darker and marked as the plant ages. I use the name under which the plant was received, but it appears to me as very close to Picoa juniperina. The same warty peridium, same white flesh, and same veins, and same spores. I have none of the latter species but one can work from Tulasne's beautiful and accurate work as well as from the plants. The only difference that I can note is that Vittadini shows a black peridium and in this species from Algeria it is brown. The plant that Tulasne beautifully illustrates from Algeria under Vittadini's name however has a brown peridium and how Tulasne's plant differs from Picoa Lefebvrei I can not make out.

Hymenogaster radiatus from A. M. Bottomley, South Africa.—(Fig. 2908 and Fig 2909, section enlarged.) Globose, about a cm. in diameter. Peridium pale, cervine, rugulose in drying. Gleba hard, isabelline with no cells visible to the eye, radiating from a central point. Spores 10 x 16 ovate, pale colored, smooth, with usually bifid remains of the sterigmata persisting. This should be held as a genus (Radiogaster McG.) for it departs from Hymenogaster in several particulars. There are no gleba cells visible to the eye, and no sterile base, in fact no "base" at all for on splitting a specimen the gleba appears to radiate from the center. The spores closely resemble those shown by Tulasne for Hymenogaster lycoperdineus and mostly have toothed remains of the sterigmata giving the truncate effect of Ganodermus spores. The specimens were collected by F. Eyles in Rhodesia "underground in leaf mould at foot of tree. Externally dirty white, internally brown."

Calvatia pachyderma from Stewart S. Towne, California.—(Fig. 2910.) Most "puffballs" can be recognized by the eye but Calvatia pachyderma can not be told from Mycenastrum Corium excepting by the microscope. Both the same hard, thick, smooth, pale peridium, and (dirty) powdery gleba. But to the microscope they are very different as to spores and capillitium. The Calvatia has the spores globose, 4-5 mic. pale, smooth or nearly smooth. Capillitium 6-7 tubular, broken in short pieces. Mycenastrum has peculiar spiny capillitium. In European museums Calvatia pachyderma is known from a single collection (Chile) broken in little bits. We have ten collections, M. R. Espinosa, Chile and James R. Weir, Idaho: L. G. Yates, S. B. Parish and S. R. Towne, California; and L. W. Nuttall (2), Mrs. Blance Trask (2) from Catalina Island. It is only known from Chile and our Western coast. Compare also Vol. 5, Note 558. There is a spore discrepancy in our accounts. Usually they appear almost smooth to me but the Idaho collection (surely same) has spores minutely but distinctly rough. Calvatia pachyderma is closely allied to Calvatia caelata. Both have powdery gleba "dirty puffballs" for the capillitium is broken into little fragments and the gleba is powdery, not cohesive as in species with long intertwined capillitia.

Mitremyces oriruber from R. E. Holttum, Singapore.—(Fig. 2911, natural size.) When we received a previous sending of this from Mr. Holttum we were at Kew and we compared it in the covers and concluded that Mitremyces oriruber was same as Mitremyces Junghuhnii and so published, page 1277. It is same in everything excepting size. The exoperidium breaks up into scales as in Mitremyces Ravenelii. The spores are globose, 15 mic., tuberculate. Mitremyces oriruber is only a small form of Mitremyces Junghuhnii but perhaps merits a name on its size alone (our figures show the difference). Mr. Holttum collected it "on the ground almost bare clay by side of a path." The genus Mitremyces is unique in the puffball world and of much interest, and we are always glad when the specimens come in.

Rhizopogon luteolus from Miss A. V. Duthie, South Africa.—(Fig. 2912.) As we have previously recorded in detail we believe this name to be one of the established myths of Europe. It is embarrassing to so name it for our correspondent when it has no suggestion of "yellow" about it. Surely more appropriately and I believe more correctly if the truth were known, it could be called Rhizopogon virens. Externally it is just like Rhizopogon provincialis and we so thought it to be before we cut it open. But it is entirely different inside. There is a cavity in the center of this specimen but that rarely occurs. Spores are 4 x 10 cylindrical, very pale color. They vary much, however; some as small as 3 x 4.

Hymenogaster lilacinus from Miss A. V. Duthie, South Africa.—(Fig. 2913.) Tubers irregular, globose, 2 to 6 cm. in diameter. Peridium thin, white. Gleba bright brown, contrasting with the pale peridium. Spores 12 x 20 ovate, smooth, dark colored, obtusely papillate. Even with Tulasne's beautiful and accurate plates, one can not be sure as to identity of species, but we believe this agrees with his figures both in gleba aspect and spores. We do not note any lilac tint to the gleba but that may be a character of fresh specimens. The prominent features are the white peridium, the dark gleba and the smooth spores. Miss Duthie found these

tubers in the Stellenbosch flats more than half buried in the ground. Old specimens appear to deliquesce and are eaten by slugs, etc.

The Genus Mesophellia in California. It was a most agreeable surprise to get the genus Mesophellia from America. It is an Australian genus, rare there, and never before collected excepting in the original country. Not even in South Africa where many peculiar Australian "puffballs" occur have they ever found Mesophellia. The genus itself is one of the most curious known. We quote from our Australian pamphlet: This is one of the most curious genera I have ever seen It has little relationship to any other described genus. The plants are subterranean, growing in the sand. In the center is a hard core, white, and of the texture of the finest grained hard wood. No other fungi to my knowledge produces a tissue as hard as this. Surrounding this core is the inner peridium at a distance of 3 to 5 mm. from it, and joined to the core by ligaments of the same hard tissue that proceed from the core. Between the core and the inner peridium is the gleba of a light greenish color. This consists of coarse, shreddy capillitium arranged in a parallel manner proceeding from the core to the inner peridium. The spores abundant in the gleba are elliptical-fusiform, light greenish color, almost hyaline under the microscope. Only to phalloid spores can they be compared in shape and color. The outer peridium is thick, rough, with adhering sand, and formed of coarse fibrous tissue.

The American specimens were found by Wilder Taylor in the heart of the Californian redwood region. They were growing "about six inches under the ground in loose leaf mould." They were sent to me by Charlotte M. Wilder who in the past has favored me with many interesting specimens. The American plants differ in many respects from the Australian species and we are pleased to dedicate it to the collector Wilder Taylor.

Mesophellia Taylorii from Wilder Taylor, California.—(Fig. 2914.) Globose, about an inch in diameter, marked with a distinct scar of a rooting base. Exoperidium thin, cartilaginous, minutely velutinate. Inner peridium thin closely adnate to the exoperidium. Central core white, soft, cottony, a marked divergency from the nature of all Australian species which have these cores as hard as the "finest grain wood." Radiating fibrils (connecting the core with the peridium) and which take the place of capillitium, coarse, shreddy. Spores globose, 3½ mic. hyaline, smooth. While this species can only logically be included in Mesophellia it has three features entirely different from the Australian species on any one of which a "new genus" can be based. The exoperidium nature, the soft central core, and the small globose spores are characters not found on any Australian species.

Scleroderma Capensis from Miss A. V. Duthie, South Africa.—(Fig. 2915.) The Sclerodermas are a tough lot as to species. There have been 84 so-called species named and there are not eight that have any real value, so it will do no particular harm to add another. Small, about a cm. in diameter, with a strong rooting base. The collector states "largely buried in clayey soil." Peridium smooth, thin. Gleba fuliginous uniform to the eye. Spores globose, tubercular, 10-12 mic. The small size and different appearance of the gleba to eye seem different from others. Usually remnants of the gleba cells are visible in a section of a Scleroderma but not in this. Its appearance to the eye is different. Also under the microscope hyphae fragments give Scleroderma spores a ragged appearance. Very slightly in this but the spores are mixed with minute plates, remains of the cells no doubt, but so small they are only seen under the lens.

Lycoperdon nitidum from Dr. J. B. Cleland, Australia.—(Fig. 2916.) Globose an inch or more in diameter, dark. Context minute furfuraceous, dark. Peridium thin, papery, shiny where cortex has disappeared. Sterile base none. Gleba dark brown, no shade of purple. Capillitium of slender intertwined threads, colored, 4-5 mic. in diameter. Spores globose, deep colored, 4 mic., smooth, not apiculate. This is an intermediate plant with peridium and habits of a Bovista and spores and capillitia of a Lycoperdon. When we first saw it we took it for a Bovista. There is in Australia a similar dark species, Lycoperdon nigrum. (Cfr. Lycoperdaceae Australasia, page 30) which, however, is a true Lycoperdon with the peridium and strong rooting system of that genus. It has same dark color, capillitium and spores as this species but not the peridium nature, and is a smaller plant.

Geaster Drummondii from Dr. J. B. Cleland, Australia.—(Fig. 2917, mouth enlarged.) Exoperidium subhygrometric, incurved in drying. Mouth on a definite depressed area strongly and beautifully striate. In our original pamphlet we took the ground that the distinction of this from the next was the dark mouth of Geaster Drummondii. Under this definition the species only exists as a type at Kew. We have received no specimens showing this distinction, but several as these from Australia when the depressed mouths are the feature and we would adopt the name now and so define it. As a matter of fact however, the species are really the same as the next, but as far as we know this form only occurs in Australia.

Geaster striatulus from the United States.—(Fig. 2918, the mouth enlarged.) Exoperidium subhygrometric, incurved in drying. Mouth conical pro-

truding, strongly striate, seated on a definite area. Practically the same as the preceding species excepting as to the more protruding mouth. We have specimens from the States, Europe and Australia. It passed in our old traditions as Geaster umbilicatus (which no one knows) and was distributed by Ellis as Geaster mammosus (in error).

Geaster Smithii.—(Cfr., Vol. 2, Fig. 129.) This is the same general nature and mouth as Geaster Drummondii but has a much larger peridium which is darker and subpedicellate.

Durosaccum pisoforme from Rev. Rick, Brazil.—(Fig. 2919, section enlarged.) We have had this collection on hand from Rev. Rick for several years. Globose 5-8 mm. in diameter, growing "ad lingum." Peridium smooth, hard, pale. Gleba hard, formed of distinct permanent peridioles, not powdery. Basidia (few remaining) club shape, hyaline with 4 sterigmata. Spores hyaline globose, 6 mic., smooth, not powdery. This genus suggests Polysaccum but in the nature of the gleba more a Tuberaceae. Also the basidia and spores have no relation to Polysaccum. The permanent "peridioles" so-called by courtesy are really more suggestive of the fertile areas of certain Tuberaceae. We hardly know in what family to place this genus.

Scleroderma nitidum from P. L. Dey, India.—(Fig. 2920.) We gave (Vol. 5, page 759) a resume of the stipitate Sclodermas. All are rare and all are in my opinion simply stalked forms of what are ordinarily subsessile species. This has exactly same features (otherwise) as Scleroderma verrucosum or rather Scleroderma tenerum which is the small representative of it. Scleroderma nitidum seems to be a most rare plant and came originally from India.

Scleroderma violaceum from Rev. Hyacinthe Vanderyst, Conge Belge.—(Fig. 2921.) Another name we must add to the now unwieldy list is the above. At first we took it for the globose form of Calvatia lilacina but when it proves to be a Scleroderma, then we have no name for it. Globose 1½ inches in diameter, no sterile base. Peridium with minute warts. Gleba lilaceous brown, uniform to eye. Capillitium none. Spores globose, 6-7 mic., minutely warted, mixed with hyphae fragments. I think there is no question from the microscopic features that this is a Scleroderma but still to the eye the gleba is deceptive. Prof. McGinty advises us that there has been an old astreal name floating about for over a hundred years of a Sclerodermia violacinum which nobody has even a tradition of what it ever was, but he would change this name on this account.

Endogone reniformis from Rev. J. Rick, Brazil.—(Fig. 2922, enlarged.) Little was known as to this curious genus until it was recently monographed by Prof. Thaxter. It is still for me one of the least known genera, for it reaches me but rarely. I do not understand its habits. It was always supposed to be hypogeal but this one surely is not. While we have no notes as to its habits, it evidently grew attached to some host, and has a rudimentary stem. Its peculiar "reniform" shape is due to this. Our figure of the base enlarged will show it. The color is pure white, both peridium and gleba. The microscopic details are given in Thaxter's paper, but we wish Father Rick would favor us with some notes as to its habits.

Lycoperdon semi-immersum from Dr. J. B. Cleland, Australia.—(Fig. 2923.) Globose or piriform. Peridium pale, upper half, glabrous (the cortext gone), lower half darker, rough with adhering soil and when growing evidently half buried in the soil. With a short thick tap root. Sterile base none. Capilitium long, wiry, colored. Spores 6-7 mic., smooth, pale. We judge from the specimens that it grows half buried in the soil. It is quite close to Lycoperdon capaeforme (Cfr., Vol. 5, page 730) but differs in habits and larger spores.

Polysaccum pygmaeum from J. E. A. Lewis, Japan.—(Fig. 2924.) It was Hollós I believe who claimed there is but one real species of Polysaccum and he was right. They all have the same essentials, but it is embarrassing to call by the same name little fellows not larger than marbles and subsessile and the large specimens that occur as big as pineapples with stems as thick as your wrist. As there have been 25 names applied to forms of the one species, there will not be much harm in adding another for this Japanese collection that does not agree in statue with any heretofore named. But all should be called Polysaccum pisocarpium.

Poroniopsis Bruchi from figure published by Spegazzini.—(Fig. 2925.) We reproduce this for it was figured with a characteristic photograph and such work should be encouraged. The genus belongs to the Hypocreaceae with bright red pilei and white swollen stems. The perithecia are born imbedded in the disc. Spores filiform, hyaline, soon broken into secondary spores 1½ x 10-15 mic. With these exceptional features and the figure the plant can surely be recognized. It seems to grow on grass fragments, refuse of manure, if I read the text correctly.

Wynnea macrotis from Rev. J. Rick, Brazil.—(Fig. 2926.) The figure we present is same as we used (Vol. 6, Fig. 1701) as Wynnea Americana, same plant in our opinion. We have the plant now from Burt

Leeper, Ohio, Dr. Chas. Bernard, Java, and Rev. Rick, Brazil, and believe they are all the same. As to its name we are in doubt for we have never investigated the "sacred" types, but we infer it was named Wynnea macrotis by Berkeley from India, judging from Cook's uncertain figure. The plant appears in Saccardo as Midotis, the merits of which I do not know but suspect it was merely a juggle by Saccardo on a guess. The original from Europe was exploited, Midotis Linqua, about a hundred years, and has not been seen since, I think. Probably it was an Otidea, Boudier admits he does not know it, which did not prevent him changing the name to "Wynnella linqua Boudier." A man need know nothing whatever about a fungus to change its name. Name changing is an automatic process in "science," worked on the nickel in the slot principle. Wynnea macrotis, or whatever its name may be, will turn out to be a most characteristic and noteworthy plant, wide spread in the tropics. Somewhere I have seen a statement that it is developed from a sclerotium. Rev. Rick states it is cartilaginous and shrinks a half in drying. To my mind the genus is close to Urnula and about same texture and color (dried) as our common Urnula Craterium. Wynnea is for me a good genus and I doubt if they have anything like it in Europe, and take no stock in the Midotis juggle, and believe there was no occasion for it whatever.

Hypocrella ceramichroa from Rev. J. Rick, Brazil.—(Figs. 2927 and 2928, section enlarged.) This is easily described, an orange ball about 1 cm., with solid, pale (or orange tinted) flesh, with perithecia having hyaline slender spores, soon broken up into secondary spores. A full account and history of it was given by Petch who reports it quite common in Ceylon and the East. It was sent to Berkeley from Ceylon by Thwaites and the types are all that are at Kew. Berkeley called it Hypoxylon (sic) and Cooke elaborated by referring it to Glaziella. It has no suggestion whatever of Hypoxylon and no more of a Glaziella than it has to a hog bladder. This is the first record I believe in American tropics under this name. It seems that Moeller should have had it, as he specialized on this group. But if he got it, it must have been his Hypocrella cavernosa—his only plant that agrees excepting that these do not have the small "caverns" shown in Moeller's section. It is probably the same plant however. As to genus it is Hypocrella in a broad sense but in grosser aspect closer to those curious things shown in Moeller's Tab. 3. The genus Hypocrella in the main is a very natural genus but plants of this type could be taken out to advantage it appears to me. It is the genus Moelleria as to spores but that appears to be an error. The "spindelform one-celled" spores of Moelleria are in reality the broken up secondary spores of a long hyaline multiseptate spore of the usual Hypocrella type only rather broad to be called filiform. They are about 4 x 10-12 mic.

Hypocrella Japonica from Prof. J. Umemura, Japan.—(Fig. 2929 and Fig. 2930, section enlarged.) An orange ball growing on bamboo recalled to us at once Hypocrella ceramichroa as published preceding. We thought the same thing and it may be, but we recalled that Hypocrella ceramichroa had a pale stroma, with faintest tinge of orange and this has a dark almost carbonous stroma. Also we find on comparison that the orange, fleshy peripheral layer in which the perithecia are imbedded are double as thick as in this. Prof. Petch finds Hyprocella ceramichroa common in Ceylon on Smilax and states also in Java, and the East in general, but Saccardo and Penzig do not record it in their Java book. But they however were only looking for "new species." Moeller records and figures several related species from Brazil, but his drawings are evidently inaccurate as showing no distinction between the orange fleshy layer and the central core. In absence of specimens his species are hard to place. While we have a feeling that this is Hypocrella ceramichroa we can not so refer it until the discrepancies are explained. We present a figure of the plant as it grows on a bamboo leaf, also a section enlarged.

Hypocrea rufa from G. G. Hedgcock.—(Fig. 2931 and Fig. 2932, enlarged.) Fleshy with reddish brown surface (when dry) cushion shape, 6-8 mm. Context pure white. Surface even with very minute darker dots (ostioles). Spores globose, hyaline, 4 mic., 16 mo. These specimens were collected in a rotten pine log in Mississippi by C. J. Humphrey. Hypocrea rufa is rather a common species both in Europe and the States. The reddish brown outer layer contrasts with the white stroma, and the white spots on our figures are specimens with the fertile layer broken off. The dried plant is quite brittle. It is often confused however with Hypocrea patella, which around Cincinnati is far more common.

Hypocrea rufa (discoidea).—(Fig. 2933, enlarged.) Rehm distributed this (1446), collected by Dr. Fairman, New York. It is small, about 2 mm. discoid with a raised margin. It is held as a variety of Hypocrea rufa but in reality is closer to Hypocrea patella. We believe Berkeley named this form several times but our notes are in London.

Hypocrea patella.—(Fig. 2934 and Fig. 2935, enlarged.) Cushion shape (rather than patellate) small, about 2 mm. Surface uneven with the protruding ostioles. Spores cubical, subglobose, 4 mic., hyaline, 16 mo. They are eight in the ascus when young but

separate into 16 when mature. Color when fresh (pale) about antimony yellow but it turns reddish brown when dry and dried specimens appear to me exactly same color as those of Hypocrea rufa. Generally taken for Hypocrea rufa, this is our commonest species, at least around Cincinnati. I have it also from South Africa.

Cordyceps olivacea from Rev. J. Rick, Brazil.—(Fig. 2936.) We gave an account of this species which was named by Rev. Rick on page 1118. It has same size, shape and photographic appearance, as Cordyceps militaris but has no orange and when fresh is olive color. The perithecia have protruding ostioles which are darker than the clubs. This is probably same as named Cordyceps olivacea-virescens by Hennings but not figured and it is only a guess.

Torrubiella rubra from Rev. J. Rick, Brazil.—(Fig. 2937 showing the host [Coccus] bearing the little Torrubiella and Fig. 2938 the same enlarged.) The genus Torrubiella proposed originally as a section of Cordyceps differs from usual Cordyceps in having separate and distinct perithecia sessile on the host. There is a species in Europe, Torrubiella aranicida on a spider and it is rare. We give a figure (2939) of it (enlarged) from Boudier. Also 2940 the perithecia enlarged. Moeller includes in Cordyceps the genus Torrubiella and figures four species which are quite close to the European species evidently. He does not appear to have found this on Coccus. The little fungus consists simply of sessile *red* perithecia filled with hyaline filiform spores. I do not note any spore septation, but no doubt they in time do break up into secondary spores. It is named and figured by Patouillard from South America (1893) but the host was an entirely different insect, which gives his figure on the face a quite different appearance. I have no doubt however it is the same fungus as determined by Rev. Rick. We have sent the host to entomologists without being able to secure a name for the species of Coccus.

Torrubiella rubra from Rev. J. Rick, Brazil.—(Fig. 2941, enlarged.) Since the article above on this plant was written we have received another fine collection from Rev Rick. Some of the Coccus were completely covered with the parasite as shown in our figure 2941, enlarged.

Cordyceps gracilis from Rev. J. Rick, Brazil.—(Fig. 2942.) We gave a full account of this in Vol. 6, page 916. It is common and generally misknown in England as Cordyceps entomorrhiza, a mistake of determination originally by Berkeley and still current in English traditions. It is very rare in the States and this the only specimen we have from Brazil. Moeller records and figures it however under the mistaken English name.

Cordyceps submilitaris from Rev. J. Rick, Brazil.—(Fig. 2943.) This appears frequent in Brazil and Rev. Rick has sent us four fine collections. We have now a good idea of it. It has two exceptional features. The stems are much branched at the base, and proceed from near the head of the larva. The entire plant is orange, the stem and even the host is colored more or less orange. It grows on a larva which we figure from a nice specimen from Father Rick. We believe this is the same as Cordyceps Klenei and that we copied an inaccurate figure of it, page 913, figure 1624. The clubs do not have the prominent sterile apices as there shown. They do not proceed along the segments of the host but from the segments near the head, that however may depend on the position of the host. We also have little doubt that this is Cordyceps submilitaris Moeller figures 95 and 96, Cordyceps hormospora figure 100, and probably Cordyceps rubra figure 103. If one considers the figures it will be noted that all have the same ear marks.

Cordyceps furcata.—(Fig. 2944.) We present a figure, enlarged about two fold, of the original figure of this species published by Miss Ethel McLennan from Australia. It is an addition to our pamphlet, The Cordyceps of Australasia. We hope Miss McLennan will send us a good specimen, for however good a drawing may be, it does not give the satisfaction that a good photograph does.

Cordyceps dipterigena from Rev. J. Rick, Brazil.—(Fig. 2945, enlarged.) Cfr., Vol. 6, page 1060. The figure we previously gave (type) was unsatisfactory for the host had mostly disappeared. It is a small species with globose, capitate, smooth, yellow heads and grows on flies. Berkeley named it from Ceylon but Moeller found it in Brazil and renamed it muscicola. I have never seen it from the United States excepting in Prof. Thaxter's herbarium where there are fine collections. It has not gotten into our records however although Prof. Thaxter told me he had collected it several times.

Hypocrea Borneoensis from O. A. Reinking, Philippines.—(Fig. 2946.) We found this named at Kew on our last trip to England, and gave a figure (Vol. 7, 2736). But those had been pulled from the host and the figure is not as characteristic as this specimen. The stroma is firm and pure white. The color is about warm buff. The specimen is immature and no perithecia formed, but we do not question it.

Isaria Patrobus from Prof. J. Umemura, Japan.—(Fig. 2947.) This was sent as Cordyceps stylophora (?) on Patrobus flavipes. It can not be the American species, neither is it a Cordyceps nor an Isaria either

for that matter. It is only sterile strands same nature as Isaria Briquetii (Fig. 2357). No one I think knows what these sterile strands are that come on insects. Seventy years ago Robin wrote a book on Vegetable Parasites. He figured (Plate 8, Fig. 6) these sterile strands on a beetle that seems to be same as this. He also figured (Fig. 5) the same beetle with an evident Cordyceps and he called them both (surely in error) Cordyceps entomorrhiza. There is no evidence of any connection between the growths on the two figures, although the beetles are the same. And it is furthermore a curious fact, I believe, that the Cordyceps he shows on a beetle has never been found on a beetle since. But it seems to be Cordyceps sphecocephala, a common species but always on wasps. But I believe no connection whatever has ever been shown between these sterile threads and any Cordyceps. In same recent works these threads are called Hirsutiella.

The Section 11 of Xylaria.—This section in our arrangement includes the small species with globose or subglobose heads, slender stipes and grows on leaves or herbaceous stems. We should divide it into two subsections:

SUBSECTION 1.—Head terminal (no apiculus). Xylaria annuipes Camillea, Fig. 854, page 14. Xylaria brevicephala, Fig. 2889, page 1284. Xylaria heloidea, Fig. 1937, page 1047. Xylaria hypsipoda, Fig. 2363, page 1179. Xylaria oocephala, Fig. 2670, page 1247.

SUBSECTION 2.—Stipe prolonged beyond the head into a slender tip. Xylaria axifera, Fig. 733, page 534.

Xylaria aristata from Miss Anna Brockes, Brazil.—(Figs. 2948 and 2949, enlarged.) Stipe slender filiform black. Heads oval, small glabrous, black, tipped with slender awns. Perithecia protruding, prominent. This appears to be a rather frequent species Brazil (Brockes, Rick, Torrend) and is same called Xylaria acicula by Cesati from Borneo. It grows on dead leaves and has hair like black stems most of which are sterile in the collections that I have.

Xylaria Bogoriensis from Dr. C. van Overeem, Java.—(Figs. 2950 and 2951, enlarged.) Heads small, globose or slightly oval, with a short apiculus, greyish pubescent under the lens. Ostioles slightly protruding. Stipe slender, black. Spores 6-8 x 10-12. Growing on dead leaves. A species quite close to Xylaria aristata but differs in its greyish head and much shorter apiculus. Our enlarged figures seem closer than the species really are.

Xylaria Sicula from Dr. R. Maire, Algeria.—(Figs. 2952 and 2953, enlarged.) We are much pleased to get some fertile specimens from Dr. Maire, for all that we have heretofore seen were only sterile stems. It is a very rare little species, named from Sicilia forty years ago and I believe never recorded since until Dr. Maire found it in Algeria. I found no specimens in any Italian (or other) museum excepting sterile examples in Dr. Maire's recent distribution. It grows on dead olive leaves and both its collectors report that it is usually sterile. Stem filiform, black, glabrous, growing on dead olive leaves. Heads globose, minute, about a mm. in diameter, even, the perithecia hardly protruding. The heads are tipped with a prolongation, short in most specimens, long in one sent by Dr. Maire, as shown in our enlarged figures. Spores 4 x 6 teste its authors. This species is very close to Xylaria aristata of Brazil, only differing in globose heads, and less prominent perithecia. From the Javanese species Xylaria bogoriensis in its smooth black surface and small spores. Our enlarged photographs of these three species will demonstrate how close they really are. This has recently been published as Thamnomyces which is unfortunate as it really has no structural relation to that genus. Compare Myc. Notes, page 1233.

The following should be "zu stricken" in my opinion: acicula Cesati=aristata; Amazonica Brazil unknown to me; marasmoides Berkeley=annuipes; papillata Sydow, unknown to me; stilboidea Kalch. probably not a Xylaria: Trabati unknown to me; vermicula=annuipes; setocephala Philippines=aristata; ciliaris from specimens at New York (cotype)=annuipes. I can not say the same for the figure and it was never "described," hence does not appear in Saccardo's compilation.

Xylaria Maumeei from G. G. Hedgcock.—(Fig. 2954.) In the recent issue Vol. 7, page 1279, Fig. 2856, we published this from W. R. Lowater, Northern Ohio. These (two collections) came from P. Spaulding, Vermont. The characters were given in our previous account. There were four specimens in this collection. All are as shown in our figure (2954) flattened, forked clubs with pannose bases. The leading characters are the above. The hollow white stroma, the black moriform surface, and (as to these collections) the flattened forked shape. Spores are 6 x 12. It is evidently a rare species and is allied to Xylaria corniformis.

Melanospora Zobelii. A Fungus Cuckoo.—(Fig. 2955, the host enlarged.) In cutting open tubers one notices not rarely black spots as shown in our figure which the microscope resolves into black spores. These are parasites that grow in the tubers and how they get there is a mystery. They are arranged in irregular areas and appear to me as though they are developed in the asci of the tubers, but I have never seen any asci. In short they appear to be a regular fungus cuckoo raising their spores in the nests (asci) of their hosts.

Tulasne only records this parasite in one species, but I have noted it in several and the one we illustrate is Picoa Lefebvrei. Harkness discovered it was a new species in the section Hypocrea (sic) and Massee left a mss. name Leucangium Readeri based on some unnamed tuber for which he took these Sphaeria spores as those of the tuber. Massee and Harkness had much in common. One was about as bad as the other.

Porodiscus Rickii from Rev. J. Rick, Brazil.—(Fig. 2956.) We have received a second collection of this most curious genus which we figured in Vol. 5, Figs. 1366-1370. We can not understand it. The "pores" I think have no connection with the perithecia but I believe they are normal. The carbonous bases are not so prominent as in the previous sending.

Xylaria herculea slender form from Otto A. Reinking, Honduras.—(Fig. 2957.) Mr. Reinking sent one collection exactly same as we illustrate, Xylaria Notes, page 21. Another collection however is much more slender, about 12 cm. long and one thick. But with same spores (8 x 20) color, surface and other features we would refer it as a slender form although on shape it could be held different.

Xylaria transiens from Rev. J. Rick, Brazil.—(Fig. 2958.) In the last shipment from Rev. Rick we have several collections of a Xylaria we had not previously seen. They are all young but notable in having two colors in contrast, a black velutinate base (stipe) and a light brown smooth clubs. I think this must be Xylaria transiens as named and figured by Theissen. We do not find spores in these specimens but Theissen records them 10 x 24.

Xylaria myceloides from G. G. Hedgcock, Maryland.—(Fig. 2959.) A Xylaria growing from a thick loose black mycelial pad has never been named. We had it several years ago from Rev. Boutlon, West Virginia, and now from Mr. Hedgcock, Takoma Park, Maryland, growing on Quercus. Both collections are immature and have no indication of perithecia or spores, not even conidial spores. We do not question a Xylaria however but very immature. The surface is brown, the stroma white, and the shape and mycelial pad as shown in our figure. We wish someone would find a mature Xylaria growing in a mycelial pad.

Xylaria Petchii from Prof. T. Petch, Ceylon.—(Figs. 2960 and 2961, enlarged.) Heads black, terminal, subglobose, but somewhat elongated and constricted below. Prof. Petch writes that the heads have a long apical prolongation but they are lacking on specimens sent me. Stem slender black, "the outer layer of rectangular cells when fresh appears tessellate." Perithecia walls peculiar "the outer layer with meridial lines and weaker cross lines reminding one of Dictydium." Ostioles protruding surrounded with annular depressions. Spores "same as Xylaria pyramidata" small 3 x 6. We received this from Prof. Petch some years ago with micro notes which we reproduce in quotations above. It was sent as doubtfully being Xylaria pyramidata but our recent study of this at Kew indicates that this reference is not possible. Compare page 1253, Fig. 2712.

Xylaria cuspidata from G. W. Martin, Iowa.—(Fig. 2962.) This one was sent as Xylaria Hypoxylon to which it may be best referred perhaps. But it differs first in having a long slender sterile apex. And what is more important to my mind the perithecia have (see Fig. 2963, enlarged) distinct protruding papillate ostioles which do not occur in our common plant. It is also simple and more slender than our common species. While it is difficult to apply distinct names to every collection that comes in, this is really closer to the tropical plant called Xylaria apiculata than to our Northern plant. Cfr., Vol. 7, page 1119, Fig. 2129. We present also Fig. 2964, enlarged of Xylaria Hypoxylon our common plant in contrast.

Xylaria leprosoides from Rev. J. Rick, Brazil.—(Fig. 2965.) When we saw a specimen of this in Saccardo's herbarium we referred it as synonym for Xylaria corniformis. From this ample and fine collection we should say not. It is quite close as to club but differs as follows: It has not pannose base but a thick rooting base probably attached to buried wood. It has a solid white stroma when young with a tendency to become hollow and split when old. The surface is slightly moriform. To the eye there is much in common with Xylaria squamosa as shown by comparison with Fig. 2858. Spores are 6 x 12.

Xylaria Sanchezii from Dr. H. Chaudhuri, India.—(Fig. 2966 and Fig. 2967, enlarged.) The two specimens that we illustrate would not suggest the same species if sent separately. One a fasciculate cluster of little clubs with apiculate ends is very similar to Xylaria apiculata. The other has an obtuse club and as to shape and size suggests Xylaria nigripes. Both however have the same spores, and the same asperities due to protruding ostioles, and both were one collection and grew in the ground. The incident only illustrates the troubles of fungus determinations. From our photographs and above characters we believe the species can be readily known. Two "asperate" Xylarias have been previously named. Xylaria aspera which is Xylaria anisopleura a well known species and Xylaria asperula (as variety) from Brazil which grew on rotten bamboo, and can

not be this which grows in the ground. Xylaria Sanchezii was published in our last issue, page 1283, Fig. 2884, from specimen from the Philippines. The figure does not show the asperities, as shown on our enlarged figure.

Stereum multifidum from Rev. Hyacinthe Vandcryst, Congo Belge.—(Fig. 2968.) Pileus cuneate, entire or usually much incised. Stipe lateral slender. Upper surface light brown, smooth, striate. Hymenium cinereous. Cystidia none. Spores globose, hyaline, smooth, 4 mic. This grew apparently in the ground. It is one of those Stereums with dark hymenium, easily taken for a Thelephora. In fact excepting as to spores it is about same to the eye as our Thelephora multipartita. It goes in Section 9.

Genera of Pyrenomycetes.—On our last trip to the European museums, we spent much time working on Hypoxylon, Nummularia, etc., and it appears to be a difficult job to get even the genera clear. The old fellows called these specimens Daldinia, Hypoxylon, Nummularia and even Xylaria, whatever came into their heads and it is difficult to see what distinction they made particularly between Nummularia and effused Hypoxylon.

Nummularia.—This in its original sense proposed by Tulasne seems to be restricted to the effused or discoid "sphaerias" that originate on the wood under bark which they throw off at an early state. Effused species that grow on the bark or on denuded wood would under that view be Hypoxylons but it is not practical when applied to many tropical collections. We will not commit ourself on that point at present but will consider a few common species. The spores of Nummularia are in the type idea elliptical (rarely globose) and deep colored. Two of the following have spores hyaline at first and at best pale colored, that further complicates the subject. Nummularia is readily divided into "concave" and "convex" species and it would be simpler if they were held as different genera. The three following are convex, in fact they can hardly be told apart to the eye.

Nummularia Bulliardii from G. G. Hedgcock.—(Fig. 2969.) There is no commoner Pyrenomycete, either in Europe or America than this. It grows on various hosts but is partial to beech, and every fallen beech tree is covered with the large black plaques. Both Tulasne and Bulliard gave good figures but both rather misleading as to the form on beech, as they show small specimens, and on beech it develops many inches in extent. It is jet black and the surface smooth to the eye has under a hand lens very regular, obtuse, nipple shape, protruding ostioles. (Fig. 2970, enlarged.) The globose perithecia are imbedded in the black carbonous context and are nearly of equal diameter. Spores average about 7 x 14. Some as large as 10 x 18. Nummularia Bulliardii first develops under the thin cuticle which it soon throws off. It is said to have an early reddish brown conidial layer but it does not persist, at least I never saw a specimen that is not jet black. Hypoxylon nummularium, Sphaeria anthracina, Sphaeria clypeus, Nummularia clypeus, "Schw. Cooke" (but Cooke called a different species Nummularia clypeus) are common synonyms for the plant. McGinty calls it Nummularia anthracina.

Since above was written I have been looking it up on the beech trees. It persists over the winter and the old specimens have the ostioles open and punctate. I never noticed that on any museum specimens.

Nummularia tinctor from G. G. Hedgcock.—(Fig. 2971 and Fig. 2972, surface enlarged.) To the eye this has same habits and general appearance as the common Nummularia Bulliardii excepting under a lens, the nipple shape ostioles are smaller and less prominent. It grows only on oak and is not rare in our Southern States. It stains red the underlying wood of the host and by this character is readily known. The spores 7 x 16 are hyaline as I see them but are said to turn pale colored which is no doubt true. They are not good Nummularia spores even at that. Cooke protests it's inclusion in Nummularia. First it was classed as Diatrype tinctor on account of its pale spores but they are a different shape from Diatrype spores. Then on Cooke's insistance it was included again in Saccardo as Hypoxylon tinctor but why not Nummularia for Cooke I can not understand. He includes in Nummularia over thirty (alleged) species like Nummularia Bulliardii and like this as to shape, but this he thinks should be Hypoxylon. Cooke does not seem to have given these details the slightest intelligent consideration.

Nummularia punctulata from G. G. Hedgcock.—(Fig. 2973 and Fig. 2974, surface enlarged.) This is a fairly common species, always on oak we believe, and of a Southern range. In its general habits and appearance to the eye it resembles the common Nummularia Bulliardii, but it has a feature that no other named species has known to us. The ostioles (under a lens) are mere punctures. They appear like pin pricks, but so small that our enlarged figure (2974) does not show them well. We often read about "punctate" ostioles, but excepting as to this species I believe of rare occurrence. That is—not protruding. The black plaques are developed under the thin bark which it early throws off. I do not know its conidial stage. The globose perithecia are imbedded in the stroma and about the same diameter. The spores seem to be very scantily developed, I have hunted for them in vain. They are

recorded as 5 x 7-8, hyaline then pale colored. It is not a character of a good Nummularia spore, and yet closer than to the spores of Diatrype in which genus it was originally included. Spegazzini claims that the spores are hyaline and discovers a "new genus" and "new species" for it, Diatrypeopsis laccata (Teste Theissen). It is astounding how much easier it is to discover new genera and species than to learn the old ones. Theissen also thinks that Hypoxylon stygium (Nummularia stygium McG.) is probably the same.

I can not understand why Cooke should raise such a violent protest to including it in Nummularia and claim it as Hypoxylon. It belongs to the "convex" section of Nummularia exactly the same shape as Nummularia Bulliardii and many other species which Cooke includes in the "convex" section. Cooke's comments on this as on many, many other species appear to me as being entirely without reason, or the slightest regard for consistency.

Nummularia ianthina from G. G. Hedgcock, Maryland.—(Figs. 2975 and 2976, enlarged.) When Ellis first began to notice fungi at Clyde, N. Y., many years ago, he collected this and sent it to Cooke who reported it to him as Hypoxylon ianthina (new species). Years later Ellis collected it again and sent it to Cooke who reported it as same name but Ellis was incredulous for it has nothing "ianthina" about it. I have compared both collections at Kew and they are the same, but why named "ianthina" is only an example of the carelessness, and indifference of the namer. Such "work" would not pass in anything but "science." This collection from Mr. Hedgcock is the third made in forty years as far as I know. Nummularia ianthina is a flat cushion shape fungus about 8-10 mm. in diameter. The interior is carbonous filled with the globose perithecia about same depth as the stroma, hence for me it is a Nummularia. Unless we do adopt some definition like that how can we tell a Nummularia from an effused Hypoxylon? The surface is covered with a white pruinose permanent covering through which the black ostioles protrude. Spores are about 10 x 20, unilateral, with rather acute ends. Our enlarged figure will show this peculiar species so that in future there should be no confusion, notwithstanding it is misnamed "ianthina" without the slightest suggestion of any such color.

Hypoxylon circumscribum from W. R. Lowater, Ohio.—(Fig. 2977.) Sessile, flattened, all carbonous, the subicular layer exceeding and forming a ring around the fertile cushion. Stroma carbonous black. Perithecia peripheral, in the specimen cut with white contents (immature ?) apparently polystichous. Mr. Lowater states the successive layers of perithecia become converted into the stroma. Ostiole on a definite disc. The spores were not found. A most peculiar species on account of the margin exceeding the fertile portion, as seen in no other species to my notice. It appears to have grown on oak.

Hypoxylon.—In the simplest view are the black balls with carbonous stroma found mostly on branches or dead trunks. There are a few common well known species but vastly more that are only names at present. We worked several weeks on them on our last trip to Europe but there are so many we did not get much detail idea of their differences. Most of them are only collections picked up in the tropics, "named" and really not studied or described intelligently and their sorting into sections never satisfactorily done. There are 466 (alleged) species in my index and the tropical collecting has only been scantily made. As in Xylaria, it will develop that there are more without names than there are with names. Until we learn and get clear idea of the named, it is folly to worry over those that are not named. At present we will content ourselves with considering a few well known species.

Hypoxylon multiforme.—(Figs. 2978, 2979 and 2980, enlarged.) Cushion shape, 5-10 mm. in diameter, with uneven surface to eye, and no sign of subiculum. Surface slightly uneven. Ostioles nipple shape with a faint sign of surrounding area only. Hypoxylon multiforme is one of the frequent species on oak. It is close, too close to Hypoxylon marginatum. While a definite depressed area around, the ostiole is the character of the latter, there is rarely a collection of Hypoxylon multiforme (Fig. 2980, enlarged) that does not show an indication of it. Disregarding the supposed effused form there are two cushion shape forms (Fig. 2978) on oak, and the elliptical form (Fig. 2979) on birch. As to the early conidial form we do not know. Berkeley tells a wonderful story about it. We have a collection from Sweden so referred that has a thick brown crust, that if it is correct bears out Berkeley's story, but we doubt it. We are rather inclined to think this is the plant that Persoon figured as Hypoxylon argillaceum, and that the scanty representatives of traditional argillaceum (on Fraxinus) is an entirely different thing.

Hypoxylon perforatum from G. G. Hedgcock, Maryland.—(Fig. 2981, enlarged.) Schweinitz named this about a hundred years ago and his specimens are found both at Philadelphia and Kew. It is a small effused cushion shape species, 2-5 mm. in diameter. It is usually covered with a reddish brown crust, which is fairly persistent. The ostioles only take their "perforate" nature when they are old and have opened, and are quite characteristic but young specimens are hard to decide. When old these ostioles (Fig. 2981, enlarged) are perforate and surrounded with a white border.

Spores 6 x 16. There are several American collections of this in our museum and would be more if our collectors were looking out for Hypoxylons. It is also reported from Europe (Fries, Nitschke, Saccardo), but my notes are in London. I can not say but there are several discrepancies in the descriptions.

Hypoxylon perforatum (effusum) from specimen in Atkinson's collection.—(Fig. 2982.) An effused form of this species was collected by Atkinson Arundinaria. At first I was disposed to doubt it from the effused shape. But it is same otherwise. This form also appears to be European. At least they put it in the "effused" section.

Solenoplea microspora from Rev. J. Rick, Brazil.—(Fig. 2983 and Fig. 2984, ostioles enlarged, and Fig. 2985, section enlarged.) Not only the species but the genera of large Pyrenomycetes are in a most confusing and vague condition. We have observed them closely at Kew and Paris and feel sure this genus is not there. It was figured as Solenoplea by Starbäck from Brazil and we take it for the species but the spores (3 x 6) are double the size given. It is probably the same species for all that however. It was sent as Bolinia tubulina but there is more contradiction about this old record than there is about any other plant I have tried to straighten out. I have never seen a specimen excepting Fries determinations at Kew and that does not agree with the old A. and S. figure, 120 years old, and not clearly known since. I took the genus (page 1283) in the sense of Fries specimen. I thought "A. & S." had made an error in their old figure as they had in the closely related and rare "Nummularia" lutea. The perithecia of Fries specimen are polystichous and I have interpreted the genus in that sense, but right or wrong, I can not say. No specimen I have ever seen excepting Fries (and Schweinitz at Kew surely misnamed from the States). Schweinitz was a co-author of the genus and drew the old figure, but, his specimen at Kew had no suggestion of his figure. Solenoplea has cylindrical, contiguous, narrow brown perithecia, and Bolinia, according to the old figure, has perithecia which are broad at the base and taper to narrow connivent necks. They can hardly be the same species but probably the same genus. I expect when the truth is finally sifted out three plants have been confused. Bolinia tubulina sense of Fries. Bolinia tubulina sense of A. & S., and Solenoplea microspora sense Starbäck. Camarops hypoxyloides discovered bp Karsten in Sweden and said to have septate spores, is an error teste Rehm and Theissen, and same as Bolinia tubulina original sense. Nummularia gigas discovered in England by Plowright is from his figure also the same. I found no specimen at Kew. It is a bad muss any way you look at it. But Father Rick's specimen is a most distinctive thing and if authors gave good figures of their "new species" it could not be confused with anything else. The perithecia of Solenoplea microspora are brown to the eye when dry, but it is the surface only and they have really carbonous walls. A section across them is black.

Daldinia fissa from W. R. Lowater, Ohio.—(Fig. 2986.) Growing densely caespitose, irregular, from mutual pressure. Fissile, and mostly hollow. Surface black, shiny. Stroma mostly disappearing, the remnants strongly zonate. Spores 8-10 x 16, many smaller. Our figure tells the whole story. It is a pity to throw doubts on an apparently good "new species" and while it has no resemblance to it whatever, I have a suspicion it is an anomaly of Daldinia vernicosa.

Kretzschmaria (?) pusilla from Rev. Hyacinthe Vanderyst, Congo Belge.—(Figs. 2987, 2988 and 2989, enlarged.) We believe this is the same plant we figured (Vol. 6, Fig. 1883) from Nicaragua (in Ellis collection). It's features are the regular globose head, distinct slender short stipe. The perithecia are peripheral and large, globose. Spores fusiform 10 x 40 in these African specimens. Surface smooth, with perithecia not at all protruding. This collection is largely young (Figs. 2987 and 2989, enlarged) and has a thick white conidial layer. As previously stated (page 1034) it is a question where to put it, as it is not a good Kretzschmaria. We did not find it named as Hypoxylon or Xylaria in the museums in Europe, where the old namers would probably have placed it.

Kretzschmaria albocephalum from Rev. Hyacinthe Vanderyst, Congo, Belge.—(Figs. 2990 and 2991, enlarged.) This is an immature Pyrenomycete that should not be named excepting as a museum convenience. It is very peculiar with its black stipe and white head but no doubt will change in ripening. The only similar plant is the species figured above, and this can not be the young of that. Perhaps we will get ripe specimens some day and learn its real characters.

Hypoxylon Thouarsianum from G. G. Hedgcock.—(Fig. 2992.) It came from California, M. H. Bills and we refer it to the above well known western species with some doubt. While it is the same as to surface, perithecia and spores (6 x 20) the cushion shape seems different from the usual subglobose form. We discussed Hypoxylon Thouarsianum of California and Hypoxylon malleolus of our southern States in Vol. 6, page 902, Figs. 1590, 1591 and 1592. They are practically the same species but the Western plant does not have such distinct depressed areas around the ostioles, and the usual shape is subglobose. We give an enlarged figure (2993) showing the perithecia arrangement which we failed to present in our previous account.

Hypoxylina fusco-areolata from Rev. J. Rick, Brazil.—(Figs. 2994 and 2995.) Father Rick sent this to me named as Penzigia by Rehm. It is well named as to species, but no suggestion of Penzigia. The genus Hypoxylina proposed by Starbäck is quite convenient as a buffer genus between Hypoxylon and Xylaria. It should include those species of "Hypoxylon," so named, which have a white stroma, and those species of "Xylaria," so named, that have a Hypoxylon shape. Hypoxylina fusco-areolata is a sessile species with a peltate shape, a hollow concave base, and white stroma. The surface under a lens has a thin brown cuticle which enlarged (Fig. 2996) cracks in areoles around the black protruding ostioles, giving it a quite characteristic appearance and is well named. I judge from description that Hypoxylon enteroleucum is the same thing which if true is unfortunate as Rehm's specific name is most appropriate. The other three names so referred by Theissen are all in error.

Hypoxylon Tahitiensis from H. E. Parks, Tahiti.—(Fig. 2997.) Fruit bodies, large, about an inch, flat cushion shape. Surface even, the ostioles not prominent. Perithecia (Fig. 2996, enlarged) large, elongated, forming a peripheral layer. Stroma well developed, 2 mm. thick, black, carbonous. Spores 7-8 x 14-16. A large "Hypoxylon" belonging to Cooke's (convenient if not logical) section Macroxylon. It has features recalling Hypoxylon nucele (page 1180) of Philippines but differs much as to spore size and ostioles.

Hypoxylon seperans from R. E. Holttum, Singapore.—(Fig. 2999.) Globose, about an inch in diameter, carbonous, black. Surface smooth to the eye but corrugated when enlarged. Perithecia black, imbedded under the carbonous crust, each in a layer of brown tissue, and forming a layer about a mm. thick which is easily separated from the stroma. Stroma pale when young, but darker when old, never truly carbonous. Spores fusiform, 40 mic., colored, unilateral, with acute ends. The "crust" structure of this is different entirely from that of an ordinary Hypoxylon with the perithecia imbedded in the stroma. The perithecia with the adherent brown tissue form a layer separable from the stroma. Some of the specimens were smooth, and some were rough with black nodules which proved on examination to be masses of exuded spores. Mr. Holttum sends two collections.

Hypoxylon nucele from R. E. Holttum, Singapore.—(Fig. 3000.) When this was published the spores were recorded as "mammoth 12 x 56-60." The largest we find in these specimens or on examination of the type are about 8 x 40. These are more globose than the Philippine collection, but surely the same species with the large perithecia and spores, the hard carbonous stroma. One of these collections is young and shows a thin brown crust variegated with black spots (Fig. 3001, enlarged) (ostioles no doubt) giving it a marmorate effect. The sections (both of the Malay and Philippine collections) show a feature difficult to explain. The contents of some perithecia are white. formed of a mat of hyaline hyphae. I think it is an abnormal (probably parasitic) growth.

Polystictus ater from R. E. Holttum, Singapore.—(Fig. 3002.) Pileus thin, black, spathulate to a short stipe. Surface glabrous, even, black. Pores minute, shallow, hardly visible to the eye. As the plant reaches me it is as near black as polypores get to be, but it may have changed in drying. We would place it in Section 22 on the theory that it has dried black. It is related to Polyporus stereinus. On our headings it would go in Section 19b but it has no affinity to the other plants included in that group. This must be examined under a lens, as to the eye it appears to be a Stereum.

Hypoxylon Morsei from J. M. Grant, Washington.—Fig. 3003 and Fig. 3004, enlarged.) This is the second and the best collection we have gotten of this. It is erumpent through the bark of the alder and surrounded by the ruptured bark. Each usually consists of three rather large almost free perithecia which have prominent nipple shape ostioles. The spores 10 x 24 elliptical, regular are larger than usual in Hypoxylon species. Ellis states that Hypoxylon Blakeii published as having smaller perithecia is a synonym, also Hypoxylon pauperatum named from Lapland. We think both are right, but our notes are in London. Our enlarged photograph which is unusually good, shows three perithecia in a cluster and is misleading, for we find most of our collections have six to eight perithecia in each cluster.

Stereum Grantii from J. M. Grant, Washington (State).—(Fig. 3005.) Growing in the ground about an inch high. Slender, erect, divided into lobes above. Color (dried) pale brown. Cystidia none. Spores hyaline (certainly) but not surely found. It has the general appearance of a Thelephora, like multipartita, but to the eye, also absence of colored spores; it surely is a Stereum. It grows in the ground with a ball of earth adhering to the dried specimens. We have only one close species as to habits and general appearance, Stereum Burtianum, but this has no tendency to take the "infundibuliform" shape. In going over our specimens of Stereum Burtianum we find one collection (Sterling, New Jersey) that we should have referred here.

Entonaema liquescens from Rev. J. Rick, Brazil.—(Fig. 3006.) Sessile, convolute, covered with

a yellow cuticle. Interior filled with black, gelatinous, soft flesh. The genus Entonaema is based on its gelatinous stroma. We gave an account of the species on page 1203 including this, and reproduced Moeller's figure. It is only known from Brazil and is evidently rare there as this is the first good specimen we have received. We have it (?) from Trinidad also.

Hypoxylina peltata from Rev. J. Rick, Brazil.—(Fig. 3007.) Sessile, peltate, with a small attachment, the under side slightly concave. Surface black, even to the eye, but under the lens the ostioles slightly protruding. Stroma white. Spores 10-12 x 16-18, dark, obtuse. We have two collections of this from Rev. Rick, one endorsed "ater (?) globosa (?)." We are unable to make it out from Theissen's work and it appears to us he would have classed it with "fusco areolata" in "Penzigia." It can not be either of his species of "Penzigia."

Merulius debriscola from James Mitchell, New Zealand.—(Fig. 3008.) Resupinate, chocolate brown color, no distinct margin. Pores large, shallow, very irregular and indefinite, permanent, not changing much in drying. Spores great abundance, minute globose, 2 mic., smooth, subhyaline. This grew on debris-covered earth, which is permeated with its white mycelium. It is placed in Merulius only as a convenience, for it is not the correct idea of Merulius. However everything that has large shallow pores is called Merulius now and it is getting to be about as big a joke as Aleurodiscus is. We do not question that the plant can be recognized from our photograph and account, and that is the main thing.

Pollyporus pectunculus from P. A. van der Bijl, South Africa.—(Fig. 3009.) Pilei dimidiate, imbricate, small, surface strongly rugulose and scalloped, grey, dull. Context and pore tissue white. Pores minute with slightly yellowish mouths. Cystidia and spores not found by me. This curious little species which will be recognized from our figure at once, we have had on hand several years but never published it, as its coloration (dried) so closely recalls Polyporus caesius we had a suspicion it might be a form, notwithstanding its different appearance to the eye. As we have no data however that this spots blue when fresh, we feel we would not be justified in referring it to Polyporus caesius.

Polystictus, Section 16.—This is a very puzzling section of Stipitate Polystictus and has been considered before (Letter 65, 1917). There are eighty collections of the section now in our museum and they are difficult to definitely refer. This is due largely to the vague records of its early history. Léviellé saw four of them in the museum at Leyden. It was easy for him. He named them all as new species. He did not know what he named himself and no one else has been able to find out. The character of the section is the white or pale context, the smooth or minutely pubescent surface and the grey zones of the pileus. Sometimes the zones are faint or disappear.

Section 16a.—Pores small, round, regular. (Fig. 3010, enlarged.)

Polystictus bruneolus.—(Fig. 3011.) This is quite a dark plant, belonging to this section, and variously interpreted. It has been called murinus, confondens, meleagris. For me its characters are its dark color and petaloid form. It occurs in the Philippines, but is rare.

Polystictus Hunteri.—(Fig. 3012.) We get from Africa (only) and it seems frequent there, a large plant 5-6 inches in diameter which has most of the color features of Polystictus cinerascens, but surely not the same as the little Javanese species. We referred it (Note 580) to the Javanese name until we got specimens from Java that convinces us that we were wrong. We have fine collections from Chas. A. O'Connor, W. Small, G. Zenker, T. Hunter, all from tropical Africa where it appears to be common. The natural name for this is Polystictus musicolor, and so we expected to call it, but found the name "preoccupied" in European "literature" but no one knows any such plant. We name it for T. Hunter who was the first to send it.

Polystictus vittatus.—(Fig. 3013.) This is a thick plant, probably a better Trametes than Polystictus. The surface is regulose, faintly zoned, and pale. Only a faint greyish tint. We get it from South Africa, Madagascar, Ceylon and Japan.

Polystictus gallo-pavonis.—(Fig. 3014.) We got this originally in abundance in Samoa (in 1900) and it was named as above by Bresadola who had never seen the type. The type is scanty and poor and it is a question if this is it or not, but at any rate we have adopted it in the Samoan sense as near as we can, and many collections are in our museum. It is not always easy to point out how it differs from the next. The grey zones appear to fade out in old specimens. I do not know how Berkeley came to compare it with a pea-fowl, for it has no bright colors and is a very modest grey.

Polystictus meleagris.—(Fig. 3015.) In the original sense this is a very pale plant with only faint indications of zones. Many collections are so referred from the Philippines. But it grades into the zoned plant, and it is a question if the zoned plant (called mostly murinus, but in error) should not be referred to gallo-

pavonis. However, it is a thinner and smaller plant than the Samoan species.

Polystictus cinerascens.—(Fig. 3016.) Pileus small, thin, orbicular or reniform with a short, lateral stem. Surface with faint grey zones. No type exists (Cfr. Letter 65), but we get it from the "type locality," answering the "description" and probably right. It is about the same as the Polystictus gallo-pavonis, excepting it's small size. The States plant under same name has no established meaning.

Polystictus flabellaris.—(Cfr. Myc. Notes, page 1035, Fig. 1890.) A single collector (Ramos 33437) from Philippines. It was named as Polyporus, but better a Polystictus, to be classed with related species.

Polystictus Ridleyi.—(Cfr. Stipitate Polyporus, page 151, Fig. 151.) A single collection at Kew from Malay. From its manner of growth we classed it in section Merismus, but it is closely related to this group of plants. In the abundant collections received by us from Malay this has never come in.

Polystictus incurvatus.—(Fig. 3017.) Known to me only from type at Kew. Thin, rigid, incurved, cinereous, zoned. Stipe lateral, long. It came from Malay. It is endorsed now as being cinerascens, but that is an error (Cfr. Note 580, Letter 65).

Section 16b.—Pores shallow, elongated, rigid. This is very much same as previous section as to pileus surface, but differs as to pores. (Fig. 3018, enlarged.)

Polystictus Blumei.—(Fig. 3019.) This is much like Polystictus meleagris as to its upper surface, but differs as to the pores. The types are at Leiden. We believe our account (Vol. 6, page 1031, Fig. 1868) is correct but we doubt much our original reference (Vol. 4, page 563, Fig. 770) from Japan.

Polystictus Hutchingsii from S. Hutchings, Bengal.—(Fig. 3020.) We have had this collection on hand several years referred to Polystictus Blumei, but we think not now. It has exactly same surface as Polystictus gallo-pavonis, but the pores are of the Section 16b (not Section a). The general habits are also different.

Polystictus Gaudichaudii from R. E. Holttum, Malay.—(Fig. 3021 and Fig. 3022 ?.) This is probably the same as so named in the museums, but it is not sure it is different from Polystictus Blumei, named by same "authority." The old fellow did not have any idea of any species or differences in connections with his names. They were simple specimens that he found unnamed at Leiden. It is forty times more work to fit collections to his names than he ever put on it. This is same nature, same pores, and probably the same plant as he named Polystictus Gaudichaudii. We present two figures; the short stemmed one corresponds to our photo of the type, and the long stemmed one, while might be held different, we think is too close. Our original figure (435) is not sure although it was made from a supposed cotype at Berlin.

Polystictus Thwaitesii.—(Fig. 3023.) We have fine collections of this from T. Petch and it is only known from Ceylon. Our figure gives the best idea of it, but it differs from others of this section in larger size and coarser pores. (Cfr. Note 579, Letter 65.) Cooke classes it as Fomes (sic) as found in Saccardo. (Cfr. Note 579, Letter 65.) It has no more suggestion of a Fomes (sic) than it has of a piece of cheese.

Polyporus deceptivus from R. E. Holttum, Singapore.—(Fig. 3024.) Dimidiate, of very light weight. Color brown, the pore tissue with a red cast (about russet Ridgway). Surface uneven with appressed fibrils. Context very thin, practically none, the pores reaching the surface layer. Pores brown, medium large, long, irregular. Cystidia none, but projecting hyphae. Spores elliptical, 4 x 6, pale colored. We name this deceptivus, for its relations are in doubt. On the book characters we place it in Section 98b with Polyporus decipiens. To the eye and feel and appearance of pores it should be included in Trametes Section 137 with Trametes hispida. But Trametes does not have colored spores, hence by rights it goes in McGinty's genus Phaeotrametes.

Polyporus Cornucopiae from Rev. J. Rick, Brazil.—(Fig. 3025.) Rarely species are received for name where the name is suggested on sight. This is the first species of Polyporus that I have noted that suggests a cornucopia with its flaring mouth. Color yellow, the surface smooth, glabrous, with a slight brown tint. Shape of a cornucopia, with a hollow curved, short stem, black at the base. Pores minute yellow, with concolorous mouths. Cystidia (perhaps they are basidia) numerous, hyaline, obtuse, smooth. Spores globose hyaline, 4 mic. We would enter this in Section 49, but it does not suggest any other species known to us.

Polyporus (Amaurodermus) variabilis from Rev. J. Rick, Brazil.—(Fig. 3026.) The section Amaurodermus is always interesting. This species (Cfr. Stipitate Polyporus, page 111) was only heretofore known from the old Spruce collections. It is quite close to Polyporus auriscalpium, but this is a pale plant, surface context and pores, and auriscalpium is dark. We know but little about the habits of the tropical species,

for the usual collector simply "pulls them up." Some of them, I am satisfied, develop from an underground rhizome. This specimen has, however, attached to a buried root and Rev. Rick sent it with its attachment, so there can be no possible error. It would be of the greatest interest if collectors, when they meet these rare plants, would "dig them up," to show their attachment.

Polystictus minutoporus from Prof. Koti Masui, Japan.—(Fig. 3027.) Pataloid to a reduced base. Surface smooth, pale cervine color, not zoned. Context pure white. Pores very minute, the mouths pure white. Cystidia none. Spores not found. The plant has such minute pores they are not visible to my eye even with a lens. It was only in section under the microscope I could be sure it had pores. At first I took it for a Stereum. It is close to Polystictus sepia, but paler color and belongs in Section 45. It curls in drying as shown in our photograph, and did not uncurl after soaking several days.

Polyporus junctus from Prof. Koti Masui, Japan.—(Fig. 3028.) It has the appearance of being separate pilei consolidated together. As to color texture, it recalls Polyporus ochroleucus, but its method of development is entirely different. We feel no further description necessary, for it is Polyporus ochroleucus, excepting as shown in the figure.

Stereum rufum from Geo. G. Hedgcock, collected in New Mexico.—(Fig. 3029.) This was one of the joke plants of American tradition. For years it passed as Hypocrea Richardsonii as discovered by Berkeley. It has such a close general resemblance to a Hypocrea to the eye that anyone is liable to be deceived, if he does not examine it. It was called Tubercularia pezizoidea by Schweinitz, and one of Farlow's students had an elaborate article on it as Corticium pezizoideum. Burt was the first to get it straight in this country and he no doubt learned it from Romell in Sweden. I found it in great abundance on poplar limbs around Upsala. Its classification as Stereum is unfortunate. Someone ought to adopt Karsten's juggle and call it Cryptochaete rufa.

Polyporus duostratosus from R. E. Holttum, Singapore.—(Fig. 3030.) Only a half specimen was received, but it evidently had a short lateral stipe. The color is brown and it has a dual flesh, viz., a hard ligneous lower layer and a soft spongy upper layer. This is a rare structure among the polypores, best known in Polyporus fruticum. The pores are medium large, brown. Cystidia none. Spores 10-12, deep colored. The dual flesh is a marked feature that should attract notice at once. In a general way it suggests a small specimen of Polyporus Schweinitzii, but closer still, Polyporus sideroides, a rare species of the East. (Cfr. the next article.) It differs from Polyporus sideroides in its dual flesh, its large pores and spores.

Polyporus sideroides.—(Fig. 3031 type.) We gave an account of this from the type in our Letter 36. We did not mention, as we should have done, that the pores are small, for a species just received from Mr. Holttum, Malay (see preceding) is quite similar, but has large pores. Polyporus sideroides, as stated in our previous account, is the most noteworthy species that old Léveillé ever stumbled over. The type is at Leyden (Fig. 3031). It varies at times, having no stipe, and a specimen of the sessile form was called by Léveillé Polyporus Korthalsii. Then Léveillé did not help the matter when he went back to Paris and labeled a specimen of Fomes senex, which has no suggestion whatever, as being his Polyporus Korthalsii. Recently Burt, who knows about as much about foreign Polyporus as Léveillé did, and who knows absolutely nothing about this particular case, recently published Fomes senex as "Fomes" Korthalsii (sic) and assumes to pass on questions which he has, and never had, any way of knowing anything at all about. That kind of work is only a bluff and Burt ought to be ashamed of it, and such "work" does not advance "knowledge" one iota and only makes a mess. Polyporus sideroides has never reached me and must be rare in Java. It was absent from extensive collections from that country recently sent by Dr. van Overeem. Petch records it several times in Ceylon and I have seen his specimens at Kew, but he never sent me one, and Berkeley never got it.

Fomes robustus from Prof. K. Miyabe, Japan.—We received this from Prof. Miyabe as Fomes Hartigii (on Abies), but we do not believe it can be told from Fomes robustus (on oak). Hartig gave an excellent figure and account of the disease of Abies under the erroneous name Fomes fulvus. The names Fomes Hartigii was based on this publication and by rights the name should be adopted, as it was the only credible work done with the plant. We can not see much merit in Karsten's name, when Karsten did not know it himself (Cfr. Fomes Synopsis, page 242), but such is the "science" of botanical nomenclature. The "old fellows" Persoon, Fries, Berkeley, Montagne, etc., did not know this species at all, or rather did not distinguish it from Fomes igniarius. But the plant is not rare in Europe and grows in practically every country of the world. It comes to me often from every country and has been published numerous times in Mycological Notes. In the East it often has setae (then called Fomes setulosus), but it is really the same plant. We have never found setae in European specimens nor do we find them on

this Japanese collection. The plant causes a serious wood rot in the stems of the Abies, and Prof. Miyabe sends a sawed section, showing this finely, which we photograph (Fig. 3032).

Polyporus albo-fuscus from Dr. J. B. Cleland, Australia.—(Fig. 3033.) Pileus sessile, dimidiate, 2-3 inches in diameter, an inch thick. Surface with a thin, alutaceous, smooth, cuticle which breaks up into scales. Context pure white, hard, firm, drying pure white. Pores medium, irregular agglutinate, light reddish brown, contrasting with the white context. Cystidia none. Spores not seen. This belongs in Section 84 and is related to our Polyporus fissilis. It is one of those species (no doubt) that is white when growing, but pores turn reddish when drying.

Polystictus ochrotenuis from R. E. Holttum, Singapore.—(Fig. 3034.) Pileus reduced to a small stipe-like base, thin, flexible. Surface smooth, pale, almost white, with faint cinereous zones. Context very thin, white. Pores shallow, small, irregular, yellow. This belongs to the puzzling Section 16 (see page 1315, before) and as to surface recalls closely Polystictus gallopavonis. Its thinness and yellow pores are its salient features.

Specimens Received from Correspondents

My best thanks are extended to those who favor me by forwarding to me their collections of the fungi of their regions, and particularly those who live in the tropics. Every day it becomes easier to determine the specimens, for the common species have mostly taken definite form and I recognize the larger part of them at sight. Still each lot received brings considerable work, and though I am behind at present, I hope correspondents will not hesitate to send in their specimens on that account. They will all be worked over in time and those that are rare or of special interest will be published. All the large fungi are desired excepting the Agarics.

In the following list I have put in capitals those plants that on account of rarity or novelty are of especial interest and on which articles have been or will be written and published. But do not get the impression that I only want rarities or unusual things. On the contrary, I am more interested in the "old species," their abundance, distribution and variation, and collections of the most common species, especially from the tropics, are always welcome.

In my printed lists I do not give authorities for names, believing that the binomial should represent a plant name, but in acknowledging the specimens to my correspondents I give the "authority" in the event they desire to use it. All specimens are acknowledged by personal letter as soon as I get time to study and report on them.

As a matter of fact, I should not ask for additional specimens, for I am so far behind now with the work it seems improbable that I will ever catch up. The packages come in more rapidly than I can do them justice, and I fear that my correspondents will think that I am not paying proper attention to them. I started this work as a pastime, but it has grown to be a business, and is pretty exacting on the time of a man who thought he had "retired" from business. I still get a lot of pleasure from it however, and am glad to see the packages come in and will do the best I can with them. But I hope those who favor me will not be impatient at the delay.

Specimens can be sent to either of the following addresses:

C. G. LLOYD, 119 Sheen Lane, London, S. W. 14, England.

C. G. LLOYD, 309 W. Court Street, Cincinnati, Ohio.

The following are the packages that have been worked over since the last report.

Bijl, van der, P. A., South Africa: Fomes Caryophylli—Polyporus crispus—Campanella cucullata—POLYSTICTUS GLAUCOEFFUSUS — Polystictus ochraceus—Polystictus flavus—Exidia purpureo-cinerea—Polystictus tabacinus—XYLARIA RETICULATA. Fomes connatus.

Bottomley, Miss A. M., South Africa: POLYPLOCIUM INQUINANS—SECOTIUM OBTUSUM—GEASTER ASPER—PTERULA PENICELLATA—Daedalea stereoides—Polyporus grammocephalus—Phellorina strobilina.

Bourdot, Rev. H., France.—We are most glad to get specimens of the resupinate Thelephoraceae from Rev. Bourdot as he is the best student of the group in Europe. They were all named by Rev. Bourdot for I do not know them at all, and Rev. Bourdot is the authority now. Corticium filicinum—Tomentella fusca—Corticium discolor—Tomentella fuscoater—Poria mellita—Hymenochaete tabacina—Odontia Bugellensis—Peniophora clematitis—Tomentella echinospora—Tomentella isabellina—Tomentella granosa—Tomentella botryoides—Hypoxylon rubiginosum—Peniophora argillacea—Tomentella rutilum—Tomentella tristis.

Brittlebank, C. C., Australia: Stereum radiato-fissum—Trametes cupreo-rosea—Fomes ochroleucus—Clavaria Tasmanica (?)—Polyporus cuneatus—Trametes sepiaria—Trametes hirsutus—Lenzites repanda—Polystictus versicolor — Polystictus sanguineus — Stereum ostreum—POLYSTICTUS RUFO-RIGIDUS—STEREUM BOMBYCINUM—CORDYCEPS TAYLORI—MESOPHELLIA ARENARIA.

Bugnon, Prof. P., France: Fomes pomaceus—Polyporus squamosus—Peziza vesiculosa—Tylostoma mammosa — Cyathus striatus — Xylaria Hypoxylon — Polystictus versicolor.

Carne, Prof. W. M., Western Australia: Polystictus cinnabarinus—Auricula reflexa—Polyporus gilvus—Lentinus fasciatus—Cyathus stercoreus—Polystictus cinnamomeus—Schizophyllum commune—Tremella mesenterica—Hexagona Gunnii—Stereum hirsutum—Polyporus vivax — Polyporus scruposus — Mycenastrum Corium.

Cox, Elizabeth C., Pennsylvania: Fomes pomaceus—Fomes robustus—Daedalea quercina—Fomes leucophaeus.

Dalrymple, Miss Helen K., New Zealand: Fomes applanatus—Hypoxylon placentae—formis—Fomes robustus—Schizophyllum commune—Otoyoa coccinea—POLYPORUS GILVUS—POLYPORUS RIGIDUS—HYMENOCHAETE MOUGEOTII—Polystictus hirsutus. Bovistella Australiana—Stereum vellereum—Geaster rufescens—HETEROTEXTUS PEZIZAEFORMIS — NAEMATELIA GLOBULUS — Scleroderma vulgare—Septobasidum crinitum.

Dearness, Prof. John, Canada: GYROMITRA ESCULENTA.

Demange, V., Tonkin: POLYPORUS (AMAURODERMUS) RUGOSUS.

Duthie, Miss A. V., South Africa: KUPSURA SPHAEROCEPHALA—SCLERODERMA CAPENSIS — Polyporus fumosus — LYSURUS WOODII — Octaviania carnea — Polyporus gilvus — CYATHUS MINUTOSPORUS — HYMENOGASTER LILACINUS. RHIZOPOGON RUBESCENS (?) — LYSURUS BOREALIS.

Fassett, N. C., Massachusetts: POLYPORUS SALMONICOLOR—POLYPORUS GIGANTEUS—Hydnum cyaneotinctum—Polystictus perennis—Poria punctata—Polyporus betulinus—Fomes robustus—Polystictus pergamenus—Cytospora betulina—POLYPORUS SCHWEINITZII.

Fink, Prof. Bruce, Ohio: Phallogaster saccatus.

Gilkey, Helen M., Oregon.—The most highly appreciated specimens we have received lately is the set of Western Tuberaceae from Miss Gilkey. We believe it is a complete set of the species known to her. There has been no other subject on which we have had as little success getting specimens as of hypogaeal fungi. The collectors as a rule seem to be afraid to send them out for fear they will be published to anticipate them. There are no grounds for such a view. We do not do that kind of work, and we never go into print on specimens of a subject another is working on received from him until after he has had his say. Even should we receive these species from another source we would submit them to Miss Gilkey. We wish others who are working on Hymenogastraceae would appreciate that fact and not be so close with their specimens. The following is the list of Miss Gilkey's species sent under the nomenclature she adopts: Hydnotrya cerebriformis—Hydnotrya ellipsospora—Pachyphloeus citrinus—Hydnobolites californicus—Hydnocystis californica—Pseudobalsamia magnata and var. nigra—Tuber candidum—Tuber Gardnerii—Tuber californicum—Tuber irradianum—Tuber levissimum—Piersonia bispora—Piersonia alveolata—Genea arenaria—Genea Gardnerii—Genea cerebriformis—Genea compacta—Genea Harknesii—Geospora Harknesii.

Grant, J. M., Washington (State).—A nice collection of interesting specimens. Many of them in families that I do not know were named by Prof. Grant; Corticium miserculus — Gleosporium pteridium — Dermatium phalaris—Trichia fallax—Septoria sambucina—Septoria ribis—Diaporthe Eburensis—Corticium byssinum—Cytocarpus epilobia—Coniophora arida—Puccinia pimpinella—Omphalia subimmaculata— Poria incrassata—Eccilia pirinoides—Rhytisma punctatum—Cladosporium herbarium—Boletus subtomentosa—Stereum vellereum—Lycoperdon gemmatum — HYDNUM ALBIDUM — HYPOXYLON MORSEI—Xylaria corniformis—Hypoxylon fuscus—STEREUM GRANTII—Thelephora palmata—Irpex Owensii—HYDNUM SUBZONATUM—STEREUM (HYM) TABACINUM—Humaria granulata—TREMELLA SARCOIDES.

Grelet, Rev. L. J., France.—As Rev. Grelet is now the leading specialist of Pezizae in France, it is needless to say we are glad to get his specimens for our museum. He employs the Boudier nomenclature. Xylogramma Catagnei—Humaria coccinea—Morchella costata—Heterosphaeria patella—Dasyscypha papyracea—Begonidium albo-rubrum—Helotium cyathoideum—Aleuria cerea—

Lecanidion atratum—Dasyscypha cerina—Ciliaria scutellata—Prospolis viridis—Lamprospora dictydiola.

Grover, Prof. F. O., Ohio: Phlebia radiata—Hydnum Schiedermayeri—Aleurodiscus Oakesii—Geaster lageniformis.

Haglund, Erik, Sweden.—We very much appreciate specimens from Dr. Haglund for he is a critical student, and accompanies his specimens with notes of much value. We list the specimens mostly as received and reproduce many of his notes. Cantharellus muscigenus—Polyporus dichrous—Polyporus erubescens (Teste Romell)—*Poria rufa*—Hydnum violascens (Teste Romell)—Hydnum zonatum—Hydnum suaveolens—*Hydnum geogenium*—*Cyphella galeata*—Cyphella filicina—Clavaria pyxidata—Clavaria dendroidea—Calocera cornea—Geaster fimbriatus—Helvella crispa—Geoglossum paludosum—Geoglossum hirsutum—Otidea leporina—Nectria lichinicola (Teste Dr. Haglund)—Hypoxylon multiforme (Teste Dr. Haglund, if so it is the conidial form)—Hypoxylon serpens.

Hedgcock, G. G., Washington, D. C.: Xylaria polymorpha—Daldinia vernicosa—Xylaria fulvella (?)—HYPOXYLON THOUARSIANUM—Xylaria Cornu-Damae—Hypoxylon malleorum—Daldinia Asphaltum—Diatrype bullata—Daldinia concentrica—Daldinia confluens—Diatrype disciformis—XYLARIA POITEI (?)—DALDINIA POPULUS—Xylaria apiculata?—Xylaria corniformis—Diatrype stigma—STEREUM RUFUM—Hypoxylon marginatum — Hypoxylon multiforme — EXIDIA SACCHARINA—NUMMULARIA PUNCTULATA — XYLARIA MYCELOIDES — NUMMULARIA TINCTOR—HYPOCREA RUFA—HYPOCREA PATELLA—NUMMULARIA BULLIARDII—XYLARIA MANMEEI—Hypoxylon annulatum (?)—Hypoxylon investiens (?)—NUMMULARIA IANTHINA—HYPOXYLON PERFORATUM—Hypoxylon coccineum—Diatrype stigma (?).

Hill, Prof. H., New Zealand: DUROGASTER ALBA—XYLARIA RIMULATA—Polysaccum pisocarpium—Polystictus occidentalis—STEREUM DUBIUM — CORDYCEPS ROBERTSII — MITREMYCES FUSCUS.

Holttum, R. E., Singapore: LENZITES PALISOTI — POLYPORUS SIDEROIDES — Polyporus virgatus—Auricularia auricula—Fomes oroflavus—LENTINUS SIMILIS—POLYPORUS CALCIGENUS—Polyporus rubidus—Fomes dochmius—Polystictus affinis—Polyporus durus—Fomes lamaensis—Polyporus rigidus—Polyporus grammocephalus—Polyporus semilaccatus—Polyporus tabacinus—Polystictus cichoraceus—POLYSTICTUS GAUDICHAUDII—Fomes nigro-laccatus—LENTINUS GIGANTEUS—CLADODERRIS BLUMEI—Lentinus blepharodes—MITREMYCES ORIRUBRA—POLYPORUS (GAN.) WILLIAMIANUS—STEREUM (HYMENOCHAETE) MOLLIS—POLYSTICTUS ATER—POLYPORUS DECURRATUS — POLYPORUS DECEPTIVUS — STEREUM (HYM.) CACAO—STEREUM VARIEGATUM—POLYSTICTUS IMMACULATUS—POLYPORUS DUOSTRATOSUS—Stereum ostreum—Stereum Mellisii—Polyporus vinosus—Polyporus Kermes—PHALLUS MERULINUS—PHALLUS INDUSIATUS.

Hrdlicka, A., Washington, D. C.: Xylaria Longiana.

Hu, Prof. H. H., China: TREMELLA FUSIFORMIS—Polyporus rufescens—Scleroderma Cepa—Daldinia concentrica—Morchella esculenta—Hydnum subsquamosum—LENTINUS EROSUS—POLYPORUS MEDULLAE.

Lewis, John E. A., Japan: PSEUDOHYDNUM TRANSPARENS—Lenzites betulina—Polysaccum pisocarpium—Polystictus versicolor—Fomes fomentarius—Polystictus elongatus—Stereum fasciatum—TREMELLA ISABELLINA—Lenzites subferruginea—POLYSACCUM PYGMAEUM—Lycoperdon umbrinum—Daldinia vernicosa—Hydnum nigrum—Lenzites subferruginea (?)—Trametes Dickinsii.

Lowater, W. R., Ohio: Daldinia vernicosum—Daldinia concentrica—Hypoxylon fuscum—Ustulina vulgaris—Hypoxylon multiforme—DALDINIA FISSA—Hypoxylon coccineum — Hypoxylon cohaerens — HYPOXYLON CIRCUMSCRIBUM.

Maire, Prof. R., Algeria.—An interesting lot of specimens including some much appreciated hypogaeal fungi. Most are listed as received: *PICOA LEFEBVREI*—Terfezia Claveryi—Claveria fusiformis—Clavaria cristata—Geoglossum Barlae—Xylaria sicula—Clavaria formosa—Poria pyrrhopora—Hypocrea citrina—Thelephora spiculosa—Polyporus trabeus—ALEURODISCUS ATLANTICUS—FOMES TORNATUS—PTERULA ABIETIS—Polyporus resinaceus.

Martin, G. W., Iowa.—All of these specimens were determined by Prof. Martin and we are in accord in every instance. PHALLOGASTER SACCATUS—Polyporus gilvus—Polyporus brumalis—Polyporus albellus—Merulius terrestris—Nectria cinnabeina—Helvella elastica—Favolus europaeus—Cordyceps ophioglossoides — Tremellodendron merismatoides — Helvella crispa — ELAPHOMYCES VARIEGATUS.

Mitchell, Rev. James, New Zealand: Daldinia concentrica—Helotium citrinum—Crucibulum vulgare—

Stereum vellereum — Polystictus versicolor — POLYPORUS PROPRIUS—Peniophora incarnata—Polystictus zonatus—STEREUM CRISPULAE—Auricularia auricula—Hygrophorus cyaneus.

Northcroft, E. F., New Zealand: Daldinia concentrica—Lycoperdon pratense—Stereum vellereum.

Overholts, Prof. L. O., Pennsylvania: Xylaria fuscus—Irpex lacteus—Hypoxylon fuscum—Polyporus osseus (??)—Hypoxylon coccineum—Geaster hygrometricus—Geaster minimus—Stereum ochraceoflavum—Radulum orbiculare—DITIOLA RADICATA—Merulius Corium—EXIDIA CANDIDA—Hypoxylon cohaereus—Dacryomyces chrysocomus—Fuligo intermedia—Hornomyces aurantiacus—Phlebia. radiata?

Plitt, C. C., Maryland.—Specimens from several countries: From Maryland, Polyporus frondosus—from Jamaica, Polystictus tabacinus—from Hawaii, Schizophyllum commune—from New Zealand, FOMES HEMITEPHRUS.

Randlett, Mrs. Rena D., Massachusetts: HYPOMYCES LACTIFLUORUM—Polystictus perennis—Polystictus versicolor—Clavaria pyxidata—Polystictus pergamenus—Leotia lubrica—Polystictus cinnabarinus—Cantharellus infundibuliformis—Cantharellus tubaeformis — Hydnum nigrum — Pleurotus sapidus — Geoglossum fumosum.

Rapp, S., Florida: Polystictus hirsutus—Polystictus abietinus—STEREUM COMPLICATUM—Polystictus pinsitus—Lenzites corrugata—EXIDIA RECISA—Irpex tabacinum — Stereum ochraceoflavum — ALEURODISCUS STRUMOSUS—Polystictus elongatus—Polystictus sanguineus — POLYSTICTUS MENBRANACEUS — Polystictus elongatus—Leotia chlorocephala—XYLARIA MYROSIMILA—Stereum caperatum—Trametes lactea — Guepinia spathularia — Polyporus gilvus — Stereum sericeum.

Rodway, Prof. L., Tasmania.—Prof. Rodway is most liberal in his sendings. The following report is only as to his latest package. We have had on hand for months several packages we have not found time to study. It is amazing how many novel Gasteromycetes occur in Australasia. Prof. Rodway sends several novel species in this shipment. Mesophellia castanea—Polystictus versicolor—Polyporus adustus—"Phlebia" reflexa —POLYPORUS SUBCRETACEUS—DIPLODERMA DEHISCENS——HYDNUM PLICATUM—MESOPHELLIA ARENARIA—POLYPORUS RUDIS—MITREMYCES RODWAYI—Polystictus ochraceus—POLYPORUS LAETUS—POLYPORUS RUFORUGOSA — CORNEOHYDNUM ANOMALUM — FOMES CUNEATUS—Polyporus atrostrigous—Polyporus atrohispidus—TREMELLODISCUS MUCIDUS. A microscopic mount.

Silveira, Alvaro de Brazil: Auricularia auricula—Lentinus strigosus—LENTINUS STUPPEUS.

Stoker, Dr. S. M., Minnesota: Polystictus hirsutus —Calvaria pyxidata—Polyporus amorphus.

Taylor, Wilder, California: MESOPHELLIA TAYLORII.

Torrend, Rev. C., Brazil.—Anyone who thinks the tropical fungi are all worked out and published should try their hand on a collection like this. We have spent a number of years in the museums of Europe trying to learn names for the tropical species and about half of those sent by Rev. Torrend we can not name. Of course, he picks out the unusual things. IRPEX SPRUCEI—HEXAGONA CAPILLACEA—Naucoria hirsuta — Geaster velutinus — Polyporus Leprieureii — Pterula fascicula—Fomes tropicalis—Cyathus Hookeri—Polystictus trichomallus—Daedalea cervina—LENZITES ERUBESCENS—STEREUM LIGNOSUM—HEXAGONA TENUIS — TRAMETES ACTINOPILA — DAEDALEA STEREOIDES—Hexagona aculeata—TREMELLA VINACEA — Tramella mesenterica — POLYSTICTUS BRISILIENSIS—HYDNUM LINGUA—Polystictus porphyrites—Polyporus rheicolor—Polyporus grammicola—POLYPORUS PERELEGANS.

Towne, Stuart S., California: CYTOSPORA CHRYSOSPERMA—Fomes roseus.

Umemura, Prof. J., Japan: STEREUM SPECTABILE — HYPOCRELLA JAPONICA — Polyporus gilvus—Polyporus discipes—Trametes Dickinsii—Isaria Sinclairii—Fomes setulosus—Daedalea Kusanoi—ISARIA PATROBUS.

Vanderyst, Rev. Hyac., Congo, Belge.: POLYPORUS RUGOSUS—KRETZSCHMARIA PUSILLA —KRETZSCHMARIA ALBOCEPHALUM—SCLERODERMA VIOLACEUM—"Xylaria" flabelliformis—Polyporus durus—TYLOSTOMA EXASPERATUM—HEXAGONA PECTINATA—POLYPORUS NIGROBASUM — PTERULA WINKLERIANA — Pterula penicellata—STEREUM MULTIFIDUM.

Verwoerd, Len., South Africa: RHIZOPOGON CAPENSIS—Stereum hirsutum—Polystictus sanguineus —Polystictus versicolor.

Waveren, van E. Kits, Holland: Geaster triplex, an albino form.

Weber, G. F., Florida: Calvatia lilacina.

Wilson, Rev. James, Australia: Stereum illudens —Polystictus hirsutulus—Stereum elegans—Fuligo septica —POLYPORUS HARTMANNI (?).

Wright's Labels.—"There are many of Wright's specimens without number, the name written in imitation print and simply 'Wright Cuba' added. I have tried in vain to learn who it was that labeled them."—Myc. Notes, page 1183.

Mr. Dodge tells me these are specimens distributed by Curtis, probably, for he habitually labeled his own specimens in his early days in this imitation print. Mr. Dodge knows, for he practically has charge now of the Curtis herbarium and is familiar with the details.

New Genera.—We have received from some of the students of the University of Illinois a tabulated list of the "new genera" which have appeared since the last volume (22) of Saccardo was issued and which brought this work down to end of 1910. The list is not complete, to be sure, for the authors would not recognize a "new genus" unless it had "n. g." written after it, and in many cases "n. g." stands for "no good." A large part of so-called "new genera" are better called "new juggles," for it is an old dodge of the Karsten-Ibiza chain of jugglers to call every old section of an old genus a "new genus," and by this simple process get up a "new combination" for each species to which they invariably add their own names. Saccardo for the most part ignored these juggled names, but the students naturally do not know what are legitimate and what are juggles. But there is one thing about the publication that is most praiseworthy. It does not give the authors of these new genera. As many of them were proposed with the main idea of advertisement, the object of the "new genera" is often defeated if compilers fail to list the "authorities." On the other hand, the list gives detailed book references which are most useful and if it were the custom to cite book references instead of the "authorities," the host of self-advertisers who are engaged in hunting around for excuses to propose "new genera" and "new combinations" would soon find their trade gone. All honor to these three students who have had the courage to omit from their pamphlet the usual bombastic self-advertising of mycological literature. Their names were O. A. Plunket, P. A. Young and Ruth W. Ryan.

Prof. Fedor Bucholtz.—The eminent Russian authority on hypogaeal fungi died April, 1924, at the early age of 51 years. He suffered an apoplectic stroke in January and was never able to leave his bed up to the day of his death. Prof. Bucholtz was one of the sad victims of the misrule in Russia. He lost all his property, books and specimens during the dark days of the Russian revolution. Recently it has been located and there is a prospect that it will be salvaged. His son who writes English like a native is now a student at Cornell.

Collection notes.—Some collectors seem to think that they must be careful and not send species that they have sent before. That is a mistake. I much prefer collectors to send what they find, nice specimens, and I am much better pleased if I know the most of them on sight. "Novelties" are of course of interest, but working them up to publish is the hard part of it. We like to have a few but we would rather have a collection the *"run of the mines"* than one made up of unfamiliar things. We kind of put off opening the packages from collectors we know are in the habit of sending a few specimens but a lot of work. Send us nice specimens and the "run" as you collect and it will please us much better than only the picked out unusual things!

Proof reading.—I am well convinced I would never earn my salt as a proof reader. Never a pamphlet comes from the press but I notice mistakes I should have corrected in proof. Several occurred in the last issue, but the only one we notice that might cause any confusion is the word spores for pores in article on Trametes obscurotexta. Bad mistakes such as Lambesi for Zambesia; Fomes inbresinosus for Fomes subresinosus on page 1290 are evident on their face and should not have gone through. I have an idea they were marked on the proof but not corrected, but it is too late now to waste any time locating the man to blame for it. In this connection Saccardo was a most careful and correct compiler. It is very rarely you find a mistake in Saccardo. We do not always correct when we know the proof is not the usual custom, particularly as to capitals of specific names. It is the law now to lower-case all names derived from personal or geographical names. I do not believe much in the pidgin Latin "law," for it is abhorrent to the English and I think the old Romans knew nothing about specific names. I doubt if our modern "law makers," who for the most part did not know enough Latin to order a plate of ham and eggs in Latin, were competent to say what the old Romans would have done in cases that arose a couple of thousand years after they had passed out. If they were naming something after a friend, I expect the old Romans would have had enough respect for him to use a capital. As to geographical names and undeclinable nouns, the former of which should be (legally) in lower case and the latter in capitals, we do not pay any attention to it, and do not make the printer change his proof when he has set

it not in keeping with "law." As we look at it, such purists who insist on such unimportant points, are grasping at the shadow and losing the substance.

Russian fungi for sale.—We have a letter from Alex. F. Bucholtz, 238 Linden Ave., Ithaca, N. Y., offering for sale the herbarium of his father, Prof. Fedor Bucholtz, the late eminent mycologist of the Botanical Garden, Dorpat University, Esthonia. Prof. Bucholtz was a specialist on the recondite section known as hypogaeal fungi and was a student under Prof. Mattirolo. His herbarium is undoubtedly rich in these plants and I would be glad to see it come to this country. Some Institution with money to spend could not do better than to buy it.

Coker's paper on Geasters.—An ambitious and finely illustrated paper has just appeared by Dr. Coker on the Geasters. There are many features of the paper that are gratifying and particularly the illustrations and nomenclature, for Dr. Coker has done the right thing in adopting in most every instance the established names of the species, and no better illustrations were ever issued. There are always minor differences of opinion as to the limitation and identity of names for species, but Dr. Coker is so generally in accord with our writings that the few discrepancies are not worth mentioning. There has been no trickery whatever indulged in as regard to names. There is not a single one where the author has employed the usual cheap juggling of modern name tinkers and not a single instance where he has recognized such work. We have been investigating and publishing on Geasters for many years and there is little in Coker's paper that is not well known and mostly published. The most novel proposition is that Geaster minimus is same as Geaster coronatus. They always appeared to be different and practical species to me and we never had any trouble in determining collections for we never noted any mixture and never supposed there was any connection between them. But perhaps Coker is right. They may be conditions of growth and age or collection methods of same species.

We think Dr. Coker's historical statements are in the main correct and fair. There is an entire absence of the little misleading presentations that marred his paper on tremellaceous plants and it is a great improvement. The only actual misinformation Coker gives is in his advertising department, but as long as scientists truckle to this fetishism they will subject themselves to criticism on the facts. Thus what common sense is there in the name "Geaster umbilicatus Fr. sense of Morgan" when Morgan knew nothing whatever about the plant "sense of Fries" (and no one else does) and Fries who originated the name never saw a plant in "sense of Morgan" and did not know of its existence even. Or that old well known monstrosity (that has been mentioned before) "Geaster fornicatus (Hudson) Fries." If Lycoperdon fornicatum "sense of Hudson" and Geaster fornicatus "sense of Fries" are two entirely different and distinct things as Coker well knows and publishes, what can the mongrel combination "Geaster fornicatus (Hudson) Fries" mean? Coker knows better than to publish such foolishness as that. He has probably copied it from someone else without giving it a thought, the usual method of citing "authorities." In a great many cases it is "copy work" and has no meaning, a mere form and not much utility. But we are not disposed to dwell on these little faux pas of Coker. His paper in the main is alright and his illustrations are most useful. In addition such papers go a long way to establish a rational nomenclature and familiarize the plants under their proper names and that fact should be appreciated.

Burt's thirteenth paper.—Thirteen seems to be a lucky number for Burt, at least his thirteenth paper on Thelephoraceae, is the best one he has gotten out yet on the subject. It is largely devoted to well known things such as Cladoderris, but he adopts established names and does not jockey around for "new combinations" as in some of his previous papers. He only proposes one and that for the common Corticium salicinum and there is no criticism of that as long as he wishes to adopt Quélet's genus, and uses the established specific name.

He appears to be mystified about Cytidia rutilans used by Quélet. Well, it was only one of Quélet's wonderful proposals and has about as much claim for recognition as most of the work done by this name juggler. One author gives the advertisement as "(Pers.) Quélet," but scientists are not concerned as to the accuracy of authorities cited as long as they make a "show" and have it appear regular in due form on the face.

Burt has speculated and gave a very amusing reference to the "foetid" idea in connection with the genus Hypolyssus. That was one of Massee's jokes. Massee was the most picturesque punster that ever got fun out of the subject. He originated the "species" "Hypolyssus foetidus," it appears to me, to have a little sport with such innocent and confiding natures as Burt. There is not a scratch of the pen with the "type specimen" nor any indication elsewhere that I have seen that any Hypolyssus is even foetid. It is quite amusing to find Burt taking it seriously, and evolving his learned comments on the subject. I am sorry Massee did not live to enjoy it.

I do not know that the sayings of TSO KAY have had any influence with Burt's writings, but I believe it a fact that his last article is a great improvement over most of his post-Osler work. He still sticks to his little

fibs about the "types in the Curtis herbarium" and "probably (*sic.*) at Kew," but he has told them so often he may believe them himself now. Old men are particularly given to hallucinations. But outside of this little fiction, his article is a great improvement over his other post-Osler work, and particularly in absence of little misleading statements.

Advertising AD NAUSEAM.—In 1885, Baron Stefan Schulzer von Müggenburg von Oesterreich published an article in Hedwigia on some (alleged) "new species" and varieties of Slavonia. There were ninety (so called). I have never met a specimen of the lot in any museum, and the entire lot to this day are simply senseless, meaningless names, only encumbrances on the "literature." Not one of them was illustrated. The disgraceful part of the matter is that it was just simply a scheme for advertising. I suppose Baron Stefan Schulzer von Müggenburg von Oesterreich sent his specimens to Bresadola and Quélet for determination and this article was the result of those on which they reported "à moi inconnu." That is the kind of game Atkinson used to work to the limit. But Baron Schulzer (etc.) was certainly appreciative. He named most of them "Bresadolae Schulzer" or "Queletii Schulzer" and the few he did not so name he did not fail to get one of their advertisements in a single instance. A resumé taken off shows the following results for the ninety "species":

Schulzer advertisement	68
Quélet advertisement	46
Bresadola advertisement	40
Total	154
or	171 per centum.

The only unfortunate thing about this disgraceful proceeding is that Bresadola was mixed up in it, but I think he was only guilty of trying to help Baron Schulzer (etc.) out with his determinations. Murrill claims 81 per cent. advertisements for some of his juggles and Burt would add 80 per cent. to the specimens of Septobasidium he records having seen but up to the present time Baron Schulzer (etc.) with his 171 per cent. advertisements carries the banner.

Edible fungi of China.—It is well known that the Chinese consume large quantities of dried fungi. The collection and shipment to China of the "jew's ear" and related species is a regular industry in New Zealand and the Pacific Islands. Prof. H. H. Hu of National Southeastern University sends us Morchella esculenta and Hydnum subsquamosum which he purchased in the stores. Also he writes in reference to Phallus duplicatus: "This Phallus is highly esteemed as food. Its poisonous spores are carefully washed off before drying for sale. It is produced and sold in large quantities in Szechuen, the price runs as high as twelve dollars per catty." Also he sends dried Tremella fuciformis which he states is a high priced food. This is a rare species in most tropical countries and that they can find it in China in sufficient quantity to use as food is a surprising fact. But the Chinese are industrious collectors. In Mattirolo's collection at Turin I saw about a pound of the little Guepinia fissa that had been sent in from China as used as food, also a quantity of Tremella fuciformis.

Spanish family names.—We thank Rev. Mille for an explanation of what was to us quite a mystery, the compound names of our Spanish correspondents. "Vous me demandez se que signifie le nom Valdez que Nelson Nuñez ajoute à son nom. C'est la coûtume des pays de langue espagnole qu' on ajoute au nom du père celui de la mère, car les femmes ne prennent pas comme en France ou aux États Unis le nom de leur mari, mais conservent leur nom de famille. Donc "Nuñez" est le nom du père du jeune Nelson Anibal, et "Valdez" est le nom de sa mère. Il s'appelle N. A. Nuñez-Valdez.

The Spanish custom is a delicate compliment "to the ladies" but it seems to us would complicate matters in successive generations. It is not quite as bad, however, as the advertising system as practised in mycology. Think of a poor unfortunate fungus called "Melanconiella biansata Ellis and Everhart Berlese and Voglino"!

Naematelia globulus from Helen K. Dalrymple, New Zealand.—We considered this in full on page 1149. It is a European species, and the genus has only recently been sent in by Mr. Rodway from Tasmania. This is the first collection from New Zealand. Naematelia globulus of Europe is a pure white species, and rare there. It is held as same as Naematelia nucleata, an American species, by Burt and Berkeley. Neither one of these gentlemen had any acquaintance with both species as they grow and were chiefly guessing from similarity of dried specimens. Both species dry down to a film, excepting the calcareous nodules. The species to one familiar with them as they grow are quite different in color and habits notwithstanding the opinion of such learned (guessing) authorities as Berkeley and Burt. The European and American plants resemble each other about as much as a blackberry resembles a black raspberry, and I do not believe any one familiar with them both would state they are the same.

TSO KAY gets a boost.—"Mycological Notes No. 71 received." You are evidently putting a lot of time and

work on the task of getting out these Notes and deserve the thanks of biologists for so self-sacrificing a job. The whole world owes you a debt of gratitude for what you have been accomplishing, during many years of your life, on behalf of science. Your task of trying to get rid of those whose egotism would, if uncurbed, make not only Mycology but all of Botany ridiculous by tagging on names for advertising purposes upon plants, is worthy of commendation and much praise. Just such criticism as you are bestowing upon these men is greatly needed.

Another boost for TSO KAY.—"Permit me to add that I am interested in TSO KAY—his brief biography and bibliography. He is a cunning and apparently good natured cynic. His smile, however, is more to be feared than the frowns of some other Gods."—D.

Notes from Brazil by Rev. Rick.—"Yesterday I saw Colus hirundinosus in a sandy place so the species can be recorded from Brazil. Fomes perlevis I have found a second time but it is very rare. Haematomyces eximius I find a second time after twenty years. I hope you will be able to clear up the tropical Hypocreas. The more I collect them the more I think the tropical variability is not yet cleared up."

We fully agree on Father Rick's comments on tropical Hypocreas and it is going to take a long time to learn them. The numerous Berkeleyan names are only collections, and as yet have no real meaning. Thiessen's specimens from Brazil must be studied and a trip should be made to Stockholm to find out what they are that Rehm guessed about.

Amylocarpus encephaloides.—Dr. Erik Haglund has kindly called my attention that the statement on page 1262 that Currey in England is the only one to have found this rare little species is an error. Lindau found it on the island of Rügen and gave an extended account of it and figure in Hedwigia, 1899. It seems that its systematic position is still in doubt, but from Lindau's figure of the shape and disposition of the asci it seems to me it can not be removed very far from Tuberaceae. We thank Dr. Haglund for bringing this to our notice.

Cordyceps Robertsii from H. Hill, New Zealand.—We give a figure and account of this in our Cordyceps of Australasia. It is a most exceptional species, rather common in New Zealand. In the London museums we find it only from New Zealand, but we have nine collections now, seven from New Zealand and but one each from Tasmania and Australia.

Cyathus minutosporus from Miss A. V. Duthie, South Africa.—The material is very scanty and there are no good cups for illustration. The spores are the character, however. They are in great abundance and truly minute, measuring 2 x 4. They are only about one third the size of those of Cyathus microsporus which has the smallest spores heretofore known.

Cyphella galeata from Dr. Haglund, Sweden.—"The moss growing Cyphellas seem to be rare here in Sweden. I have looked for them much but only found them this once and Romell told me he had never found them."

Cytospora chrysosperma.—Mr. Towne advises me this was growing on willow instead of birch as I recorded it.

Elaphomyces variegatus from G. W. Martin, Iowa.—Prof. Martin who sent most valuable notes with his specimens states: "Apparently in mycorrhizal relation with roots of a hop hornbeam." It would be of much service if collectors would observe and record such information. The mycorrhizal relations of the Elephomyces species were not recorded in the classical work of Tulasne but in those days symbiotic relationship was not well known, if known at all.

Exidia candida from L. O. Overholts, Pennsylvania.—(Cfr., page 620 and 1045.) Our previous specimens are all from the West. Mr. Overholts finds it on alder in Pennsylvania. His spore record is 4-6 x 12-15, and our previous record was about the same. But we find spores surely 7 x 24, and many much smaller. Spore records supposed to be an absolute test of a species is about as varying a factor as one has to contend with.

Fomes hemitephrus from C. C. Plitt, collected in New Zealand.—This specimen shows fine the orange coloration under the crust which is apparantly the best distinction to distinguish it from Fomes hornodermus. We have considered this in detail before. Compare Vol. 5, Notes 516 and 657.

Fomes hornodermus.—We have received from Mr. Holttum an interesting note in reference to our statement on page 1298. "Your remark that the Fomes hornodermus (very large specimen) is probably eighteen years old. I think it very doubtful whether the layers represent years. They probably represent stoppages of growth owing to unfavorable conditions. In such a climate as this it is impossible to say what might cause the stoppage

or how often. I doubt if any fungus would exist for half of eighteen years without being eaten up (by insects) though of course there may be exceptions."

Hymenochaete Mougeotii from Miss H. K. Dalrymple, New Zealand.—This is the only "red" Hymenochaete known to me. I think the New Zealand sending is same as European although thinner and not so bright color. It is a rare plant in Europe, not known with us in the States. It is in the Handbook but stated to have "olive fusiform spores" and they are cylindrical hyaline, there is some doubt about it as there is to the most of Cooke's work.

Geoglossum paludosum from Dr. Erik Haglund, Sweden.—Compare Geoglossaceae, page 11. As I have previously pointed out, this plant is an example of the logic of name shufflers. Old Mougeot distributed over a hundred years ago and Persoon based on this distribution the name Geoglossum paludosum. Durand confirms the identity of Mougeot exsiccatae and then on the basis that Mougeot exsiccatae are not in Persoon's herbarium and on the testimony of Massee (*sic.*), Durand gets up an excuse not to use the Persoonian name but to call it a "new species," "Geoglossum fallax Durand." The evidence is that it is the most common Geoglossum in Sweden, not distinguished from Geoglossum glabrum by Fries because he did not use the microscope. It is the only Geoglossum that I collected in Sweden. Durand published little but he investigated a lot, and the only weakness in his work was that he used every trivial little excuse to get up a "new combination" to which to add "Durand."

Gyromitra esculenta from Prof. John Dearness, Canada.—"This specimen was taken out of a colony of plants where the mess was taken that poisoned the Simes family two or three weeks ago. There were enough left to fill a bushel basket. Mr. Simes told me they had rejected all but clean fresh specimens, soaked them over night in salt water, and cooked them for dinner in the usual way. Three members of the family were very ill, a son 16 years of age died on the third day, the others recovered." While it is a well known fact that Gyromitra esculenta notwithstanding its name causes illness at times, this is the first instance to my notice where it is fatal. Surely there is reason to suspect the whole fungus tribe when such a close relative to the Morchels turns out bad. It appears to be, however, the "black sheep" of the family.

Hexagona tenuis from Rev. C. Torrend, Brazil.—This is quite different from the usual Hexagona tenuis having a darker color and resupinate effused form. It could be called "new species" but so could many others in our Hexagona tenuis box.

Hydnum albidum from J. M. Grant, Washington.—The dried specimens of this little species as it reaches me are always yellow, hence the name does not fit very well. The fresh plant, however, is said to be "white or cream color."

Hydnum geogenium from Dr. Haglund, Sweden.—A rare plant both in Europe and States. Fries figured it but only specimen at Upsala as I remember is from Karsten. At Kew there is a specimen from Fries, but misleading as stated in our Note 87. (Vol. 4.) Dr. Haglund has only collected it twice in Sweden and neither Romell nor I found it. In the States it is equally rare. Peck collected and recorded it and we have two collections from Geo. E. Morris, Massachusetts. Banker has not recorded it as far as I have noted, and contents himself in reporting Peck's record as "determination not wholly satisfactory." I think it was chiefly his knowledge of the subject that was "not satisfactory." The feature of the species is a peculiar yellowish green color. It is well illustrated by Fries.

Isaria farinosa.—It is generally held that this is a preliminary conidial condition of Cordyceps militaris. Tulasne I think was the first to advance the proposition but I doubt if it has ever been conclusively proven. There is nothing in Tulasne's herbarium to show it and it was a deduction from "contiguity of development." While it is no doubt true it should be settled by culture experiment by someone in the laboratory. Atkinson some years ago made some experiments along this line, but he did not succeed in growing an ascus club from the sclerotoid body bearing the conidial stage.

Lentinus similis from R. E. Holttum, Singapore.—While we think this should be so referred, this was not our first impression. Lentinus similis is a most characteristic species of the East but does not occur in American tropics. Its strong character is a striate smooth pileus and a spongy covering to the stipe. Compare Vol. 4, Letter 47. This specimen has same pileus but only an indication of the stem covering. The gills are also more narrow, and more distinct and the interspeces white or pale. Compared to our other specimens it does not appear to be same, but for the present at least we prefer to so refer it.

Lenzites Palisoti from R. E. Holttum, Singapore.—There is in the tropics a most abundant white species which Persoon named Lenzites repanda. It is quite variable but its color is white. Many years ago old Palisot published a figure from Africa, the same plant as to configuration but the color was isabelline. He called it Daedalea amanitoides which is such a foolish name that Fries changed it to Lenzites Palisoti. It has

usually been assumed that Palisot's figure was badly colored for isabelline plants are of most rare occurrence.

This, however, is typically isabelline and no one would call it white. Fries, name is therefore applicable to it, and not at all to the white plant as has been misapplied.

Lysurus borealis from Miss A. V. Duthie, South Africa.—We are well convinced that Lysurus Woodii as named from South Africa, also Lysurus Australiensis as named from Australia, also Anthurus (*sic.*) borealis as named from United States, and Lysurus Clarazianus as named from Argentine are all one and the same thing. We have published on them many times. As to a "valid" name it is difficult to decide, for all were published in a crude way. We are using now the American name for "patriotic" motives although it's "discoverer" did not know the elements of phalloid classification when he named it, and put it in the wrong genus (Anthurus). It has about as much resemblance to an Anthurus as a tallow candle has to a tin funnel. Miss Duthie sends a sketch made from the fresh plant. It is well established now to my satisfaction that this species is probably cosmopolitan. It has been found in Australia, South Africa, South America, North America and Europe, and has a local name in most every country having been discovered as a new species on five different occasions. There was a kind of tradition that the South African plant called Lysurus Woodii was a smaller statue but Miss Duthie's sketch settles that old delusion. It is absolutely same in size and every respect to the phalloid as it grows in other countries.

Mesophellia arenaria from Prof. L. Rodway, Tasmania.—Perhaps the simplest plan as to Mesophellias would be to call all Mesophellia arenaria. Prof. Rodway sends me Mesophellias quite abundantly and they are very puzzling. We do not know whether to hold them as one species, or two species or four species. Some have greenish gleba and some pink and both with cores with ligaments reaching the peridium. (See Vol. 5, Fig. 911.) Others have even cores (no ligaments) (see Vol. 5, page 912) and greenish gleba and others pinkish gleba. We have already asked if we are to consider them one, two or four species and we do not know yet. This collection has greenish gleba and even cores excepting as to one specimen with pink gleba and the core gone.

Mitremyces fuscus from H. Hill, New Zealand.—We are always glad to get Mitremyces for it is one of the most curious "puff-balls." With the exception of Mitremyces Rodwayii recently published from Tasmania, this seems to be the only Australasian species. Only nine collections are known to me, five in London and four in our museum. The spores which we gave as 6 x 7-10 run in these specimens as large as 10 x 12-14. Compare also page 1170. Since above was written we have another species from Australia which is now in the printer's hands.

Phallogaster saccatus from Prof. G. W. Martin, Iowa.—A fine photograph which we do not reproduce as it would be a duplicate. We gave good illustrations of this in our Phalloid pamphlet. It is a rare plant. We have specimens from Prof. Bruce Fink, Oxford, Ohio; L. O. Overholts. Pennsylvania; H. M. Fitzpatrick, New York; Miss Ruby Wilber, Connecticut; Simon Davis, Massachusetts; G. W. Martin, Iowa; C. G. Lloyd, Ohio, Kentucky and West Virginia.

Phallus indusiatus from R. E. Holttum, Singapore.—This the common Phallus of the entire tropical world is reported also the most common species in Malay by Mr. Holttum who sends an interesting note on its development. "The initial extension of the stipe after the egg was broken was amazingly rapid. I only saw it in one specimen and was so astonished that it was all over before I could get a watch to time it. I estimate that the stipe extended 10 cm. in about 15 seconds.

Phallus merulinus from R. E. Holttum, Singapore.—I believe the old name Phallus is the best for all this group. The division into three genera, Dictyophora, Ithyphallus and Clautriavia is not only unnecessary and it is contrary to all usage to divide up and abandon an old genus in favor of all new genera. Particularly when the distinction is only theoretical, for all Phallus have veils varying from long to rudimentary. Phallus merulinus was well named by Berkeley and a most appropriate name for the pileate folds are similar to the generic idea of Merulius. It is true no type exists, but the species is the only Phallus that carries out this idea and it is just as sure as if there were a hundred types. The misnamed figure that Cooke gave has no bearing on it except Cooke's elementary ignorance of Phalloid species. The name irpicina later applied to it is only a bull for there is no more suggestion of an Irpex than there is of a porcupine. Also it is interesting to know that it is a common species in Malay as it is in Ceylon and the East in general no doubt. And just as noteworthy that it does not occur as far as known in Australia, Africa, Europe or America.

Polyporus calcigenus from R. E. Holttum, Singapore.—While we find no spores in this collection we believe on comparison it is as above, which was named and only heretofore known from Brazil. The character of the species is the smooth zoned, dark reddish bay pileus. It belongs to the rare section Amaurodermus (5) and is the third collection known.

Polyporus giganteus thick form from N. C. Fassett, Massachusetts.—We recently received this

same thick form from Prof. Stover, Ohio. It is over an inch thick and at first view it does not seem possible to refer it to what is usually a thin flexible species, but with same coloration, pores turning dark in drying, etc. I think it must be a thick form.

Polyporus Hartmanni from James Wilson, Australia.—We recognized this as soon as we saw it for there is no other species that suggests it although this bright color we never saw before. All previous specimens were "brown" as we have stated. This is "red" or rather Sanford brown of Ridgway. We stated Letter 60, Note 349, "Color of dried plant is rich orange brown, about chestnut of Ridgway.—Cooke's figure badly shows it." We beg to apologize to Mr. Cooke. His figure fairly well shows the color of this specimen. We think now the plant must lose it's red with age. It is surely a noteworthy species and only known from Australia. There are two old collections at Kew and we have now three, Miss Margaret Flockton, J. T. Paul and Rev. J. Wilson.

Another collection from Rev. Wilson we suspect must be as above but yet there is no trouble finding a difference for this has dark pores (almost black) and those of Polyporus Hartmanni are white. Perhaps this was dried at a high temperature or for some other reason the pores have darkened, but of course that is only a guess.

Polyporus laetus from Prof. L. Rodway, Tasmania.—We have this before from Prof. Rodway (Cfr., Vol. 6, page 1089). The original is at Kew, named from Australia. We have in the United States a rather rare orange species on pine usually named Polyporus aurantiacus. We have about twenty collections but in Europe it is only known from an old collection by Karsten, and in Japan from two collections. We have heretofore thought the Australasian plant is slightly different but on comparison now, I think they are all about the same. In that case our American name is much the best.

Polyporus (Gan) mastoporus from Rev. Hyac. Vanderyst, Congo, Belge.—The features of this species are its dark, hard, heavy minute pores, and strongly laccate pileus. (Cfr. Stipitate Polyporoids) This specimen is two lobed, only a freak I think. Someone has named a similar if not same freak "var. bilobum" but for me no taxonomic importance.

Polyporus proprius from Rev. James Mitchell, New Zealand.—Pileus dimidiate ¾ inch thick, 3-4 inches in diameter, probably white when fresh, but isabelline dried. Surface smooth. Context hard, pale. Pores minute hard, isabelline when dried. Cystidia none. Spores abundant globose, 8 mic., hyaline (or slightly discolored) distinctly rough. To the eye same as Polyporus Calkinsii of our Southern States, but spores are peculiar in this section. All others as far as I recall have smooth spores. It grows in Section 82, and we do not figure it as most have the same appearance as photographs.

Polyporus rudis laterally attached from Prof. L. Rodway, Tasmania.—Prof. Rodway sends this as Polyporus rudis laterally attached and on comparison surely right but if my attention had not been directed to it, I might not have caught it. There is only a fragment of the stipe attached, and Polyporus rudis is usually mesopodial.

Polyporus (Amau) rugosus from Rev. Hyacinthe Vanderyst, Congo, Belge.—This as we have previously stated is the only fairly common species of the section Amaurodermus. Normally it has cinnamon context and pore tissue and the pore mouths white when growing bruise red, and turn black in old specimens. This collection has white pores and permanent white pore mouths but we find that it is sterile and no spores developed. We believe it to be a sterile condition of Polyporus rugosus.

Polyporus (Amaurodermus) rugosus from V. Demange, Tonkin.—We have noticed this plant several times (Cfr. Stipitate Polyporoides, page 110). It is really the only one of the section that reaches us fairly frequently. The pores when in prime are white mouthed but turn red on bruising and black in drying. M. Demange states it has a red juice. "Après l'avoir cueilli j'avais les doigts, stained with blood, par le suc qui s'était dégagé, par simple contact. L'illusion de coulour était si parfaite que des amis m'ont demandé si je m'étais blesse." We knew that the species turned red, but we did not know it had such an abundant red juice.

Polyporus Schweinitzii from N. C. Fassett, Mass.—A common species but the collection color notes are worth recording. "When young surface yellow changing to brown when bruised. When old top surface darker not changing color. Pores yellowish green changing to dark olive green when bruised, then to black after gathering."

Polyporus Victoriensis from Dr. J. B. Cleland, Australia.—Pileus sessile, large, 5 x 8 inches and 3 inches thick, ligneous suggesting a Fomes. Surface with thin, pale, glabrous crust. Context brown. Pores about 1½ cm. long, coarse to eye, brown, the mouths darker. Setae none. Hymenial elements hyaline. Spores hyaline, globose, 4 mic., smooth. We believe this to be a perfect specimen of what we named from James Wilson, Australia, from an imperfect specimen. It belongs in Section 95, which corresponds to the gilvus Section (96) excepting that it has no setae. This Section (95) is rare and this is really the only large species that has come to my notice.

Noteworthy Specimens Received from Correspondents

The figures to illustrate these species will appear in the plates of the next issue

Fomes extensus from R. E. Holttum, Singapore.—(Fig. 3035.) Pileus thin, about one cm. thick, with a thin crust. Surface brown, with raised zones. Context dark brown, hard. Pores minute, concolorous, indistinctly stratified. Setae short, thick. Spores (recorded by me hyaline, globose 4 mic.) but not found in these specimens. A species that seems fairly common, but has been confused by me and others. It is quite close to Fomes senex, which never has these raised zones, and to the "feel" it is harder and more hairy than Fomes senex. It is Fomes subextensus of Murrill, Philippines, Fomes Fullageri Bres. det. of Philippines, and Fomes Yatesii mss. It belongs in Section 70. Compare Synopsis, Fomes, p. 248.

Polyporus bibulosus from R. E. Holttum, Singapore.—(Fig. 3036.) A most peculiar species. Mr. Holttum notes "upper surface spongy and saturated with water." Sessile, to a small attachment. Brown when dry, darker when wet. The surface has a spongy appearance. Context when soaked brown, swelling and with a gelatinous appearance, though not gelatinous. Pores minute, thin walls, round, rich mummy brown. The underside has a pale brown ring around the circumference where the pores are not developed. Cystidia none. Spores not found, no doubt hyaline. It belongs to Section 95, but does not suggest any species known to me. Only one specimen was sent which grew "on living tree."

An Australian Polyporus group.—There is in Australia, but nowhere else to my knowledge, a section of Polyporus with dark hispid surface which contrasts with the white or pale context and pores. The spores are hyaline. We included it in Section 82 of our Apus Pamphlet. There are four species.

Polyporus atrostrigosus.—(Pages 131, 1147. Apus, page 375, Figs. 1099, 2211). Features are the black surface contrast with white context.

Polyporus atrohispidus.—(Pages 823, 1128, 1144, Fig. 1376.) This differs from all others in the context and pores turning reddish in drying.

Polyporus setiger from J. T. Paul, Australia.—(Fig. 3037.) We considered this plant in our Apus pamphlet, page 311, but did not illustrate it. Its main differences from others of the group are its narrow reflexed pileus from the resupinate pore portion. The pores are quite minute and pale greenish. We have only one collection.

Polyporus strigoso-albus from Dr. J. B. Cleland, Australia.—(Fig. 3038.) Pileus tapering to the base. Surface brown, strigose. Context white, hard. Pores medium white, irregular mouths. Cystidia none. Spores elliptical, hyaline, 4 x 5, smooth, opaque. A plant marked as others of this section with the contrast of the dark, hispid surface with the white context. It is quite close to Polyporus atrostrigosus, but surface different color, and pores different.

Polystictus Doidgei from Miss A. M. Bottomley, South Africa.—(Fig. 3039.) Thin, rigid sessile to a reduced base. Color dark burnt-umber (much darker than Ridgway). Surface minutely tomentose, faintly but distinctly zoned. Pores minute, white with cream cast. We would put it in Section 23 with the "Micropus" group and although it has the basic color, it is much darker than the usual color of this group. The strong contrast of surface and pore colors are its salient features. Collected by E. M. Doidge on olive trees.

Polyporus rugiceps from Rev. James Wilson, Australia.—(Fig. 3040.) Pileus obconic, the pores decurrent on the stem. Surface brown, dull, marked with tubercular swellings. Context and pore tissue pale cinnamon. Pores minute, decurrent, white mouths. Stem olive brown with minute velutinate surface, rooting in the ground. Spores globose, 9-12 mic., pale colored, smooth. The section Amaurodermus (5), to which this belongs, seems rarely to produce two specimens exactly alike. This is close to Polyporus rudis (Stipitate Polyporoids, page 111, Fig. 403) having same context pore tissue and stem surface. It differs in surface (Cfr., Fig. 403), obconic shape and decurrent pores.

Polyporus tumulosus from Rev. James Wilson, Australia.—(Fig. 3041.) We have this before from Rev. Wilson (Cfr., Vol. 6, page 980) and, except these two collections, the type at Kew is all that is known. (Compare Vol. 3, Ovinus pamphlet.) It is a peculiar species. Except having a stem, the pileus with its pure white context, and thin distinct cuticle, reminds very much of Polyporus betulinus. There is a tradition at Kew that the plant produces "large masses of mycelium" (compare Ovinus pamphlet, page 87), and Rev. Wilson sends a small piece of a sclerotoid mass that confirms it. There is no Polyporus outside of Australia that is anyways close to this.

Fomes cuneatus from Prof. L. Rodway, Tasmania.—(Fig. 3042.) We believe this to be same species we published (Fomes Synopsis, page 217), based on a

specimen at Kew from New Zealand. The peculiar shape, the rugulose brown surface, and the very hard woody context are exceptional features in the genus. If it is correct in its reference, we made an error in our account of its context color, for we would call this isabelline rather than "white, with a yellowish tinge." The context is very hard, woody and difficult to cut. We are not sure there is a "context," rather the old pores, but they are not distinct and stratified as in most "Fomes," and their pore nature is only indicated under a lens. The species should be entered in 59 rather than 56.

Polystictus florideus (narrow funnel form) from R. E. Holttum, Singapore.—(Fig. 3043.) The usual shape of Polystictus florideus is shown in our figure of Polystictus xanthopus (Vol. 3, Fig. 469) and it is only a dark form of xanthopus. This collection is narrow funnel shape, and a name could be based on it, but it is the first one we ever saw and hardly worth while.

Favolus mollis from Rev. J. Rick, Brazil.—(Fig. 3044.) Subsessile with a very slight thick, short, lateral stipe. Entire plant pure white when fresh, no doubt. Surface smooth, even soft to the feel like a kid glove. Context white. Pores white, smaller than the usual Favolus. Cystidia none. Spores not found. This belongs in Section 168 with the common Favolus brasiliensis from which it differs entirely in its surface. There were two specimens sent which grew imbricate. It is very rarely that polyporoids grow imbricate, excepting sessile (dimidiate) species.

Polystictus rufo-rigidus from C. C. Brittlebank, Australia.—(Fig. 3045.) Effused with a rigid, elongated pileus. Surface reddish brown, almost smooth, faintly zoned, under a hand lens minutely hirsute. Context thin, pale. Pores minute, 1-2 mm. deep, reddish. A species that we must class in Polystictus, although it is rigid. Its affinities appear to me to be with P. versicolor, although it would go in Section 105 on its nearly glabrous pileus surface. We get so many Polystictus that we can not refer to named species, that it is embarrassing. Most of them we pass by and would prefer someone else would publish them.

Polyporus subhispidus from P. L. Dey, India.—(Fig. 3046.) Certainly this is Polyporus hispidus and probably does not deserve a name. But there is quite a difference between it and the European plant. The spores 5 x 8-10 are more narrow. The pores are larger and longer, and the context thinner. It is brown and retains its color, and the usual collection of Polyporus hispidus blackens in drying. But for all that is is Polyporus hispidus. In addition it is only about one fourth the usual size.

Polystictus roseolus cotype from Rev. J. Rick, Brazil.—(Fig. 3047.) Pileus thin, flexible, uniform surface color, with faint raised zones, appressed tomentose. Context very thin, white. Pores madder brown, thin walled, round or usually elongated. We do not know where this was published, if at all. Specimens received before were mostly resupinate, but these have good pileate development. The pore color reminds at once of that of Polyporus dichrous.

Fomes oroniger from R. E. Holttum, Singapore.—(Fig. 3048.) An inch thick, four or five in diameter. Crust hard, regulose, brown becoming black. Context very scanty (or none). Pores minute in very distinct layers, 2-3 mm., thick, buckthorn brown. Pore mouths jet black. Setae none. Spores not found, probably hyaline. The features of this are the very distinct pore layers, and the black pore mouths. I can not explain why there is no indication of black between the old pore layers, for the color of the surface of the last pore layer is black as coal. Mr. Holttum since advises me that the black pore mouths of each strata are clearly shown in all the specimens in his collection.

Polyporus medullae from Prof. H. H. Hu, China.—(Fig. 3049.) A very exceptional plant on account of the very light weight and tissue of the context. It can only be compared to elder pith. Soft, pure white, with the faintest tinge of rose. There is a thin alutaceous smooth crust which breaks up in pieces. The pores are a firmer texture than the context, minute, elongated and gaping when old. The plant has no cystidia and spores not surely seen. We would enter it in Section 86.

Polyporus extenuatus from Rev. J. Rick, Brazil.—(Fig. 3050.) Rev. Rick sends this under the above name. It strongly reminds one of Polyporus varius, but is very thin, not one fourth the usual thickness of the group. The very minute pores, the black stem, and the general color are about same as Polyporus varius. The color is about ochraceous-tawny of Ridgway.

Polyporus Beardsleei from H. C. Beardslee, Florida.—(Fig. 3051.) Mesopodial with a short stem. Surface brown, dull, soft and easily indented with the finger nail. Context white, very soft, spongy. Pores minute, brown, strongly contrasting with the context. Cystidia none. Spores hyaline, opaque, elliptical, 4 x 6, smooth. This is an addition to section Ovinus. The features are the very soft nature of the surface, context and pore tissue. W. H. Long, ten or twelve years ago, found a very similar soft plant in the sand in Florida, but if I remember it was a pure white plant. This may be a discolored specimen. Long filed a caveat on his discovery, but I think he never took out the patent.

Polystictus subiculoides from Miss A. M. Bottomley, South Africa.—(Fig. 3052.) It can be described in a few words. Producing a broad, soft mycelial pad, or subiculum on which it develops a few conchoid sessile pilei. The whole plant and subiculum is soft, made up of loose hyphae and (when dry) creamy white. Pores minute round. It has no cystidia, but numerous projecting hyphae, particularly on the pore mouths. Spores not found. I do not recall any other polypore developed in this way. The soft tissue and the pilei are very much the same as Polystictus gypseus of Japan. These specimens grew on a vertical host. It is probable that on a horizontal host they would take an entirely different shape. It is a question whether it is a Polyporus or a Polystictus.

Polystictus roseoporus from R. E. Holttum, Singapore.—(Fig. 3053.) If our figure be compared with that of Polystictus microloma, Vol. 6, Fig. 1507, to the camera they are exactly the same. Polystictus microloma has a black smooth surface and pure white pores and this has same surface but rose or flesh colored pores and context. It belongs in Section 22, a common section in the East, of which we have received many specimens; we never saw one before pink or rose color.

Daedalea Kusanoi from Prof. K. Masui, Japan.—(Fig. 3054.) This is rather a frequent species in Japan, but does not occur in the States. It is an analogue of our common Trametes sepium, but has larger daedaloid pores. It is a pure white plant and does not discolor in drying. Our photograph should fix it for all time.

Polyporus vicinus from P. A. van der Bijl, South Africa.—(Fig. 3055.) Pileus dimidiate, 3-4 inches in diameter 1½-2 cm., thick. Surface dull, white, or spotted with a reddish stain. Context white, drying very hard and ligneous. Pores minute, isabelline, distinct from context as to color. Pore mouths adustus. Spores globose, large, 8-12 mic., hyaline smooth. This is another one of that confusing white Apus section. We would enter it in Section 89, although its relations are close to Polyporus lignosus. The globose spores and a suggestion of its pale color indicate its affinities.

Strobilomyces indica from P. L. Dey, India.—(Fig. 3056.) To the eye this is exactly same as the usual European and States species, Strobilomyces strobilaceus, but the spores (globose 8-10 mic., smooth) are different. They are 10 -12 mic. and rough in our species. This probably has no name, but as the spores records of the named species are not recorded no one can tell without a study of the museum specimens, which no one has done. We simply name it pro. tem. for convenience in publishing it.

Polyporus spadiceus from R. E. Holttum, Malay.—(Fig. 3057.) To the eye this is same as Polyporus substygius and the two have been confused (Cfr., Vol. 4, Apus, pages 358 and 364). Both are thick, rigid, and better Polystictus than Polyporus. The former has colored spores and no setae, the later hyaline or (pale ?) spores and abundant setae.

Polyporus ruforugosus from L. Rodway, Tasmania.—(Fig. 3058.) Pileus sessile, dimidiate, the context pure white, the surface and pore mouths decidedly reddish. Upper surface red, strongly regulose with adpressed fibrils. Context pure white, hard. Pores small with white tissue and red mouths. It grew on carbonized wood. The pores of this specimen are young and no spores found. It belongs in Section 84, probably, white plants that go red in drying. But none other with such a surface as this.

Polyporus subcretaceus from Prof. L. Rodway, Tasmania.—(Fig. 3059.) Pileus sessile, white or at best with slight greenish tint. Surface rough with no sign of a cuticle. Flesh firm, white. Pores medium, somewhat irregular in size, the tissue and mouths white. Cystidia none. Spores in great abundance, elliptical 6 x 8, hyaline, smooth guttulate. A fine regular specimen belonging to the puzzling Apus, white, Section 82. In hunting for a name for it our general remarks in Apus pamphlet (page 302) on Polyporus cretaceus strongly suggesting it, and that also came from Tasmania. On comparison, however, not same. The shape, texture and pores are different. The pores of this are white, of Polyporus cretaceus they are isabelline, much darker than the white context. The surface of this plant suggests our Polyporus Spraguei, but context is much softer.

Polystictus eburneus from R. E. Holttum, Singapore.—(Fig. 3060.) We named this recently from a recent sending of Mr. Holttum (9695), and while on comparison surely the same species, this collection differs some. It is thicker, the pores decidedly ochraceous, and appreciably larger on comparison. Names can not be maintained, however, on slight differences like these.

Polyporus pertenuis cotype from New York.—(Fig. 3061.) Dr. Murrill got a number of good species from tropical America but none more distinct than this. Pileus thin, imbricate, dark brown, the surface densely hispid. Pores minute, darker than pileus, short, about one mm. Setae abundant. Spores very pale color, subhyaline 4x5. I think it belongs in the gilvus section and is close to Polyporus Hookeri. The spores are colored as I view them but very pale colored, and I would not class them with such plants as Polyporus hispidus with deep colored spores. Besides the general thinness of the

plant should remove it from the thick ungulate plants that comprise most of the section with colored spores. It might be called Polystictus better than Polyporus.

Solenia Moelleri from Rev. J. Rick, Brazil.—(Fig. 3062, enlarged.) Subiculum none. Densely clustered on the host. Cylindrical, glabrous, pale isabelline color. It grew on rough bark. According to our notes we saw this at Berlin from Brazil labelled Solenia nivea by Moeller, which I think was never published, and if it was the name is not available.

Favolus trigonus from Rev. J. Rick, Brazil.—(Fig. 3063.) Pileus orbicular or reniform, with short, thick lateral stipe. Surface glabrous, lined, uniform dark grey. Context white. Pores favoloid, white. Cystidia none. Spores not found. There is in the East a Polyporus called Polyporus trigonus which is exactly the same as Polyporus grammecephalus excepting the dark color of pileus surface, with hardly a hint of the usual reddish or yellowish browns. This Favolus as to surface, striatious and color is the same as Polyporus trigonus, and I believe it is the only Favolus, as Polyporus trigonus is the only Polyporus, of this color and surface.

Fomes albotextus from H. S. Yates, Sumatra.—(Fig. 3064.) Applanate or at times (pendulose) cylindrical, small, 1½ inches. Surface black, smooth, even. Context and pores pure white, contrasting with the black surface. Pores minute round, the mouths white. Cystidia none. Spores I did not get. Fomes with white context are very rare (Secs. 56 and 57). The only small species close to this is Fomes atro-albus Java (Fomes Synopsis, p. 219), and that a thin plant 3-4 mm. thick, is close but quite different from this. We present figures of two specimens, different shapes, but illustrating the changes of form due to conditions of growth. The specimen on right, the first season only was able to produce a tubercule. The second season, no doubt a good one, it developed a perfect pileus. The specimen on the left was starved all its life, and each season only made a little growth which took a cylindrical form. If Fomes species were based on shape, these two could not be classed together.

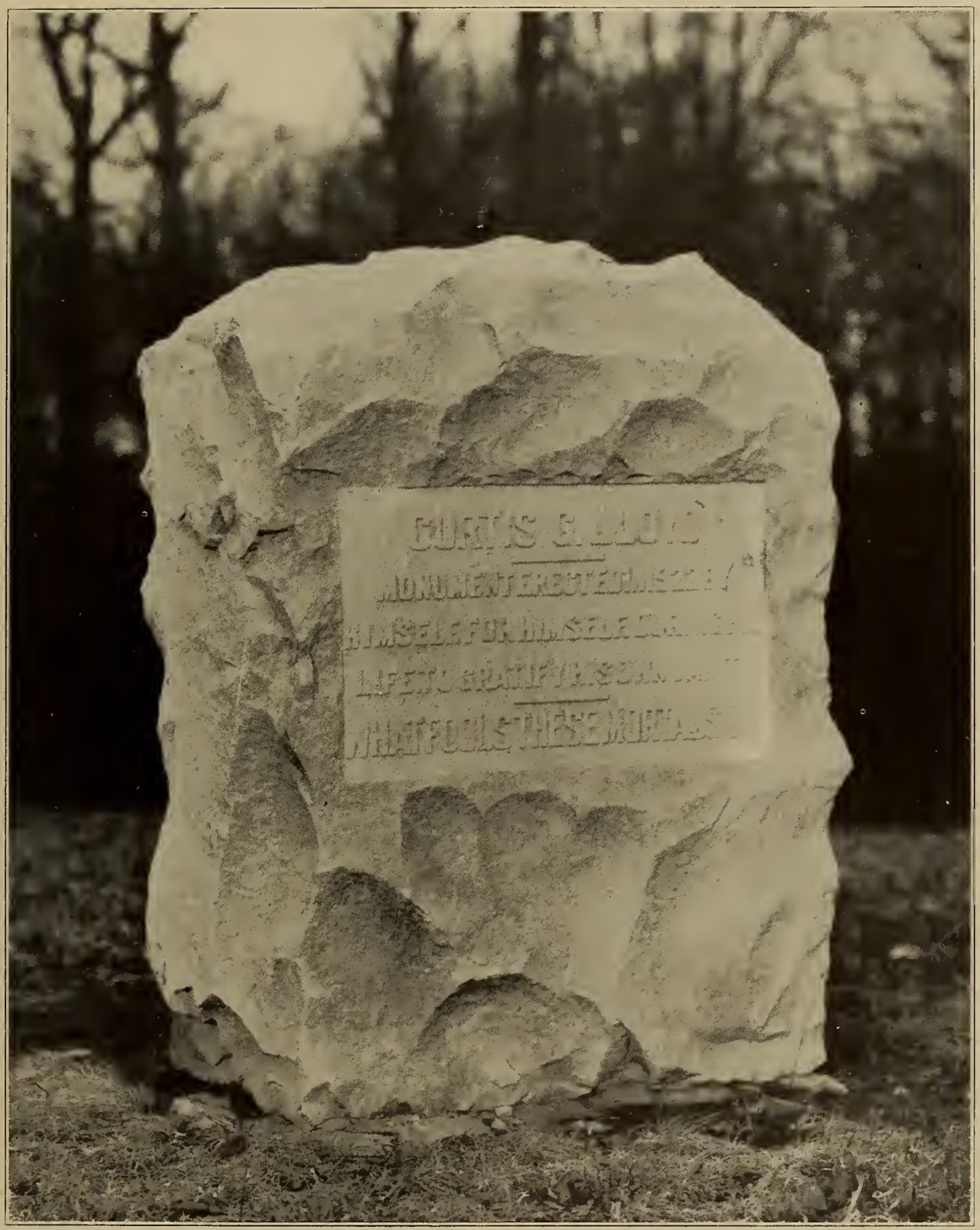
Polyporus atrostrigosus and Polyporus atrohispidus from Prof. L. Rodway, Tasmania.—(Fig. 3065 and Fig. 3066.) We have considered these several times as they were not clear when we wrote our Apus pamphlet. The last time was on page 1329. In this shipment are two fine collections from Prof. Rodway which will enable good photographs to be made although we doubt if the photographs could be told apart. The species are very close if not identical, but for me they are not the same. Both have the same dark hispid surface contrasting with the paler spores. Both have same spores, elliptical, 4x6, with large guttae. Polyporus atrostrigosus (Fig. 3065) has pure white context and pores. Polyporus atrohispidus (Fig. 3066) has isabelline, or reddish spores at least when dried. Prof. Rodway should solve such problems as that by observation in the field. While the species were so scantily represented at Kew only eight years ago that we did not include them in our Apus pamphlet, we now have four collections of the former and six of the latter, all from Australasia.

Trametes occidentalis from Rev, J. Rick, Brazil.—Like most fungi, Polystictus occidentalis varies as to thickness, rigidity and pore sizes, also size and luxuriance of growth. One specimen from Father Rick measures eleven inches by four. We label it Polystictus occidentalis although so much larger than the usual form. Its pores are thin walled (Fig. 3067, enlarged). Another specimen from Father Rick is much smaller, 4x2½ inches, but rigid and has thick pore walls (Fig. 3068, enlarged). We label it Trametes occidentalis but it is impossible to express by names the variations that fungi assume.

Polyporus recurvatus from R. E. Holttum, Singapore.—(Fig. 3069.) Sessile, with rough, dull surface with irregular raised zones. Margin thin. Color pale brown. Context scanty, concolorous (pinkish buff) with the pore tissue and mouths the same. Pores rigid, minute. Cystidia none. Spores (if correctly seen) 2x3 hyaline. This is rigid and on order of a Trametes. It matches up exactly with a cotype I have from Brazil. It was named by Theissen but whether published or not I do not know, nor what application the name has to it. (Compare Apus Polyporus, p. 337.)

DR. W. A. MURRILL.

Word has just reached us as we go to press that, owing to failing health, Dr. Murrill will probably retire from the work. No one can be more genuinely sorry to learn this than ourselves. From the persistent way in which we have combated him, there probably is an impression that we have some personal feeling against him. That is not the case. It is the system of name changing which Dr. Murrill represented that we are unalterably opposed. But for Dr. Murrill personally we have always had the highest regards and the most pleasant relations and our favorite expressions in private conversation is that Dr. Murrill is the finest gentleman that ever engaged in the mycological game. We do not blame him personally for what he did and had we been in his shoes we would have done exactly the same thing had we been smart enough. We have not heard any details of the matter, and hope the rumor that has reached us will turn out to be untrue.



A NOVEL TOMBSTONE

(See Over)

A NOVEL TOMBSTONE

"Born in 1859. Died 60 or more years after. The exact number of years, months and days he lived nobody knows and nobody cares. Monument erected by himself, for himself, during his own life, to gratify his own vanity. What fools these mortals be." That's the inscription Curtis Lloyd of Cincinnati has placed on his monument at Crittenden, Ky. Lloyd is an authority on the fungi and a chemist.

—San Francisco News, February 18, 1925.

The above is the usual reporter's accuracy. Curtis G. Lloyd is about as much a chemist as he is a minstrel man. The monument and inscription, however, is a fact and no doubt an example of his own vanity and eccentricity.

The good people of Crittenden look upon it as a kind of sacrilege and speak of it with bated breath as if it were a challenge to death. Well, it is in a sense. Everybody has to die, but the stone will have nothing to do with it. It has already stood four years.

The monument is first a burlesque on tombstones in general and second a satire on personal vanity, including the writer's and some other "old gentlemen" he knows. The usual tombstone is a parody on the virtues and vital statistics of the deceased, of no possible interest to anyone else, and he is dead. Everyone is more or less vain and some so possessed with the idea, especially in their old age, that they are a nuisance to their friends and acquaintances. They seem to think they are so important to the world, that when they die, the sun will stop, or if it does not stop, it will pause a little.

In mycology it takes the form of "new species," that is, new to the proposer; "Authorities" after the plant names, usually entirely unknown to the citer, except copied from someone else; "Juggled names," the cheapest way of introducing confusion and getting up excuses to write personal names after plant names. No one ever had a kaleidoscope on which he could ring in as many changes as the "scientist" does in his classifications and with one main object in view, "new combinations," to which he invariably adds his own name. And he calls it "science" and swells up with pride on such juggling. Charles Darwin had a different idea. He calls them "species mongers"—and Darwin was right.

The monument was intended as a hit at all these forms of vanity and particularly a satire on one or two old gentlemen. One thinks that he is so learned that he can pass on questions of fungus history that he knows nothing whatever about and never had the slightest opportunity to learn, and controvert the published conclusions of another who has had the opportunity and spent a lot of time trying to learn the straight of it. That may be vanity, too, but it is a fact. We can only add from the tombstone what Shakespeare or Puck or someone else says: WHAT FOOLS THESE MORTALS BE!! Particularly Mycologists when they get past the Osler age.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 74 (Vol. 7, No. 9) March, 1925

PAUL ANDRIES VAN DER BIJL.

Prof. van der Bijl is one of the few active men devoting his time to the advancement of mycology in the Cape region of South Africa. He can trace his ancestry back to the original Gerrit van der Bijl who settled in South Africa in 1664. His father was a farmer in the pearl district, and when a youth Prof. van der Bijl was a member of that class that has done so much for the advancement of science, a country lad. His father, a prosperous landowner, was enabled to provide him with a private governess and later send him away to the Boys High School at Wynberg and Stellenbosch. He graduated from the Victoria College in 1909 "with honor in botany." Two years after graduation he secured a situation with the agricultural department of the Union of South Africa, first as research assistant in mycology and later as mycologist and phytopathologist, stationed at Pretoria and Durban. He filled these positions eleven years and in 1921 was appointed professor of phytopathology, mycology and bacteriology in the faculty of agriculture at the University of Stellenbosch (formerly Victoria College), where he is engaged at present. The mycology of South Africa has been but little worked. A few scattered specimens drifted into Europe as long ago as Wahlenberg, one of Linnaeus' students. In the former generations J. Medley Wood and MacOwan did most of the collecting, but it was not thorough. MacOwan sent his specimens to Berlin, and they got into the hands of Kalchbrenner who published most of them. Kalchbrenner was a provincial amateur, out of touch with museums, and knew about as much about foreign fungi as he did of Egyptology. Naturally he made a mess of it. At present there are a number of good students and collectors who are working on the South African fungi and they are getting good advise on it and are doing good work. Prof. van der Bijl is one of the most active, and is doing considerable publishing. As will be seen from his photograph, he is in the prime of life (36) and has many years ahead of him (born May 23, 1888). He has an opportunity and will in time, we expect, give out a textbook on South African fungi. Such a book is badly needed, for there is nothing systematic now on the subject.

A. C. J. CORDA.

It is an unusual privilege to be able to present for the first time a portrait of one of the old mycologists. This is due to the kindness of Prof. Mattirolo who has the original in his private collection. It is thought to be the only one in existence.

Corda was a most energetic man. He prepared six volumes of drawings of microscopic features of fungi and it was the first extensive collection of this nature made. Owing to the imperfections of his microscope or his own lack of care, the drawings were often very inaccurately done, and no dependence whatever can be placed on them. It is the purest farce for anyone to dig up one of Corda's old names because he imagines he finds a drawing of a basidium in Corda that fits his plant. That was recently done in Rhizopogon. Corda, as a matter of fact, was the next man to work with hypogaeal fungi after Vittadini, and he named and figured (crudely) several of them. He sent them to Berkeley and Berkeley sent them to Tulasne, and between the two they managed to get rid of most of Corda's names.

Corda was born at Reichenberg in Bohemia in 1809, and became custodian of the National Museum in Prague in 1835. He made a collection trip to Texas in 1848. At that time Texas was hardly settled at all. Corda never returned, being lost in a shipwreck in the Gulf of Mexico in 1849. It was supposed his collections were lost also, but there are in the museum at Berlin, I have noted, a few fungi collected in Texas not marked from Corda, as I remember, but surely from him. Nothing was ever published on any of Corda's Texas collections, although he got such exceptional plants as Urnula Geaster, published by Peck years afterwards.

Prof. Mattirolo told me the history of the portrait that we present, but I do not know that I remember it correctly, or how it came into his possession. As I remember it was a sketch made from life by one of his students, or maybe a fellow student at a social gathering in one of the beer halls of Prague.

Noteworthy Specimens Received from Correspondents

Hexagona capillacea from Rev. C. Torrend, Brazil.—(Fig. 3070.) This is the second specimen known, the original from Venezuela is in Patouillard's herbarium at Paris. (Cfr. Hexagona pamphlet, page 8. Fig. 281.) In the nature of the hairs this is exactly like Trametes hydnoides, but the pores, of course, are quite different. The color is the same.

Polyporus gilvo-rigidus from Miss Helen K. Dalrymple, New Zealand.—(Fig. 3071.) Pilei thin, hard, rigid, smooth, dark brown, growing dimidiate and imbricate. Context brown. Pores minute, hard, dark brown, the mouths quite dark. Setae abundant. Spores hyaline, but not sure, as not surely seen. While this evidently belongs to the Polyporus gilvus Section (96), the color and general appearance is unusual in this group. While it is brown there is to my eye a faint indication of violaceous to it and until one finds its setae the gilvus group is not suggested.

Polyporus inusitatus from R. E. Holttum, Singapore.—(Fig. 3072.) Pileus infundibuliform. The surface smooth, brown. Stem slender, pale, growing in the ground. Pores white, large, elongated, irregular. Cystidia none. Spores globose, 6 mic., hyaline, smooth. This belongs to Section 48 and is unusual in two respects, the large pores and terrestial habits, both unknown before as to infundibuliform species.

Polystictus flavus young subresupinate from Otto A. Reinking, Phillippines.—(Fig. 3073.) We did not recognize this when received a couple of years ago and put it to one side. We probably would not know it now had we not found a well-developed specimen, the usual thing. Compared to our previous figure (Vol. 6, Fig. 1595) they would hardly be considered the same, and yet we are convinced they are only different conditions, ages and development of the same thing. When a "species" varies so, there is little wonder that no two men ever agree as to determinations.

Polystictus glauco-effuses from P. A. van der Bijl, South Africa.—(Fig. 3074.) Pileus effuso-reflexed, elongated, about an inch wide. Surface finely pubescent, light ochraceous brown, not zoned. Context thin, isabelline. Pores glaucous grey, minute round, or elongated (according to position). No cystidia or spores seen, but the white hymenium has numerous projecting hyaline hyphae. When we saw this specimen the glaucous grey pores recalled to us at once Polystictus glaucoporus, which we named recently for Prof. Bijl (compare page 1334), but on comparison we find an entirely different habit and pileus surface. This we would enter in Section 111 (rather than in 117).

Stereum spectabile from Prof. J. Umemura, Japan.—(Fig. 3075.) We gave a figure of this from specimen from Prof. Umemura in Vol. 5, page 745. The species is quite peculiar and can be recognized to the eye. The little pilei are densely imbricate, and incurve in drying as shown in the figure. In addition it has peculiar structure, but where a species can be recognized on sight, it is only confusing things to dwell on its "structure."

Stereum translucens from R. E. Holttum, Singapore.—(Fig. 3076.) Pileus orbicular, thin, reddish brown, smooth. Hymenium pale. Stipe slender, distinct, lateral, black. Mr. Holttum states "on wood, thin, translucent." It differs from others of this section in its very thin texture. I thought it was something gelatinous until I soaked it up. It belongs in Section 9.

Hexagona pectinata from Rev. Hyacinthe Vanderyst, Congo Belge.—(Fig. 3077.) Pileus small about 2 cm., with a short, thick, stipe-like attachment. Color dark brown, almost black on top. Surface most peculiarly marked with black, coarse, appressed fibrils (Fig. 3078, enlarged), some erect. Context dark brown. Pores small, shallow, regular, arranged in rows. Cystidia none, but hymenium with projecting, pale-colored, slender hyphae. Spores not seen. This will have to be entered in the first section (Setosus) of our pamphlet, although it is smaller and little suggestion of any other species. The peculiar striate margin caused by appressed fibrils have some suggestion of the teeth of a comb.

Stereum Miquelianum from R. E. Holttum, Singapore.—(Fig. 3079.) In our Stipitate Stereum pamphlet, Section 4, "growing on wood," we referred to Stereum surinamense, a plant we found abundantly in Samoa which was infundibuliform and had both surfaces a similar dark color. This is quite alike, but the hymenial surface is pale (almost white), contrasting with the upper surface, and for that reason we refer it to a species named by Montagne, but no specimen found and hence not sure. However, that is better than to propose it as a new species.

Polystictus glaucoporus from P. A. van der Bijl, South Africa.—(Fig. 3080.) What confusing situations do come up in classification! Here we have a plant that we are convinced is a Hexagona as to relations, the section Tunuis, the same in everything, excepting in its pores, and Hexagona is based on pores. Thin, applanate, rigid, sessile. Surface pale, dull, rugulose. Context brown. Pores small, elongated, angular, strongly glaucous. Cystidia none. Spores not found. We enter this in Section 117 with Polystictus luteo-olivaceous, but

to our mind this section is more closely related to the section Tenuis of Hexagona than to Polystictus, excepting as to pores. The word Polystictus has a usual meaning of flexibility, which is just the contrary of this group of plants.

Fomes longinquus from Prof. K. Masui, Japan.—(Fig. 3081, section.) Color dark chocolate brown, almost black. Resupinate as to this specimen. Pores narrow, 1-2 mm., with distinct setae, and no spores found. We would add this to Section 69D, although in absence of definite information as to spore color, it is not sure. Also it could be called a Poria, but the Fomes-Poria section can be called either. Most of them we prefer to call Poria, but this, with its obvious strong stratified nature, is a better Fomes. The narrow and marked pore stratae are unusual, even in Fomes. If each layer represents a year's growth, the specimen is about twenty-five years old.

Stereum dubium from H. Hill, New Zealand.—(Fig. 3082.) Orbicular to a short lateral stipe. Pure white when young, becoming at length cinereous. Upper surface smooth, glabrous with faint indications of striations. Hymenial surface smooth, cinereous. Spores globose, 8 mic., hyaline, smooth. I do not know that this is a Stereum even; I doubt it. The hymenial section is entirely different from a Stereum, as also the general aspect of the plant. I find no basidia unless what I take as abundant spores are its basidia. They do seem to be imbedded rather than borne on basidia. We will give a figure from which it can be identified, and let someone else with younger eyes find out what its basidia are.

P. S.—After the above was written and in the printing form, we sent a little frustule to an expert microscopist and she advises she thinks not possible a Stereum. We will, therefore, hold it as well named until we can learn more about it. Much embarrassment results from the pedantic idea that flourishes nowadays that a fungus can not be named until its basidia are known, for in many tropical dried specimens we receive the basidia do not persist, and in all such cases, if they are ever found on the fresh specimen by some future student, it leaves a loophole for some very unjust criticism.

Thelephora spathulata from H. E. Parks, Tahiti.—(Fig. 3083.) Growing in the ground with a rooting base. Small, spathulate, petaloid, with a lateral stipe. Surface rugulose, striate, pale. Hymenium even, dark. Spores typical of the genus. Quite close to our Thelephora regularis and multipartita (which for me are practically the same). Different in its entire pileus margin and darker hymenium.

Stereum radians from Dr. S. J. Bonansea, Mexico City.—(Fig. 3084.) Pileus thin, rigid, glabrous, reddish brown, zonate, strongly striate, usually fan shape, tapering to the base. Hymenium smooth, paler than surface. Cystidia or ducts none. This is a frequent species in American tropics, but it has been badly confused. (Cfr. Myc. Notes, page 429 and Note 159.) Stereum versicolor is the name applied to it lately by one who has been reading Mycological Notes, but who did not know anything about it from his own investigations. Neither Fries nor Berkeley, who had both the old historical collections, ever connected them, nor did Burt until he read Mycological Notes, and then he failed to acknowledge it. In the meantime the name Stereum versicolor has been misapplied commonly to an entirely different plant, and hundreds of so misnamed specimens are in the museums. That fact, however, I suppose, will cause no "confusion," as the sacred principles of priority have to be applied, even when the name has no application whatever to it.

Aleurodiscus strumosus from S. Rapp, Florida.—(Fig. 3085.) We gave a poor figure of this in Vol. 6, Fig. 1677. It is a species easily known when learned, for its bright egg-yellow color, thick, hard texture, and resupinate habits, can not be confused with any other known to me. For many years it was called Stereum and that is where the usual collector would place it. Unfortunately the experts conclude it is an Aleurodiscus, but it is so filled with granular matter that its "structure" has not yet clearly been made out. They have not found its "basidia" to this day, and until they find them, they do not know what it is. In old days, when they called it Stereum, there was no trouble to classify it, but now they are liable to call it anything. I have a feeling when they find its basidia, they will not call it Aleurodiscus.

Cladoderris Blumei from R. E. Holttum, Malay.—(Fig. 3086.) To our mind the hymenial configuration of Cladoderris is the most beautiful pattern that fungi assume. The most skilful lace worker could not evolve a prettier one. Heretofore we have called this Cladoderris infundibuliformis on the grounds of "priority," but it seems a pity to apply such an unwieldy name to a plant to which it usually has (as in our Fig. 3086) no application whatever. We have no particular love for Léveillé, for we consider him the most obvious farceur that ever named fungi, and his discovery of this as a "new species" has no particular merit as a discovery. But the name is much better than the misleading and contradictory name we have heretofore used. It is rather awkward to determine a species as "infundibuliforme" when it usually has no suggestion of the name.

Stereum frustulosum from James Mitchell, New Zealand.—(Fig. 3087.) We considered this plant on page 697, Vol. 5. We believe this is the first time we have gotten it from Australasia, although a most common species in the States on oak. The New Zealand plant has smaller, more regular, frustules than our plant, forming a beautiful pattern. Indeed, we sectioned it before we felt sure about it. The tendency of modern mycology is to make the subject as difficult as possible. They enter into the most minute, anatomical microscopic details, and neglect features obvious to the eye. Lowater says that is pedantry. We have given a reference to the "structure" of Stereum frustulosum in our previous article, but if anyone finds a fungus looking like our Fig. 3087 it is a safe proposition that it is Stereum frustulosum, and he need not get out his microscope.

Septobasidium protractum from Miss A. M. Bottomley, South Africa.—(Fig. 3088.) I am glad this was sent named for there is no means of learning the genus except from specimens and I would not have named it. The most of the published accounts in this country are not practical. One good photograph and plain description in English, such as Snell recently published in Mycologia, is worth, for practical purposes, to me more than the twenty pages of Burt's recondite issue. The tending of modern "science" is to hide all the plain things to be seen and specialize on obscure microscopic structure. There is more mystery about it than the work of an Indian fakir. I believe I would recognize Snell's species from his account and photograph and it is the only one of our American species I could recognize from any publication. Septobasidium protractum grew on Prunus domestica and to eye, color and host recalls Septobasidium Burtianum (McG.) of our Southern States. It has, however, when young, a coat of minute velutinate processes, such as I have never noted on another species. One other, Septobasidium ramealis of Brazil, has similar processes, but on a giant scale compared to this. Compare Vol. 6, Fig. 1539. It requires an enlarged photograph (Fig. 3089) to bring out this characteristic feature in this species from South Africa.

Stereum lignosum from Rev. C. Torrend, Brazil.—(Fig. 3090.) Woody, hard, ligneous, growing merismatoid from a hard rooting base, like Stereum elegans. Entire plant dark. Hymenium dark, uneven in sections. No spores found sure. There is no such Stereum of a hard, woody nature known, and this could be made a new genus if it were worth while. The spores of a scraping are globose, 4 mic., small, hyaline, and they are probably right. The dark hymenium suggests Thelephora, but if so, there would surely be abundant colored spores.

Stereum elegans from P. L. Dey, India.—(Fig. 3091.) A common species in the tropics. Compare Synopsis of Stipitate Stereum, Vol. 4. These specimens, however, do not have the pilei as dense or confluent as the Fig. 539 we previously gave. I doubt now if Stereum Ravenelii of our Southern States is really distinct from Stereum elegans. The figure we gave, while of the type, are small specimens.

Stereum bombycinum from C. C. Brittlebank, Australia.—(Fig. 3092.) Plant with an irregular rooting stem-like base, evidently growing in the ground. Pileus orbicular, depressed. Surface finely silkly, pale cervine color, not zoned. Hymenium ochraceous. Cystidia none. This goes in Section 5 of our Stipitate Stereum pamphlet, but it has no suggestion of the other two species there included. It is the only Stipitate Stereum with a silkly pileus surface known to me. There is a common sessile species on branches with us in America, named Stereum sericeum from its silkly pileus, but it has no other suggestions of this.

Stereum adnatum from Miss A. M. Bottomley, South Afriea.—(Fig. 3093.) Closely adnate to host with only an indication of a free margin. Surface cinereous, rugulose, cracked. Context white. A section shows me nothing distinctive in way of cystidia, ducts or vesicular cells. To the eye it is close to Stereum rugosum of Europe but this is not a bleeder. Collected by E. M. Doidge on rotten wood.

Stereum complicatum from S. Rapp, Florida.—(Fig. 3094.) We photograph two collections of this common species to show how the same plant will vary. One largely resupinate with small crisped pilei! The other larger, regular and no resupinate development. "Species" is simply a question of knowing them by familiarity with them. No one can put into words or even put into pictures an account by which they can be surely known. Variation, the largest factor in nature, is the smallest factor with the new species promoters. What is one man's species, is another man's varieties, or even not considered entitled to a name. You can not regulate such things. They must be taken as they are. Stereum complicatum was so named by Fries and so employed generally in American mycology. Thirty years ago it had no other name in use and it is an excellant name for it. Then Burt dug up the name rameale from current synonymy where it had been considered as a variety of hirsutum, got out his date dictionary and proposes to substitute it for the established name of sixty years and the name under which he learned it and determined it for many years. This, of course, was according to the demands of priority and he exhibits the date (1822) to justify his innovation. He did not know, or he did

not care, that Persoon used exactly the same name as Schweinitz did, but for a different plant in 1799, which was twenty-three years "prior" to Mr. Schweinitz. What a lot of contradiction there is in the world of the date dictionary jugglers. Stereum complicatum is a most common species around Cincinnati and it could well be held as a variety of Stereum hirsutum. However, we never find Stereum hirsutum typical here, as we find it so common in Europe. But collections received from correspondents are often hard to refer definitely to either species.

Stereum (Hym.) Cacao.—(Fig. 3095.) Pileus thin, rigid, brittle. Brussels brown tobacco color. Surface minutely velvety, narrow zoned with raised zones. Context thin but rigid. Hymenium darker brown than the context. Setae dense, thickened. This is a frequent species in the tropical regious of both hemispheres. We have a dozen collections. The rigid, thin, brittle pileus distinguish it to the eye from most other similar species.

Stereum (Hym.) variegatum from R. E. Holttum, Singapore.—(Fig. 3096.) This is quite close to the preceding (Stereum Cacao), and at first I was so disposed to refer it. It is more glabrous, however, and the pileus zones are variegate with a few of metallic cast, but not a strong contrast. It was named from the Philippines a few years ago and is the second Philippine species that Mr. Holttum sends from Malay, for the first time from any other country.

Stereum (Hymenochaete) molle from R. E. Holttum, Singapore.—(Fig. 3097.) This is the only Hymenochaete of a soft tissue. It is well named. A section shows it composed of loose hyphae and it is the only one noted of this nature. The color of both surfaces is a uniform "tobacco" color and it is not easy to the eye to tell which is the hymenial face. The setae are dense and usual. The plant was originally collected and named from the Philippines (Robinson, 9104), and I believe this the second collection known. The plant can be readily known by its soft tissue. The name "molle" is alright as Hymenochaete, but if pileate species are called Stereum, it becomes a duplicate.

Stereum fasciatum (the shape of fungus).—(Fig. 3098.) Stereum fasciatum grows in such abundance, especially on old beech logs in the States, it is a nuisance. Usually growing on the side it is flat, dimidiate from resupinate development, but if on the top, it takes a tubular or cornucopia shape. Our figure represents the normal shape and the tubular shape. One will find a hundred specimens of the former for one of the latter. Shape is not characteristic of species, but usual shape is. The form that fungi assume is largely influenced by their position of growth. One would be justified on receipt of a specimen of the tubular form to call it a "new species," for while we have seen hundreds of specimens of Stereum fasciatum in the museums, we never noted a single one that has taken the tubular form.

Stereum Thwaitesii from T. Petch, Ceylon.—(Fig. 3099.) This is not the plant that I have referred to Cladoderris Thwaitesii from China (Vol. 5, page 774), and perhaps that was wrong. Prof. Petch is in better position to know, but the "type" was inadequate, and should not have been named at all. It is an example of the work done by the old namers, who named collections, and often a case like this, most miserable ones, and really knew nothing at all about them as species. The note Prof. Petch sends and the photograph we publish will fix the species, and as it is a Stereum, it makes not much difference whether it is or not the plant Berkeley thought he named Cladoderris Thwaitesii. "I also send Cladoderris Thwaitesii." I find I have known this species (but have not recognized it) for many years. It grows in rosettes in the bases of old bamboo clumps, but for some reason the rosettes never developed pilei beyond a centimeter or two high. Last year I got better specimens. When fresh, it is white on the dorsal surface, becoming pale brown; usually not zoned, thick, fleshy; not cartilaginous. The hymenium is white, then purplish, then fawn or brownish fawn when mature. Every part turns pale red when bruised or cut. The spores are white, globose, 5-8 mic. in diameter. I note you say Cladoderris Thwaitesii has cystidia, but I have not found them. This species to me appears to be a Stereum. When fresh it does not show any ribs. The hymenial surface may be undulating, but it is not ribbed. The ribs only appear in drying.

Cladoderris dendritica (photograph of fresh specimen by T. Petch, Ceylon).—(Fig. 3100.) One does not really know a species unless he is familiar with it fresh. Prof. Petch's dried specimen has the usual hymenium (as I know it). Compare Vol. 4, Synopsis Cladoderris, Fig. 522. But his photograph of the fresh hymenium I should have said was not possibly the same species if he had not sent the specimen. Prof. Petch favors us with an interesting note: "I also forward herewith specimens and a photo of Cladoderris. The latter, which is our *Cladoderris dendritica,* I found for the first time last Christmas. It grew on a dead Calamus, shortly stalked, either laterally or dorsally. The photo is of a dorsally-affixed specimen, and the stalk has gone to nothing in drying. The lower side was very convex when fresh, and consequently the white margin is lost in the photograph. I was particularly struck by the difference in appearance between the fresh and the dried specimens. In the young, fresh specimens the hymenial

surface consists of rounded folds radiating from the base, and these are so close to one another that one sees a radiating series of furrows, not of ridges. As the fungus increases in size these folds branch and appear to over-ride one another, but when the specimen is dried they shrink to narrow, more or less distinct ridges. The specimen sent is the one photographed. The fungus is cartilaginous when fresh and shrinks strongly in drying. The hymenium is pallid, and the spores white, globose, 3-4 mic. in diameter, or oval, 4 x 3 mic., very minutely warted."

Hymenochaete sphaeriacola from James Mitchell, New Zealand.—(Fig. 3101.) Resupinate, no distinct margin, growing on an old Sphaeria (Hypoxylon ?). Color Indian purple, dull to the eye. Setae very numerous, deeply imbedded, projecting 50-75 mic., not typical as setae, for while some are deep colored, others are paler. The habit and color will fix this species. It is closely related to Hymenochaete purpurea but a quite different color. The purplish color, however, is rare in Hymenochaete.

Stereum coalescens from P. L. Dey, India.—(Fig. 3102.) The tropics afford many plants that are hard to refer to established genera. This is not a Stereum, at least not like any known Stereum, and is a "new genus" in fact. There is nothing else known at all like it. It seems to grow a confluent mass with the appearance of separate pilei that have grown together and formed one hard, solid mass. Stereum elegans sometimes has a tendency this way but only an indication compared to this. Our photograph of the top of the plant will show this feature. The color is brown. No distinct hymenium is formed and there are no cystidia, and I found no spores. It grew in ground at Almora Himalayas and was collected by S. D. Joshi. Our figure will locate it at once if ever found again.

Stereum conchoides from Rev. J. Rick, Brazil.—(Fig. 3103.) Pilei small, conchoid, with attached resupinate development. Surface smooth to eye (hyaline hairs under a lens), striate, faintly colored. Hymenium pure white, soft to eye. Cystidia hyaline, obtuse, thin walled. Spores 4 x 5 piriform, smooth, hyaline, guttulate. This has a faint suggestion of Stereum radians but different shape, and much smaller and paler color.

Tremella hemifoliacea from Miss A. M. Bottomley, South Africa.—(Fig. 3104 dried and Fig. 3105 soaked.) When we first saw this it was something out of the usual, for we never saw a Tremella that dried down to a thin brown layer (Fig. 3104). When soaked it developed in perfect cerebriform fruit bodies over portions of the surface but not all (Fig. 3105). As to color consistency and "structure" it is same as the European species Tremella foliacea, but a comparison with our Fig. 1195, page 793, well demonstrates that it can not be the European plant. We will not further describe it, for, excepting its different method of development, it is same as Tremella foliacea. The brown color is exactly same, but collector's notes were a mass of dirty-white jelly.

Irpex javensis from Dr. C. van Overeem, Java.—(Fig. 3106 and Fig. 3107, teeth enlarged.) We would withdraw our article on page 1143 as Gramnothele javensis and reclassify it as above. A close examination shows the surface not elongated ridges, but adpressed teeth. The general effect is a Gramnothele, but it is not. The teeth are distinct but so closely adpressed that they give a lined effect. We have just received from Malay a collection that is our idea now of Hymenogramma javensis on comparison with a photograph we have of the type. It is not the plant we got from Dr. Overeem and our determination was a mistake due to lack of care. Osler was right.

Stereum radiatum from Prof. K. Miyabe, Japan.—(Fig. 3108.) This is a very exceptional Stereum, with the tobacco color and appearance of section Hymenochaete, but no true setae. It is rather rare in Northern United States and heretofore only known elsewhere from Russia. Prof. Jaczewski told me he had collected it on rotten wood in a greenhouse in Russia, and Prof. Miyabe reports it "on the decaying board used in wooden water pipe." It may therefore be adventitious in both Russia and Japan. While the specimen from Japan has not the ridges on the hymenium which marks our American plant (Fig. 3108), there can be no question about it. The peculiar color and absence of setae fix it definitely. The hymenium is concolorous and soft velutinate to the eye. A section shows this due to a coat of hyaline projecting hyphae. Undoubtedly the same plant was named from a New York specimen, Thelephora corrugata, by Léveillé, in 1846, but the type is not at Paris in its regular cover. It may turn up some day and then Prof. McGinty will get busy with the usual juggle based on "priority."

Aleurodiscus atlanticus from Prof. R. Maire, Algeria.—(Fig. 3109.) As we have previously given figures of all species of Aleurodiscus known to us, we are glad to publish a figure of this. In a general way it recalls Aleurodiscus disciformis to the eye, but it can be distinguished, I think, even to the eye. We do not know its microscopic characters, for we have not the pamphlet where Prof. Maire has published it, and our old eyes now do not permit us to work with the microscope any more than absolutely necessary. It was

published in Bull. Soc. d' Historic Nat. Nord. d' Africa, 1917, page 157.

Tremella philippiensis from Dr. J. B. Cleland, Australia.—(Fig. 3110 enlarged.) This is a very much smaller plant than the original from the Philippines, not a quarter as large. Compare Vol. 7, page 1117, Fig. 2114, but with same characters as far as I can note; I think we will have to so refer it. In brief, it is a very small, pure white cushion-shape Tremella, with basidia and spores typical of the genus.

Stereum replicatum from Rev. J. Rick, Brazil.—(Fig. 3111.) Pileus strongly plicate, glabrous, ochraceous, tawny, not zoned, reduced at base to a short stipe. Hymenial face strongly plicate, yellowish, glaucous, glabrous. Cystidia none. A strongly marked species, suggesting only Stereum radians, but much thicker and more strongly radiate, and not zoned.

Stereum nigrobasum from Rev. Hyacinthe Vanderyst, Congo Belge.—(Fig. 3112.) Pileus petaloid, spathulate, with a distinct lateral (rarely pleuropodial), short stipe. Color reddish bay with a dark spot (on both sides) at the base. Surface glabrous to eye. Under lens, with hyaline erect hairs, 40 mic. Hymenium smooth. No cystidia or spores found. This species (Section 3) is quite close to Stereum affine, but marked from all others by its black base. It grows on wood. We judge Prof. Burt has named this from Java since above has been in type, but we are not sure.

Stereum viridans from Rev. J. Rick, Brazil.—(Fig. 3113.) Pileus thin, spathulate, ochraceous, tawny on the glabrous margin, but with a minute greenish tomentum over most of the surface. Hymenium smooth, pale hazel. Spores globose, 4 mic., hyaline, smooth. Cystidia none. I suspect the plant has ducts, but I did not find them. It is a faint "bleeder," however, or at least turns slightly red when moist and scratched. The greenish tomentum is hyaline under the microscope. I see no indication that it is caused by an algea as would appear to the eye. Rev. Rick, who suggests the name, states "the tomentum viride is natural, not caused by adventitious growths as it would seem."

Lenzites betulina (pure white) from G. W. Martin, Iowa.—(Fig. 3114.) This is a pure white, smooth specimen, with a little reddish cast above, not zonate at all. It should have a distinctive name, for it is unusual as it is marked. As we have often stated, it is not practical to name each form of such plants as Lenzites betulina, Polystictus versicolor, Fomes applanatus, etc. If one starts that, he would soon have as many names as he has specimens.

Hydnum subzonatum from J. M. Grant, Washington.—(Fig. 3115.) The section of Hydnum with white spines and white spores which was separated out by Fries eighty years ago, has been called by modern jugglers Calodon, Phellodon, etc. All are fragrant, particularly in drying, and most have been at times considered as being Hydnum graveolens, as well as other (brown) species that do not even belong in the section. There are two divisions of the section easily made. The first has a duplex flesh, the upper layer soft, pubescent. Hydnum nigrum (called Hydnum albonigrum in this country) is the common species. The second section has a thin, uniform flesh, the surface smooth and glabrous. There are two color forms of the most frequent species. Hydnum melaleucum, as well named by Fries from the contrast of the dark surface and white spines, was first named and beautifully figured by Schaeffer as Hydnum pullum. It is the only good figure of it to this day. We have in this country (not in Europe, as far as I know) what appears to be a different species, but close. The color is brown (not black) with a paler margin and zoned. Peck named it Hydnum subzonatum (as a variety) and we believe it is good. Schweinitz is alleged to have named it Hydnum coriaceo-membranaceum, but no evidence exists, and on its face it is the vaguest kind of a guess. It should be added that the plant is in a different group from Hydnum zonatum.

Calopposis nodulosa from N. C. Fassett, Mass.—(Fig. 3116, enlarged.) Growing in a tuft on poplar bark. Clubs confluent at base, or rather proceeding from a common body. Color yellow. Consistency all gelatinous. Basidia forked. Spores 4 x 8. The specimen is young, but spores and basidia plainly seen. There is no question about their general nature. We have no genus of tremellaceous plants of this nature. A basal, cushion-like body from which proceeds clubs like those of a Calocera, and same basidia and spores as a Calocera. It has the same general appearance as a cedar apple. While Mr. Fassett found but one specimen, it is so peculiar we do not hesitate to publish it after satisfying ourselves as to its basidia and spores. We hope Mr. Fassett another season will supply more ample material.

We wrote the above several years ago, but did not publish it as the presentation of such an exceptional thing should be founded on more than a single specimen. However, Mr. Fassett has not since found it, but the receipt of the same genus, if not the same species, from Australia justifies its publication. When we received the plant and first soaked it, the clubs were erect, but they have been mashed down since, and do not show to advantage in our photograph now.

Lenzites furcata from Rev. J. Rick, Brazil.—(Fig. 3117.) This is a rare species, corresponding to

Lenzites betulina, excepting as to its narrow, close gills. It was named from Brazil, Daedalea furcata, about a hundred years ago and the type is at Berlin in good condition. Compare page 1106, Fig. 2029. Rev. Rick sends a fine collection and our photograph tells the whole story.

Lenzites erubescens from Rev. C. Torrend, Brazil.—(Fig. 3118.) This is a most unique species, being the only Lenzites known with a stem. It is the victim of bad naming, for there is no suggestion of erubescence about it. Rev. Rick wrote me "it is most common in Brazil" (but it is only known from tropical America). Notwithstanding that, it is unique, nothing else anyways near it. Léveillé, Spegazzini and Hennings have each discovered that it is a "new species." Surely if such men would first learn a few of the most marked "old species" there would be much less of that "new species" work done. And there is not the slightest excuse for a plant as characteristic as this.

Calocera guepinoides from Dr. J. B. Clelland, Australia.—(Fig. 3119 enlarged.) We figured this in Vol. 6, page 1051, but our enlarged figure will give a better idea of its shape. It is flattened with the hymenium amphigenous, hence not a Guepinia, although to eye (except color) very suggestive of Guepinia spathularia. Some are simple, but most are bifid at the top. We do not know how we came to compare it with Dacryomitra lutea which is a cylindrical plant with distinct head from the stipe.

Calopposis damae-cornis from Dr. J. B. Cleland, Australia.—(Fig. 3120 and Fig. 3121 enlarged.) Several years ago we had a single specimen of this same "genus" from Massachusetts. (Compare previous plate, Fig. 3116.) It is a curious thing, a "Calocera" with the clubs proceeding from a basal cushion, hence a Dacromyces-Calocera, half and half. Color pale white, with the slightest yellow tint. Clubs short, thick, obtuse, with bases united into a cushion-shape body. Basidia hyaline, forked. Spores 8 x 16, slightly curved, one septate, hyaline. It reminds somewhat of Moeller's figure of Tremella cornudamae, but this is not a Tremella. Neither is it a good Calocera, but it has Calocera basidia and spores. The strands on our enlarged figure are cotton threads and have nothing to do with the plant.

Dacryomitra minuta from Dr. J. B. Cleland, Australia.—(Fig. 3122 inaccurate, enlarged.) This was most scantily sent; a single minute specimen with a filiform stem and a small globose head, a scant mm. in diameter. The color is pale yellow, and we feel with an enlarging lens we can present it so it will be recognized at once if ever found again. We did not destroy it to examine basidia and spores, but no question same as Calocera, etc. Our figure is inaccurate. When first soaked out the head was globose, but we delayed to photograph it and in the meantime it had dried and no way of bringing it back. The gelatinous head is quite a different texture from the stem, and most of it sloughed off before our photograph was made. We think nothing else can be confused with it, however.

Pterula sclerodontia from R. E. Holttum, Singapore.—(Fig. 3123.) Our previous figure 1692 did not show the subiculum as well as this does, hence we give another figure. It seems frequent in Malay. It is an ambiguous plant, named Hydnum sclerodontium by Berkeley and considered by us on page 931 as rather a Pteurula. However, it is a question that can be held both ways and probably will not be held as either when its basidia are known. It can not be mistaken from our figure.

Heterotextus flavus from Dr. J. B. Cleland, Australia.—(Fig. 3124.) We named this from Tasmania (Vol. 7, page 1151) and these are the first we have from Australia. The plants are an orange yellow, and different in shape from any tremellaceous plants we have in the States, but quite close to Heterotextus peziza-eformis (of Australia), excepting in attachment. This is a shelving fungus like a Stereum, attached by a broad base, with reflexed pileus, and hymenium on lower side. The spores (larger than we recorded) are 8-10 x 20-24, hyaline, and seven septate. They are very abundant in this collection.

Pterula penicellata from P. L. Dey, India.—(Fig. 3125.) We give a figure of Mr. Dey's plant and on comparison with our Fig. 1466, Vol. 5, page 864, it will be conceded to be the same. It is strange that a species only known from the United States should first turn up in India.

The sporangia of Fuligo from James Mitchell, New Zealand.—(Fig. 3127 enlarged.) Fuligo septica in its many and confusing forms, or species, if one wishes, is a common plant everywhere. Usually when it is received it is a mass of powder, for it is very fragile and generally all broken up. This specimen, however, is remarkably perfect, collected and dried perhaps just at the right moment to preserve the walls which are ordinarily difficult to make out. We believe our enlarged photograph will bring out this feature better than has heretofore been presented. In this connection we present (Fig. 3126) a fine photograph of a fine specimen of Fuligo septica which grew on a sawdust pile. Very rarely does the plant attain this size.

Lentinus fuscus from R. E. Holttum, Singapore.—(Fig. 3128.) Mesopodial growing on wood. Surface dark brown, almost smooth, minutely pubescent, with irregular, peculiar striations. Flesh pale yellow. Gills rather broad, mostly simple, dark, when dried with darker edges. Stem short, thick, minutely pubescent. The edges of the gills are provided with large, dense, pale, multicellular hairs projecting 60-80 mic. This we would enter in the smooth Section (10), although it is dull, minutely pubescent under a lens. It is close to Lentinus Tanghiniae, but with different surface striations and broader gills. The white spots shown on the figure are a mould and not a normal feature of the species.

Polyplocium inquinans from Miss A. M. Bottomley, South Africa.—(Figs. 3129, 3130, 3131, 3132.) We have been receiving this plant for many years and there are always two questions about it. First, what its botanical relations really are, and second, what name to adopt. It reached Berkeley and Montagne about the same time, and the latter sent it to Fries. All three of them were anxious to have their names attached to it and each gave it a different name. It is hard to decide as to the "priority" of Berkeley and Montagne, as we have explained in detail, but there is no doubt as to Fries "priority," but no one has ever paid any attention to his name. Compare Vol. 1, page 195. There have been seven so-called species named and I have reached the conclusion that they are all the same, whether growing on the sand dunes of California or the ant hills of South Africa.

It passes in our literature as a Geasteromycete and these photographs, the first real information we have of its young state (Fig. 3129), would seem to bear that out as to general appearance. But to our mind it is more closely related to Agarics. As to name, we have mostly used Montagne's generic name Gyrophragmium, but Berkeley's Polyplocium inquinans has perhaps best claim, surely as to the South African plant whence originally named. We particularly desire to thank our correspondents for these fine photographs, which are the first ever taken of a young specimen, or one in situ.

AUSTRALIAN SECOTIUMS.

An elaborate paper on the above genus has recently been issued by G. H. Cunningham, government mycologist of New Zealand. They have made more progress with their "puff balls" in Australasia in the last twenty years, since our pamphlet on the subject stirred up some local interest, than was done in all the years before. At that time I found but three species good enough in the museums to be considered as sure. Now they claim sixteen. There are a few things in the paper that should be corrected. The name Secotium agaricoides, as used by Buller (without advertisements), is a better name for Secotium acuminatum, but when one adds "Hollós" to it, then it is a farce. For Hollós never saw the Russian plant in his life and only got out his date dictionary on an alleged synonym given in Saccardo. The picture and the familiar plant show marked differences and they can be held as different species or the same, as one wishes. Montagne thought they were different and he had the Russian plant to compare. Hollós never saw it and how much he knew about it should be brought home to Mr. Cunningham forcibly if he stops to consider that Hollós thought Secotium acuminatum and Secotium erythrocephalum were the same thing. Facts of this kind do not appeal much to mycological writers and are not even referred to in Mr. Cunningham's paper, but, where a writer guessing on the facts, makes a showing of an earlier date, that is a wonderful proposition and is immediately adopted with a detailed account showing chronologically that one date is earlier than another, and there is no controverting such an argument. Mr. Cunningham to be consistent, if he believes Hollós, should call Secotium "agaricoides" as Secotium erythrocephalum, for that was Hollós' showing from a date dictionary point of view.

Secotium Guinzii.—There is some clerical mistake, perhaps on my part, in reporting to Mr. Rodway, for I never in my mind considered Secotium Guinzii to grow in Tasmania and never confused it with the South African plant. I may have confused the name Secotium Guinzii with the name Secotium Gunnii, but I have no recollections of ever having received Secotium Gunnii from Mr. Rodway and have no specimens from him now in my museum. Secotium Guinzii is not known at all in any museum of Europe and only from an old figure. However crude and inaccurate Corda may have been, his figure can not possibly be the plant Mr. Cunningham figures.

"Secotium excavatum."—"Hennings has placed this in the genus Strobilomyces as S. excavatum."—Cunningham. This is all quite true, but the story loses its point when so simply told. A specimen of Strobilomyces pallidus, the most frequent of Australia, drifted into Kalchbrenner. He named it Secotium (sic.) excavatum. The type is at Berlin. A Strobilomyces has as much suggestion or resemblance to a Secotium as a sheep has to a kangaroo, but that is not all. Kalchbrenner faked up a picture of his Strobilomyces and his figure *looks like a Secotium.* Surely Hennings did a wonderful piece of work in transferring this to the genus Strobilomyces and it is well

worth recording in a paper on Secotiums. Particularly about twenty years after it was looked up at Berlin and fully exposed in Mycological Notes.

Mr. Cunningham's paper brings the Australasian Secotiums into systematic and convenient form. We have about twenty-seven collections now from Australasia, some of them not named and very poor. We believe we could work them over now and get names for them all, perhaps from Mr. Cunningham's paper, if we ever get time. Mr. Cunningham has issued a practical paper and one from which the species can be determined. That is a fine thing to do, and 100% better than Massee and Cooke did on the same subject when they were publishing thirty years ago.

Notes on Travel

Murrill, Dr. W. A.—We went to Lynchburg, Va., hoping to find Dr. Murrill and have a talk with him. I think he makes Lynchburg his general headquarters. He married his former wife there and it may be his family home, but I had no clue excepting the name and a prominent business man named Murrill, with whom I talked by telephone, told me he had lived in Lynchburg all his life and had never heard of him. Such is fame. Finally, I did find and telephone a Murrill who had heard of him in connection with his wife's folks (named Ford, I believe) and who told me he was in Florida.

But such is Fame.—In this connection I shall never forget my troubles in locating Bresadola in Trento, Italy. One would naturally think that Rev. G. Bresadola, who had in his prime the best knowledge of foreign fungi of any man in Europe and who is really the only man in Europe who has made a serious study of them, would have a local fame in his home town, a small city in the Tyrolean Mountains, but I almost came away without finding him. After inquiring around in vain at the hotel and bookstores where I supposed I could locate him without trouble, I finally found a news agent who claimed to know him and gave me the address. On looking them up I found they were shoe merchants on a prominent street in this little city and their name was Bresadola, but they knew nothing of the Bresadola of world-wide eminence in the mycological world. Surely such incidents are enough to take the conceit out of any man. How big the world is and how few there are who know or care anything about mycology. In Cincinnati, probably not one in ten thousand ever heard of the Lloyd Library, and if they have, they think it is a kind of annex to the drug firm of Lloyd Bros. Excepting as the source of the funds invested in the library when I was a member of the firm, Lloyd Bros. and its present personnel has not much more to do with the Lloyd Library than it has with Hanke Brothers, the dry goods firm. But to get back to Murrill. There is universal regret among mycologists I met, both in Washington and Baltimore, that Dr. Murrill has severed his connections with New York. Everyone likes Dr. Murrill, he is such a polished, affable gentleman and he would be an ideal head to such an institution.

Washington.—We spent a week in Washington and met or were introduced to a number of our correspondents and those whom we knew by reputation. We could not list them if we tried, for there are about 150 or 200 men in Washington interested in botany or mycology. It really should be the headquarters for systematic mycology in America, there are so many directly or indirectly interested but there are very few taxonomic workers. Dr. Shear is working on Pyrenomycetes, but his administrative duties take most of his time. I do not know his official title, but he is, I think, at the head of plant pathology, and I do not believe they can find one better suited for the position. A practical man, combining both business ability and systematic knowledge of fungus classification, the latter a rare attribute of pathological men. Plant pathology is, of course, the economic side of the question. It is the most popular, for it furnishes the most jobs for young and aspiring mycologists. It seems to consist of a wilderness of retorts and test tubes with cotton stuck in their mouths and no doubt makes a deep impression with the festive farmers who sight-see, but I do not believe it has much to do with mycology. Dr. Weir is at present in Cuba on a collecting trip. He is connected with plant pathology but he fits in best as a taxonomist, for he has been studying fungi in the field for many years and knows them well, especially those of pathological importance. He has an ambition along the lines of tropical Polypores and Porias. It is a big undertaking and I hope he works them out. Nobody knows much about Porias at present and for our part we do not attempt to even name them and do not know anyone who can. Miss Vera Charles is filling Mrs. Patterson's former position. Mrs. Patterson has retired. Miss Charles has charge, I believe, of the sheets and specimens and does most of the determining for the pathological men.

There is a division of forest pathology also at Washington, separate from that of plant pathology. The average American congressman does not know that trees are plants. There we met an old correspondent and contributor, G. G. Hedgecock. Mr. Hedgecock is an old-time field man and has a practical knowledge of the species that grow on trees and particularly the diseases they cause. He has sent many specimens to our museum.

We felt quite "puffed up" when he told us he used our pamphlets and writings on Polypores and adopted the names, as they are the only books he got hold of from which he derived much practical help.

Michener's Herbarium.—A life-saving medal should be awarded to Dr. Sheer for rescuing Dr. Michener's collection from oblivion and probably destruction. It was found in the attic of a library to which it was given on Michener's death and was on the point of being thrown away. Dr. Michener was one of our earliest mycologists. He was in touch with Curtis, who sent specimens to Berkeley, and many were named from Michener's collection, but none of these specimens appear in the herbarium as far as I noted. When I first began to work on Schweinitz's collection at Philadelphia I was told that it had been mounted by Stephenson, and I have previously stated that remounting was unfortunate as it destroyed the historical authenticity of Schweinitz's herbarium. Dr. Shear has since corrected me, stating the work was done by Michener. It is now quite evident that it was he who did it. The same style, same paper, same writing, and in Michener's collection are found duplicates of many, perhaps most, of Schweinitz's herbarium. Hence it is valuable confirmation of many of Schweinitz's species, more valuable than those of Schweinitz in some cases, for the specimens have not been pawed over as much. Michener had many wrong ideas as to identity of species and could not be expected to have had anything else in those early days. Many of his determinations are errors on their face. I did not go over the specimens in detail excepting as to tremellaceous genera. From that section the herbarium is made up as follows:

Specimens Michener abstracted from Schweinitz's herbarium, 53%.
Specimens sent him by Curtis, 19%.
Specimens of his own collection, 28%.

There are seventy-five specimens of (supposed) tremellaceous plants in Michener's herbarium, but so many misnamed that it is not worth the space to list them in detail. A few from Schweinitz's herbarium are of historical interest. Dacryomyces pellucidus (ex Schweinitz, Salem) is a thin, white, applanate Tremella on rotten wood. It would be called Sebacina now in Europe, although the policy of adding tremellaceous plants to Sebacina is dubious. Burt refers it to Tremella vesicaria (Tremella concrescens of his juggle), although the absurdity of referring a thin, applanate, flat plant, growing on wood, to an erect, "ascending, incrusting species characterized by its occurrence on the ground," would appeal to most anyone who had an elementary smattering of the habits and characters of tremellaceous species.

Naematelia encephala. I had hoped that the identity of this had been settled. Compare page 1149, Fig. 2223. There is a specimen "ex Suecia," hence no doubt ex Fries, which is a different color and surface and surely not the plant generally so referred.

Tremella vesicaria of Michener's determination is Tremella foliacea, a brown plant with no suggestion of the white plant, either color or habits, of American records. Tremella aurantia. The specimen "ex Schweinitz Bethlehem" is a Stereum, same as in the Schweinitz herbarium, excepting the latter does have some little frustules of a true Tremella. I have investigated the history of Tremella aurantia at Philadelphia, Kew, Upsala, Paris and Michener, and there is no question that Schweinitz, Berkeley and Cooke all confused Dacryomyces aurantius and Tremella mesenterica. Schweinitz originally named it from Salem, North Carolina, and his plant was a Dacryomyces. Then later at Bethlehem, Penn., he so referred a Tremella and preserved frustules in his herbarium. Dacryomyces aurantius is a common sessile species with large multiseptate spores and usually on pine. It was first so interpreted by Farlow who was followed by Lloyd, then by Coker. Burt refers it to Tremella palmata, a stipitate rare species, probably on the misdetermined Ellis distribution. There is about as much probability of a sessile Dacryomyces developing a stipe as there is of an oyster developing legs.

Baltimore.—A most pleasant day was spent at Baltimore on a visit to the mycological establishment of Dr. Howard A. Kelly, where I met for the first time Louis C. C. Kreiger, an old correspondent. I doubt if many appreciate how much is being done in this institution. There appears to be more activity here than I have noted for a long time anywhere else. Dr. Kelly is the eminent surgeon whose name is of national reputation. He maintains private hospitals and has a princely income, more than he can conveniently spend, I guess, if the truth were told. He is a broad-minded man, equally informed on subjects of Science, Philosophy and Religion. He keeps a Bible at his right hand and knows and quotes it by heart. His natural bent is that of a collector. He gets together all kinds of curious things, like snakes, Indian relics, fungi, and curiosities of all kinds. His study room is a regular museum. Fortunately his tastes run also to mycology and he has acquired a collection of mycological books and drawings second to none. A catalog he has just issued of his Mycological Library embraces about eight thousand titles and is practically a complete index on the subject. It is astonishing how he has acquired so much in the relatively few years since he developed these tastes. In his book he itemizes a list of his holdings under twelve heads. Two of these are of the greatest importance, viz.: No. 3, three hundred or more water colors from nature by Kreiger;

No. 4, about seven hundred species on three hundred and one plates in original water colors by L. D. Schweinitz.

Schweinitz Plates.—When Schweinitz was a young man, a theological student in Saxony, he made five books of colored drawings of fungi from the neighborhood of the college. They are of unusal merit, for Schweinitz had exceptional artistic ability. I think his drawings equal any that have been published, excepting Boudier's. One would not judge so from the few crude cuts that illustrate his published work, but that no doubt was the producer's fault. It is most unfortunate that Schweinitz did not prepare plates of the American agarics, but he was so busy exploiting the "new species" of little Sphaerias, etc., that he had no time for any more useful work. I believe Schweinitz prepared five volumes of European drawings. At his death they were divided among his relatives and for many years were only held as curiosities and practically lost to science. The Academy of Science at Philadelphia found and secured four of these volumes, but when I was there last, a few years ago, they had not located the fifth. Dr. Kelly has that and it is the most important one of the lot, as it is devoted to the agarics.

L. C. C. Kreiger.—Mr. Kreiger is a genius. American mycology has never seen his equal as a mycological illustrator and I think the world has never had but one other, and that was Boudier. First he is a born artist by inheritance and training, a graduate of the best school of portrait painting at Munich. His original intention was the profession of portrait work. He secured a position with the late Dr. Farlow and for ten years was employed making drawings of fungi under Dr. Farlow's immediate supervision. None could be more competent than Dr. Farlow for such guidance for, although he published but little, he had a thorough knowledge of fungi. Mr. Kreiger acquired a taste and love of mycology from his work with Farlow and his natural wishes are, I believe, to continue along this line. If Dr. Kelly desires to build a monument for himself in mycology such as no one else is in financial position to build, he can do it by providing a fund to keep Mr. Kreiger employed preparing plates of our fleshy fungi, such as agarics, boleti, clavarias, tremellaceous species, pezizas and such other fungi as lose their color and shape in drying. There may never be another as competent as he to do the work and if Dr. Kelly will pardon the suggestion, it is a waste of talent to have him working on card indices, catalogs of books and such work as is as well done by some clerk. Opportunity to make a collection of drawings of this kind does not arrive to many men in the course of human events.

The Farlow Plates.—It is not known generally, or at least was not known to me until lately, that Dr. Farlow had an edition (my impression about two hundred) of the colored plates printed as they were drawn by Mr. Kreiger. These have never been edited or distributd. It was no doubt Dr. Farlow's intention to do it during his life, and he would have been specially fitted for it, but like many other things that mortals plan, it was never done. I have been informed that it is now under way and that Dr. Burt will edit it. It would have, I believe, more value to secure someone who has a critical knowledge of agarics, such as is only acquired by years of special study and field work on this one subject, and I believe there is but one man now living in America that has done that, and that man is Dr. Kauffman. But the mycological world will be grateful for what it gets, and the distribution of these plates will be the most important event that has yet happened in the agaric world in America—whoever may edit them.

Specimens Received from Correspondents

We list the specimens of a few packages received from our friends and correspondents. Many more of these packages come in than we can properly study and report on, with the result that we keep getting further behind on them all the time. At the present writing we have the following on hand that we have not found time to open (it will probably require a week to work on each package): Dr. Bruce Fink, Porto Rico; G. G. Hedgcock, Washington, D. C.; G. W. Martin, Iowa; Prof. L. Rodway, Tasmania; Dr. Cleland, Australia; P. Bugnon, France; Miss Ann Hibbard, Massachusetts; N. Malts, Riga, Latvia; P. Konrad, Switzerland; C. M. Tucker, Porto Rico; C. R. Stillinger, Washington; Rev. Rick, Brazil; W. R. Lowater, Ohio; P. Martens, Belgium; Dr. C. van Overeem, Java (three large packages). We hope and expect to work up every one of them in time and we shall be most glad of additional packages, especially from Europe and tropical countries. At present we are particularly interested in Tremellaceous plants and Pyrenomycetes, such as Hypoxylon, Xylaria and Hypocrea. We do not know them all but have spent a lot of time on the subject, and hope some day to learn them. There is, however, a world of microscopic Pyrenomycetes which we never expect to work with. All packages received will be carefully preserved until we find time to study and report on them. We trust our correspondents will not be impatient at the delay for we are doing the best we can.

Baxter, D. V., Wisconsin: Merulius Americanus —Polyporus albellus—Hemitrichia vesparium—SEBACINA INCRUSTANS—Merulius ceracellus—PHLEBIA RADULOIDES.

Braun, Harry, Washington, D. C.: SIMBLUM SPHAEROCEPHALUM.

Brenckle, Dr. J. F., South Dakota: HYPOXYLON COMMUTATUM.

Burlet, M., France: LEUCANGIUM CARTHUSIANUM.

Grelet, Rev. L. J., France.—A further nice collection of Discomycetes all as named (Boudier system) by Rev. Grelet: Otidea grandis—Agyrium refum—Sepultaria tenuis—Trichophoea gregaria—Otidea umbrina—Pastularia cupularis—Galactinia succosa—Ombrophila imberbis—Pulvinula haemastigma—EXIDIAALBOGLOBOSA—Lasiobolus ciliatus.

Griffiths, David, Washington, D. C., collected in Australia: Polystictus cinnabarinus.

Kauffman, Dr. C. H., Virginia: CANTHARELLUS ODORATUS.

Lewis, J. E. A., Japan: Stereum spectabile—STEREUM ANNOSUM—GEASTER TRICHIFER—Calocera viscosa—Hydnum cyathiforme.

Lowater, W. R., Ohio: Exidia recisa—TUBERCULARIA (?) VERMICULARIS—DACRYOMYCES ELLISII—Sebacina incrustans—DACRYOMYCES CAESIUS—Tremella frondosa—DACRYOPSIS NUDA —Tremella vesicaria—Tremella lutescens—Tremella mesenterica—Exidia glandulosa—Tremella sparassiodea—Calocera cornea—Seismosarca alba—"TREMELLA" MYCETOPHILA—Pilacre faginea—Guepinia spathularia—Naematelia nucleata.

Maire, R., France: THELEPHORA MULTIPARTITA—ANTHURUS ASEROEFORMIS—Merulius Corium—Sistotrema confluens.

Martin, G. W., Iowa: Polyporus sulphureus—POLYPORUS IOWENSIS—Seismosarca alba—EXIDIA GLANDULOSA—TREMELLA VESICARIA —Tremella foliacea—Tremella frondosa—Polyporus delectans—DACRYOMYCES PALLIDUS—Guepinia elegans—Auricularia auricula—Scleroderma tenerum—Calocera cornea—Guepinia spathularia.

Matrumoto, T., Japan: Polyporus poculus—Irpex sinnosus—Lenzites betulina—Irpex lacteus—Schizophyllum commune—Fomes leucophaeus—EXIDIA UVAPASSA—Hypoxylon fuscum—HYPOXYLINA DISCINA.

McMurphy, Prof. James, California: TUBER CANDIDUM.

Miller, J. F., Georgia: Scleroderma Geaster—Polysaccum pisocarpium—Scleroderma Cepa.

Mitchell, Rev. James, New Zealand: Geaster triplex—Polystictus hirsutus—CALOCERA FUSCA—TREMELLA MESENTERICA—EXIDIA NOVOZEALANDICA—DACRYOMYCES FLAVA.

Odell, W. S., Canada: Acetabulum vulgare—Geaster limbatus—Craterellus cornucopioides—GEOGLOSSUM IRREGULARE.

Rodway, L., Tasmania: Polyporus dissitus—Polyporus alutaceus—POLYSTICTUS RADIATO RUGOSUS—Polyporus cuneatus—Exidia glanulosa—Polystictus ochraceus—Trametes lilacinogilvus—Fomes cuneatus—Polyporus dichrous—Polyporus amorphus—Lentinus ursinus—Eutypa lata—MERULIUS FUSCUS—Xylaria hippoglossa—Stereum villosum—Polyporus Fijii—Poronia punctata—Dothidia globosa—Polystictus versicolor—Hypoxylina tuberiformis—Morchella conica—Stereum illudens—Polyporus ruforugosus.

Saito, Chiken, Japan: POLYPORUS SAITOI—LYCOPERDON FASCICULATUM—Lenzites tricolor —Polystictus hirsutus—Trametes lactea—Lenzites betulina—Polystictus pubescens—Polystictus versicolor—Polystictus azureus.

Stell, F., Trinidad: GLAZIELLA VESICULOSA.

Stoker, Dr. S. M., Minnesota: STEREUM AVELLANACEUM.

Towne, S. S., California: Pyronema omphalodes.

Weber, G. F., Florida: NEPOTATUS STELLATUS—Bovistella Ohiensis.

Whetstone, Dr. Mary, Wisconsin: Lycoperdon piriforme.

White, Richard P., Kansas: Tylostoma poculatum.

Yasuda, Prof. A., Japan: Polyporus rubidus—Stereum membranaceum—Hydnum rufescens—Polyporus Ireyei—CYPHELLA QUERCINA—Polystictus azureus —Irpex lamelliformis—Stereum Ostreum—Aleurodiscus Tsugae—Polyporus poculus—Polyporus dichrous—HYMENOCHAETE RIMOSA—HYDNUM CUNEATUM—POLYPORUS OMPHALODES—XYLARIA SCOPIFORMIS—CAMPANELLA RESUPINATA—FAVOLUS SUBSPATHULATUS—PLEUROTUS

MINUTONIGRUS—Polyporus Linkinsensis—PORIS GLAUCOGILVUS—TRAMETES FUSCA—MITREMYCES YASUDA—Lycoperdon Dasmazieres—Kneiffia setigera.

GIVES 436-ACRE WILDFLOWER AND NATURE PRESERVE.

A beautiful woodland tract at headwaters of Six Mile Creek, gift of C. G. Lloyd of Cincinnati, O., will be developed for science. Ithaca is doubly fortunate as the possessor of unusual natural scenery and of philanthropists who have insured the preservation for all time of large tracts of land to be used as public parts and as resources for scientific study. Not only local residents, but alumni of the university and others living in distant cities, have taken an interest in preventing the destruction of natural assets in this part of the country.

Curtis Gates Lloyd of Cincinnati O., is the most recent benefactor, and his gift to the public, and especially to the scientific world, comprises 436 acres of wild land near the headwaters of Six Mile Creek, containing some of the most beautiful woodland in the country. The purchase of this property was recently completed, although the deeds have not yet been recorded. The tract will be managed by a board of trustees, most of the members being Cincinnati business men, and a local custodian will later be appointed—presumably a member of the university faculty. The new reservation is to be known as the "Lloyd-Cornell Wildflower and Nature Preserve."

Mr. Lloyd is known locally as the donor of the McLean reserve, an eighty-acre tract purchased by him in a similar way some years ago and laid aside as a source of scientific study. Members of the department of biology at Cornell recently completed a survey of this tract and its resources.

Donor Botanist and Pharmacist.

Mr. Lloyd, now retired, was for forty years a member of the firm of Lloyd Brothers, manufacturing pharmacists of Cincinnati, and founded and endowed in that city the Lloyd Library, containing 46,000 volumes on botany and pharmacy. He has, during his lifetime, made a special study of the classification of fungi, and instituted the Lloyd Museum which comprises the largest collection of dried fungi ever brought together. He is the author of six volumes of miscellaneous writings on fungi subjects.

Although in no way connected with Cornell or Ithaca, Mr. Lloyd became deeply interested in this part of the country while his nephew, John T. Lloyd, was an instructor in limnology in the State College of Agriculture. The latter took his A. B. at Cornell in 1910 and his Ph. D in 1921. While visiting his nephew here, Mr. C. G. Lloyd purchased the McLean tract and set it aside for scientific study under the guardianship of a board of trustees, Prof. J. G. Needham being the local custodian.

"The Lloyd-Cornell Wildflower and Nature Preserve" is known as a part of the "Six Hundred Acre Tract," so marked on several maps of the county. The land was purchased from B. M. Hayes, now living in Middletown, O., and lies on the boundary line between the towns of Caroline and Dryden, eleven acres being in the former and the remainder in the latter town.

The tract is about nine miles out of Ithaca, seven and a half of that distance being paved road (the Slaterville highway) and the last one and a half miles ordinary country dirt road. The preserve lies at the terminus of this road, which is the only way of reaching it.

Will be Strictly Protected.

Plans for the improvement of the land will be carried out in the near future, and the park will be strictly guarded to prevent the destruction of any of its natural beauties and the uprooting of plants and flowers. Mr. Lloyd has also offered to finance the improvement of the land.

Professor Needham located the property, and acting as a representative of Mr. Lloyd, carried on the negotiations for its purchase. He explained today that the preserve was not a gift to the university any more than to the city, nor was it intended for the exclusive use of any department of the university. It was merely set aside for the use of the public, particularly in the pursuit of scientific study for which the natural resources of the spot are adapted, and to prevent destruction of these assets.

Professor Needham further described the tract as follows:

"It is a natural woodland area, cut over, to be sure, in the past, but well covered with woods of larger growth than at the McLean reservation; a large area is covered with good-sized beech trees, which, not having been very valuable in the past, have been left standing.

Well Stocked by Nature.

"The property is well stocked with the native flora, almost unmolested, except as to the trees; untouched with the plow, except for a few little garden patches, now overgrown.

"It includes almost every possible upland variety of situation, from the highest hilltop on our side of Tompkins County, to low-lying swampy places, rock-walled gorges with every exposure, dry walls, dripping ledges, and flowing springs.

"It includes the confluence of four or five streams near the sources of Six Mile Creek; two large, rapid, and very stony ones, and several smaller brooks, all spring fed, all wood bordered, all well stocked with native life, all inhabited by native trout, and all of them attractive.

"I spent a Sunday with Prof. J. C. Bradley, '06, of the Entomology Department recently tramping over the tract. I had previously visited the streams with my class in limnology, but I did not know the upland portions of it. Thus I satisfied myself of its entire desirability. Through the snow that lay on the ground, dark and green ferns and mosses, and straying mats of partridge berry were peeping everywhere. I came away with a feeling that it would certainly be a wonderful thing to make such a beautiful spot available to the public."—*Ithaca Journal,* March 3, 1925.

Finger Lakes, March 5, 1925.
State Parks Commission,
Ithaca, N. Y.

DEAR MR. LLOYD: In our local press I have noted your very generous and useful gift to Cornell University for a botanical field at the upper end of Six Mile Creek.

Being interested in the preservation of not only the natural scenic places of this region, but those which have a special value by reason of the flora or other reasons, I am writing, although unknown to you, to express my sincere appreciation as a citizen of Ithaca and a trustee of Cornell, of this most timely gift.

I hope that you personally will derive a great deal of satisfaction from the knowledge that you have contributed to so great an extent to the work of Cornell University in botanical and kindred lines.

Yours very truly,

R. H. TREMAN.

THE METHODS OF SELF-ADVERTISERS.

Some of the modern "scientists" have resorted to the most trivial methods in order to get up "new combinations" to which to add their own name. The late von Hoehnel was a past master at the game. His voluminous articles were mainly arguments for the proposal of "new combinations," the old name to be "zu streichen." His usual method was as simple as it was cheap. The genus Peniphora, for instance, is the old genus Corticium with metuloids. Metuloids are large microscopic bodies that stand out in prominence when a specimen is sectioned and examined under a microscope. A first year's high school girl can be taught in an hour to make the sections and recognize metuloids. Ellis issued exsiccatae largely misnamed for he knew hardly the elements of resupinate Thelephoraceae classification. Reference to Burt's paper shows how many there are, for Ellis for the most part was only guessing. The same remarks apply largely to Ravenel exsiccatae. Hoehnel used these largely misnamed exsiccatae as the basis of his intrusion into American mycology, and it was a piece of nerve. He takes a specimen, for instance, labeled Corticium viticola Schw., which Ravenel so distributes, finds it has metuloids (a matter of about two minutes examination), and proposes that for all time it must be known as Peniophora viticola (Schw.) v. Hoeh. & L. He (von Hoehnel) has no way of knowing whether it is the plant Schweinitz named or not. All he knows is that it is the plant Ravenel so states. He does not know one blessed thing about what Schweinitz did, but he wants the world to know that he has found hairs on Ravenel's specimen and in consequence it must be called Peniophora viticola (Schweinitz) v. Hoehnel. He also adds "& L."; that means the clerk who cut the section probably. Then Burt comes along and compares Ravenel's specimen with the one called Thelephora viticola in Schweinitz's herbarium and if he finds they are the same he displays the name as Peniophora viticola (Schweinitz) v. Hoeh. & L. If he finds it is another plant he calls it Peniophora viticola (Schw.) Burt. Is it not wonderful? About as exciting a game as tiddly-winks, and they call it "science." Chas. Darwin calls them specie mongers and he was not far wrong.

THE GELATINOSE AND CARTILAGINOUS FUNGI OF BRAZIL.

Under the above title Rev. Rick lists in Broteria those fungi of a more or less gelatinous texture. Only those like Rev. Rick, who are familiar with the nature of fungi as they grow in nature, really know them. In looking over the list we are impressed with the number he lists that we never suspected from dried specimens, such as Haematomyces eximius, Genus Phillipsia, Genus Wynnea, Genus Ascopolyporus, Lachnocladium dubiosum, Polyporus cartilaginosus. In addition to the well-known gelatinose genera Laschia, Tremella, etc., valuable collection notes are recorded in the list.

One of the names he employs, viz., Auricularia Judae "Linn," is a better and less cumbersome name for the "Jew's ear" than the one we have been using lately, viz., Auricularia auricula Judae, and while we think "Linn" never used it we shall probably adopt it. The Jew's ear has been put in Tremella, Peziza, Exidia, Hirneola and Auricularia, and usually under the specific name Auricula-Judae, which is a slander on the Jews. Then Underwood with his learned date dictionary investigations, although he probably would not have known the plant from a pig's ear, discovered that Linnaeus called it Tremella Auricula and immediately got up the new combination Auricularia auricula (Linn) Underwood. That was about twenty years ago and Underwood is dead. As the plant has had about twenty names in its checkered career, it is time it changed, for it is an unusually long time for name jugglers to retain a name.

Notes on Specimens Received

Geaster trichifer from John E. A. Lewis, Japan.—About twenty years ago Rev. Rick from Brazil sent me a little Geaster with strigose, hairy exoperidium. It was named Geaster trichifer and published and figured on page 314, Vol. 2. Not another collection has been made of this unique little species until Mr. Lewis sends a single specimen from Japan. Geaster trichifer is the only species known with strigose, hairy exoperidium. How can any one account for such instances as a species scantily known from Brazil and one specimen from Japan. A figure and enlargement is given in our previous publication, Vol. 2, page 314.

Glaziella vesiculosa from F. Stell, Trinidad.—This is the finest collection we ever received. The plant has been known and badly bungled by Berkeley and Cooke for many years, and it is only recently that Prof. Thaxter straightened it out. (Compare Myc. Notes, Vol. 7, page 1204, Fig. 2484.) It has been supposed to be a rare plant; hence we were surprised to get a letter from Mr. Stell stating, "I send you some specimens of a fungus that is fairly common on this island."

Hydnum lingua from Rev. C. Torrend, Brazil.—Rev. Torrend sends this named in mss. and states, "Quite lemon yellow, developing itself on ground from a stump like a tongue, beautiful when fresh." There is a rare section of Hydnum called Gyrodontium with smooth-colored spores like Coniophora spores. It is very rare, only known from tropical America and Africa. We have four collections which seem different as to grosser points, but same as to essential features, viz., yellow context color, brown spines, elliptical, smooth-colored spores. Some are dimidiate, some spathulate, some subresupinate, but all have the aspect to me of being about the same species. We have labeled these Hydnum Henningsii and Hydnum pulcher (South Africa), Hydnum lingua (Brazil), and Hydnum superpositum (Cuba). The latter we found unnamed in Paris. I believe there is also a collection from China, but it does not seem to be in the container. (Compare Myc. Notes, Vol. 5, page 597.)

Hypoxylon Parksii.—Our name Hypoxylon Tahitiensis on page 1314 is a duplicate. We would therefore change it to Hypoxylon Parksii from the sender, H. E. Parks. We should have caught that before it went into print.

Craterellus odoratus.—Prof. Kauffman writes me as to this: "I am well acquainted with this species in the field. It has a distinct spicy fruit odor, strong when growing. How a comparison could be made between the odor of this and that of C. cibarius passes my understanding."

Dacryomyces caesius from W. R. Lowater, Ohio.—We found this in Sweden growing on old weathered pine fences and so near the color of the host that it is scarcely seen. Its features are the sordid smoky color. Spores are hyaline, 1-3 septate. This appears to be Dacryomyces fuscominus of Coker and Dacryomyces deliquescens in part of Burt, but not, I believe, of anyone else.

Dacryopsis nuda from W. R. Lowater, Ohio.—Compare account and figure on page 842, Vol. 5. The feature of this is its amber color when dry and the short stem covered with a white mycelial pubescence. The latter is not, however, a constant character, for Mr. Lowater sends another collection where most of the stems do not show the white covering. Surely same, however. The spores as recorded by Mr. Lowater are pale ochraceous, very large, slightly curved, 1-3 septate. According to Burt's showings this is the plant recorded in Grevillea as Exidia (sic) pedunculata. The authors (Berkeley and Curtis, according to advertisements), Cooke in fact, I believe, showed ignorance of elementary classification when they put it in Exidia, but it is good for a juggle. Coker published and figured a different plant as referring to this name. What is a layman to decide when two such specialist experts on tremellaceous plants as Burt and Coker show absolute contrary and conflicting results on examination of the same collection and within a few months of each other!! My notes on the collection at Kew are in London, but I believe Burt is right about the reference; whether he is right under the circumstances about the juggle, however, is a different question.

Merulius fuscus from L. Rodway, Tasmania.—Resupinate, no distinct margin. When soaked, meruloid, but not typically a Merulius. Color when dried distinctly reddish, about vinaceous brown of Ridgway. When soaked, Prout's brown, losing all the red. Spores (teste Rodway) slightly pale yellow, smooth, oblong, 2 x 8-9. We surely have no Merulius of this color change in Europe or the States.

Pterulas.—Since Pterula abietina was published we have received additional specimens from Prof. Maire which throw doubt in our mind on the species. These we would have referred to Pterula penicellata. Perhaps Pterula penicellata, multifida and abietina are all one species. They appear different to me.

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 75 (Vol. 7, No. 10) July, 1925

CARLETON REA.

We are pleased to add to our series of portraits one who has for the last thirty years been the most prominent and active mycologist in Great Britian. Mr. Rea, like many who work on the subject, pursues the study simply as pleasure and recreation. About thirty years ago he organized the British Mycological Society with Cooke, Massee and Crossland and a few others. At first it was discouraging. Cooke was too old, Massee soon got huffy and quit, and Carleton Rea in those early days bore the brunt of keeping up the organization. Today the society is in flourishing condition and too much credit can not be given Mr. Rea for his early work. I am not personally acquainted with him, but he is described to me as a prosperous attorney with a good clientage, a neat dresser and a prominent man in his own circles. His recent book, British Basidiomycetes, incorporates the result of many years' study of the subject. We append herewith the leading events in his life.

Born 7th May, 1861 at 34 Foregate Street, Worcester.

Only son of Robert Tomkins Rea, Solicitor, Clerk of the Peace and Coroner for the City of Worcester.

Educated at the Worcester Cathedral School and Magdalen College, Oxford (1880-1883); graduated with honors in the final Law School and Civil Law examinations.

Called to the Bar January 19, 1884; member of the Inner Temple. Joined the Oxford Circuit and practised on it for many years.

In 1888 first took up the study of mycology.

1896, in conjunction with M. C. Cooke, G. Massee and Charles Crossland, founded the British Mycological Society and was first secretary thereof from 1896-1918.

1898, married Emma Amy Rose, who has made over 1700 original paintings of British fungi.

1902-5, president of the Worcestershire Naturalists Club.

Editor of the Transactions of the Worcestershire Naturalists Club 1897-1915.

1909, in collaboration with John Amphlett published The Botany of Worcestershire.

1912, in conjunction with the late Sir Henry Hawley was responsible for the list of fungi in The Clare Island Survey.

1916-8, represented the Ministry of Munitions on the Worcestershire Enlistments' Complaints Committee.

1918, elected honorary member of the British Mycological Society.

For over twenty years Chairman of the Hastings Museum, Victoria Institute, Worcester.

1922, published British Basidiomycetae.

DR. JOS. VELENOVSKY.

It was our impression that the most of the activity in European mycology now was in England and France. The receipt of a volume of more than 900 pages "Ceske Honby", which means the Bohemian Fungus Flora, shows that there must be a lot of work going on in Eastern Europe as well and it is surprising to us that a work of this kind would have enough support to justify issue. There may be a great many mycologists in Eastern Europe that we know nothing about. As the work is in a language unfamiliar to us we can only read the fungus names and look at the pictures. The descriptions are evidently drawn up from the plants by the author, not mere translations from Fries as are too often the case. The nomenclature is for the most part the established language of Mycology. Occasionally he digs up an old effete name like Cyathus olla, which the Brussels conspirators claim can not be done. He seems to do it to show them that it can. The author pays not the slightest attention to name juggling of Karsten, the jargon of Quélet or the gibberish of Ibiza. The photographic figures are mostly fine and characteristic. Of cuts, many are good, but some, such as Favolus Europaens, Stereum rufum, Lycoperdon echinatum, are very poor. They remind me somewhat of the miserable figures that Massee gave in his British Fungus Flora. Dr. Velenovsky is an elderly man, now in his 67th year. If this work represents actual specimens he has seen, he must have been an active collector and student of the subject for many years. He claims to have discovered more than 300 new species. It seems improbable, but no one can say to the contrary when all one can read is the names and those mystic letters "sp. n." after them. Some

of the figures, such as Hydnum Fechtneri, Thelephora rhipidium, do seem very novel. If Dr. Velenovsky will send us good specimens of his new species we will be glad to publish them with good photographs, everyone that impresses us as having merit, and put them on the map. Our correspondent in sending us Dr. Velenovsky's photograph states: "In the native country he was for political reasons pushed aside, although his merits for the botanical and mycological science are the largest from our people."

Noteworthy Specimens Received from Correspondents

The genus Xylobotrium.—We use the name rather than make a new one, but we take it in a different sense from what was originally defined, viz., a Xylaria with two-celled spores. For us it is not a Xylaria at all, simply mimics one. We would restrict it and define it as having perithecia singly and distinct, growing on a common rachis. It is the same idea as Rosellinia growing on an effused substratum, excepting this grows on an erect rachis. Xylarias and Hypoxylons have perithecia immersed in a common stroma. This has the perithecia entirely distinct and superficial, corresponding to Xylaria as Rosellinia corresponds to Hypoxylon.

Xylobotrium portentosum from type in Montagne's herbarium.—(Fig. 3133 and Fig. 3134 enlarged.) With the explanation given above, our photograph will tell the story, excepting as to spores which are 4 x 12, pale colored, and each has a distinct septum. On this feature the genus Xylobotrium was based, for it includes also for me a Thamnomyces (Cfr. page 908) and in the next species the septations is a varying factor. Xylobotrium portentosum is evidently very rare, known only from a single specimen from Chile in Montagne's herbarium. It is found in Saccardo as Xylaria, but there is no other "Xylaria" like it in Saccardo. Moeller also records it in Brazil, but as he discovered it was both a "new species" and a "new genus" Trachyxylaria phaeodidyma, his record was lost in his discoveries. His figure, however, is very good.

Xylobotrium Rickii from Rev. Rick, Brazil.—(Fig. 3135 and fig. 3136 perithecia enlarged.) The general characters are similar to above but it differs in several respects. It has a slender black stem. The perithecia are much larger and there is a distinct hollow in the apex when ripe. The spores (8 x 24) are double the size. They are dark when ripe and the septation seems to disappear in ripe spores. Young pale-colored spores often have one or *two* septations. It is very distinct and must be very rare as this is the only collection of the genus Father Rick has ever found. Theissen I think never saw the genus.

Ceylonese Cordyceps.—An excellent account has been given by Prof. Petch with fine illustrations in a recent issue of Trans. Brit. Myc. Society. As we are particularly interested in the genus, we reproduce those not previously figured by us. The rarity of Cordyceps is well brought out in this paper. Of the nine species considered by Petch which he collected in Ceylon in 18 years, five have been collected only once, one twice, one none and only two (Cordyceps dipterigena and Cordyceps falcata) are based on several collections.

Cordyceps Barnesii.—We do not reproduce this figure for, if we mistake not, we have a better photograph in London. It is a peculiar species with the conidial and ascous spores borne concurrent as very crudely figured by Massee. Massee's picture has more resemblance to a willow catkin than to a Cordyceps.

Cordyceps gracilis.—(Myc. Notes, Figs. 623, 624, 625, 1618, 1620, 2942.) The most common species of England is rare in the States, Brazil and Ceylon. The most interesting part of the story Petch omits.

The fact is that our English cousins have been making a bull on this plant for eighty years and that they have been confusing it and publishing it (their most common species) as Cordyceps entomorrhiza, a plant never collected in England but once, 135 years ago, and excellently figured at the time by old Dickson. It would probably embarrass Petch to bring that fact out in the Trans. of the British Mycological Society, and the source from which he got it. They might drop him from the rolls.

Cordyceps tranlucens.—(Fig. 3137 from Petch.) This is another new species on the larva of a Coleoptera. It appears to me very distinct from any plant or figure I know.

Cordyceps pruinosa is evidently close to Cordyceps militaris. I remember some such question coming up when I was at Kew, but I do not recall the details. Petch finds it on a cocoon. Cordyceps militaris is usually on pupae. The only specimens I ever noted on a cocoon are in Tulasne's herbarium.

The Genus Hirsutella is the name under which the sterile strands found on insects are called. I have been referring to them as Isaria, a convenient general name for all such things we do not know much about. The claim that they have conidial spores borne on basidia

seems to me to upset the fundamental idea of what a basidium is. If a basidium can bear a conidial spore, then what is the difference between a conidial and a basidial spore, and what becomes of our old belief that a conidial spore is borne without the aid of a special organ (basidium).

Cordyceps myrmecophila.—The occurrence of this in Ceylon rests to this day on an old figure of Thwaites. It occurs in Europe (very rare) and Brazil.

Cordyceps unilateralis.—(Fig. 3138 from Petch enlarged.) The most interesting thing in Petch's paper to me is the rediscovery of this unique little species in Ceylon. It was named and beautifully figured by Tulasne on an ant from Brazil (1865) and has not been found in Brazil since (nor elsewhere except as herein stated). No specimen is in Tulasne's herbarium. Höhnel reports it from Java, but of course he has to discover it a "new variety" in order to get an excuse to write "von Höhn" after it. It is a wonder he did not get up some reason to "zu stricken" Tulasne's name entirely. Höehnel was the greatest "zu strickener" the world ever produced since the Kaiser set out to "zu stricken" France. Petch's figure surely is exactly the same as Tulasne's (except as to the number of discs which Petch states vary from one to four).

Cordyceps Blattae.—(Fig. 3139 from Petch.) This is a new species found but twice on cockroaches. It is a pity it is not more common. Raising Cordyceps clubs is the only useful thing I believe a cockroach was ever known to do.

Cordyceps falcata.—My notes and photograph of this are in London and I would prefer to make no comments while depending on memory only. It is one of the two frequent species recorded in Ceylon, but I believe is not known elsewhere.

Cordyceps coccinea.—(Fig. 3140 from Petch.) We are glad of Petch's comments on this species for we always had the impression from the published account that it is Cordyceps militaris. Petch says it differs by its immersed perithecia. We have never seen it and failed to find the "type" specimen in the herbarium where it should be kept.

Cordyceps dipterigena.—(Fig. 3141 from Petch enlarged.) This is the most frequent Cordyceps in Ceylon, and occurs on flies usually attached to under side of living leaves, by a reddish brown mycelium. We have figured it before (1991, 1990, 2945). It is a widely spread species, but I do not recall that it has been found in Europe. In Prof. Thaxter's herbarium we have seen collections from the States and he told me it was fairly common. It is not part of our records, however. Moeller figures it from Brazil (as Cordyceps muscicola).

Cordyceps Ouwensii.—(Fig. 3142 from Petch.) If this is same as Cordyceps dipterigena, as Petch states (compare the figure 3142 and 3141), it annihilates all ideas that shape has anything to do with Cordyceps species. I can not state to the contrary, but it does not look right to me. However, Petch, with a field knowledge of it, no doubt knows.

Cordyceps Thwaitesii.—(Fig. 3143.) Petch states, "It was named Cordyceps Thwaitesii but (as stated in Mycological Notes) it is Cordyceps dipterigena, though it differs in having such a large number of clubs." Comparisons of the figures show that Cordyceps dipterigena has one or two clubs, globose heads, strongly distinct from the slender stalks. Cordyceps Thwaitesii is about twice as large, has nine clubs, none of them globose, but obovate merging into thick stalks. It may be the "same species" but everyone will form an opinion on such cases and it seems to us the opinion should be based on the figures, as that is all the evidence anyone has. We present the figure for convenient comparison.

Hypoxylons with Annular Mouths.—The most prominent character in observing Hypoxylons, it appears to me, is the nature of the mouths. Most Hypoxylons (perhaps all) have a protuding ostiole (papilla), but on the usual familiar species of Europe and America it is not clearly delineated from the top of the perithecium. There are many collections of a southern range, both Europe and the States and particularly the tropics, where this papilla is surrounded by a distinct, usually definite area, strongly marked off from the remainder of the perithecium. As it is the most prominent feature when the specimens are observed closely it would be most useful in sorting the species into sections. But it never has been done. Nitschke, who is practically the only one who closely observed and recorded (1867) the Hypoxylons of Europe, was not familiar with a species that had a truly annular mouth; though he characterized two of his sections "Euhypoxylon, Ostiole umbilicate", "Epixylon, Ostiole papillate", it would appear his sections were based on this character, but they were not. I believe he did not see a specimen truly "umbilicate" in the sense we use the word in this article. Traverso (1906) gets up his keys based on Nitschke, but I can not see any definite distinction in the mouths of the species he so divides. Neither Saccardo, Cooke, nor Ellis used it as a sectional character though all were familiar and described the character in connection with species. Schweinitz was the first to clearly point it out in his figure of Hypoxylon annulatum (1825) with the natural result that

workers with tropical species have largely referred to Hypoxylon annulatum any collection that has an annular depressed mouth area. There are several species in this group and Theissen is the only recent worker who has specially considered them. He lists nine species which he would reduce to three, largely on spore sizes. Unfortunately, however, he had no way of knowing authentic-named material and his names have no more value than those of Hennings, Rehm or any other guesser on the subject.

Spore size has a general value, but not a specific value, for spores vary as to size (within limits) on the same slide. Other features evident to the eye, as for instance globose or effused, a character that is generally used, Shear tells me, is not a definite character: that in collecting he has observed species cushion shape or globose on soft bark which became effused on the hard denuded wood of the same branch. A better character is the degree of protruberance of the perithecia. Some species have the surface almost even, the perithecia almost all imbedded. In others the perithecia are strongly protruding, the surface strongly uneven to the eye. Some species have the annular area flat, even with the top of the perithecium. Others strongly depressed, or "umbilicate." With these general remarks on the differences of species with "annular" mouths, we will consider a few where we feel the name is definitely fixed. We have several others however that we can not consider now because we have not been able to decide on an authentic name, viz. H. effusum (sense Ellis but not of Europe) H. polyspermum (sense Ellis but not cogeneric with plant so named by Montagne) H. annulatum (Sydow determination Philippines, an entirely different plant from the American), etc. It will be ample time for us to consider them, if we even learn what they are.

Section A—Cushion Shape.

Hypoxylon annulatum.—(Fig. 3144 and Fig. 3145 enlarged.) Cushion shape, 4 x 5 mm. in diameter, usually confluent. Perithecia strongly protruding. Annular zone, large flat, not much depressed. Spores 5-6 x 8-12. The original species of this section was finally illustrated by Schweinitz (1825) who overlooked it however in his final summary of species. Many collections are so referred in the museums, most of them wrong. Type is at Philadelphia and a better cotype at Kew. Compare Hypoxylon diffusum in next section.

Hppoxylon marginatum.—(Fig. 3146 and Fig. 3147 enlarged.) Cushion shape, black, 5-8 mm. in diameter, with no sign of subiculum. Surface almost even, the perithecia but very slightly protruding. Ostioles, nipple shape, centered in a depressed annular area. Spores 6 x 10 or smaller 5 x 8, rather obtuse. Hypoxylon marginatum is almost same size, black, and appearance to the eye as Hypoxylon multiforme but the ostioles in a depressed area, are the distinction. But it is not absolute, for multiforme often has a more or less definite area, and seems to run into this species. In early days it was confused with Hypoxylon annulatum (Ellis 471) but he since got it straight. It is a larger and more globose species.

Section B—More Effused than Cushion Shape.

Hypoxylon diffusum.—(Fig. 3148.) Exactly same otherwise, but more diffused than the type form. To the eye quite different in appearance but probably same species as held by Ellis.

Hypoxylon Michelianum.—(Fig. 3149 and Fig. 3150 enlarged.) Effused, perithecia strongly protruding. Annular zone deeply depressed. Spores 6 x 16. This is the European analogue of our Hypoxylon annulatum, and as far as I know at present the only species in Europe with truly "annular" mouth. It differs from Hypoxy lon annulatum to the eye by its more protruding perithecia, and smaller more depressed mouth. It was characteristically figured by old Michelius about two hundred years ago (excepting he shows the perithecia too far apart), and the name is based on this old figure. The specimen we illustrate was distributed by Saccardo and is misleading as the tops of some of the perithecia are broken off.

We will consider other species of Hypoxylon with "annular" mouths when we can feel more sure of their correct names than we are at present.

Cordyceps of New Zealand.—Valuable papers on this subject are being issued by G. H. Cunningham, Government Mycologist of New Zealand. We are particularly interested in the genus and reproduce the species that have not been considered in our previous publication. We give such data as is not shown on the photographs.

Cordyceps consumpta.—(Fig. 3151.) Color black, both club and stem. Surface minutely rough with projecting ostioles. Perithecia immersed. Secondary spores 1-1½ x 4-5. This grew on the larva of a species of Porina and was collected by A. Lush at Rotorus, New Zealand. As to size and photograph, very much same as Cordyceps gracilis but differs entirely in its host and color.

Cordyceps Kirkii.—(Fig. 3152.) Color pale brown. Club globose, on short stems growing from the intersegments of the host. Surface uneven, with the apical

projections of the perithecia. Perithecia superficial, forming a dense peripheral layer around the central axis. Secondary spores not readily separable, 1-1½ x 6. This grew on Deiacrida rugosa (Arthopterae) and was collected by H. B. Kirk, Wellington, New Zealand. We present an enlarged section (fig. 3152 bis) and a photograph (fig. 3152) of the fungus. The latter is about natural size and both are from Mr. Cunningham's paper.

Cordyceps Taylori from C. C. Brittlebank, Australia.—(Fig. 3153 reduced ½ diameter.) A beautiful specimen of this most marked species has been received from Mr. Brittlebank. Our photograph (reduced one half) will give a perfect view of it. It is the largest Cordyceps known and is one of the peculiar Australasian species. Compare Cordyceps of Australasia Vol. 4, fig. 621. It has the underground stems dilated at the top, a difference from all previously collected, hence could be called a new species, but I think only a variation. It does not differ as much as the original specimen named of Cordyceps Taylori differs from the plants so labelled today in the museums of London. A few of the clubs have developed perithecia the first fertile specimen I have noted. The perithecia are conical, dark and apparently on the surface (not imbedded). Should anyone think this should have a different name from Cordyceps Taylori, it could be called Cordyceps Melbournensis.

Hypoxylon cohaerens.—Fig. 3154 and Fig. 3156 conidial). A most common species with us on beech. Also recorded on many frondose woods, but we can always find it in quantities on beech. September I find it both conidial, with reddish brown felty layer (fig. 3157 enlarged) and mature black, no sign of conidia (Fig. 3155 enlarged). The latter I think are specimens of previous year. It grows caepitose and often contiguous, the little black balls are cushion shape or depressed globose. The ostioles are nipple shape with no sign of definite surrounding area. Spores are unilateral 6 x 12-16., I have never checked it up in the museums as to distribution but it is recorded common in Europe also.

Nummularia emergens from C. M. Tucker, Porto Rico.—(Fig. 3158.) Flat or slightly convex, originating under the bark which it throws off. Surface smooth, black, with only faintest indications of ostioles. Context scanty thin, about 1 mm. Interior carbonous mostly a layer of palisade perithecia. Spores not found by me. This is evidently so close to Nummularia asarcodes that there is a suspicion they are the same, but the color "lead grey" does not apply at all. It has a general resemblance to Nummularia Bulliardi and other species considered on page 1311 but belongs to a different section (or Genus) as this has elongated contiguous perithecia instead of globose. Fig. 3159 section and fig. 3160 surface, both enlarged.

Nummularia asarcodes.—(Fig. 3161.) Our photograph made from authentic specimen from Brazil appears to be much same as this in habits and appearance. The spores are given 6 x 12, opaque, by Theissen. The grey lead color does not apply to Nummularia erumpens at all.

Hypoxylon multiforme, see page 1364. Kretzschmaria Tuckerii will appear next issue.

Nummularia Bulliardii. Old.—(Fig. 3165, surface enlarged.) When we wrote our article on Nummularia Bulliardii, page 1311, Fig. 2970, we had not noted that the ostioles ever opened markedly. In making collections this spring of some old material we found each ostiole punctate with definite opening. We think our enlarged figure (3165) will show this at least under a hand glass. Nummularia Bulliardii seems to develop during the Summer and Fall, but it does not dehisce I believe until the winter. At least I never noticed dehiscence on the usual museum specimens.

Xylaria polymorpha exuding spores.—(Fig. 3166.) The life history of many Pyrenomycetes is yet to be told. Some of them have their conidial states in the Fall and persist over winter and disperse their spores the next season. On August 20, 1920, I found a specimen of Xylaria polymorpha covered with a mass of exuded spores (Fig. 3166) which gave it a most unusual appearance. At first I was puzzled to explain it, but the microscope showed the covering mass to be exuded spores. It is very rare to find it in this condition. It was an old specimen of the previous year's growth.

Nummularia atropunctata from J. H. Miller, Georgia.—(Fig. 3167 and Fig. 3168, surface enlarged.) Although a most frequent species on beech and oak we have never published on it for we could not decide how to treat it generically. It was called by Berkeley, Diatrype, by Saccardo, Anthostoma, by Ellis, Hypoxylon, and it can not possibly be entered into any of these genera. Neither is it a good Nummularia, for while its general habits, effuse, growing under and decorticating the bark, were the main feature in Tulasne's mind when he proposed the genus, it has an entirely different history and in reality is a "new genus" (Albocrustum McG.). The main feature of the plant is a thin, white (calcareous no doubt) permanent crust through which the black convex ostioles protrude and strongly contrast. The inside (stroma) is thin, rigid carbonous black and the globose (carbonous) perithecia are imbedded, and about the same diameter. Spores as I measure them are 16 x 32, dark-colored and rather acute at both ends. No one has known or at least written anything about its early conidial history. Several times I have noticed and collected on beech large areas of a thick layer of brown conidial powder. About two years ago I found

that Nummularia atropunctata has replaced this powder and I have no doubt is the subsequent stage of it. I never watched the intermediate stages of it however and it is not sure, but if true, then the conidial history of Nummularia atropunctata is entirely different from that of other Nummularias and Prof. McG. genus will stand.

Xylaria reticulata from Prof. P. A. van der Bijl, South Africa.—(Fig. 3169 and Fig. 3170, surface enlarged.) Club shape with soft stroma which disappears and the club splits when mature. As to the feature exactly same as Xylaria cubensis. Crust white, breaking up into little areas giving a reticulate appearance to the surface. Spores small, broadly oval, 4 x 5. The peculiar manner in which the white crust breaks up into reticulate areas suggests at once the plant we have been calling Xylaria faveola, but in it's even surface and spores it is very different.

Hypoxylina discina from T. Matrumoto, Japan.—(Fig. 3171 and Fig. 3172 enlarged.) Erumpent from thin bark of branches, disciform, usually two together and confluent. Disc flat or slightly convex, with slightly raised margin, shiny black, with slightly raised ostioles. Context brown, not carbonous, hence for me Hypoxylina. Neither peridioles or spores developed. The small foreign Pyrenomycetes like this have been named by the hundreds mostly as Hypoxylon but they are only collections, not species and no one knows what they are. I have worked and puzzled over them for weeks in museums of Europe and only a few have taken definite meaning. This I feel sure is not one of our species, nor do I remember having seen it, as I probably would, for it is quite characteristic. If named no doubt it would have been called Hypoxylon or better Nummularia.

Solenoplea peltata from C. M. Tucker, Porto Rico.—(Fig. 3173 and Fig. 3174, section enlarged, Fig. 3175, surface enlarged.) Sessile cushion shape but with a reduced base and a discoid face. Disc convex 8 mm. with a thin brown surface and most peculiarly marked with protruding punctate ostioles. Perithecia elongated, contiguous with shiny black walls that are covered with a dark brown surface. Spores (only seen in asci and probably immature) small 3 x 4, pale colored. This in old times would have been classed as Hypoxylon, but not for me with its elongated contiguous perithecia. The peculiar protruding punctate ostioles, as shown in Fig. 3175, we do not recall as to any other species as strongly marked as these.

Hypoxylon Morsei.—(Fig. 3176 enlarged.) The specimen that we figured (3004) and published on page 1314 had a few only, three, perithecia in each cluster. As we there stated however, the usual collection has six to eight perithecia to each cluster. We give another figure (3176) enlarged showing the usual appearance of the plant.

Xylaria rimulata from H. Hill, New Zealand.—(Fig. 3177.) Clubs cylindrical or spathulate flattened. Black, no sign of a crust. Surface smooth to eye, but under a lens papillate with the minute nipple shape ostioles and broken into little areas by cracks (Fig. 3178 enlarged). Stroma soft, pithy, cinereous, spores 5 x 9. That shape has not much to do with species of Xylaria is evidence in our figure where flattened, round and spathulate shapes are shown. The exceptional features are the minutely cracked surface and the soft cinereous stroma. We enter it in section 18, though from the spongy nature of the stroma, it probably becomes hollow when old.

Xylaria ianthino-velutina from Prof. R. Thaxter, Tennessee.—(Fig. 3179.) Growing on Magnolia fruit. We have referred to this peculiar species a number of times (Xylaria Notes, page 25, Fig. 1343. Myc. Notes, Vol. 6, page 970, Vol. 7, page 1251, Fig. 2696). We figure again for it is the only known collection from the States and the only one on Magnolia fruit. It is a common species in the tropics and always on fruits of some kind. What a pity it does not bear a specific name indicative of the fact. In Brazil, Tropical Africa and the Philippines it usually grows on the large leguminous pods. In South Africa we get it on Strychnos fruit. In Ceylon on fruit of Cullenia. Prof. Thaxter's specimen is more simple than the usual tropical collection (compare Fig. 3180 from Rev. Rick, Brazil) but same otherwise. In our early interpretation we called this Xylaria multiplex as corrected on page 1251.

Xylaria scopiformis from Prof. A. Yasuda, Japan.—(Fig. 3181 and Fig. 3182 enlarged.) Slender, black, with a long minutely pubescent stem. Fertile portion short, not larger then the stem, and distinguished to the eye with difficulty. Sterile prolongation short acute. Spores (teste Yasuda) 4½ x 10. We presume this the same as the old Kunze distribution on which Montagne based the name. It has been confused by us (Cfr., page 1247) with Xylaria caespitulosa. In the museums there is a common sterile caespitose plant under this name which may or may not be this plant. Also Xylaria caespitulosa is commonly named as this plant in error in the records. We place this in section 13 though it may be sought in section 12. Surely it is not Xylaria Hypoxylon as sent.

Xylaria curta.—(Fig. 3183.) There is a common Xylaria in the tropics which for me is only a tropical form of Xylaria polymorpha. It has the same solid

stroma, same perithecia, same surface, and spores practically the same but run smaller 8-10 x 24-28. We have collections which we have heretofore referred to Xylaria Schweinitzii basing it on our photograph of the type, but on our last trip to Europe we noted that while it may be the "type" of Xylaria Schweinitzii it surely is not the usual plant that Berkeley so referred to and they write "Berkeley" after Xylaria Schweinitzii. In his usual sense it is a hollow plant same as Xylaria cubensis. That leaves us without a name for our tropical form of Xylaria polymorpha. We therefore adopt Xylaria curta as named by Fries for something from Tahiti that no one knows what it is, but the name has been knocking around for over seventy years without any meaning, and if wrong nobody will know the difference. We have to have a name for the plant and it is too late now to call such a common thing a "new species." It appears to answer the "description." The plant takes a variety of forms, subglobose, elliptical, stipitate or sessile, but it rarely if ever is cylindrical as the common temperate region Xylaria polymorpha usually is. We present in our figure several of its shapes.

Xylaria myrosimila from S. Rapp, Florida.—(Fig. 3184.) Clubs sessile, cylindrical, acute. Color brown but no distinct crust. Surface even. Stroma white. Perithecia imbedded. Spores 7 x 20, rather acute, strongly curved. To the eye same as Xylaria myrosura or at least the plant we have so taken, but spores double as large. It is quite close to Xylaria bambooensis recently named from the Philippines, differing in the even surface. It grew on a moss covered log. We enter in section 14.

Xylaria dealbata, cylindrical form, from John Gossweiler, Tropical Africa.—(Fig. 3185.) We have many collections of Xylaria dealbata, ovate as shown in Fig. 2711, Vol. 7. It seems quite uniform as to shape. But one received from Mr. Gossweiler is club-shaped (Fig. 3185), mixed with others of the usual shape. Xylarias are classed by their general shape but it does not always work out well. But a species as characteristic as Xylaria dealbata should be known on sight. Yet it is found in the museums under several names. We called it Xylaria Ridlezi, being the only photograph of a "type" we had, and we could only recognize the little frustular "type" after we had learned well the species.

Tubercularia (?) vermicularis from W. R. Lowater, Ohio.—(Fig. 3186 enlarged.) A most peculiar thing as shown by our enlarged photograph. It is well described by Lowater as follows: Elongated-cylindrical and flexuose to tortuose, resembles in configuration bird droppings. Color (amber teste Lowater) for me opaque white, not appearing to be a tremellaceous plant which is further brought out by the microscope which shows large reticulate cell-like appearance. We adopt Mr. Lowater's name, ad interim, until material is received which will show its true nature. We find neither basidia or spores. It can be told without question from our enlarged photograph.

Lentinus terrestris from Dr. J. B. Cleland, Austraila.—(Fig. 3187.) Growing in the ground, with a ball of dirt adhearing in a mycelial mass. Pileus dark brown with strong villose hair. Gills dark close. Stipe short thick velutinate. This to eye is close to Lentinus stuppeus, but hairs are shorter and it is a terrestial species, an entirely different idea. It belongs in section six.

Nepotatus stellatus from G. F. Weber, Florida.—(Fig. 3188.) We do not like to name a fungus that we do not know, even what class it belongs to, but we want to consider this most curious plant and hence use a name as a convenience. It seems a normal fungus to me, though I never before saw anything it even suggests. It evidently grew in the ground, as the mycelial base on the under side fixes that. It is flat or recurved and split into lobes (one broken off and reversed in our photograph). In a general way it reminds one of the recurved Pezizas like Discina repanda excepting the "hymenium" on the under side; nor has the upper crust any suggestion. The upper crust is smooth, shiny and black. The flesh, about 1 mm. thick, is pale. Probably white when fresh, and of a fleshy texture. The lower layer is thin, darker than the flesh and in it are imbedded irregular subglobose colored spores, 8-12 mic., that do not recall the spores of any ascomycete but in a vague way those of a Thelephora. There is no pallisade hymenium either of basidia or asci, and how the spores are borne is only a conjecture. Possibly in asci that have disappeared, but that does not seem reasonable. As I could make nothing satisfactory out of it I sent it to a college professor in whose skill with the microscope I have every confidence, but I do not mention him for he did not solve it and probably does not wish acknowledgement. He writes: "I have spent some little time in examining the specimen that you sent the other day labelled *Nepotatus stellatus*. I have found the spores which you mention in your description and I am inclined to agree with you that the material is a fungus. It is clearly hyphal in character, but I have not been able to determine how the spores are borne and am not sure that they might not be the spores of another fungus occuring as a saprophyte upon this one. I am sorry not to be able to help you out."

Then I sent it to a lichenologist who was working in an Eastern University. It was pronounced there as

being an old peridium of Scleroderma Geaster. At first I thought that was a solution, but when I consider that the (under) side with spores and rooting base are the same, then, if a Scleroderma, it must have borne its spores on the outside of the peridium. This would confirm Clements' view that Gasteromycetes do bear their spores on the outside, but I can not believe it (Cfr. Myths of Mycology). Besides, the upper convex surface which must correspond to the inside of the puff-ball is black, shiny, and has a thin crust. I think that is not a character of either inside or outside of any Scleroderma peridium. So, for me the whole subject is just as much a mystery as when I first received the plant.

Tuber candidum from Prof. James McMurphy, California.—(Fig. 3189, natural size, Fig. 3190, section of moist tuber enlarged.) This was named by Prof. McMurphy and, although young and no spores found, is surely correct. Harkness teste Miss Gilkey made four collections of it and referred them to three "new species" (Tuber candidum, Tuber Eisenii, Tuber olivaceum) and misreferred the fourth collection to Tuber Caroli of Europe. These specimens are young, the gleba pure white. It is said to be light brown when mature. Tuber candidum is evidently close to Tuber rufum of Europe, as stated by Miss Gilkey. Whether same or not I would not like to say on these young specimens, but it is at least suspicious that Tuber rufum is the recorded common species of Europe and Tuber candidum of California and that the difference pointed out is much like splitting hairs. Both are exceptional from the usual Tuber in having cartilaginous tissue and spinulose spores.

Pilacre faginea.—(Fig. 3191 enlarged.) Although we illustrated this a short time ago we give another figure (enlarged) that we made from fresh specimens (1920). It grew on a standing decorticate tree. Grew caespitose and was quite firm and pure white when fresh and young. We also present (Fig. 3192) the same plant at a later development when the peridium is beginning to break up. Both photographs are enlarged and made from freshly collected material.

Exidia novo-zealandica from Rev. James Mitchell, New Zealand.—(Fig. 3193 dried.) Resupinate, drying rather rigid, curved. Color black, both dried and soaked. Surface covered with large black papillae. Spores 8 x 16 cylindrical, curved. We do not make out basidia but see globose imbedded bodies hyaline 6 mic. which are probably not basidia. Also large imbedded crystals. It is quite close to Exidia Japonica (page 599) but the papillae are not white and it does not dry to a thin membrane. The large papillae are only slightly imbedded at the base.

Tremella vesicaria from G. W. Martin.—(Fig. 3194.) We have given figures of this before (Vol. 5, Fig. 1486), and as the plant varies some in appearance we give another from Prof. Martin's collection. It has always been called Tremella vesicaria by Berkeley, Morgan and that group of mycologists and its history given in Vol. 5, page 871. It is most peculiar in its habits, growing in the naked earth and surrounding blades of grass, base of herbaceous plants, etc., if they come in its way. (Fig. 1948, Vol. 6.) This specimen from Prof. Martin grew without support. What Schweinitz called it is not known and I found no specimen. Probably "Guepinia helvelloidea," as Morgan states. It surely is not his "Dacryomyces pellucidus" which grew on wood. I noted that the latter was a flat white Tremella with globose basidia and it appeared to be flat to me and unknown elsewhere. Schweinitz states a form is "gyrose like a Tremella and variously lobed," but he may have confused the common Seismosarca alba which is not otherwise accounted for in his writings. Surely his specimen is not, however, for it has no gloeocystidia. Recently it has been stated that Schweinitz called Tremella vesicaria "Peziza (sic.) concrescens." Let us hope Schweinitz knew a Peziza from a Tremella which have the same resemblance that a tin cup has to a jelly fish. If he did not, let the mantle of charity fall on this old bull. Surely it does not justify digging up after these ninety years and a cheap juggle based on it in Tremellaceae. Particularly as the plant has been almost generally known in American mycology as Tremella vesicaria and there is no other need of the name now in Europe and never was.

Exidia albo-globosa from Rev. L. J. Grelet, France.—(Fig. 3195.) Globose or cushion shape, about 1 cm. in diameter, pure white. Surface even or slightly undulate. Spores cylindrical, curved 6 x 12. Basidia hyaline, globose about 12 mic. It grew on a very rotten log. The above are the salient features and I am unable to reconcile it with any known to me. It was sent as Exidia Thuretiana and is the third plant I have from France under that name, none of which agrees with the drawing of the type at Paris or the description. If any one knows Exidia Thuretiana, I should be glad to receive good specimens of it.

Cyphella fasciculata from Dr. Herbst, Pennsylvania.—(Fig. 3196 below dried specimen, and Fig. 3197 soaked, enlarged.) Forming little fasciculate clusters, brown, the hymenium paler when soaked. Cups about a mm. in diameter, smooth to the eye but clothed with appressed pale colored hairs. Spores cylindrical 2½ x 9 (teste Burt). The little fasciculate clusters grew caespitose and cover the branch. Cyphella fasciculata is our most common species in the States,

and grows in abundance usually on Alder. It has usually appeared in our records as Cyphella fulva, but we adopt the new name from Burt attributed to Schweinitz though we believe Burt was only guessing on it, or rather, copied it from Berkeley. But he probably guessed right. We found no type in Schweinitz herbarium, according to our notes made in the herbarium. (Cfr. Letter 50, "No. 299.")

Cyphella quercina from Prof. A. Yasuda, Japan.—(Fig. 3196 above and Fig. 3198 enlarged.) This grew on oak and at first we took it for our common Cyphella fasciculata (see above). It is very near in general appearance, but not on close comparison. It forms little fasciculate clusters and is same general color but larger and darker. The hairs are darker and curled under the microscope. Spores (teste Yasuda) elliptical, smooth, hyaline 2 x 5. While this is close to the American analogue, and our photographs seem similar, we are convinced that they are quite different.

Calocera fusca from Rev. James Mitchell, New Zealand.—(Fig. 3199.) Clubs simple, gregarious, about 2 cm. high. Color brown with darker tips. Spores 5 x 10, hyaline, slightly curved, two guttulate, no doubt one septate in germination. Basidia not made out but no doubt furcate, the spores evidently determine that. It grew on very rotten wood and is, I believe, the only brown Calocera that has come to my notice.

Pterula abietis from Prof. R. Maire, collected in North Eastern France.—(Fig. 3200.) Growing densely caespitose on fallen Abies needles. About 1½ cm. high. Stems few, branched below, fimbriate above. Color when soaked dark amber, the tips lighter color. Spores and basidia I do not find sure enough to record. This impressed me as soon as I saw it as different in habits and appearance from the two species Pterula subulata and Pterula multifida with which I am familiar in Europe. We gave, Vol. 5, page 863, photographs of these two species with which our photograph of this should be compared.

Tremella isabellina from J. E. A. Lewis, Japan.—(Fig. 3201.) Subglobose, about an inch in diameter, color dirty white or isabelline, with short foliaceous lobes. Basidia globose. Spores 5 x 10, hyaline, curved. We have been trying to establish Exidia as having curved spores to distinguish the genus from Tremella. But this is so evidently a Tremella that we will have to abandon it. We have had trouble with it before. When I first soaked this out I thought a color form of Tremella fuciformis, but the entirely different spores forbid.

Cantharellus floccosus from Prof. K. Masui, Japan.—(Fig. 3202.) Prof. Masui's photograph is characteristic of this species. It is an American species originally, but I get it from Japan rarely. It does not grow in Europe. Prof. Masui's color notes are as follows: "Color when young bright red or yellowish red. Greyish yellow when full grown and turns into brown or chocolate brown when it begins to dry away."

Pseudohydnum translucens from John E. A. Lewis, Japan.—(Fig. 3203 enlarged.) Pure white when soaked out and dried, about a cm. in diameter, gelatinous, bearing the hymenium on under side, drying to a mere film. In section the context (about a mm. thick) and the hymenial layer are both white, but a different white. The former is gelatinous subtransparent, the latter contrasts and a different texture though both are white. Spines tubercular when young probably, for on another specimen they are more awl shape. Basidia not made out. We assume clavate. Spore globose, hyaline, smooth, 4-5 mic. This so closely resembles Tremellodon gelatinosum that we suspected that they were the same until a comparison was made. They are not in our opinion; entirely different genera for me. The common plant has homogeneous texture both teeth and context. The Japanese heterogeneous. A figure of Tremellodon gelatinosum was published, page 147, Vol. 1.

Exidia saccharina from G. G. Hedgcock.—(Fig. 3204.) Color brown (brown sugar of old descriptions), sessile, foliaceous. Gelatinous tissue brown. Basidia globose, 12 mic., pale colored. Spores 5 x 16, curved hyaline. This is supposed to be an old Friesian species growing on pine. This was on oak and hence is not sure. We gathered we are reasonably sure, the Friesian species in Sweden and our notes and photograph (Fig. 3204, lower specimen) seem to accord to this, excepting the Swedish plant did have a few papillae on it. The species has been badly mussed up by Brefeld. He claims it forms a "new genus" because the spores sprout with straight (not curved) secondary spores, which he calls conidial spores, but which are of an entirely different nature from the spores that grow on hyphae and usually known as conidial spores. It is carrying taxonomy almost to absurdity when one has to "sprout" his spores to decide on his genus. Whether Brefeld had his "Ulocolla" saccharina or his "Ulocolla" foliacea either in the original specific sense is a problem. Both his species seem to be the same thing to me, and the latter is surely not Tremella foliacea as known to others.

Tremellodendron pallidum from G. W. Martin, Iowa.—(Fig. 3205.) This is such a fine specimen we give a photograph of it. A common plant, the victim of some shuffling in American history. (Cfr. TSO KAY, page 1212.) Atkinson called it Tremellodendron Schweinitzii which Burt changed to Tremellodendron pallidum "Burt" on those "sacred principles." Sacred

principles come in mighty handy at times, particularly when it gets up "new combinations" on a well known fact of twenty years standing, originally from Bresadola.

Irpex lamelliformis from Prof. K. Masui, Japan.—(Fig. 3206.) We present two specimens of same collection to show the troubles of classification based on hymenial configuration. The one on the right is Irpex lamelliformis as published, Vol. 5, Fig. 1053. This is a Lenzites rather than an Irpex. The one on the left has small pores and is a Polystictus. Surely the old fellows who took no account of variation would have found two species in this one collection, and there is not the slightest doubt they are both the same. Had the small pored plant been sent to us alone, we could not have suggested what it is, except "unnamed."

Cytospora chrysosperma from Stuart S. Towne, California.—(Fig. 3207.) The genus Cytospora really does not fall in my line of work and we gave what little we know about it on page 1200 as to Cytospora betulina. This grows on birch bark, it appears to me, and we presume it is the above species, as it is orange red, and "majusculis copiosis" and appears to be common from the records. The gelatinous threads shown in the photograph are not the fungus but are threads of spores which have been squeezed out from little sacks under the bark called pycnidia. Under the microscope they are resolved into a mass simply of minute, subhyaline spores. It is unbelievable the number of these spores there must be, running up into the millions, no doubt. Prof. Buller should do a little figuring on them.

Lentinus similis from R. E. Holttum, Singapore.—(Fig. 3208.) We gave a short account of this in our letter No. 47. It is an Eastern species that does not occur in our American tropics although confused by its author with Lentinus blepharodes, an American species. Mr. Holttum's sending is a fine specimen which we photograph. Lentinus similis differs from all other Lentinus known to me by the stipe covering which is spongy matted rather than velutinate. Also the glabrous strongly striate pileus and pale rather distinct gills are unusual. Our figure should fix it definitely.

Exidia recisa from S. Rapp, Florida.—(Fig. 3209 soaked and dried.) In the early Spring, often in March when the cold rains come on, this is abundant in our woods. But it seems to like cold weather and disappears mostly when the warm days arrive. It is the basis of Exidia truncata of Morgan's work and I never knew the difference until I found it in Sweden, after having found the rare Exidia truncata in France. In this connection, as far as I know, Exidia truncata has not been found in America and it is very rare in Europe. Exidia recisa is a uniform brown plant, the under-side sterile, attached by a point or a very short stem. The hymenial face is a disc, shiny to the eye. Basidia globose, 12 mic., light colored. Spores hyaline slender, 5 x 16 curved, opaque. There is a tradition that Exidia should have papillae but they are usually absent in plants around Cincinnati. Rarely, however, do we find papillae on them, and Brefeld's figure shows the face covered with papillae. They write "Ditmar" after Exidia recisa but that old crude figure must be accepted on faith. It has not much resemblance to it. Exidia umbrinella as illustrated by Bresadola is for me the same thing. Although at times one of our most abundant tremellaceous plants, it was not considered by Prof. Burt, not having been found by Coker nor published in Mycological Notes.

Hydnum Rawakense from H. C. Beardslee, Florida.—(Fig. 3210.) Hydnums are rare in the tropics. This was named by Persoon from the Island of Rawak and the type is still found at Leiden. It is a thin dimidiate species with reddish spines. We have gotten it more than a dozen times from Madagascar to Brazil. It is a thinner plant, but otherwise about same as Hydnum glabrescens. (Page 1154, Fig. 2255.) A rare plant in the States. We have however one collection of Hydnum Rawakense from Salem, Ohio, which is thin but same as the tropical plant.

Irpex Rickii from Rev. C. Rick, Brazil.—(Fig. 3211.) Although hymenial configuration is the basis of classification there is no more variable factor in some species. As we have previously stated the common Daedalea flavida of the East never has the hymenium the same on two collections, it appears, and it has been named as a new species 23 times. This iripicoid resupinate specimen of Daedalea Sprucei has but little suggestion of the well developed plant (Fig. 3212) and yet it surely is the same. Daedalea Rickii is an irpicoid Daedalea Sprucei which differs from our usual Daedaleas in one very important feature. It has large (12 mic.) globose, smooth pale *colored* spores. Hence it is called Phaeodaedalea by Prof. McGinty. The specific name Sprucei is occupied in Irpex.

Pterula densissima from R. P. Dollfus, France.—(Fig. 3213.) We believe this to be same as Pterula densissima as named about 50 years ago from a United States collection and never found since. Compare Vol. 5, Fig. 1469. If so, it is its first record in France. Except as to habits of growing compact it has same color and aspect as Pterula multifida of Europe and it may be a compact form of it, but Pterula multifida (see Vol. 5, Fig. 1464) grows gregarious but separate and appears to be quite different from this.

Heterotextus pezizaeformis from Miss Helen K. Dalrymple, New Zealand.—(Fig. 3214.) This is coming to us several times from Australasia but from no other country. We have published and figured it on pages 658 and 1151. At first view these plants appeared sessile (our figure the top soaked and natural size), but a close examination shows they are attached by a point, or rather short stipe. It is not as relatively long however as shown in our Fig. 941. The spores, abundant in these, are cylindrical, strongly curved, 6-8 x 20, with pale yellow contents and 5-6 septate in germination.

Calocera fusca from Dr. J. B. Cleland, Australia.—(Fig. 3215.) Simple gelatinous clubs, unbranched. Spores 6 x 12, hyaline, curved. It is exactly same as our common Calocera cornea excepting color which is brown rather than yellow. All European species of Calocera are yellow or orange. Perhaps this is same as Calocera fuscobasis from Philippines (Myc. Notes, Vol. 7, page 1151), but this is not darker at base nor has it a rooting base.

P. S.—This is a duplicate name, see a few pages before, which we did not note until the plates 336 and 338 were made up. We could change the name on one but they are probably the same species.

Pterula Winkleriana from Rev. Hyacinthe Vanderyst, Congo Belge.—(Fig. 3216.) This is quite close to Pterula simplex (Cfr., Vol. 5, page 866.) A comparison of our figures will show the slight difference. There is no use wasting words when the photographs tell the whole story.

Lentinus stuppeus from Alvaro Da Silveira, Brazil.—(Fig. 3217.) This is a common species in Africa but rare in Brazil. We have ten collections from Africa, and this is the second collection from Mr. Silveira; no one else has found it in Brazil nor elsewhere I believe. It is characterized by its long black hairs, much stronger than those of Lentinus villosus, the common similar species. At first I thought the Brazilian plant different, for the yellow gills and white upper stipe I had not noted on the African plant. The former is probably due to age (Mr. Silveira's being freshly collected). The white upper stipe is due to a feature of Lentinus that has not been prominently brought out. The hairy covering of the plant is of the nature of a universal veil. In most species it is closely adnate (never peels) but in this it peels away from the upper part of the stipe. This is well shown in our photograph of the Brazilian and also in one of our specimens from Africa.

Calocera variiformis from Dr. J. B. Cleland, Australia.—(Fig. 3218.) There were four collections from Dr. Cleland that appeared the same to me although all were young except one specimen. This was wedge shape, pale, almost white, but faint yellow. Spores hyaline, 6 x 12, slightly curved. Basidia are about same as most of this group. What we take for young specimens however varied much as to form, some were broad and some narrow and slender without any wedge shape at all. We would like ample collections of well developed plants for illustration.

Lentinus erosus from Prof. H. H. Hu, China.—(Fig. 3219.) Thin, sessile, attached by a small attachment. Color (dried) light brown. Surface glabrous, dull, smooth. Context thin, isabelline. Gills close, strongly eroded so that the plant could almost be classed as an Irpex. Cystidia, numerous hyaline hyphae project from sides of gills but not specialized. Spores globose, hyaline, smooth, 5 mic. We have it in our country; no Lentinus with this type of gills.

Ditiola radicata from L. O. Overholts, Pennsylvania.—(Figs. 3220, 3221, 3222, all enlarged.) I think this is the same as the plant I found so abundantly in Sweden which is surely Ditiola radicata, abundantly represented in Fries' herbarium but not in his book, as Fries always had an impression it was an ascomycete. It is a yellow tremellaceous plant, with the fertile head distinct from the rooting stem. I believe the same plant, notwithstanding Overholt's spore record does not agree with mine in Sweden. His record is "Spores elongate-ellipsoid or narrow ellipsoid, one celled finally as many (rarely) 6 celled, 5-7 x 18." My record in Sweden, "Spores pale yellow in mass, 4 x 12 curved." There are two forms. One with a distinct stem which usually grows separate. The other with very short stalk and heads confluent. Both forms are very common in Sweden. Our photographs of Mr. Overholt's collection are all enlargements. Two represent the side views showing the rooting base, the third is a top view. The Swedish plant was more regular and cushion shape as I remember it.

Tremella compacta from Rev. J. Rick, Brazil.—(Fig. 3223 dried and Fig. 3224 soaked.) There is this about Moeller's Brazil publications that can rarely be said about books on tropical fungi. The species are well enough illustrated by photographs so they can be determined with some degree of surety. Sessile, cerebrine, with hollow obtuse lobes. Color yellow when soaked, drying yellow brown. Spores subglobose, 6-7 mic., hyaline smooth. Basidia I did not see. We received this from Rev. Torrend, Brazil, and illustrated it, Vol. 5, page 825, Fig. 1380. It is a species that can not be mistaken from Moeller's figure.

Hydnochaete badia from Rev. J. Rick, Brazil.—(Fig. 3225 and Fig. 3226 teeth enlarged.) The genus is Hymenochaete-Radulum. Or a Radulum with color and

setae of Hymenochaete. We considered it in Vol. 4, page 559. Rev. Rick sends two quite different looking plants with the note "here is the whole story of Hydnochaete." He evidently considers them the young and old of same plant. The former is buckthorn brown, a soft pad, with no indication of teeth. The latter is much darker (mummy brown) with teeth as shown, Fig. 3226 enlarged. One would hardly think they are the same plant, but Rev. Rick probably knows best.

Hydnum plicatum from L. Rodway, Tasmania.—(Fig. 3227.) Considering how common Hydnums are in Europe and the States, it is surprising how few come in from foreign countries. This belongs to the rather rare section with lateral stipe. Color brown both surface and teeth. Spathulate, incised, or lobed tapering to a short lateral stipe which is attached to "buried or dead wood." Surface glabrous, strongly plicate. Teeth brown. Spores globose, 4 mic., hyaline, rather regular but minutely tubercular. There is no species of Europe or States that approximates this, but Hydnum spathulatum (Vol. 6, page 878) from Java is close. It is the first Hydnum of the section to come in from Australasia.

Dacryomyces puroalba from James Mitchell, New Zealand.—(Fig. 3228.) Sessile cushion shape, lobed, pure white, 6-10 mm. Basidia furcate, spores hyaline 6 x 12-14, curved, 3 septate in germination. Conidial spores globose, 6 mic., hyaline. This grew on wood covered with a thin algae (?) but I do not know that this has any connection with it. This is the third white cushion shape Dacryomyces to my notice. Compare Dacryomyces hyaline, page 828, Fig. 1388, States. Dacryomyces candidus, page 1051, Fig. 1952, Chile.

Hydnum coralloides from G. W. Martin, Iowa.—(Fig. 3229.) A fine photograph which we are pleased to reproduce. It is characteristic, though usually it grows more open. We are always glad to get good photographs from our correspondents with their specimens.

Hydnum pleuropodium from R. E. Holttum, Singapore.—(Fig. 3230.) Pileus fleshy, drying brittle. Surface glabrous, dull, deep reddish brown when dry, "deep cream color" when fresh. Stem lateral, fleshy, brittle, black (when dry). Spines long agglutinate, dark when dry, pubescent to the eye, with large, obtuse colored cystidia. Spores I did not find, but my old eyes are too old for that. It grew on ground in jungle and is evidently much changed in color in drying. It is the only fleshy pleuropodial Hydnum known to me, and the section does not occur where the Hydnum jugglers have been mostly operating, hence will necessitate a "new genus" when they turn their attention to tropical fungi. The stem was broken off in the specimen sent and is misleading in our figure as it grew at right angles to the pileus.

Pilacre faginea from Rev. James Mitchell, New Zealand.—(Fig. 3231 natural size and Fig. 3232 old specimens enlarged.) This little fungus is not rare in the States and Europe, usually on beech. We have it also from Brazil and it now comes in from New Zealand. Two names, Pilacre faginea and Pilacre Petersii are current in our books but both are exactly same thing. The plant has a number of names in its early history and much generic confusion, as explained on page 1207. With aid of our photographs there can be no difficulty in placing the species. It consists of globose heads on slender stalks. The heads at first have a thin white peridium which in time peels off, leaving a mass of hyphae and spores reminding of the gleba of a puff-ball. The analogy stops there for the spores (globose smooth, 8-9 mic., pale colored) are borne directly on septate hyphae (called by very learned theorists basidia [sic.]) and the plant is a Hyphomycete. Our Fig. 3231, natural size, shows cluster of young plants and 3232, enlarged, old specimens which have lost their peridia. It may be of interest to mention that the last figure was made from specimens collected by Elias Fries and preserved at Upsala. Pilacre faginea was known to Persoon and well figured as Onygena decorticata, but Persoon lost out in the shuffle. We shall expect however in the future, if there are any such fellows as "honest priorists," that they will call it "Pilacre decorticata (Pers.) McG.," as Persoon wrote fifty before the present "combination" was made.

Geoglossum irregulare from W. S. Odell, Canada.—(Fig. 3233.) There is a family likeness to the usual species of Geoglossum and one soon learns them on sight. Persoon knew them well and it was a stroke of genius on his part to pick them out from Clavaria without the aid of the microscope. This species has a different aspect from other Geoglossums and one would naturally take it for a Clavaria without examination. It reaches me rarely but Peck reports its occurrence in quantities at times in Northern localities in low ground under coniferous trees. It is most rare in Europe, only one record far as I know, and of course discovered to be a new species, Geoglossum vitellinum.

Polyporus salmonicolor from N. C. Fassett, collected in Maine.—(Fig. 3234.) It is an exceptional case when one finds an unnamed polypore in our Eastern States now, for from the days of Schweinitz they have been raking the woods with a fine tooth comb hunting for "new species." Ungulate, the entire plant of a "salmon" color. I do not match it in Ridgway but his light salmon orange is close. Context uniformly colored,

soft, easily indented. (The marks where we stuck our thumb nail in it show on our photograph.) Pores minute, round, short (2-3 mm. in these) concolorous both tissue and mouths. Cystidia none. Spores scanty if correctly seen, piriform, hyaline. I thought the rare Fomes roseus when I first saw this collection, it being the only "rosy" plant I recall of this shape. But this is not ligeous, has a soft friable context, and a distinctive "salmon" color. Mr. Fassett gathered it at Bootlbay, Maine, but the host is not recorded. Another feature the plant has is a potash solution, is colored violaceous. Salmon colored is such an appropriate name for it that we adopt it although there is a Poria salmonicolor that several generations ago was called Polyporus (resupinatus) salmonicolor. At least I suppose it was, but have not looked it up. That might give some jugglers an excuse to propose a new name for it, but happily those cheap date dictionary jugglers are getting ashamed of their "work." At least those who juggle on simple technicalities.

Diploderma dehiscens from L. Rodway, Tasmania.—(Fig. 3235.) It is a little incongruous to name a species dehiscens in a genus supposed to be characterized and based "on a puff-ball that does not open." (Cfr. Myc. Notes, Vol. 5, page 461.) This collection has several specimens that have "opened" naturally and it is probable that there are no "puff-balls" that do not open (in time). But we have seen probably all the previous collections of Diploderma and Mesophellia (we have 12) and not one that has opened. The dehiscense (Fig. 3235) suggest a Geaster but it is really like no other puff-ball. As to the gleba spores, size and general appearance, this is same as Diploderma cretaceum, described and figured, Vol. 6, page 1057, Fig. 1976. But it is a white "chalky" species and this about color of hazel nut, but they are too close.

A new Phalloid from Europe. Drawing from Prof. R. Maire. Anthurus aseroiformis.—(Fig. 3236, reduced.) It is most mysterious how "foreign" phalloids strangely occur in the States and Europe. Surely they are adventitious, but how introduced can not be explained. The best known case is that of Lysurus borealis, named by Burt as Anthurus (sic.) and discovered to be a "new species" after it had been named and published as a "new species" from Australia, South Australia, South America and South Africa. It has since been found in a dozen widely distinct localities in the United States and five in Europe and no one has been able to suggest any explanations of how it is introduced in so many different stations.

Anthurus Aseroiformis was collected by A. Litty at Le Petite Raon (Vosges), France, in 1920. The drawing was made from the fresh specimen and we have reduced it about one half. Surely it is same species that has been known heretofore only from Australia and South Africa. Compare with our previous figures Phalloid Synopsis, Fig. 46, Vol. 2; Fig. 244, Vol. 4; Fig. 571 (the latter as Anthurus Macowani). It will be noted that they are surely *all* identical and same as the plant recently found in France. We thank Dr. Maire for the drawing and privilege of publishing this interesting new arrival in Europe. It appears now that the genus Anthurus consists of only this one species which was most inaccurately figured by Kalchbrenner. Anthurus Archeri, compare page 1117, is an immediate plant between Anthurus and Lysurus and unites two genera. Anthurus calathiscus based on a crude drawing in Montagnes herbarium (Cfr. Fig. 49, Phalloid Synopsis) has not the most remote suggestion of similarity to the fantastic figure that was published of it.

Exidia purpureo-cinerea from Miss A. M. Bottomley, South Africa.—(Fig. 3237 dried and soaked.) We have gotten this from South Africa several times before and illustrated it (Vol. 4, page 436). We did not recognize it at first for it was distinctly purplish color and appeared to be (dried) a simple layer. It soaks up, however, confluent-cushion shape and there is no question of its identity. We never saw it before where the plant fits the name (as to color) as well as this specimen.

Sebacina incrustans.—(Figs. 3238 and 3239.) There is a common white plant of an incrusting nature that runs over sticks, leaves, base of shrubs, grass and even on the naked earth. It takes so many forms according to its habitat that Persoon classed it under three names, Thelephora incrustans, Thelephora sebacea and Thelephora vermiculosa (if my memory is right). The latter found in Persoon's herbarium is a form incrusting wire grass. Tulasne was the first to really study the structure and he called it Sebacina incrustans. That is the reason it should be so called in my opinion, for the genus Sebacina was based on it. Bourdot gives (1920) a critical review of the forms under the general name Sebacina laciniata, based on Bull. A 415, Fig. 1. I have never seen a plant corresponding to Bulliard's figure (reproducing Fig. 3240), nor to Scopoli's figure which Bulliard cites. If any one has ever collected one, I should be most glad of a specimen, for it is difficult for me to believe it is Sebacina incrustans. Excluding this Bourdot gives three forms. Sebacina incrustans (Fig. 3238 and Fig. 3239). The usual form incrusting the base of shrubs, grass, sticks and various debris. It is shown well in our figures, both of which were made from specimens in Saccardo's herbarium.

Sebacina cristata.—(Fig. 3241.) The growing incrusting form of Sebacina incrustans often has free fimbriate margins. Then it was called Merisma cristata

by Persoon and was misreferred by Fries and others to a true Thelephora. In this connection there are three entirely different incrusting species much confused in European literature mostly under the name of Thelephora cristata. They were explained and figured in detail in our Vol. 5, page 743.

Sebacina epigeae.—(Fig. 3242.) This is only a condition of Sebacina incrustans growing on the naked ground with nothing to "incrust." Under this condition it takes a flat, almost even form.

Sebacina Bresadolae.—(Fig. 3243.) In Saccardo's herbarium is an ample collection (Fig. 3243) of a form of incrustans which Bresadola sent with the usual form. It has no name but is more entitled to one than any of the previous forms. It is not incrusting but is an erect distinct plant like a Clavaria. I never saw it anywhere else. No doubt it was on account of these erect specimens that Bresadola referred as a synonym Bulliard's plate 415. It has little resemblance in my eyes and if Bulliard's figure (reproduced 3240) were Sebacina incrustans it would have incrusted the grass with which it was growing. It is also without doubt from these erect specimens that Bresadola referred for Atkinson the genus Tremellodendron to Sebacina. And why not if Sebacina takes erect forms? At the time Atkinson indulged in his celebrated plagiarism I could not understand why Bresadola should refer to Sebacina an erect species, but when I saw his collections it was all clear to me. If Sebacina incrustans takes erect independent forms then how does Tremellodendron differ, both having the same basidia and the same texture? At any rate Atkinson's genus was only a piece of piracy and he was only trading on Bresadola's knowledge, as explained in detail on page 1212.

Merulius crassus from Miss Ann Hibbard, Massachusetts.—(Fig. 3244.) Effuse reflexed, with a distinct pileus. When fresh "olive yellow" three mm. thick, fleshy, drying hard. Surface minutely tomentose. Hymenium meruloid, permanent in drying, orange yellow, becoming black when old and dried. Spores hyaline 2½ x 5. I know no other species to which this can even be compared. Merulius aurantiacus of England is from description close with its pileate development and orange hymenium, but the type (all known) is unsatisfactory and has no suggestion of this. From the dark hymenium (when old and dried) Merulius lacrymans is suggested, but the hyaline spores remove it entirely. It grew on a denuded log probably pine, Miss Hibbard states.

Leucangium carthusianum from Monsieur Burlet, Savoie, France.—(Fig. 3245 after Quélet.) This is quite a rare species described by Tulasne (preface, page 24) but not illustrated and not included in his index nor main text, hence overlooked by Quélet. Tulasne put it in the genus Picoa (which has globose spores), but noted that it differs from Picoa in the spores. Quélet, evidently uninformed as to Tulasne's work, based a new genus on its spore shape and naturally discovered that it was a "new species" Leucangium ophthalmosporium. He gave a good figure of it which we reproduce. Dumée asks why Quélet did not mention Leucangium carthusianum. How could he when he did not know of its existence even? In Bataille's recent compilation both "species" are considered as valid. Monsieur Burlet sent me freshly collected specimens packed in sawdust and they reached me after a couple of weeks in good condition. We would be most glad of fresh specimens of any hypogaeal fungi from our correspondents.

Leucangium carthusianum as it reached me is a black tuber about an inch in diameter, the exterior is undulate and very minutely pubescent. Cut open the gleba is black and uniform to the eye. There are filled cells, but only made out under enlargement. No veins or sterile base were noted. The asci globose with six to eight spores persist. Spores are lanceolate and taper to a short prolongation at both ends. They are smooth, pale colored and measure 32 x 65 in these specimens. Tulasne records them hyaline 25 to 30 mic., sometimes 70-80 mic. Quélet states hyaline then olive. It is the spore shape alone on which the genus Leucangium is based. It consists of but this one species, most rare and only known, from France. Tulasne, Quélet and Burlet are, I believe, the only collectors of record. Monsieur Burlet advises me he only finds it in one locality "under an old cedar." "It has when fresh a strong but agreeable odor of fruits comparable to that of apples, apricots or melon." We present a photograph (Fig. 3246) of specimens which do not show details as well as Quélet's figure that we also reproduce. 3247 is an enlarged photograph of a section.

Mitremyces Rodwayi from Prof. L. Rodway, Tasmania.—(Fig. 3248 and Fig. 3249, the mouth enlarged.) The genus Mitremyces is always of particular interest. It is so peculiar in itself, so different from all other genera, so rare aberrant in its distribution. We have hunted them up in every museum in Europe (where there are very few collections). We have received many collections and this is the first really "new species" we ever saw. We therefore take special pleasure in dedicating it to Prof. Rodway. It is true we named Mitremyces Tyleri twenty years ago, and we still maintain it is worthy of a name but it is only a miniature of Mitremyces Ravenelii. This however has a feature that no other species has. The spores are globose and perfectly smooth. The only globose smooth spores known in the genus. The large ones measure about 16 mic., but there are many smaller. The gelatinous exoperidium breaks

up and dries down to coarse scales in the manner of Mitremyces Junghuhnii. The mouth at first red has a rough granular effect and differs from the usual species as shown in our enlargements much better than we can describe it. Mitremyces Rodwayi is closely allied to Mitremyces Junghuhnii, the usual species of the East, and another point of interest is that it is the first collection from Australasia other than Mitremyces fuscus, which has been collected four or five times from there. In order to forestall professional jugglers (like Massee's work with the genus), Prof. McGinty calls it Calostoma Rodwayi. The word "usual" in above is misleading, for the genus Mitremyces is rare in all countries where it occurs at all. It is known from Eastern United States (never from the West) Mexico (one collection at Berlin) Japan, China, India, Malay, Australasia (including Caledonia) but it is not known from Europe, Africa, the West Indies or South America, and it is rare everywhere it occurs. We present enlarged figures of mouths of several other species in contrast with that of Mitremyces Rodwayi.

Mesophellia arenaria from C. C. Brittlebank, Australia.—(Fig. 3253.) Twenty years ago when we first saw the genus at Kew it was a most curious and novel thing, and we have written several articles on it. We have gotten it several times, always from Australia, until recently when the genus turns up unexpectedly from California. This specimen from Mr. Brittlebank is much larger than any we have previously seen. See our figure. It shows well the central core, such as no other genus has, also the peculiar ligaments attaching the core to the peridium. We have received lately from Australian correspondents and have published as doubtful species collections that differ slightly, but this specimen from Mr. Brittlebank is exactly same (excepting its large size) as originally named by Berkeley years ago.

Tramella carneocolor from Otto A. Reinking, Philippines.—(Fig. 3254.) Pale amber when dry, soaking pale flesh color. Stipitate, stem about six mm. long, divided above in foliaceous lobes. Conidial spores globose, 4 mic., hyaline. Hymenium amphigeneous. This is the first distinctly stipitate Tremella to my notice. It is young, no spores seen and only one young elliptical basidium noted. Collected Mt. Maquiling by J. Libunao.

Auricularia albicans from Rev. J. Rick, Brazil.—(Fig. 3255.) Berkeley named this from Australia but surely it is only a pale form of the common "jew's ear." The color about honey yellow (Ridgway) is much paler than the usual collection of Auricularia judae, but it is hardly entitled to a separate name for all that.

Cyathus Canna from Chas. A. O'Connor, Mauritius.—(Fig. 3256.) When we wrote our Nidulariaceae pamphlet (1906) we referred as above a collection from Barbados. It is very much the same as Cyathus vernicosus as to cups, but smaller, and it was based on the small globose spores 8 mic. In all the years since, we have never received another collection and we were beginning to look on it as a lost species. This collection from Mr. O'Connor, Mauritius, appears the same but has larger cups. They resemble those of Cyathus vernicosus but are even and white within. The globose spores, 8 mic., are its feature. It is evidently a very rare species and we are glad it is not lost. Mr. O'Connor sends a liberal collection which grew on the bare ground.

Polyporus Iowensis from G. W. Martin, Iowa.—(Fig. 3257.) Pileus sessile, white with anoderm, smooth dull surface. Context drying white, soft, crumbly. Pores minute, drying slightly yellowish. Cystidia none. Spores globose, opaque, smooth 3½-4 mic. It grew on a log, host not stated. To the eye (and photograph cfr., Fig. 638 Apus Polyporus) exactly the same as Polyporus trabeus but spores a different type (globose not allantoid). If we have gotten this before we have confused it with Polyporus trabeus without examining the spores. It is also close to Polyporus galactinus, but the latter has a different surface, pubescent when fresh, and dries hard and discolors.

Grammothele mappa from Rev. J. Rick, Brazil.—(Fig. 3258 and Fig. 3259 enlarged.) This is surely the same as the original from Cuba (illustrated, Vol. 5, page 581). Our South African reference is doubtful as stated at the time. On page 1232 we discussed the position of the genus, likening it to a Poris with pores in lines. We doubt now as to this species, for Grammothele mappa rather suggested Hydnaceae with agglutinate spines, rather than Grammothele lineata with elongated linear pores. It is probable that there are two genera involved here as Berkeley considered, but at any rate Rev. Rick's plant is the same as the original from Cuba, and our figures will show the hymenium, however it may be classed.

Tremellodiscus mucidus from Prof. L. Rodway, Tasmania.—(Fig. 3260, section enlarged from Rodway.) The following description was given by Prof. Rodway, Ascophore sessile, subglobose, vaguely nodulose, about 5 mm. in diameter, subterranean, growing on buried wood. Hymenium covering the entire surface. Asci cylindrical. Spores globose, 18 mic., 8 in the ascus, coarsely echinulate. Paraphyses greatly exceeding the asci, filiform, attenuate at the apex, immersed in dense jelly. At maturity the jelly increases to 1-2 cm., carrying the paraphyses and asci with it. Underground. We have a dried specimen and understand it has not been collected for several years. Prof. Rodway sends a fine sectional mount and has given a figure which we reproduce. Surely

it is a most exceptional thing. A subterranean gelatinous plant seems impossible, but we do not question that it is true. It is the only one ever recorded. The genus belongs to the Geoglossaceae which includes the well known gelatinous genus Leotia, but mostly consists of fleshy plants, principally the genus Geoglossum. There is another exceptional feature. The spores are globose. This character is only recorded in the Geoglossaceae for the genus Neolecta, unknown to me but appears to be simply globose spored Geoglossum. Originally this plant was referred to Massee's fake genus Sprague ola, a history of which we will give some day under its proper head, "The Myths of Mycology."

Guepinia pygmaea, collected in Cuba.—(Fig. 3261 and Fig. 3262, enlarged.) We made a scanty collection of this on bark in Cuba in 1915 but never considered it closely until recently. We have not examined it under microscope but it is a typical Guepinia, the smallest known, with a slender stem ½ cm. long, and a minute reniform pileus about 2 mm. in diameter. The entire plant is "auriscalpium" shape and glabrous, yellow or orange. There is no other species to compare it with, excepting Guepinia Peziza which is quite different and much larger.

Dacryomyces deliquescens (English sense at least) from Roy Latham, New York.—(Fig. 3263 from Buller.) This is not same as we know in America, as was developed to me only last year when Buller's second volume came out. It seems to be the most common Dacryomyces in England. What we so call in this country has conidial spores on the surface of the same fruit bodies, that afterwards develop basidia. But Buller's most interesting discovery is that the English plant has two entirely different fruit bodies, one having conidial spores which are distinct and never change into the basidia spored form. Prof. Buller presents a figure (reproduced 3263) showing colonies (marked u and o) of the different fruiting bodies, evidently produced by the same mycelium, but which do not change the one to the other. The English plant is deep orange, and the Berkelyan tradition is that it is a plant named Dacryomyces stillatus by Nees and a synonym of plant figured as Dacryomyces deliquescens by Bulliard. A slip transposing these names was made on page 1237. Certainly it is not Dacryomyces stillatus in sense of Nees and as to Dacryomyces deliquescens of Bulliard different species are so referred.

Nidula candida from James Mitchell, New Zealand.—(Fig. 3264.) The genus Nidula was first pointed out by Miss White (1902); is an excellent genus with cups of a Cyathus and peridioles of Nidularia. At that time Peck, Berkeley and Hennings had "discovered" "new species" belonging to the genus but neither had paid enough attention to their "new species" to get them in the right genus. At the time Miss White wrote (twenty years ago) the genus was only known (to her) from our northwest coast and with us in America is still only known from this region. Hooker had it from India, and Hennings from California, but Miss White knew nothing of that. In the last 25 years we have received 23 collections, 17 from our Northwest and Canada, four from Japan, three from New Zealand and one from Chile. It is evidently a genus of Alpine or Northern distribution. As to species they are all very much alike. Two were originally published, Nidula candida with large cups and spores (4-6 x 8-10), and Nidula microcarpa with smaller cups and spores, 5-6 x 7-8. The Indian species appears to differ in having the coarse fibrils of the peridioles of a spiny nature. Since above was written the genus comes to us from Java.

Thelephora multipartita from Dr. R. Maire, France.—(Fig. 3265.) We believe this should be referred to the species, which, if correct, is its first record in Europe. We give (Fig. 3266) of our American plant for comparison. The species is fairly common with us. We have 16 collections and one from Japan. We can not see how it can be classed as Thelephora anthocephala, which has much broader segments. Compare Myc. Notes No. 72, Figs. 2705 and 2706. The Thelephoras are a puzzling group, but have been critically published recently by Rev. Bourdot.

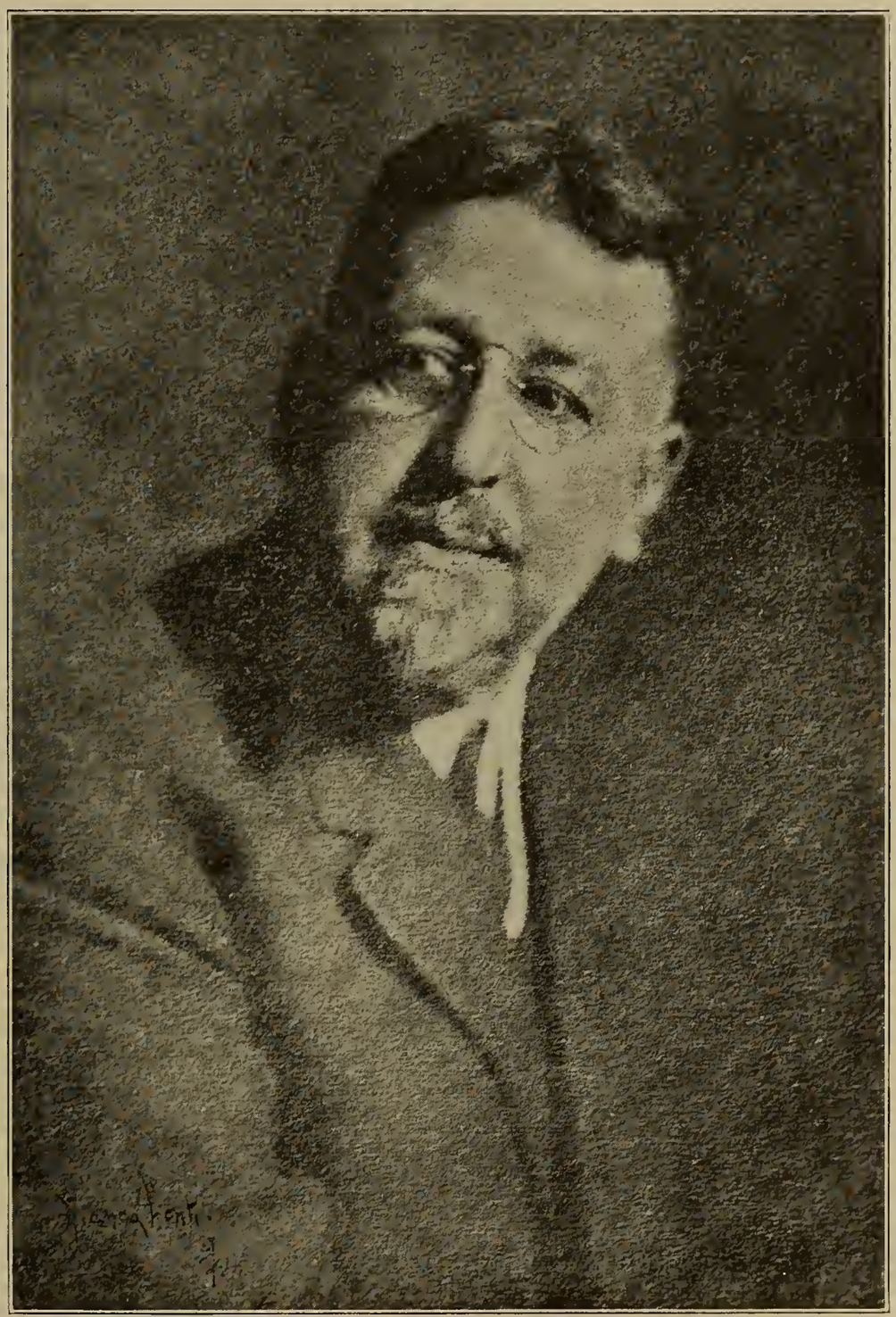
Hypoxylon multiforme (?) Young.—(Fig. 3162 enlarged.) This was sent to us by a correspondent in Europe as Hypoxylon multiforme. We do not give his name as we are not sure as to the correctness of the determination. If it is true, then it is an early stage with a thick felty (conidial?) layer; but does Hypoxylon multiforme have such a layer when young? We have no way of knowing. As it is well known in its mature state (Cfr., page 1312, Fig. 2978) it is black with no trace of such a membrane. I surmise that we do not know much about the life history of Hypoxylons. They seem to develop in the Fall with a conidial layer variously colored, persist over the winter and mostly lose this conidial layer. But from collections as they reach me it is very hard to say or trace the connection of the two states. Berkeley says "at first rugose rust-brown, at length naked black. Nothing can be more different than the spongy-looking rubinose young plant and the same when fully grown." That would seem to indicate that this is the young state of Hypoxylon multiforme. We should be most glad of specimens showing the young (conidial) and mature state of any species of Hypoxylon if from field observation our correspondent is sure of the connection.

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 66 FEBRUARY, 1922



W. A. Setchell —

Professor A. Yasuda

Fig. 2018. Panus conglomeratus.

Fig. 2019.
Lenzites repanda (gills enlarged).

Fig. 2020.
Lenzites Huensis (gills enlarged).

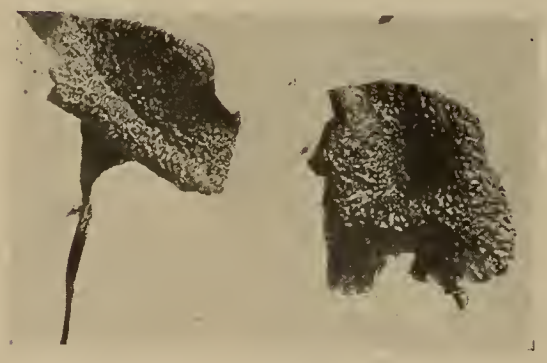


Fig. 2021. Lentinus Elmerianus.

Fig. 2022. Lentinus Elmeri.

Fig. 2023. Lenzites ochracea.

Fig. 2024. Lentinus fusco-exactus.

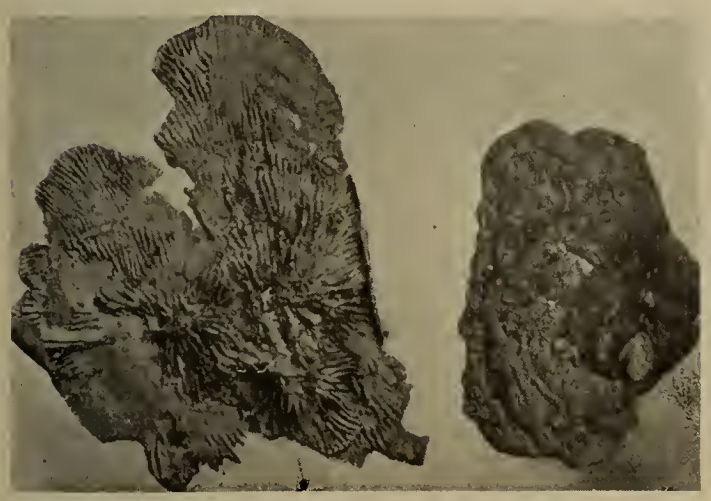


Fig. 2028. Lenzites pertenuis.

Fig. 2025. Lentinus revelatus.

Fig. 2026. Pterula luzonensis.

Fig. 2027.
Ischnocladium
Jansenianum.

Fig. 2029. Lenzites fuicata.

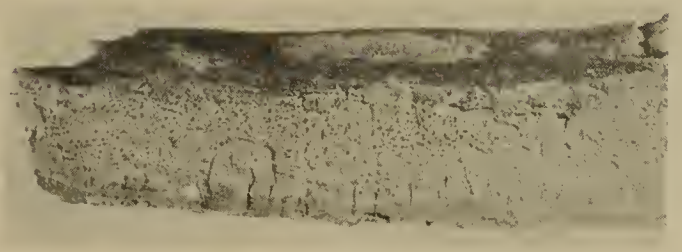


Fig. 2032. Grandinia cervina.

Fig. 2030.
Rimbachia
spadicea.

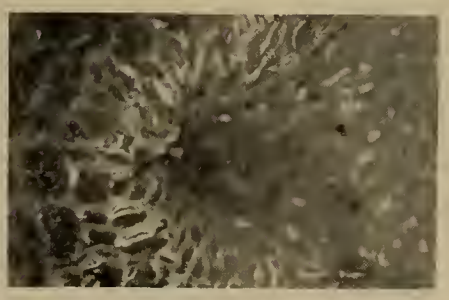


Fig. 2031.
Rimbachia spadicea hymenium
(enlarged).

Fig. 2033.
Grandinia cervina (enlarged).

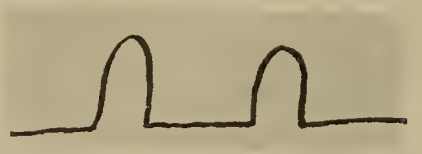


Fig. 2034.
Grandinia cervina
(diagram of granules).

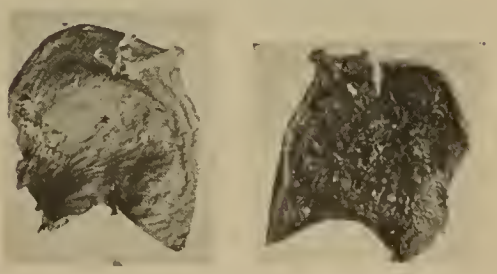


Fig. 2035. Hydnum singaporensis.

Fig. 2036. Mucronella ramosa.

Fig. 2037. Clavaria capitata.

Fig. 2038.
Hydnum
pygmaeum.

Fig. 2039. Phlebia castanea.

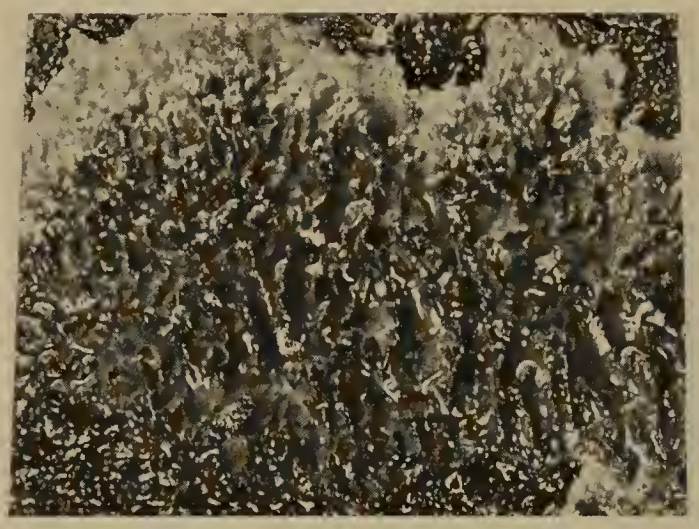


Fig. 2040. Phlebia castanea hymenium (enlarged).

Fig. 2041.
Eucronartium muscicola.

Fig. 2042. Lenzites Yoshinagae.

Fig. 2043.
Myxomycidium
pendulum.

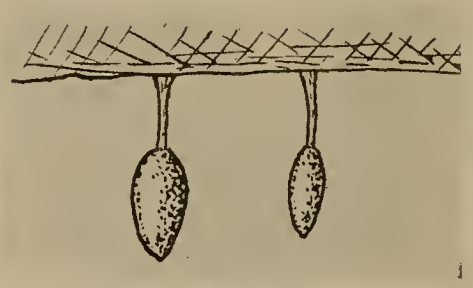


Fig. 2044.
Myxomycidium pendulum (diagram).

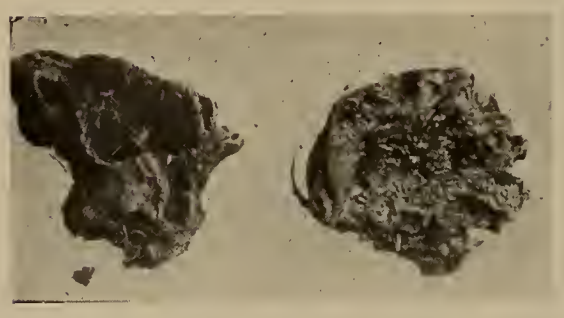


Fig. 2045. Polyporus aureofulvus.

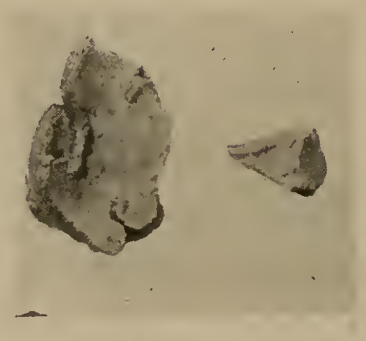


Fig. 2046.
Fomes atro-albus.

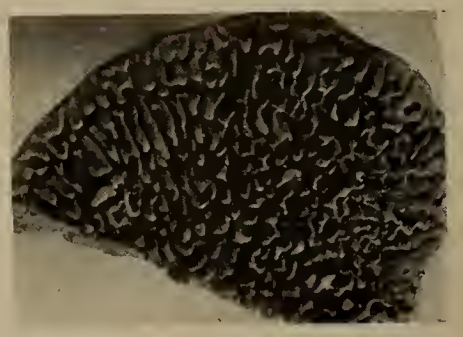


Fig. 2047. Daedalea Boseii.

Fig. 2048. Polyporus propinquus.

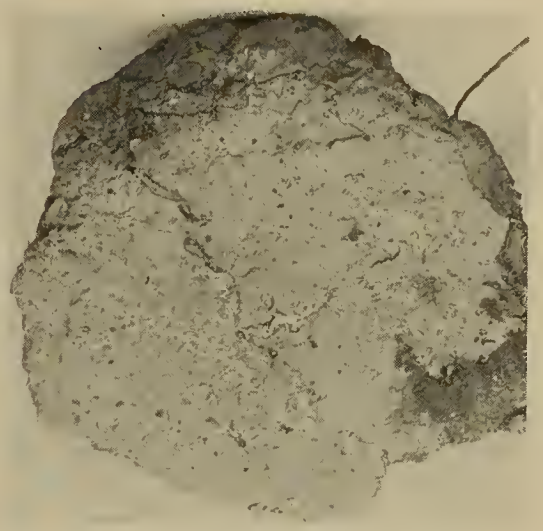


Fig. 2049.
Sclerotium of Polyporus Tuberaster.

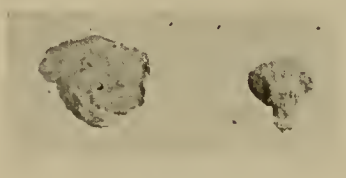


Fig. 2050.
Polyporus minuto-durus.

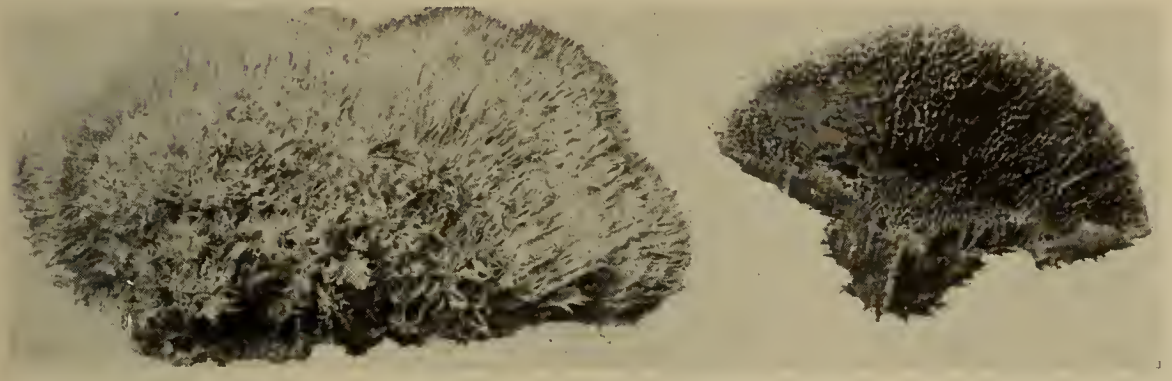


Fig. 2051. Polystictus versatilis.

Fig. 2052. Polyporus hiascens.

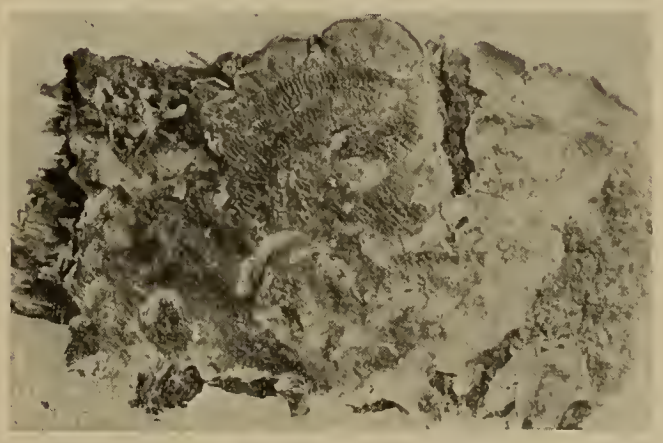


Fig. 2053. Merulius aurantius.

Fig. 2054. Polyporus opacus.

Fig. 2055. Polyporus camerarius.

Fig. 2056. Polyporus rugatus.
(Reduced.)

Fig. 2057. Polyporus musashiensis.

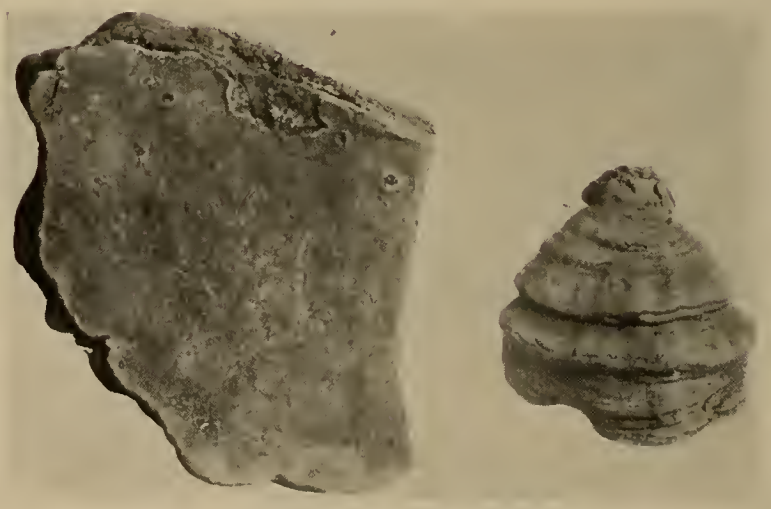


Fig. 2058. Fomes scalaris.

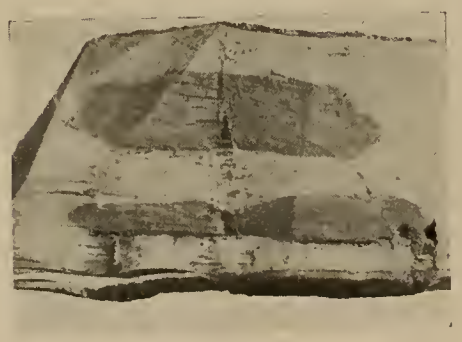


Fig. 2060.
Wood colored by fomes pectinatus.

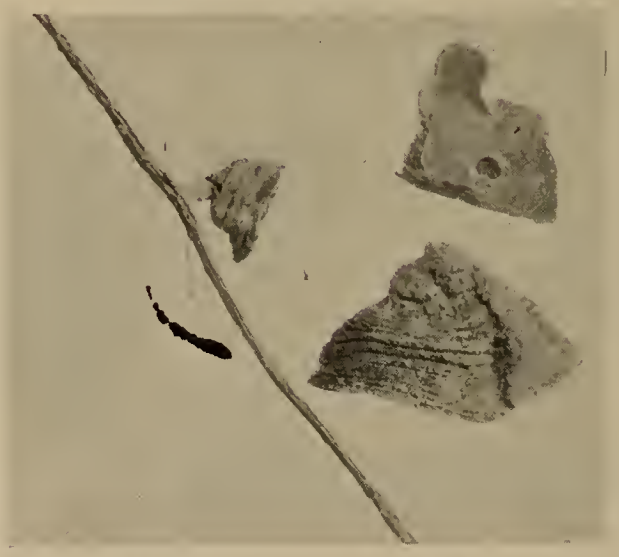


Fig. 2059. Fomes pectinatus.

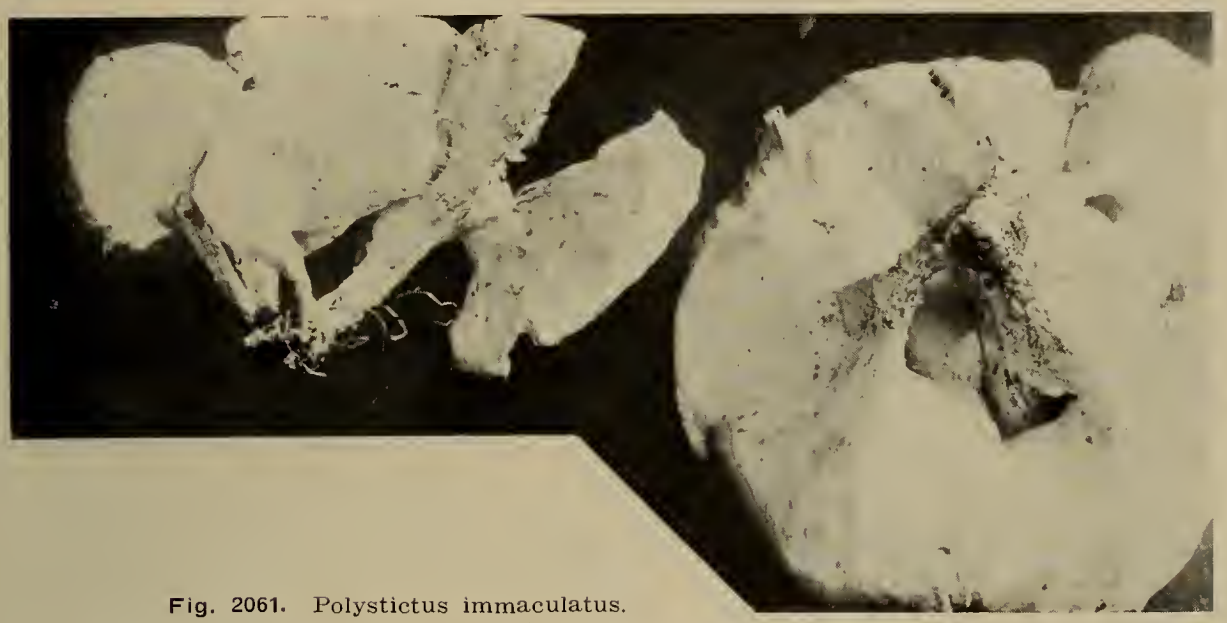


Fig. 2061. Polystictus immaculatus.

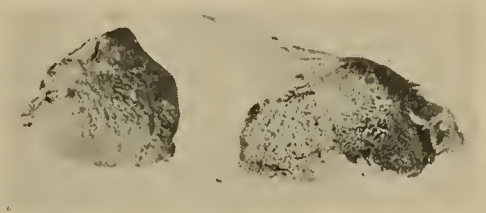


Fig. 2062. Polyporus podlachicus.

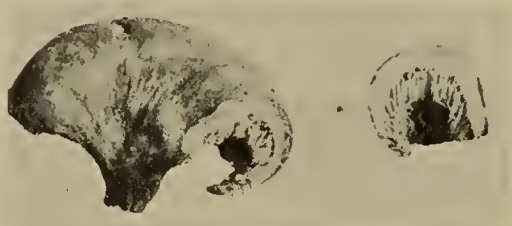
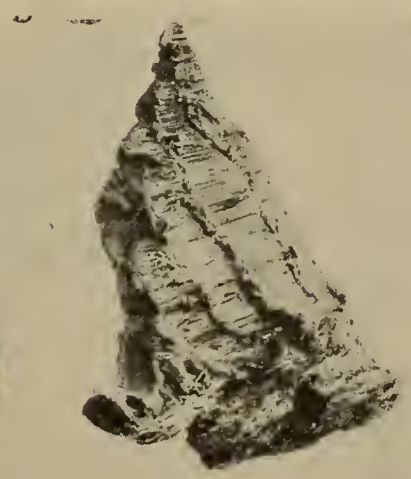


Fig. 2063. Polyporus magnoporus.

Fig. 2064. Fomes intertextus.



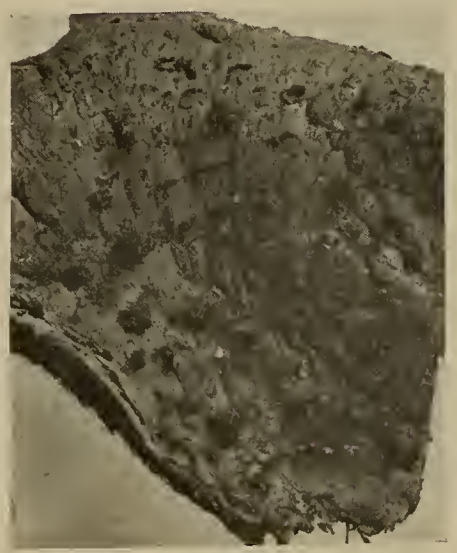


Fig. 2065. Hydnum aspratum.

Fig. 2066.
Polystictus (or Hexagona) flexibilis.

Fig. 2067. "Polystictus" dubitativus.

Fig. 2068.
Dendrocladium Peckoltii.

Fig. 2069. Polystictus stereinoides.

Fig. 2070. Polyporus fuscodresdensis.

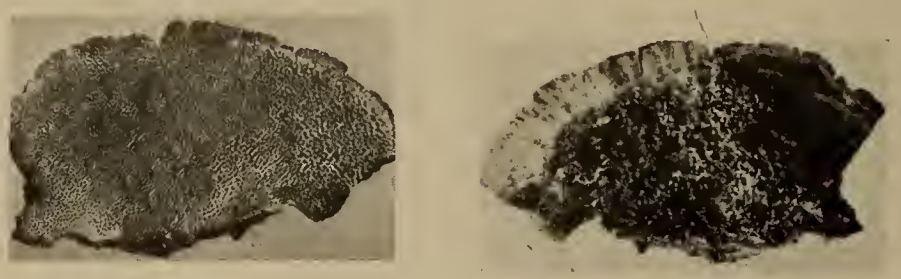


Fig. 2071. Polystictus argentus.

Fig. 2072. Polyporus Hollicksii.

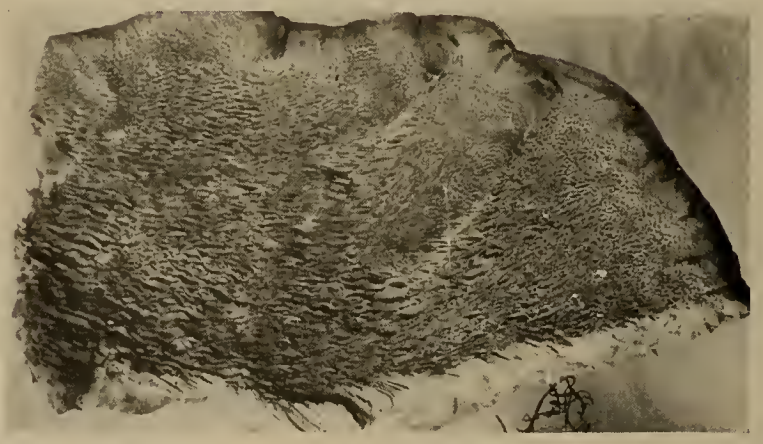


Fig. 2073. Daedalea Eatoni.

Fig. 2074. Daedalea sinensis.

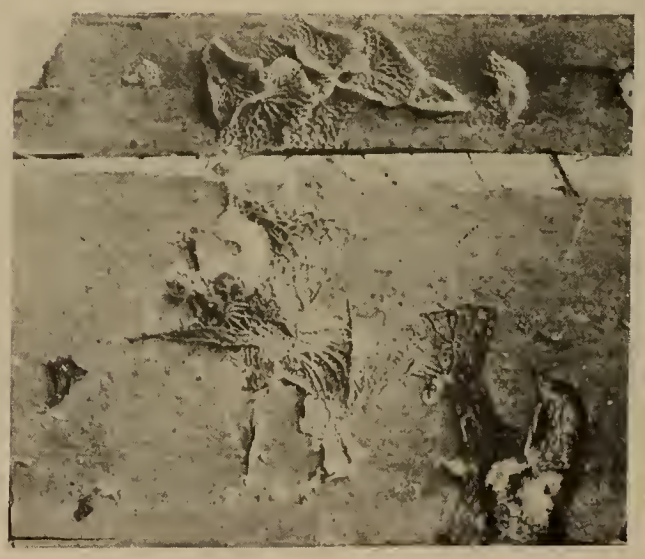


Fig. 2075. Laschia favoloides.

Fig. 2076. Polyporus retroater.

Fig. 2077. Polyporus Fijii.

Fig. 2078.
Trametes nigro-plebeia.

Fig. 2079.
Trametes plebeia.

Fig. 2080. Polyporus Kanehirae.

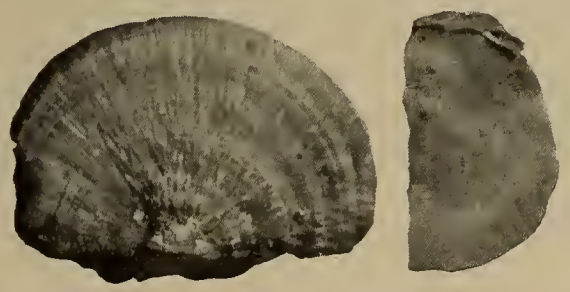


Fig. 2081. Trametes retropicta.

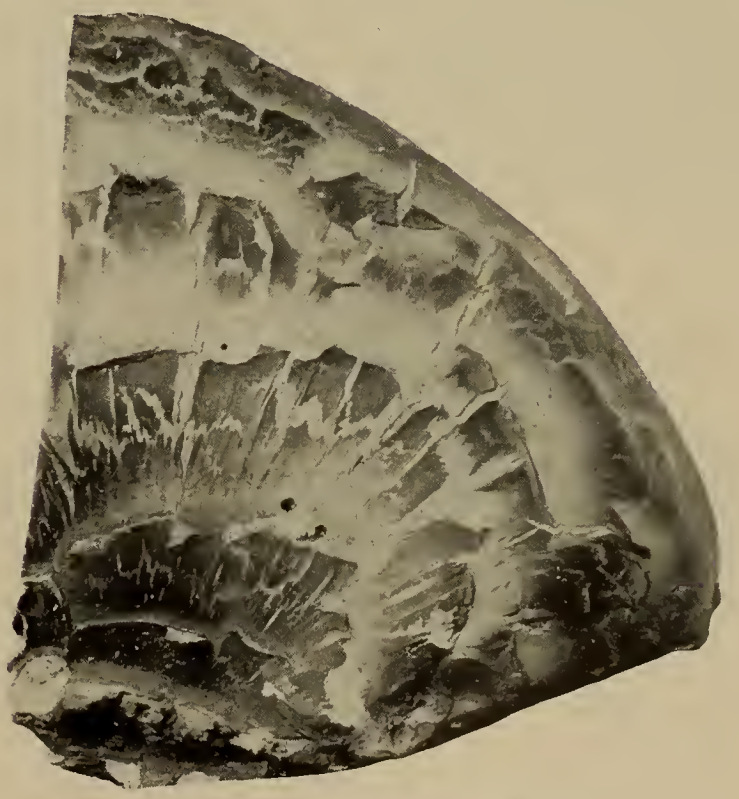


Fig. 2082. Polyporus maculatissimus.

Fig. 2083. Polyporus granulatus.

Fig. 2084. Trametes Borneoensis.

Fig. 2085.
Laschia Tonkinensis.

Fig. 2086. Trametes insularis.

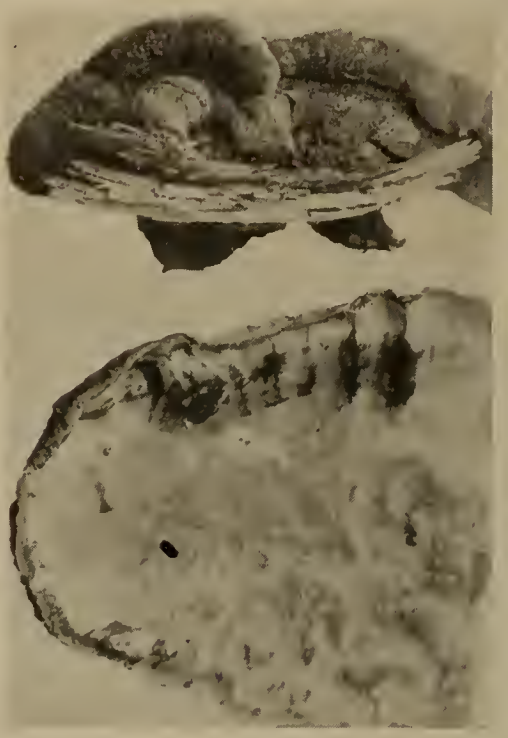


Fig. 2087. Stereum ceriferum.

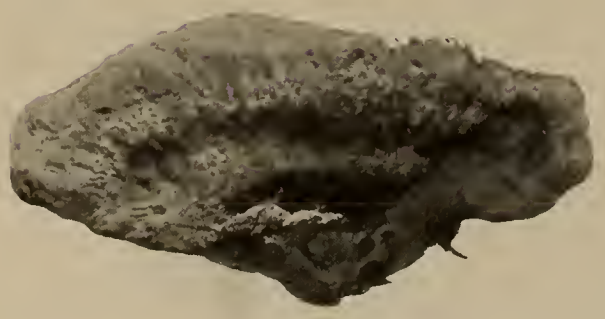


Fig. 2088. Trametes quercina.

Fig. 2089. Trametes varia.

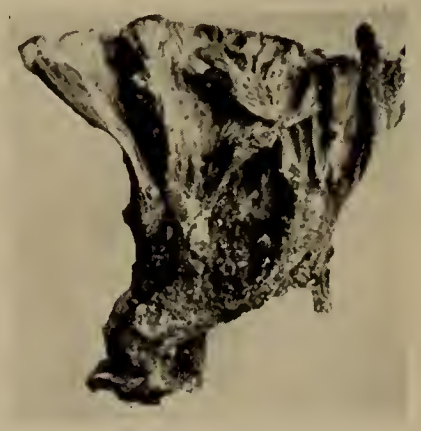


Fig. 2090. Thelephora dubia.

Fig. 2091. Stereum involutum.

Fig. 2093. Stereum Gossweilerii.

Fig. 2092. Stereum involutum.

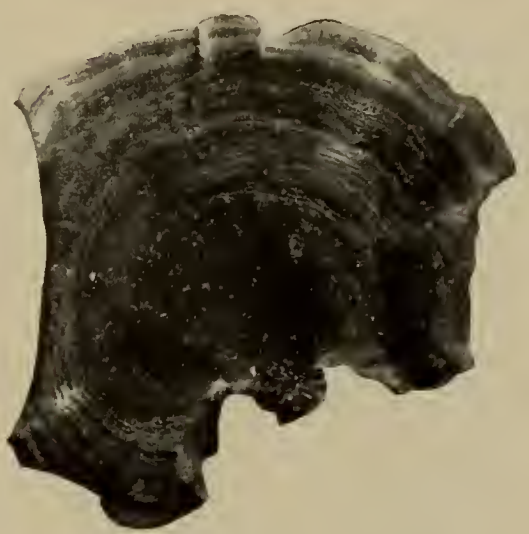


Fig. 2094. Stereum vespilloneum.

Fig. 2095. Stereum Bresadoleanum.

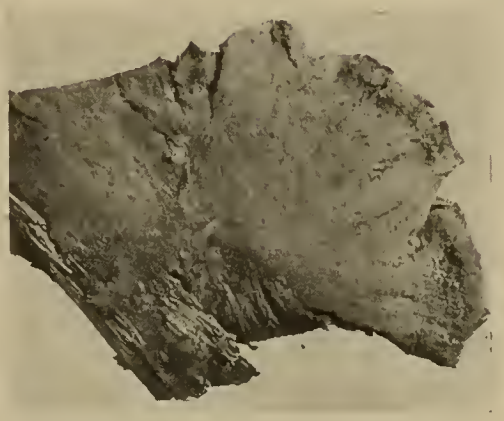


Fig. 2096. Stereum Fenixii.

Fig. 2098. Stereum obliquum.

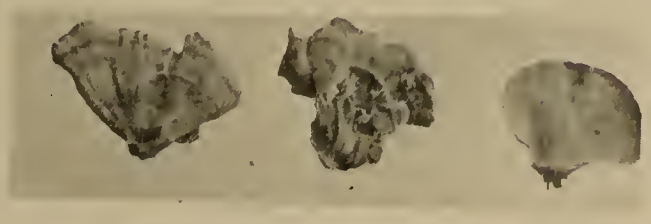


Fig. 2097. Stereum Philippense.

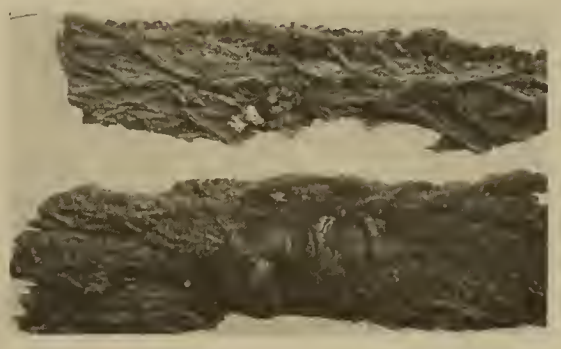


Fig. 2099. Tremella anomala.

Fig. 2100. Trogia Borneoensis.

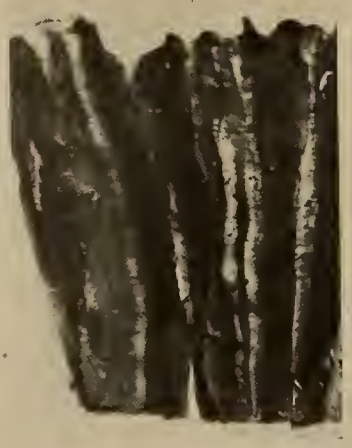


Fig. 2101.
Trogia Borneoensis
(gills enlarged).

Fig. 2102.
Stereum sinense.

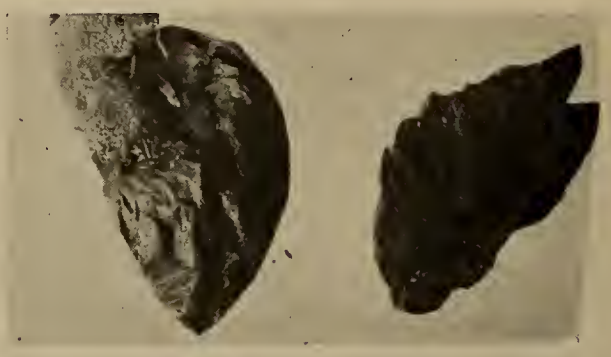


Fig. 2103. Bovistella nigrica.

Fig. 2104. Stereum sclerotioides.

Fig. 2105.
Section of sclerotium (enlarged).

Fig. 2106.
Polyporus (amaur) salebrosus.

Fig. 2107. Stereum diaphanum.

Fig. 2108. Bovistoides Torrendii.

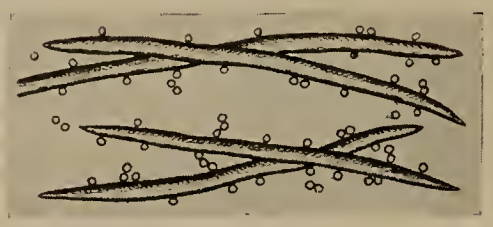


Fig. 2109. Capillitium of Bovistoides.

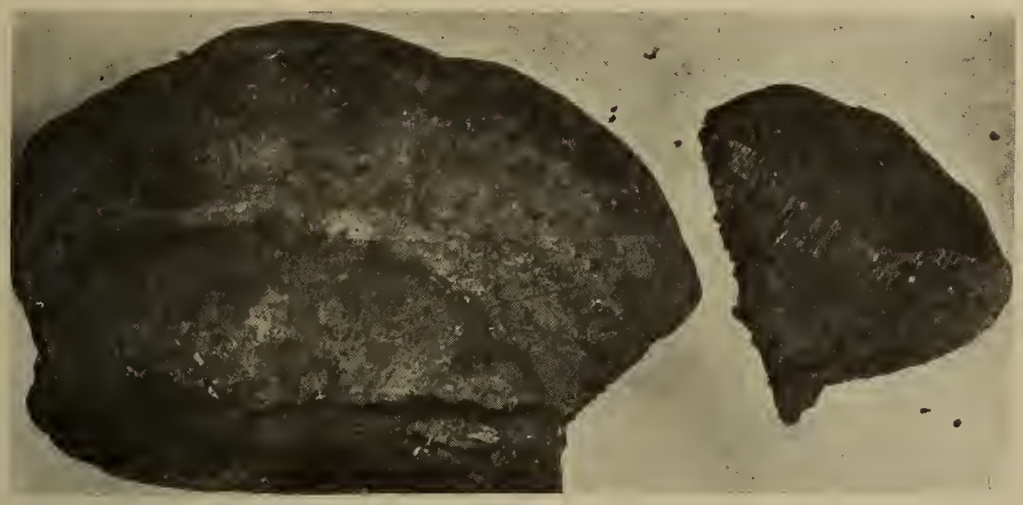


Fig. 2110. Trametes roseoporus.

Fig. 2111. Secotium melanosporum.

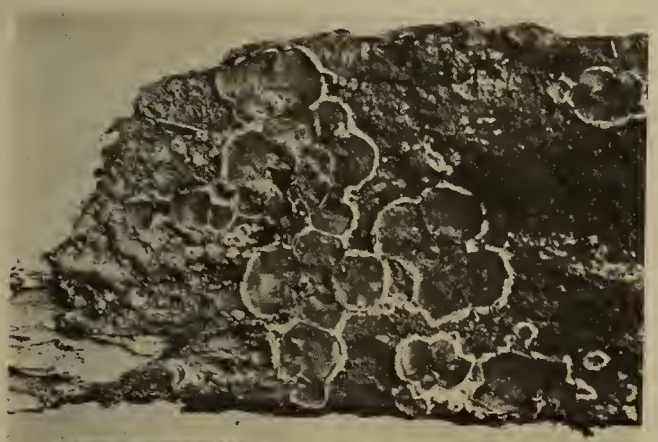


Fig. 2112. Auricularia peltata.

Fig. 2113. Tremella Samoensis.

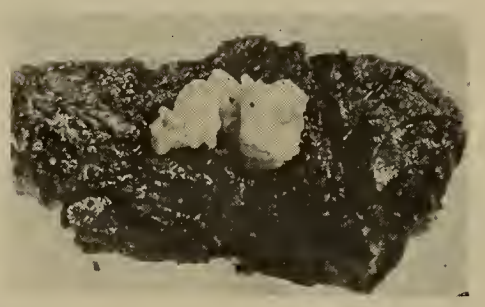


Fig. 2114. Tremella Philippiensis.

Fig. 2115. Stereum vellereum.

Fig. 2116. Thelephora radicans.

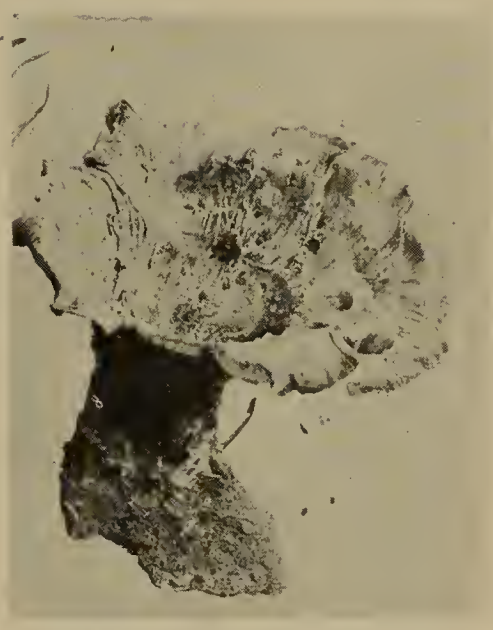


Fig. 2117. Stereum Sowerbyi.

Fig. 2118. Aseroe rubra.

Fig. 2119. Hymenogaster gauterioides (enlarged six-fold).

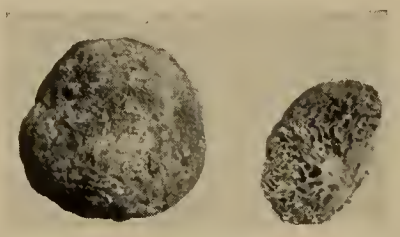


Fig. 2120.
Hymenogaster gautierioides.

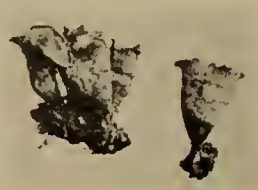


Fig. 2121.
Crucibulum albosaccum.

Fig. 2122. Endogone sphagnicola.

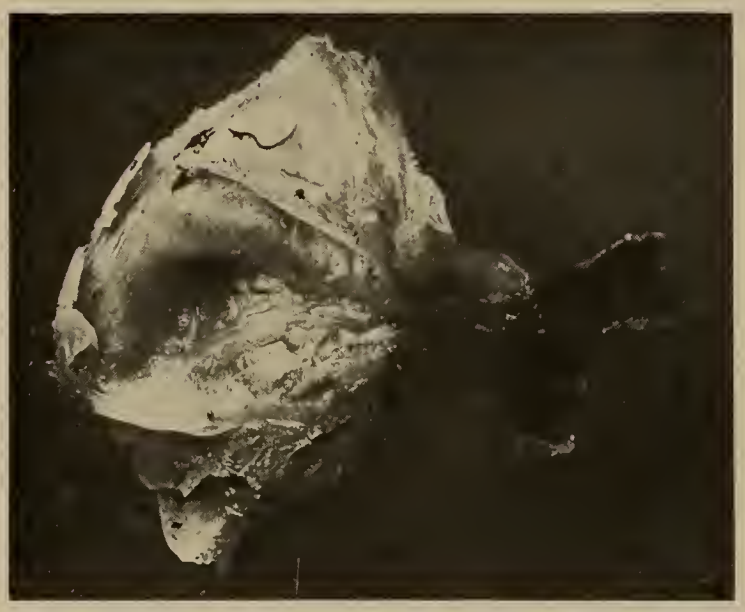


Fig. 2123. Tremella fibulifera.

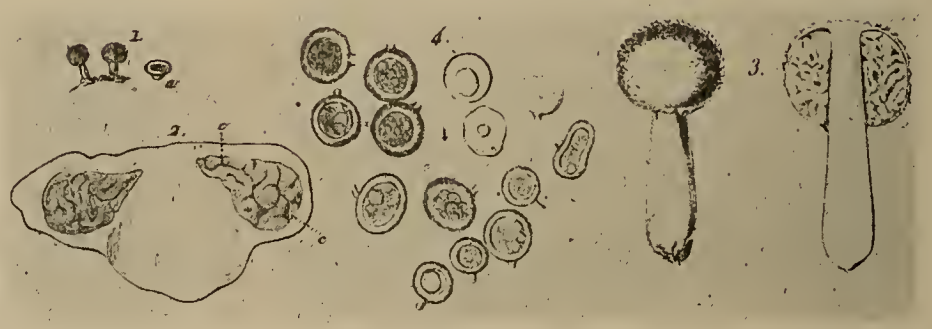


Fig. 2124. Secotium Olbium.

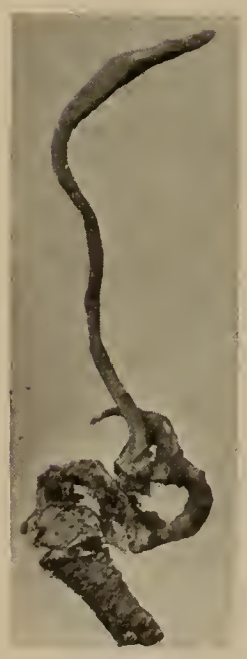


Fig. 2125.
Cordyceps
olivacea.

Fig. 2126.
Ascopolyporus polychrous.

Fig. 2127.
Xylaria Vanderystii.

Fig. 2128.
Xylaria
Hypoxylon
(tropical form).

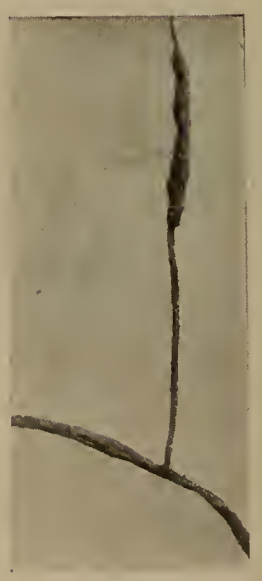


Fig. 2129.
Xylaria apiculata
(unusual habit).

Fig. 2130. Isaria Briquetii (enlarged six-fold).

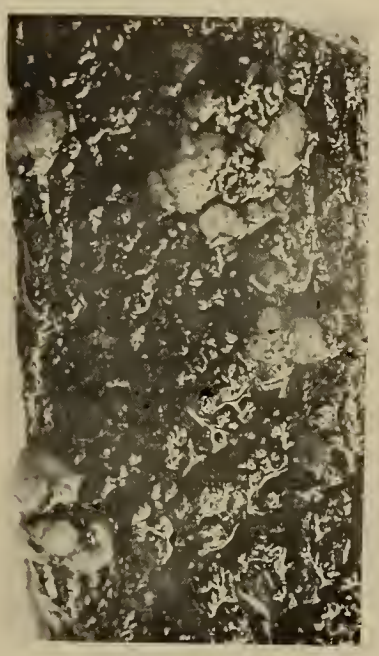


Fig. 2131.
Sirobasidium Brefeldianum.

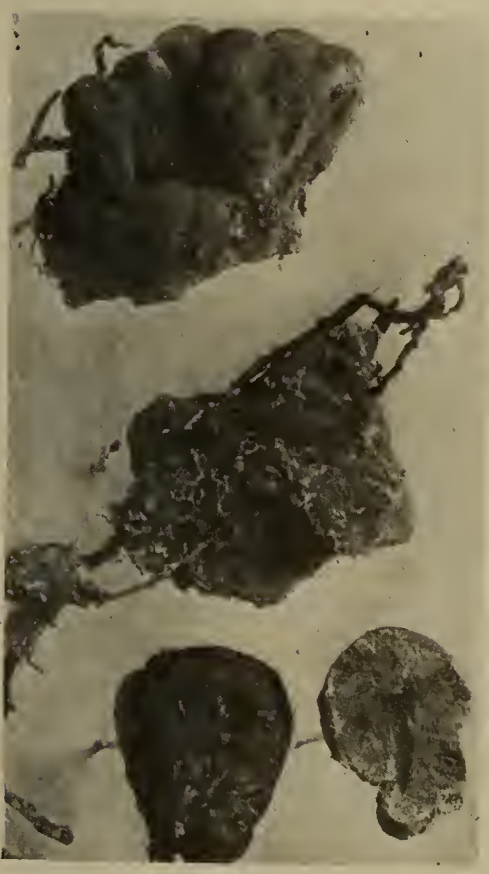


Fig. 2132.
Hysterangium eucalyptorum.

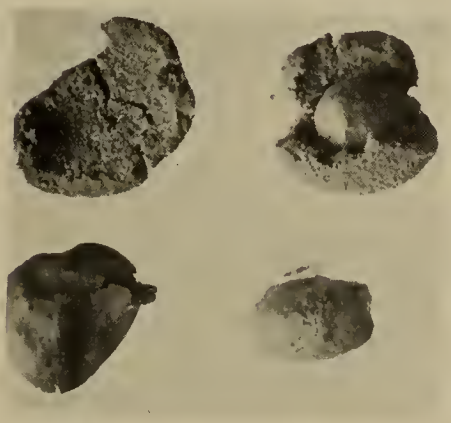


Fig. 2133. Catastoma purpurea.

Fig. 2134.
Catastoma purpurea capillitium and spores.

Fig. 2135.
Scleroderma Cepa with soft Peridium.

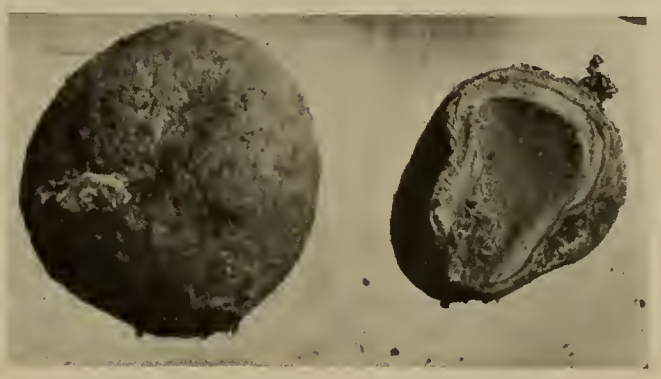


Fig. 2136. Diploderma avellaneum.

Fig. 2137.
Kretzschmaria apoda.

Fig. 2138. Isaria Froggattii.

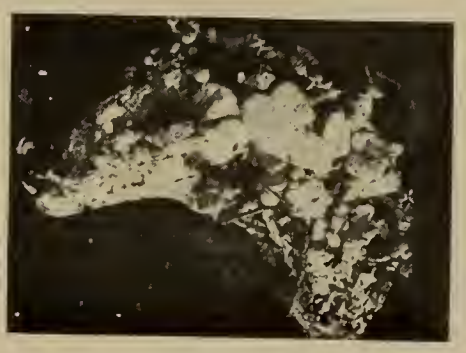


Fig. 2139. Xylaria subtrachelina.

Fig. 2140. Haematomyces eximus.

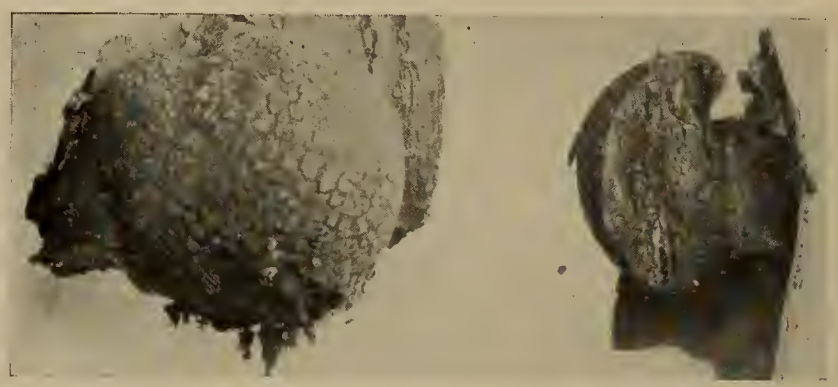


Fig. 2141. Hypoxylon fissum.

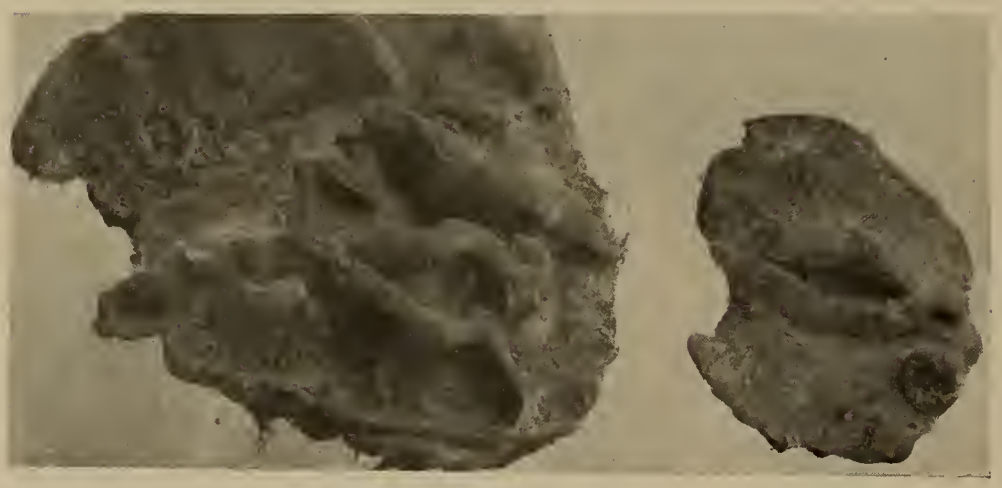


Fig. 2142. Polystictus lavendulus.

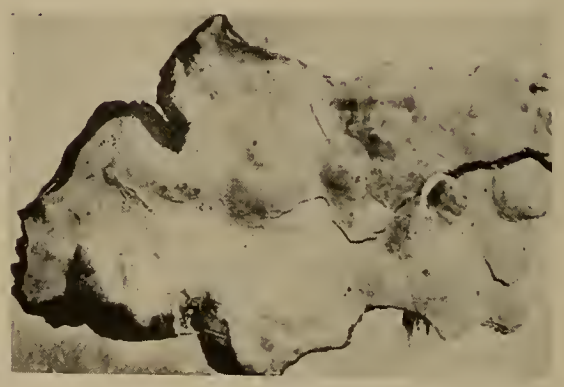


Fig. 2143. Stereum Xylostroma.

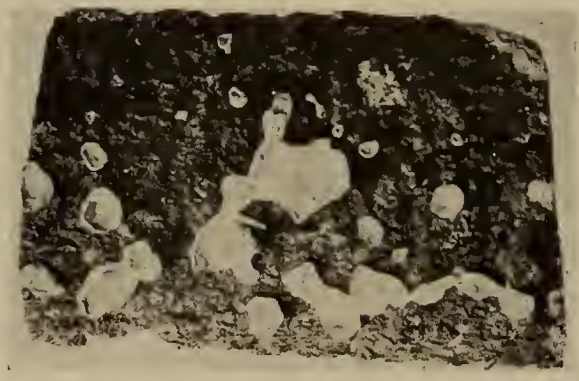


Fig. 2144. Aleurodiscus reflexus.

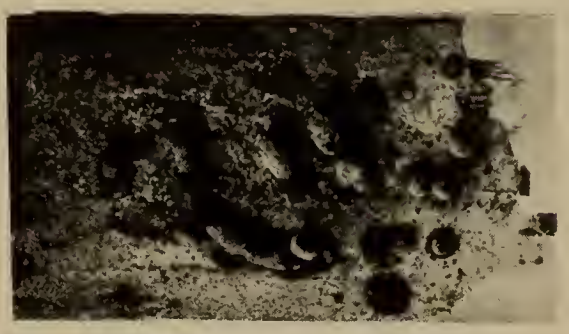


Fig. 2145. Xylaria Timorensis.

Fig. 2146.
Xylaria Timorensis (unusually large).

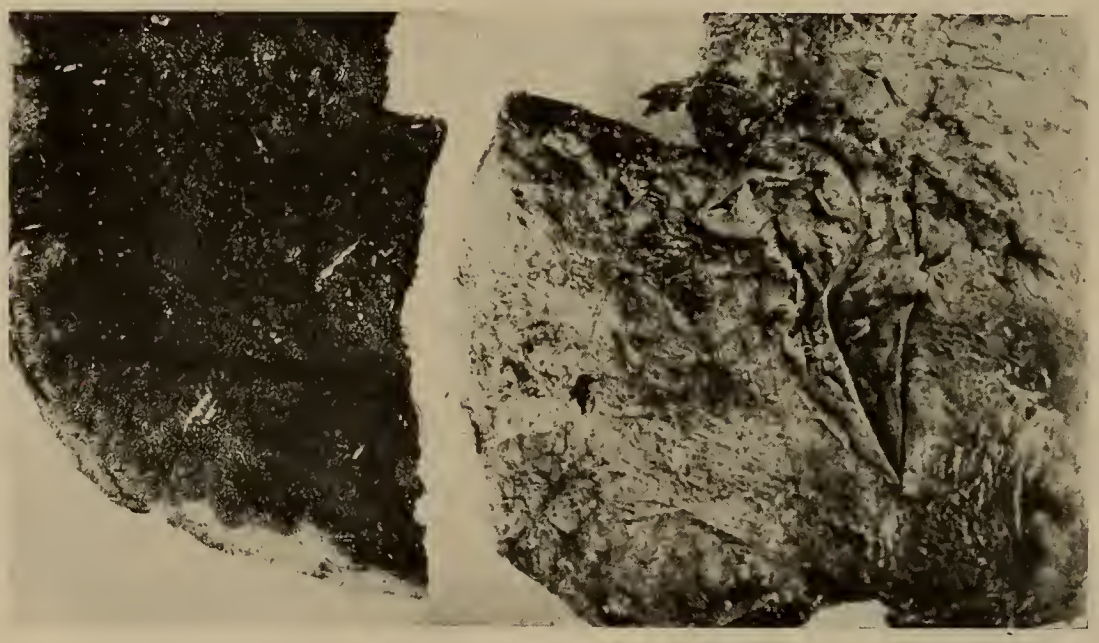


Fig. 2147. Merulius consimilis.

Fig. 2148.
Merulius consimilis (pores enlarged).

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 67 JULY, 1922

PROF. KINGO MIYABE

Dr. Edward B. Sterling.

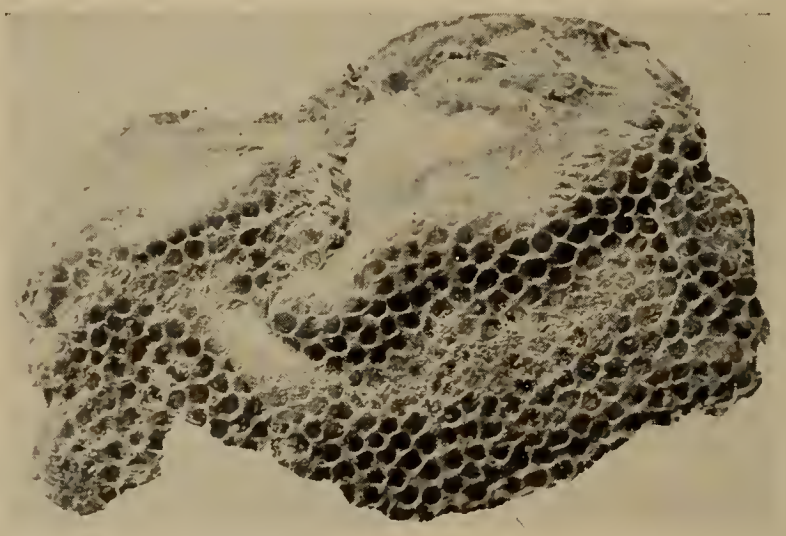


Fig. 2149. Deceptive Photography.

Fig. 2150.
Curious growth.

Fig. 2151.
Testicularia cyperi.

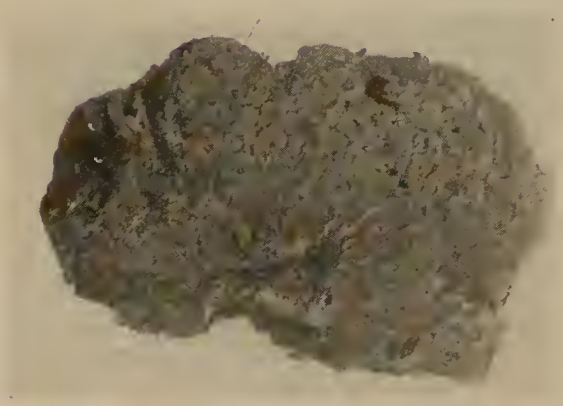


Fig. 2152. Octaviania carnea.

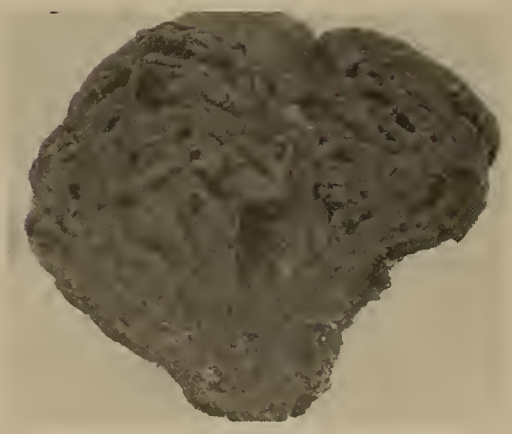


Fig. 2153. Octaviania carnea.

Fig. 2154.
Spores from Tulasne.

Fig. 2155.
Octaviania Stillingerii.

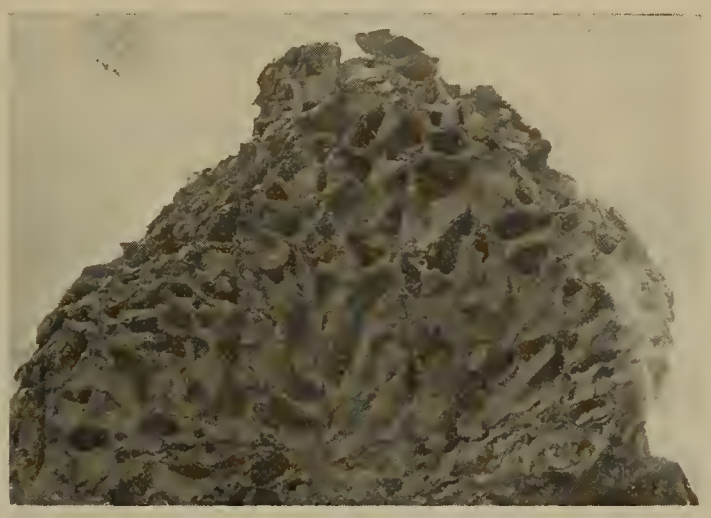


Fig. 2156. Same, glaba enlarged.

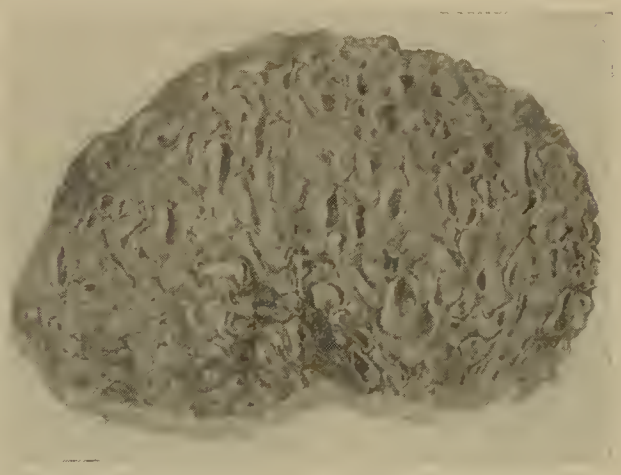


Fig. 2157. Octaviania australiensis. Enlarged.

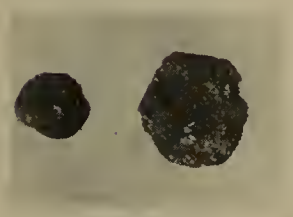


Fig. 2158.
Octaviania australiensis.
Natural size.

Fig. 2159.
Octaviania Stephensii.
Spores from Tulasne.

Fig. 2160. Octaviania Ravenelii.

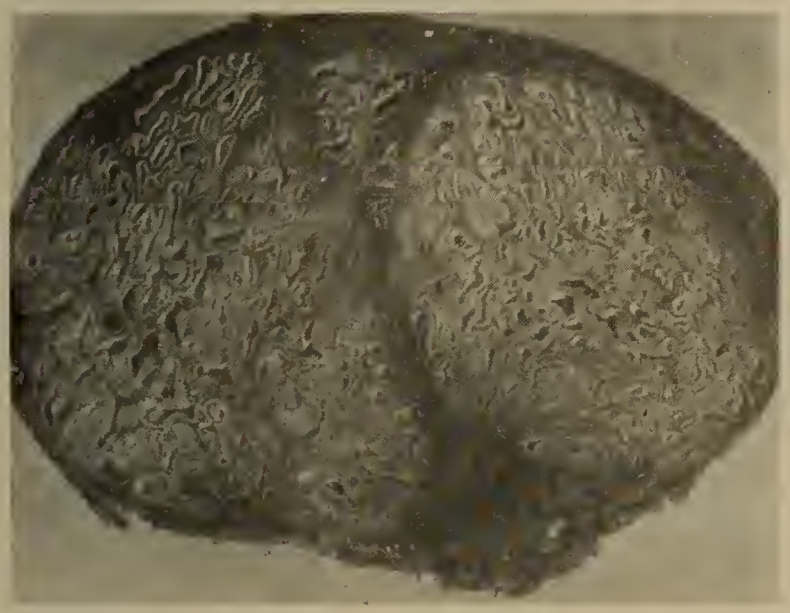


Fig. 2161. Octaviania Ravenelii. Section (fresh) enlarged.

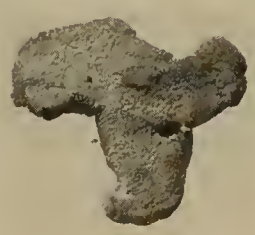


Fig. 2162.
Octaviania carotaecolor.
Dry section.

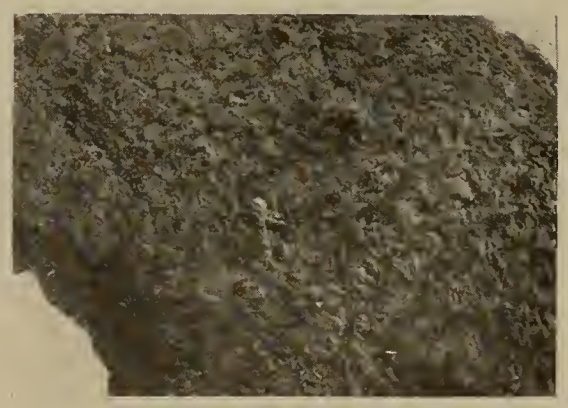


Fig. 2163. Same, enlarged.

Fig. 2164. Spores, left—from Tulasne; right—original.

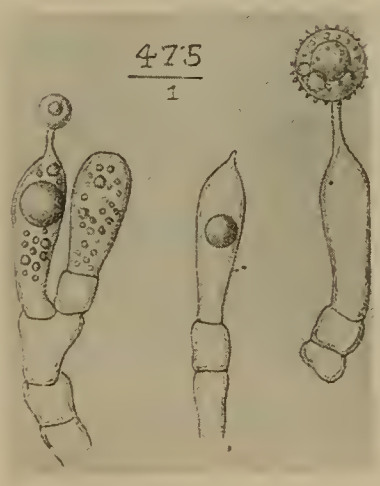


Fig. 2165.
Octaviania monospora.
Basidia from Bondier.

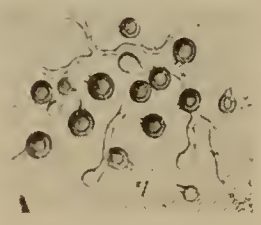


Fig. 2166.
Octaviania liosperma.
Spores from Tulasne.

Fig. 2167.
Octaviania hysterangioides. Spores from Tulasne.

Fig. 2168. Octaviania asterosperma. Section enlarged.

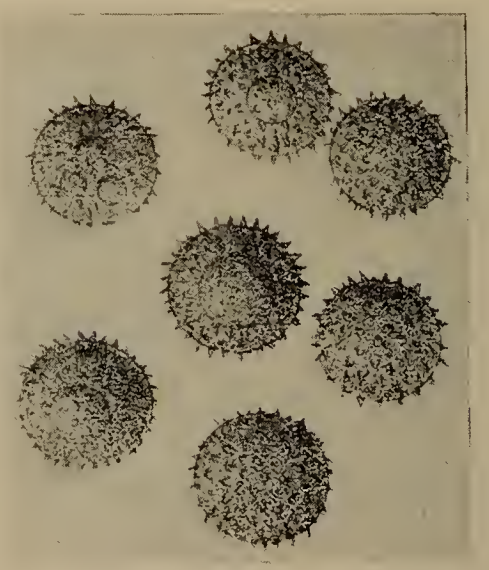


Fig. 2169. Spores from Boudier.

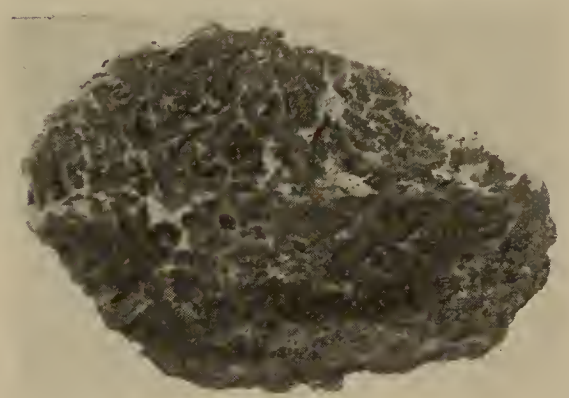


Fig. 2170. Octaviania Tasmanica. Section enlarged.

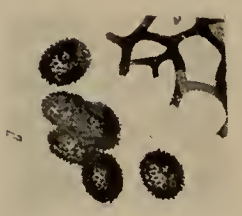


Fig. 2171.
Octaviania candida. Spores from Tulasne.

Fig. 2172. Octaviania Africana.

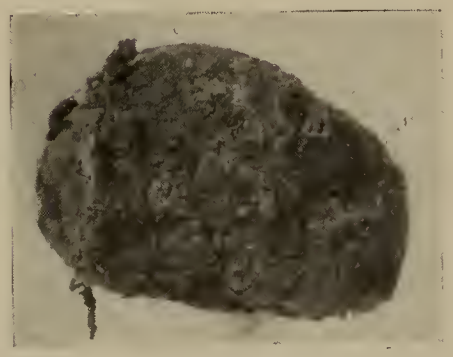


Fig. 2173.
Octaviania compacta. Surface enlarged.

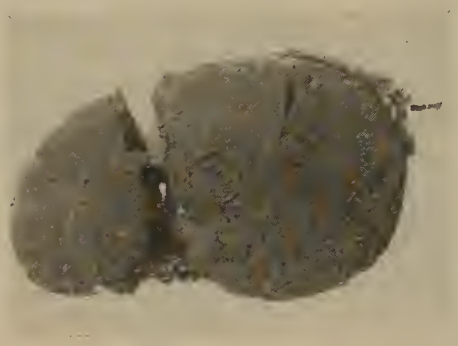


Fig. 2174.
Octaviania compacta. Section enlarged.

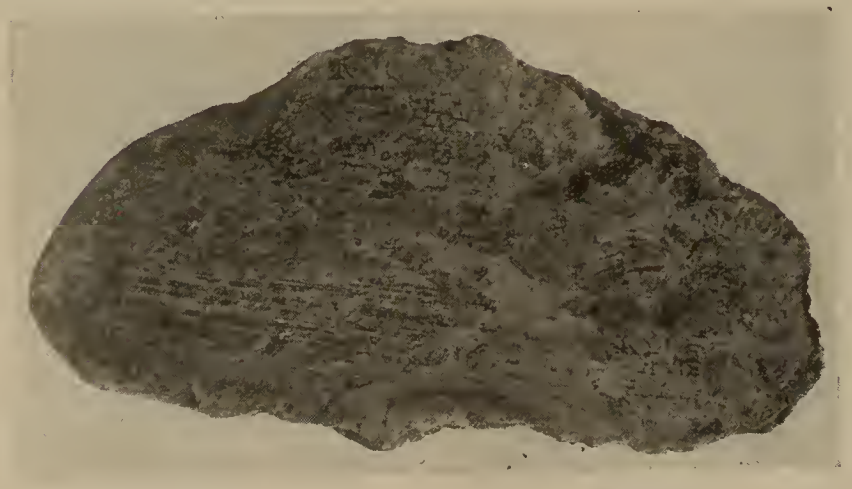


Fig. 2176. Arcangeliella luteo-carneo. Enlarged.

Fig. 2177.
Same, natural size.

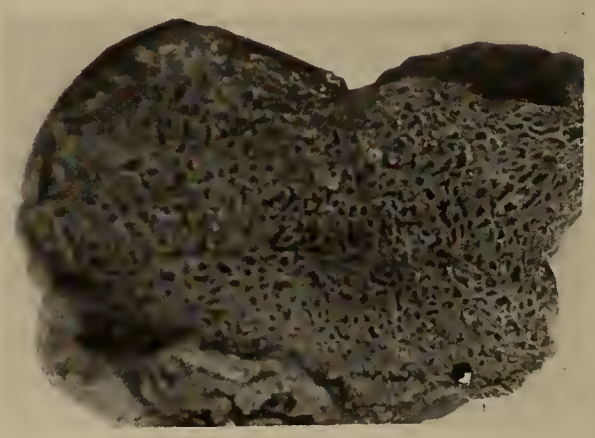


Fig. 2175. Arcangeliella Borziana. Enlarged.

Fig. 2178. Gyrocephalus rufus.

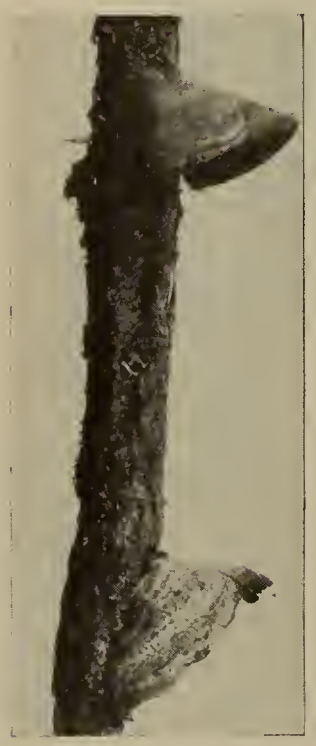


Fig. 2179.
Merulius conchoides.

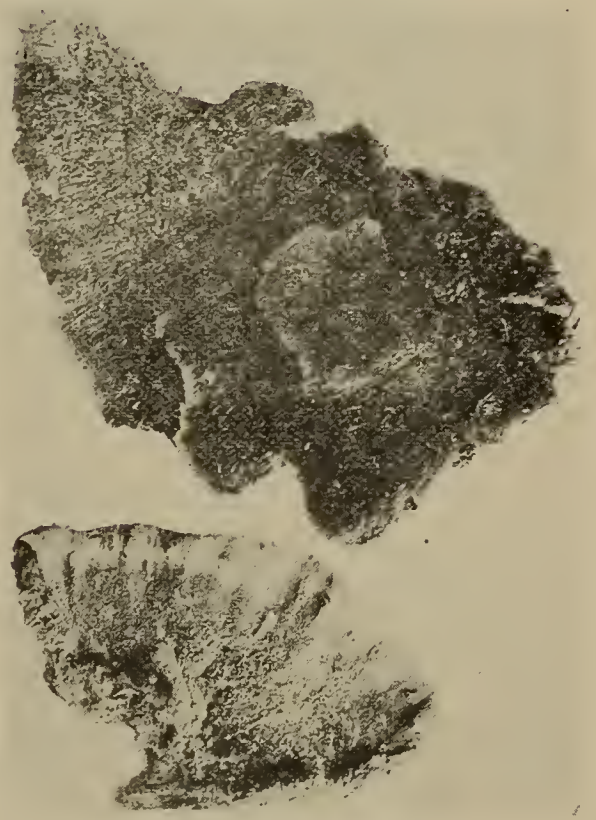


Fig. 2180. Polyporus ursinulus.

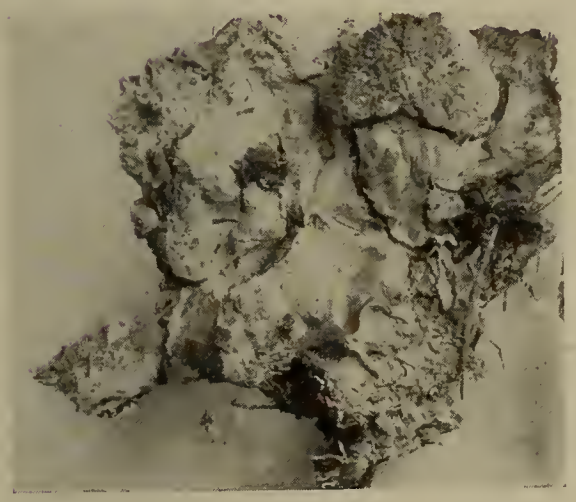


Fig. 2181. Ptychogaster subiculoides.

Fig. 2182. Trametes roseo-zonata.

Fig. 2183. Hydnum Kauffmanii.

Fig. 2184. Pterula Landelphiae.

Fig. 2185. Isaria Arenearum.

Fig. 2186.
Xylaria exacuta.

Fig. 2187. Polyporus (Amaurodermus) renidens.

Fig. 2188. Teratological form of same.

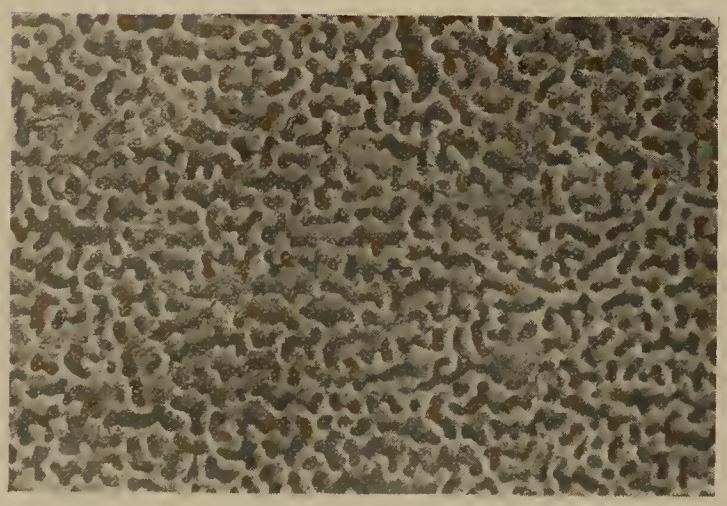


Fig. 2190. Daedalea roseola. Pores enlarged.

Fig. 2189. Polyporus Sandakanii.

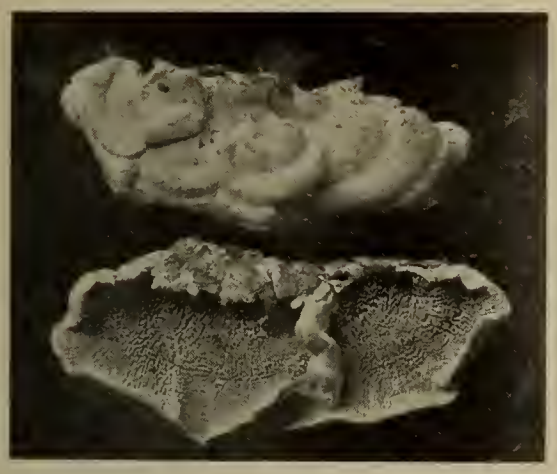


Fig. 2191. Polystictus albo-regularis.

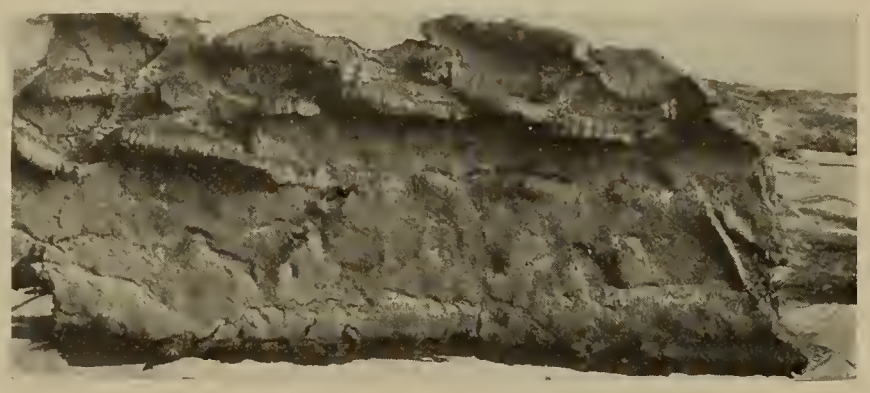


Fig. 2192. Polystictus glabro-rigens.

Fig. 2193. Polyporus semilaccatus. Left, resupinate portion; right, usual plant.

Fig. 2194. Hexagona fusco-glabra.

Fig. 2195. Trametes sulcata.

Fig. 2196. Polyporus multilobatus.

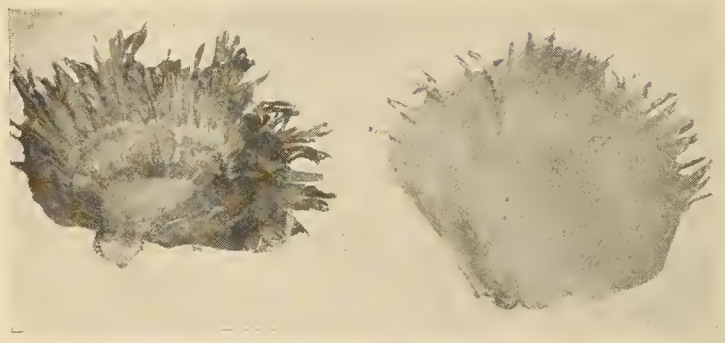


Fig. 2197. Polystictus crenatus, proliferous.

Fig. 2198. Favolus parviporus.

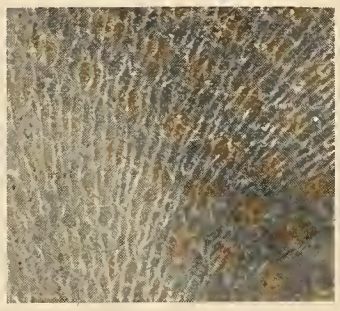


Fig. 2199.
Pores of same. Enlarged.

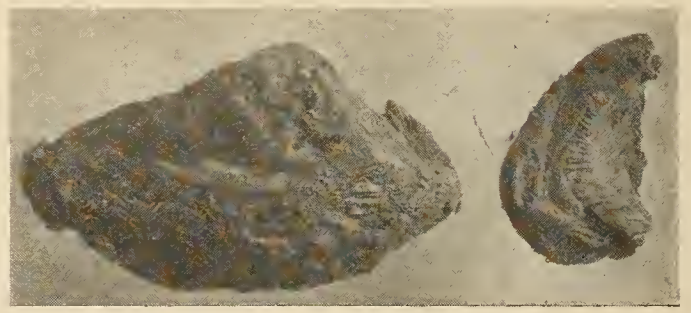


Fig. 2200. Polyporus Wheistonei.

Fig. 2201. Daedalea mollicula.

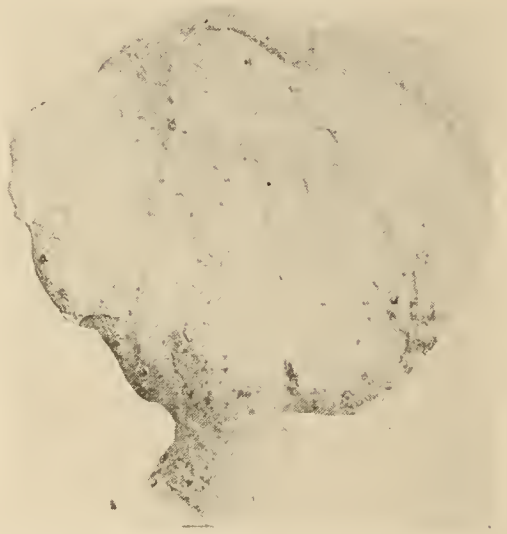


Fig. 2202. Trametes picta (Pleuropoda).

Fig. 2203. Polyporus montanus. Reduced.

Fig. 2204. Polyporus guhae.

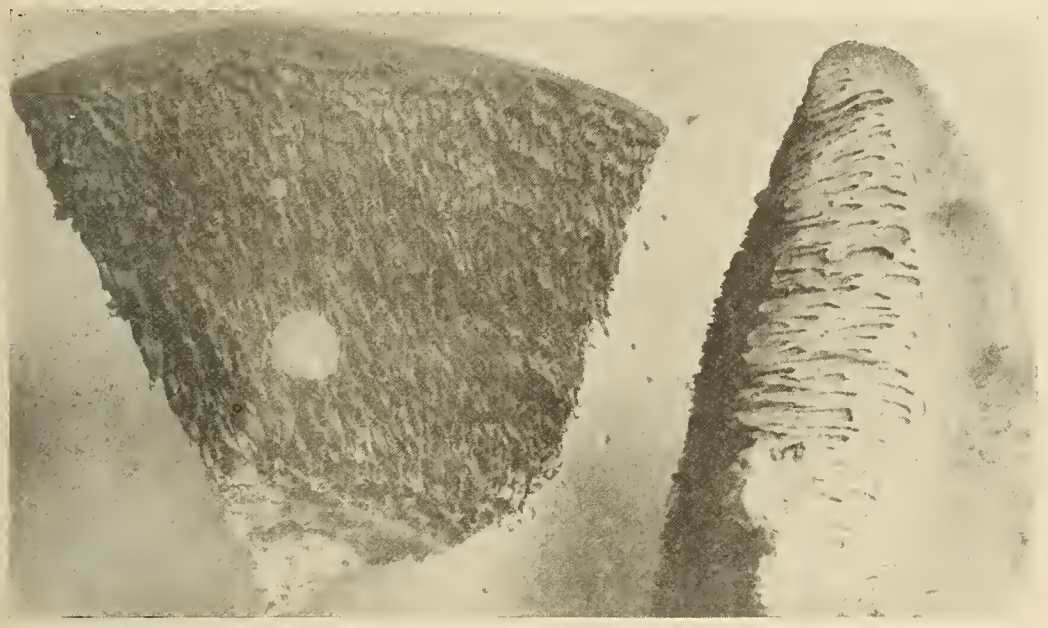


Fig. 2205. Polyporus obtusus.

Fig. 2206. Favolus bengala.

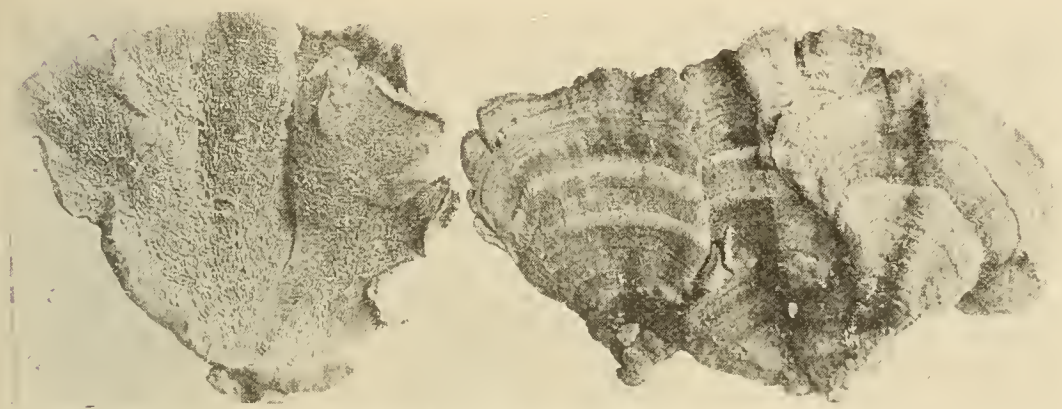


Fig. 2207. Polystictus prosector.

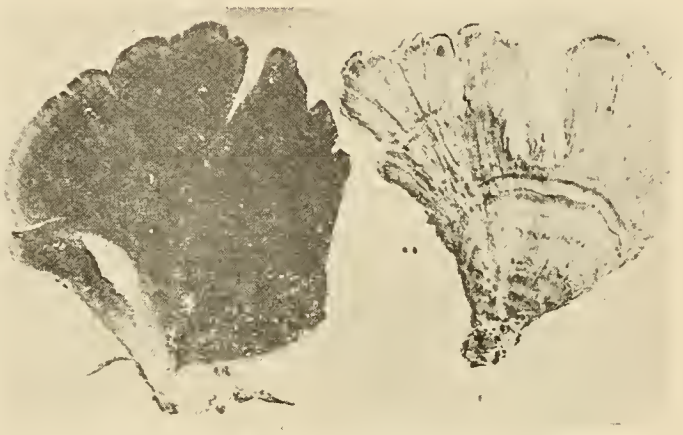


Fig. 2208. Polystictus Friesii.

Fig. 2209. Daedalea stratosa.

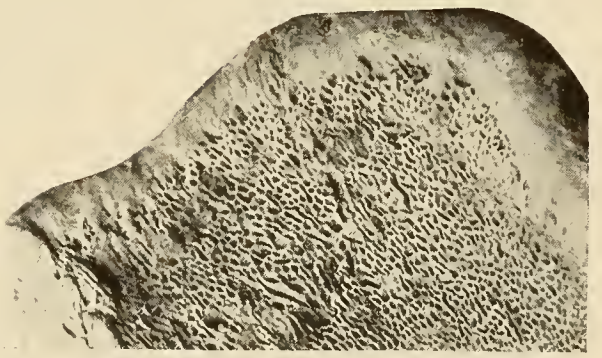


Fig. 2210. Fomes rufolaccatus.

Fig. 2211. Polyporus atrostrigosus.

Fig. 2212. Polyporus friabilis.

Fig. 2213. Schizophyllum commune.

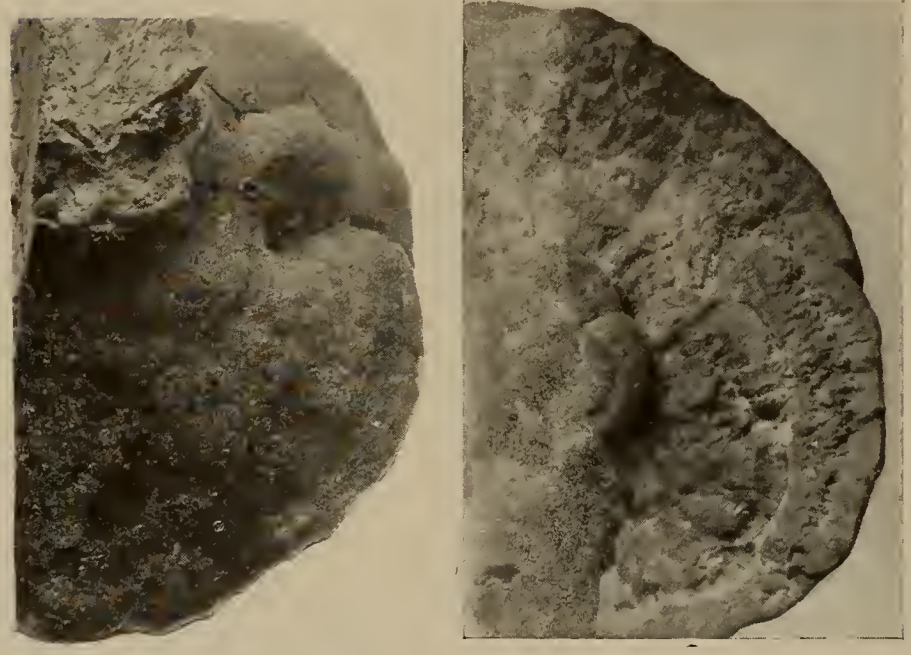


Fig. 2214. Trametes Karlc.

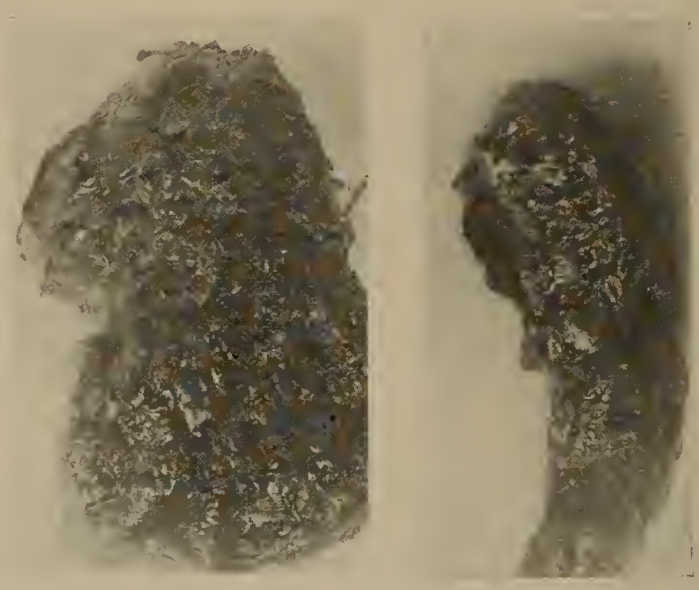


Fig. 2215. Tremella crassa.

Fig. 2216. Trametes aspera.

Fig. 2217. Tremella undulata.

Fig. 2218. Trametes Persoonii, showing varying forms.

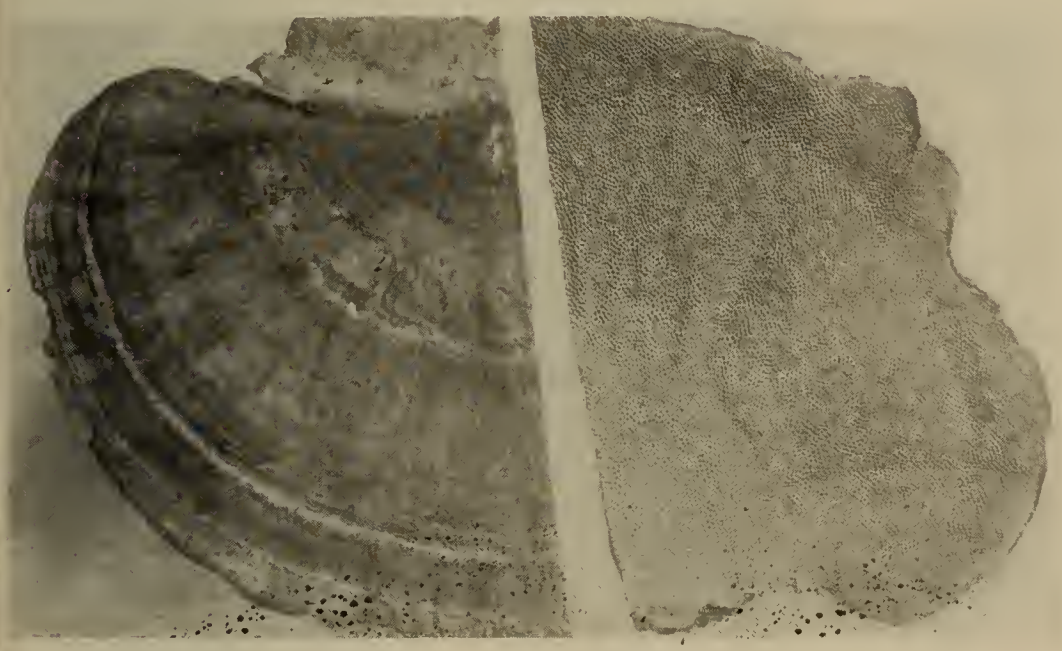


Fig. 2219. Hexagona retropicta.

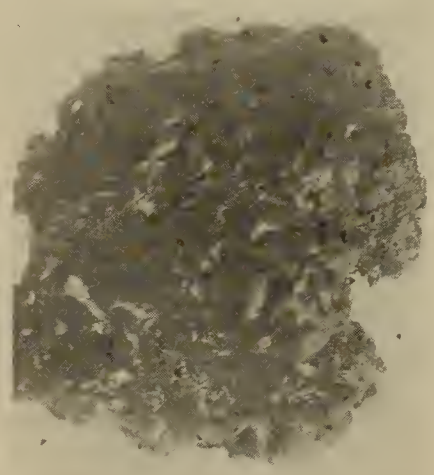


Fig. 2220. Tremella ater-globosa.

Fig. 2221. Polystictus melanopilus.

Fig. 2222. Dacryomyces dubius.

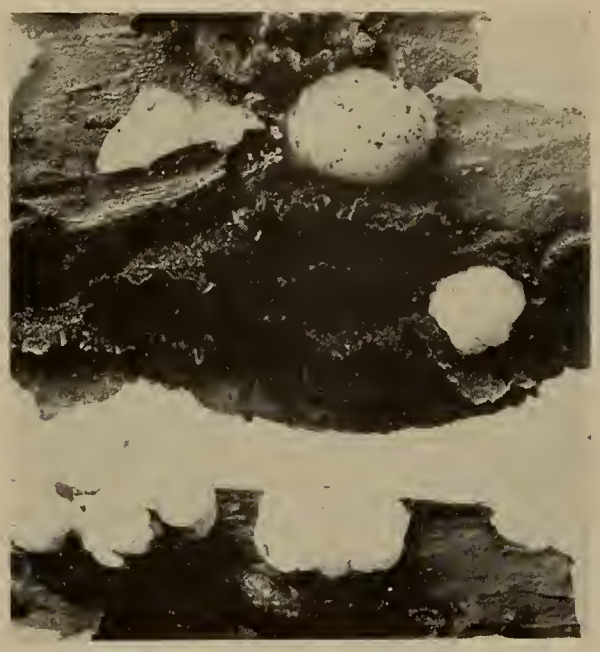


Fig. 2223. Naematelia encephala.

Fig. 2224.
Naematelia encephala. Section enlarged.

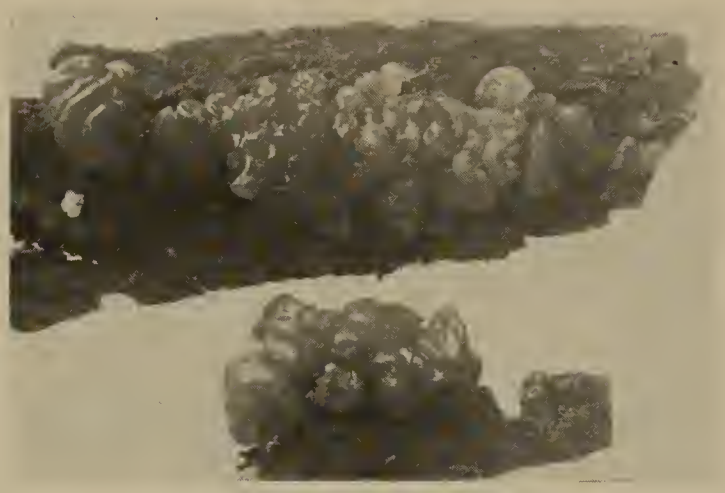


Fig. 2225. Naematelia nucleata.

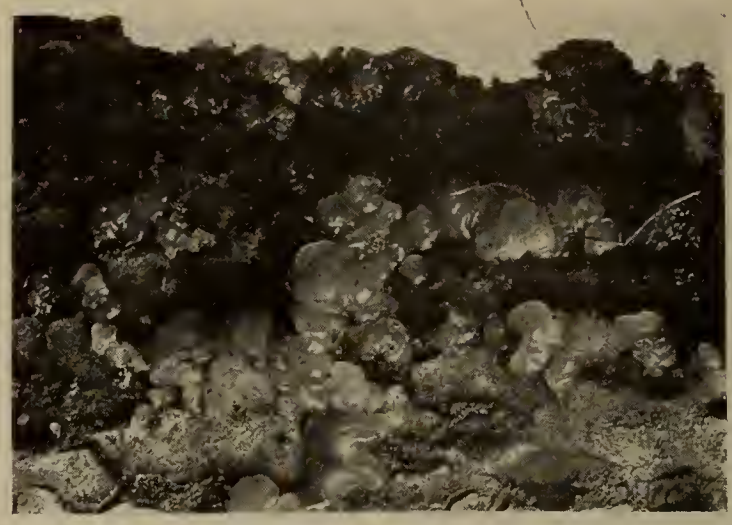


Fig. 2226. Naematelia globulus.

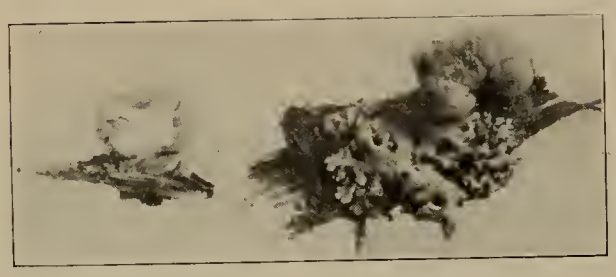


Fig. 2227. Naematelia encephal•

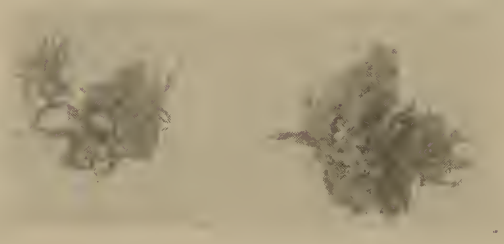


Fig. 2228. Calocera rufa.

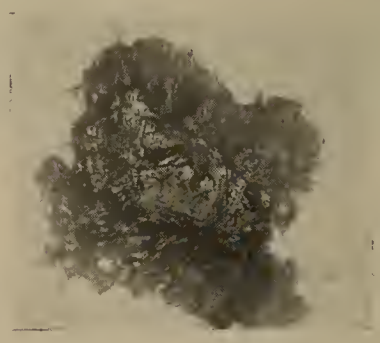


Fig. 2229. Exidia plumbea.

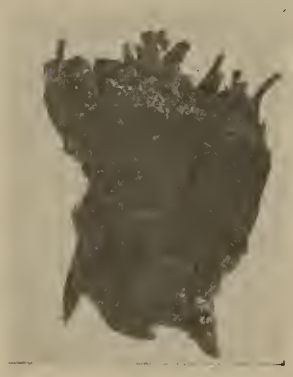


Fig. 2230.
Calocera fuscobasis.

Fig. 2231. Heterotextus flavus.

Fig. 2232. Tremella lutescens.

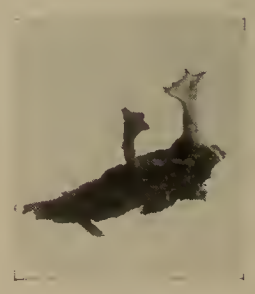


Fig. 2233.
Calocera palmata.

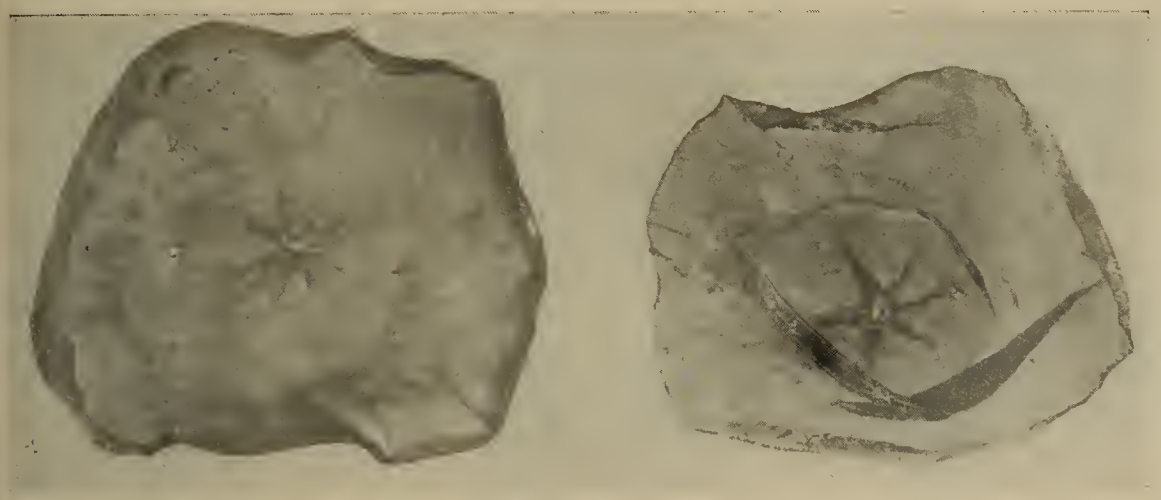


Fig. 2234. Auricularia stellata.

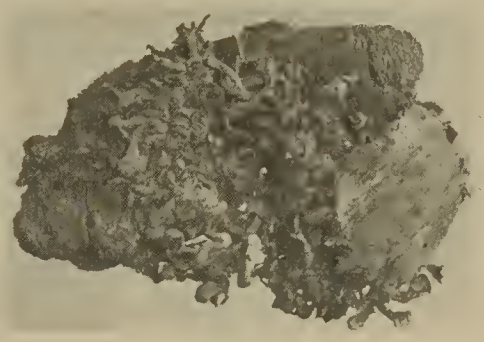


Fig. 2236.
Guepinia spathularia (caespitose).

Fig. 2235. Auricularia stellata. Veins enlarged.

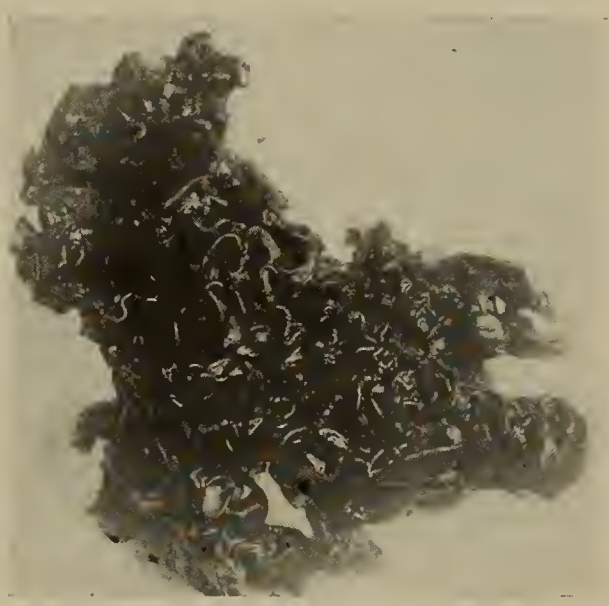


Fig. 2237. Tremella crispa. Soaked.

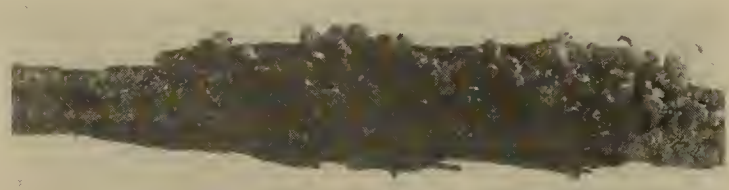


Fig. 2240. Calocera cnneata. Enlarged.

Fig. 2238.
Tremella crispa. Dried.

Fig. 2239.
Tremella Brasiliensis.

Fig. 2241.
Guepinia crenata.

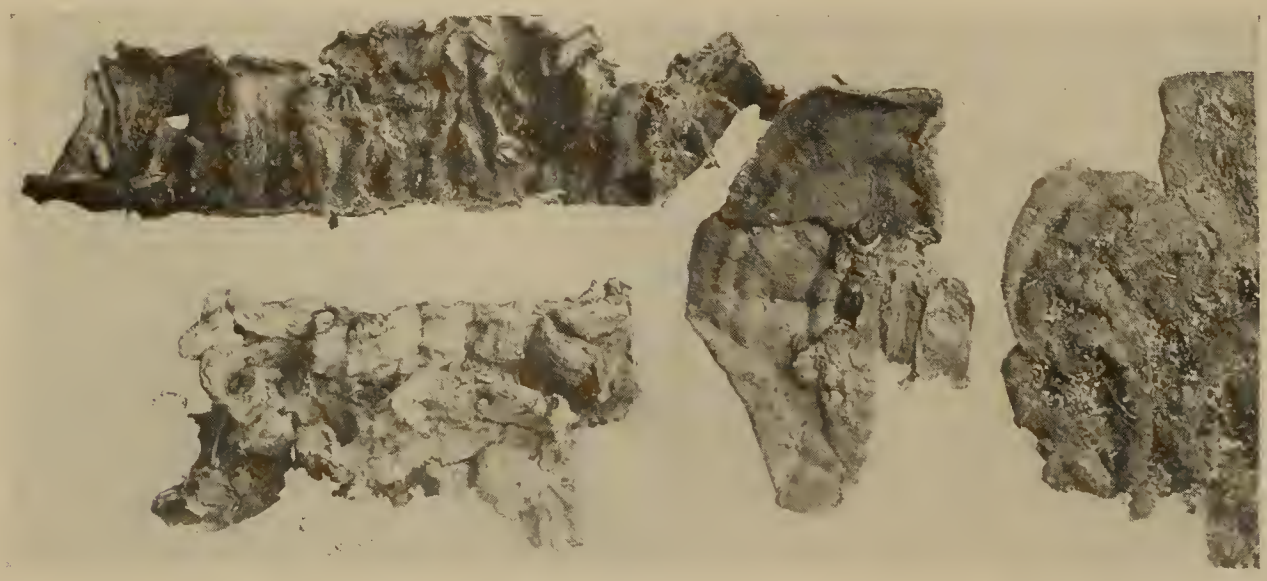


Fig. 2242. Auricula reflexa.

Fig. 2243.
Polystictus glabro-tabacinus.

Fig. 2244. Cantharellus floccosus. (Reproduced from Mycologia.)

Fig. 2245. Lentinus Orinocensis.

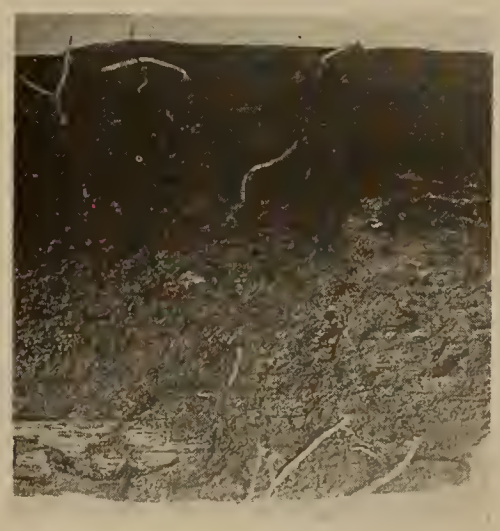


Fig. 2246. Clavaria alba.

Fig. 2247. Pterula sclerodontium.

Fig 2248. Auricularia flava.

Fig. 2249. Panus coriaceus.

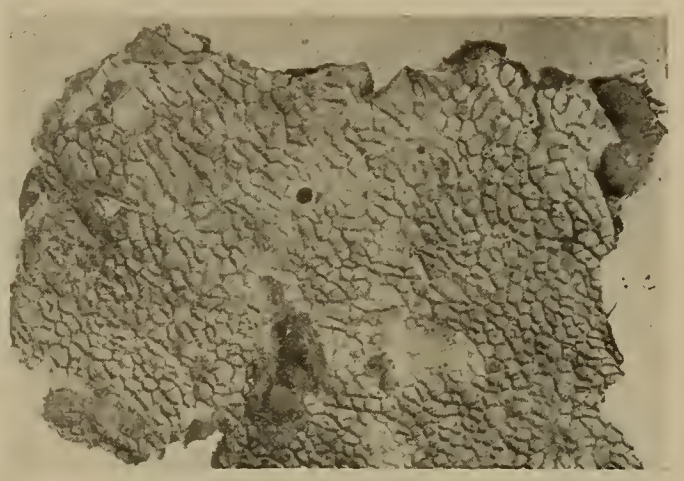


Fig. 2250. Panus coriaceus, Resupinate.

Fig. 2251. Polystictus cladophorus.

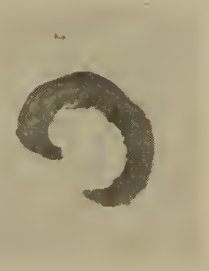


Fig. 2252.
Same, section.

Fig. 2253. Panaeolus epimyces.

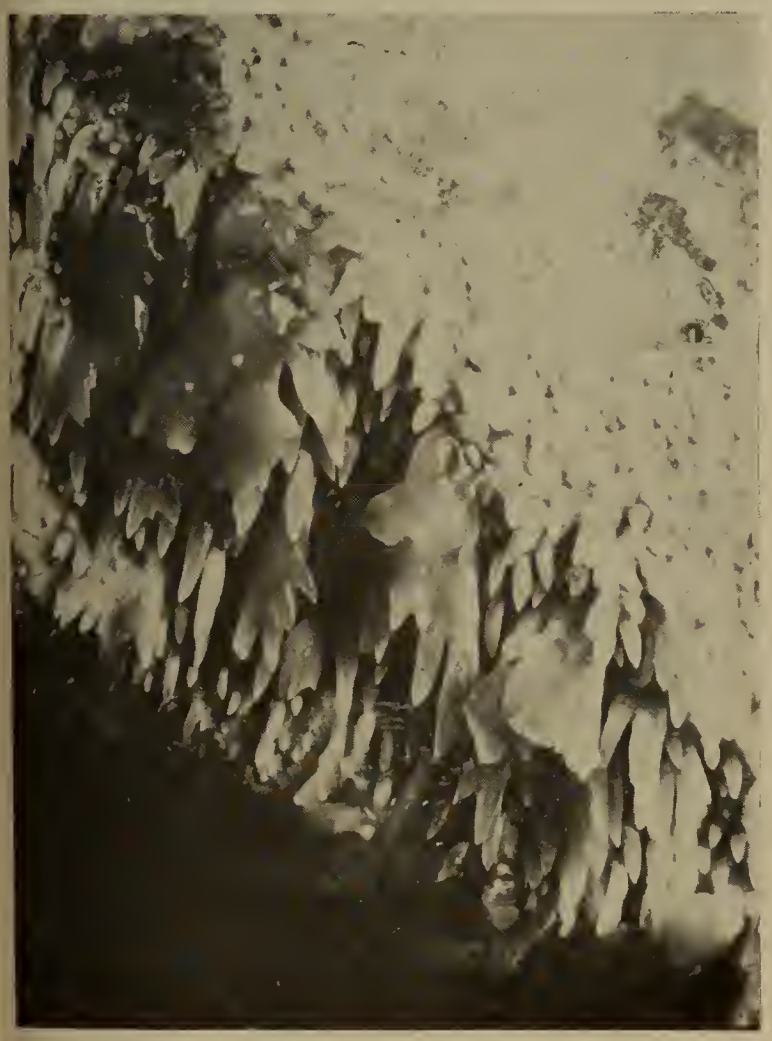


Fig. 2254. Hydnum cirrhatum. Surface spines enlarged.

Fig. 2255. Hydnum glabrescens.

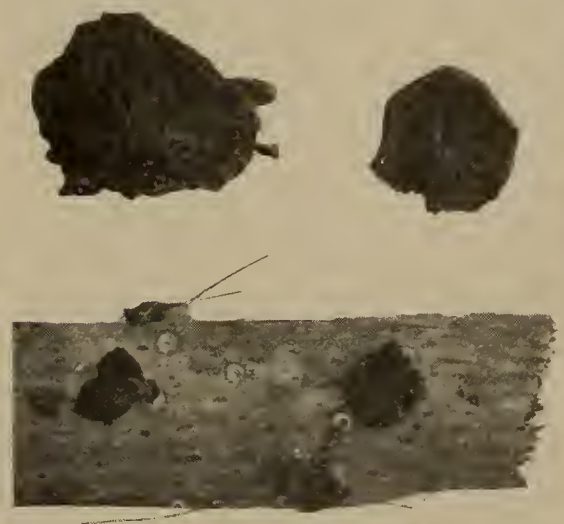


Fig. 2256. Xerotus anastomosus.

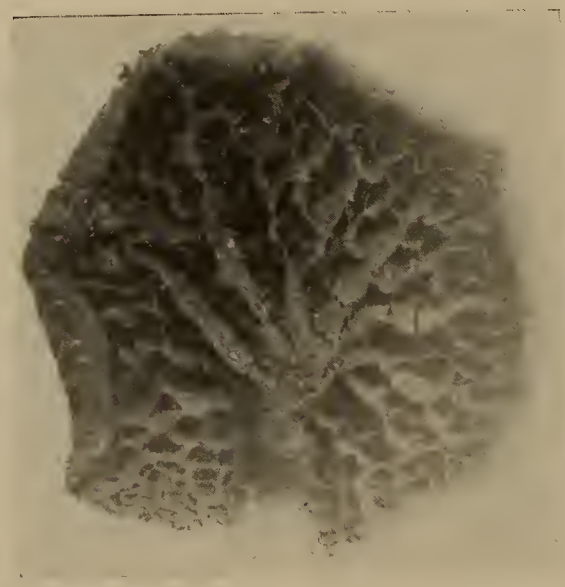


Fig. 2257. Xerotus anastomosus. Enlarged.

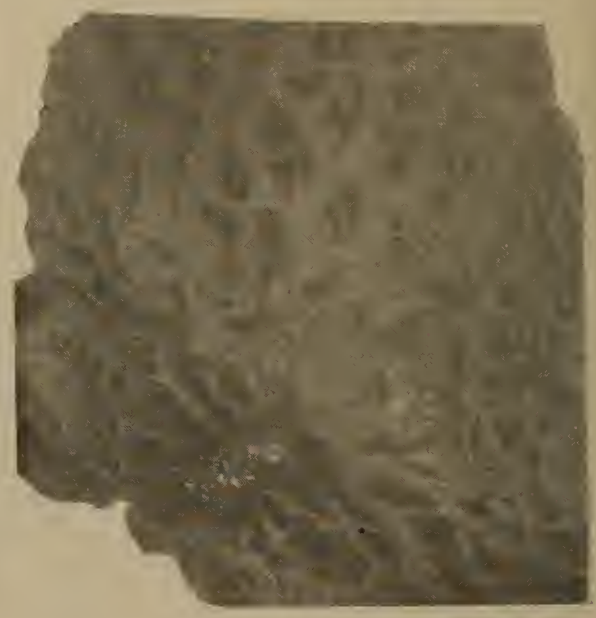


Fig. 2258. Xerotus anastomosus. Enlarged.

Fig. 2259. Xerotus afer.

Fig. 2260. Tremellodendron Hibbardii.

Fig. 2261. Irpex consors.

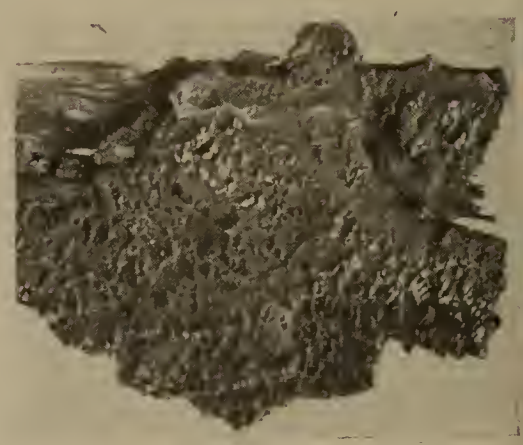


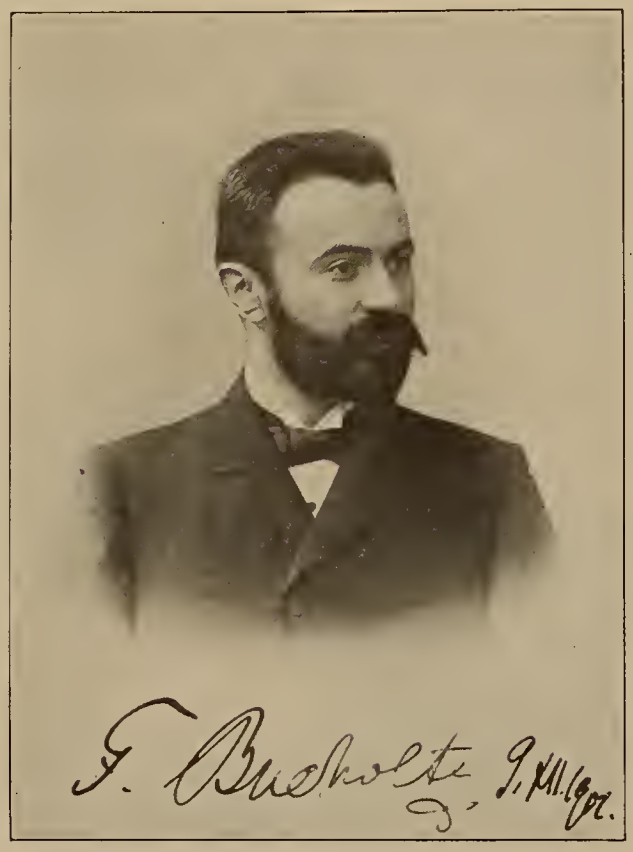
Fig. 2262. Hydnochaete Philippensis.

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 68 JANUARY, 1923



Prof. F. Bucholtz

Fig. 2263. Polyporus motus.

Fig. 2264. Daedalea maculata.

Fig. 2265. Polystictus sepia.

Fig. 2266. Polyporus arcosus.

Fig. 2267. Polystictus incisus.

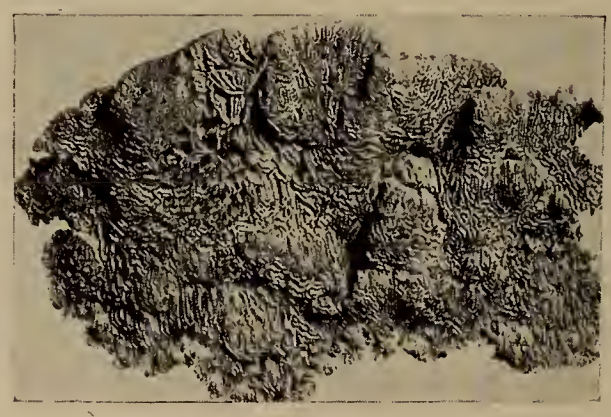


Fig. 2268. Daedalea reflexa.

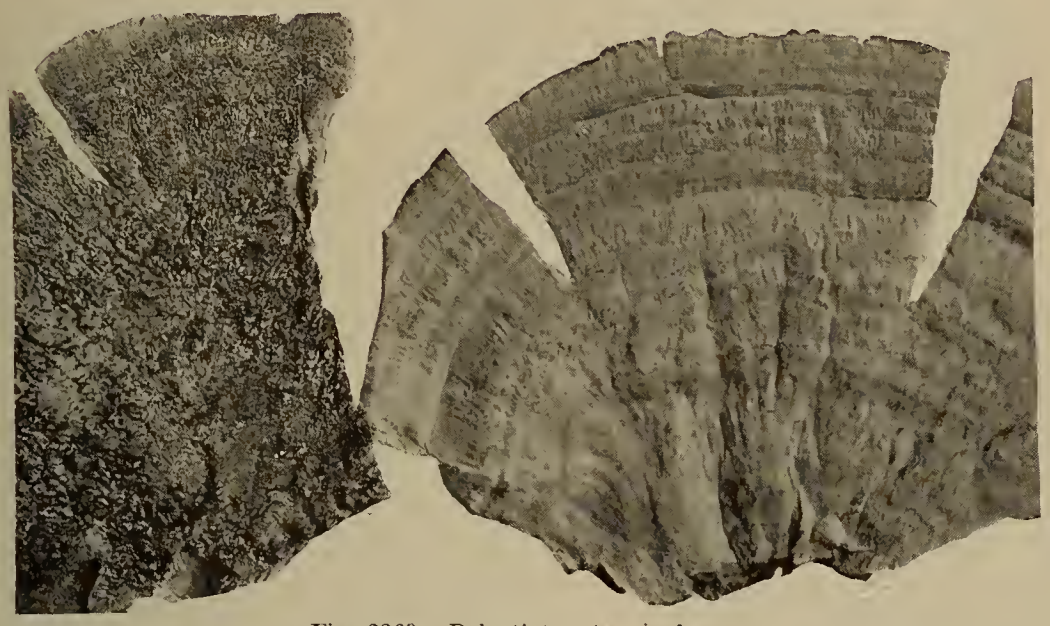


Fig. 2269. Polystictus tenniculus.

Fig. 2270. Fomes roburneus.

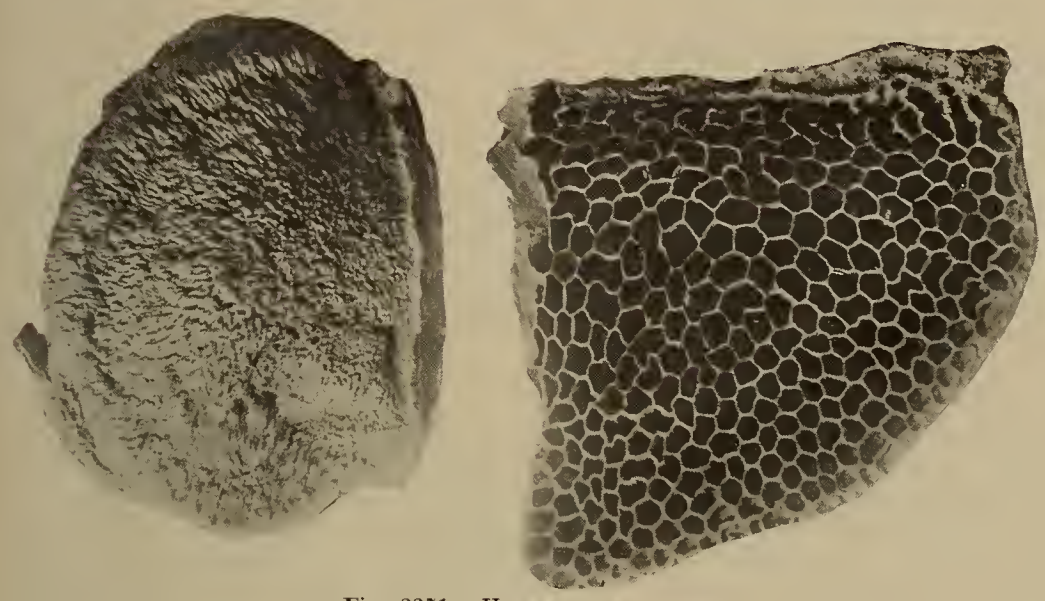


Fig. 2271. Hexagona scruposa.

Fig. 2272. Fomes Graffii.

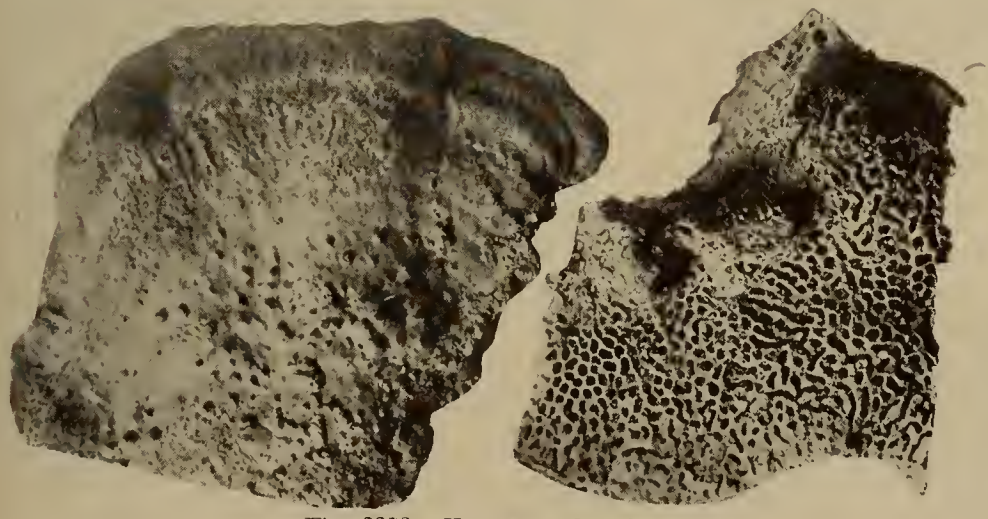


Fig. 2273. Hexagona flavofusca.

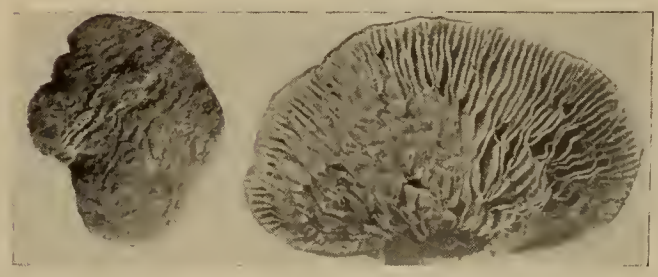


Fig. 2274. Lenzites isabellina.

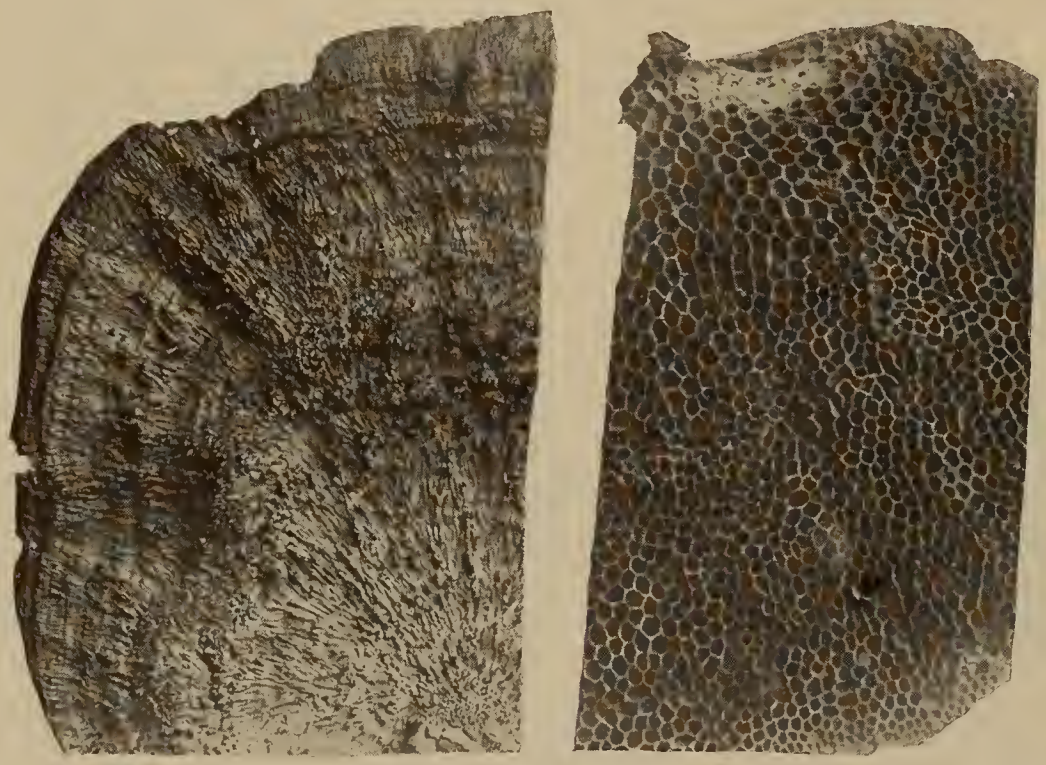


Fig. 2275. Hexagona ater.

Fig. 2276. Trametes truncata.

Fig. 2277. Fomes agglutinatus.

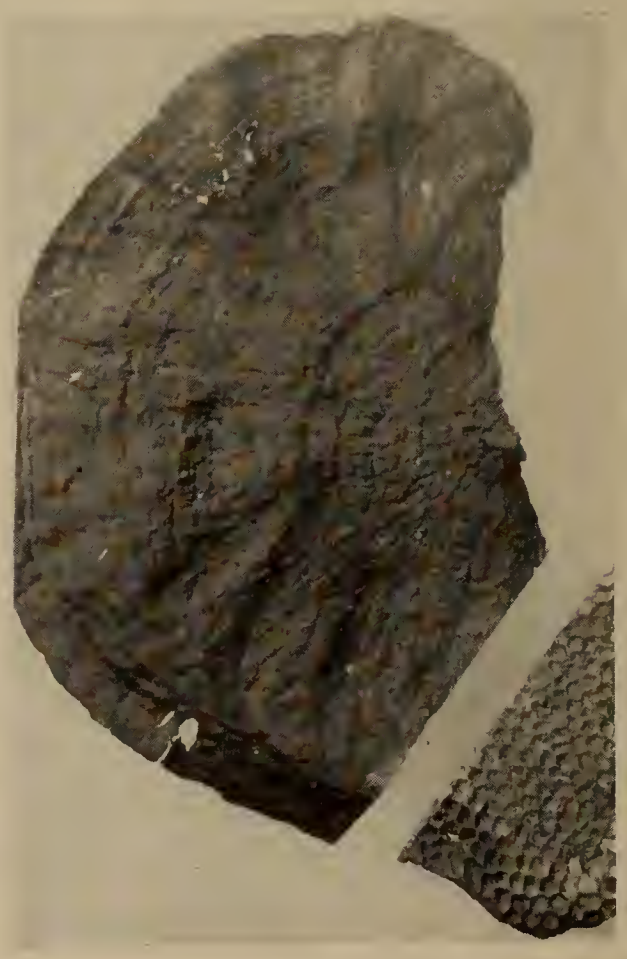


Fig. 2278. Hexagona caliginosa.

Fig. 2279. Polystictus rosea-brunnea.

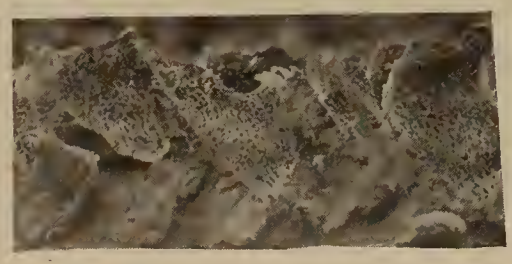


Fig. 2280. Favolus glandulosus. (Pores enlarged.)

Fig. 2281. Favolus bipindensis.

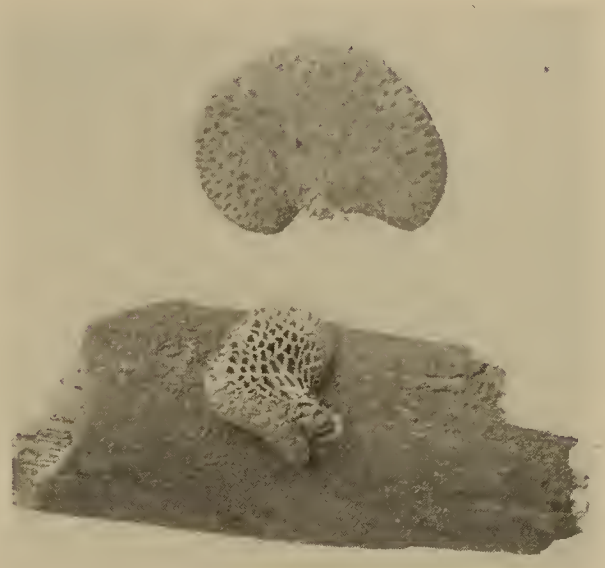


Fig. 2282. Favolus Lagunae.

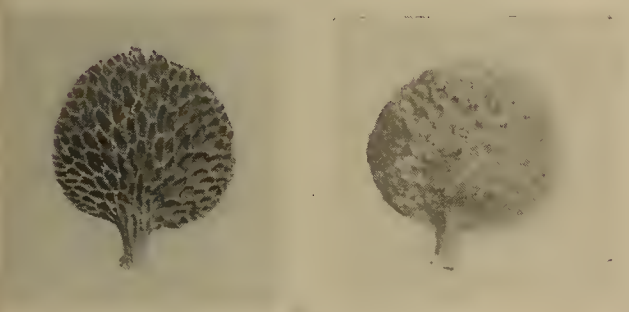


Fig. 2283. Favolus roseus.

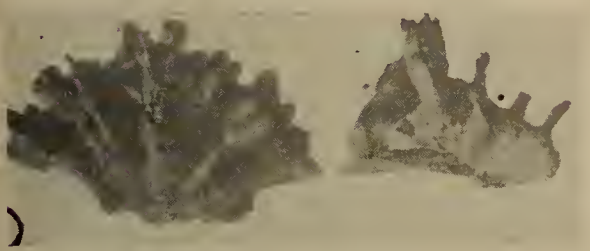


Fig. 2286. Stereum pileatulum.

Fig. 2284. Favolus tessellatus.

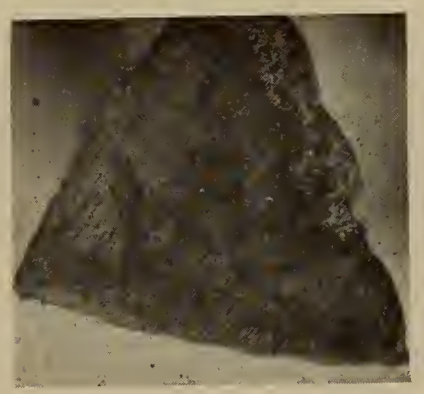


Fig. 2285. Fomes gilvus.

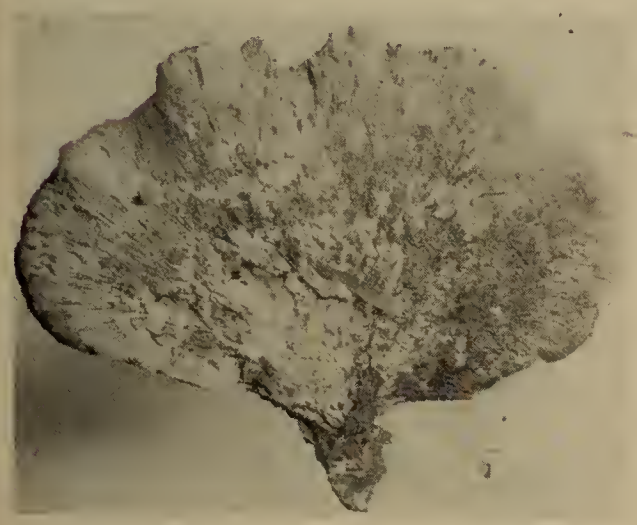
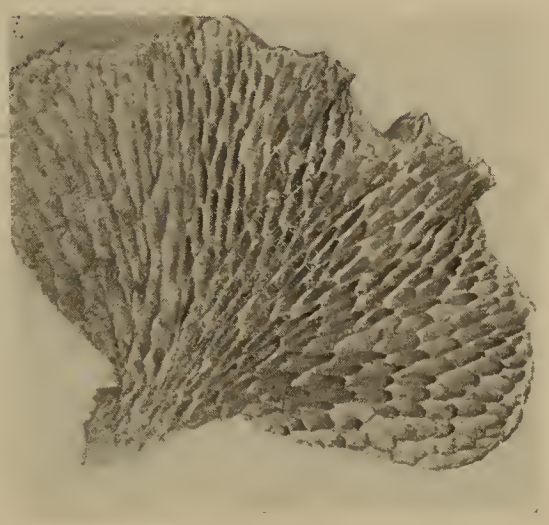


Fig. 2287. Favolus scabro-lineatus.



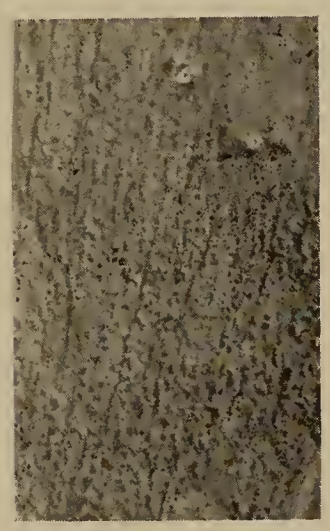


Fig. 2288. Favolus scabro-lineatus. (Surface enlarged.)

Fig. 2289. Stereum laetum.

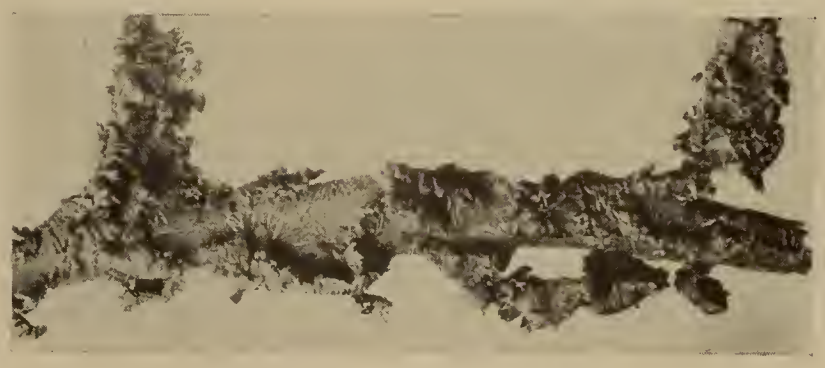


Fig. 2290. Stereum intricatum.

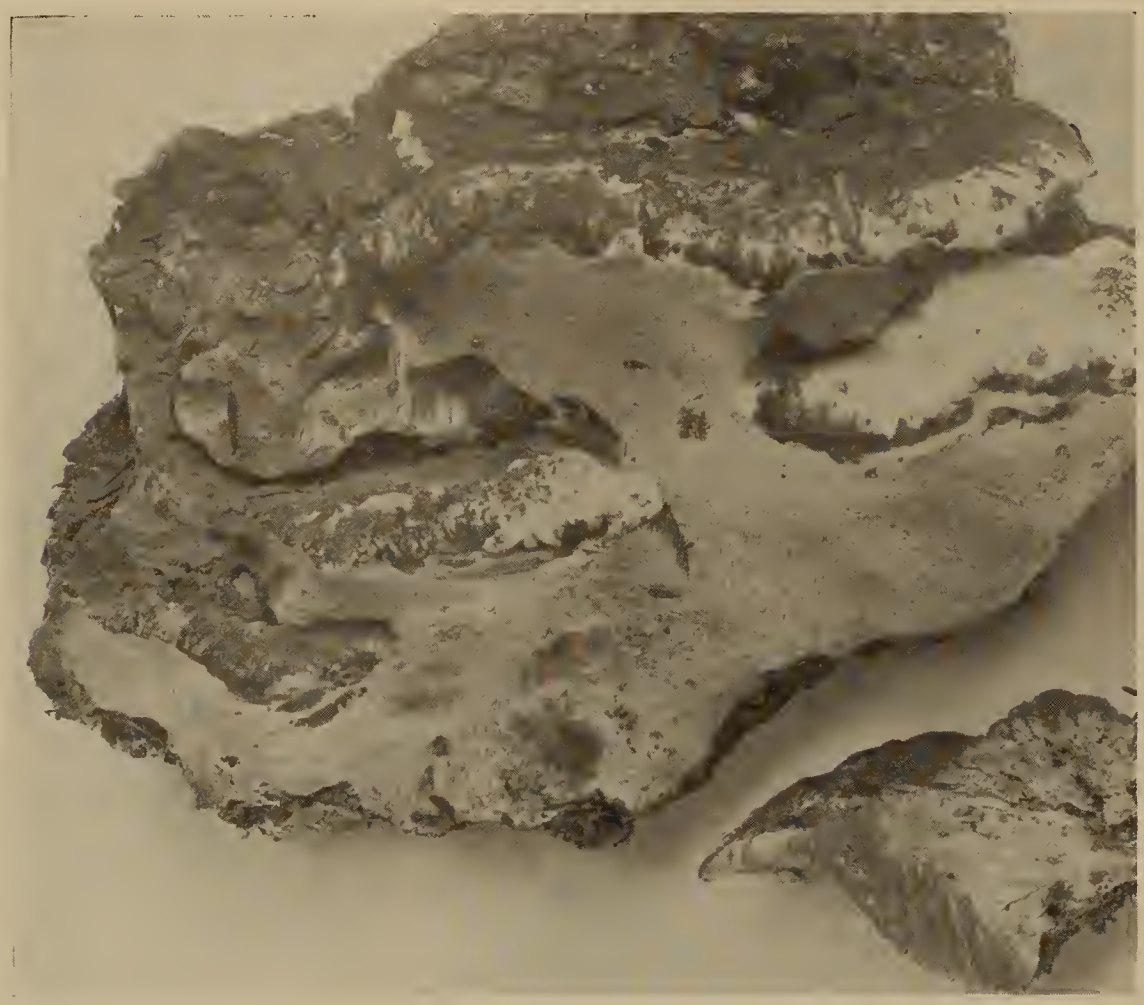


Fig. 2291. Polyporus fusco-mutans.

Fig. 2292. Stereum nitens.

Fig. 2293. Merulius gelatinosus.

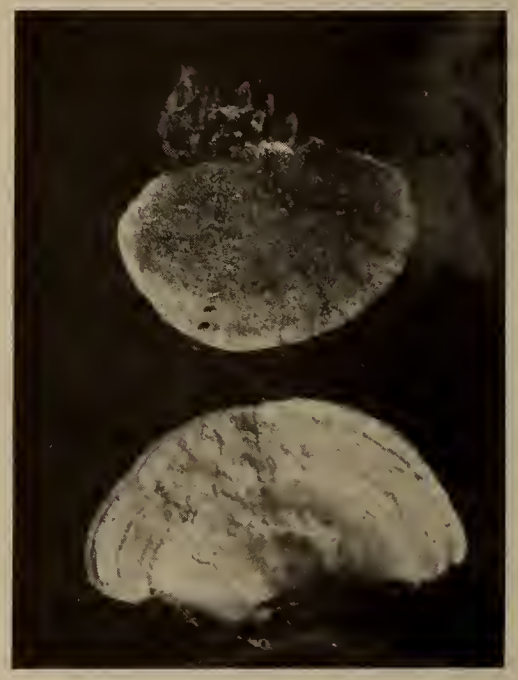


Fig. 2294. Polystictus purus.

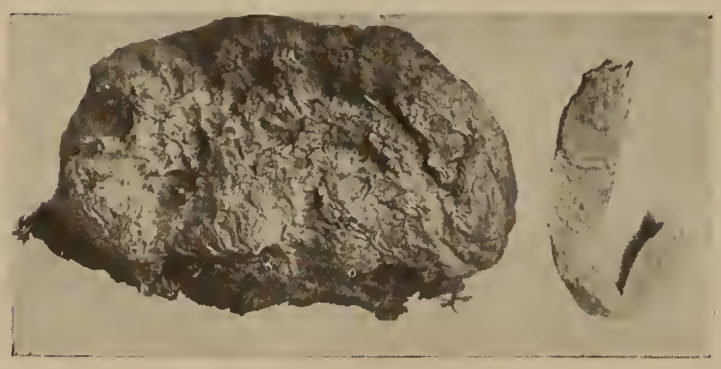


Fig. 2295. Stereum dichroum.

Fig. 2296. Lentinus lateripes.

Fig. 2297. Stereum novomolle.

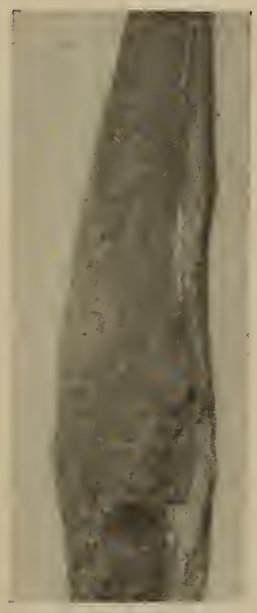


Fig. 2298.
Stereum novomolle.
(Section enlarged.)

Fig. 2299. Pseudohydnum guepinoides.

Fig. 2300. Polystictus similis.

Fig. 2301. Irpex tabacinoides.

Fig. 2302. Irpex tabacinoides.
(Young teeth enlarged.)

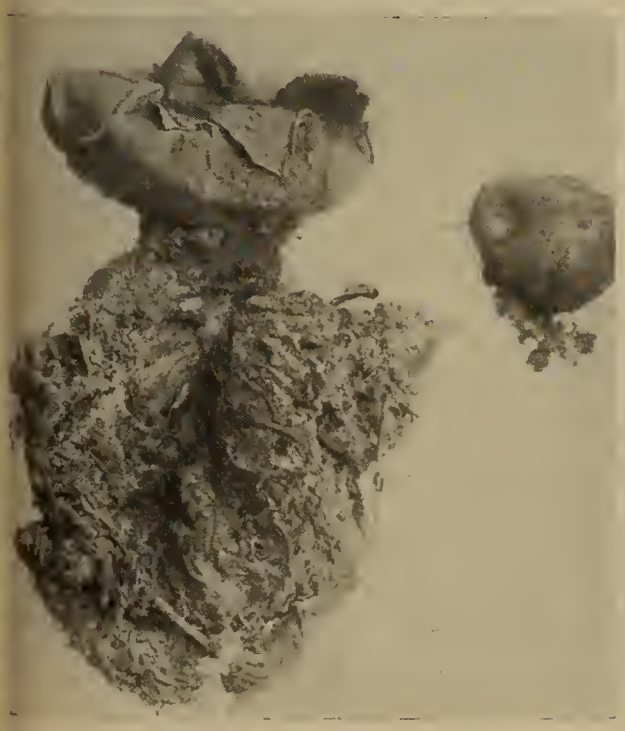


Fig. 2303. Geaster glaber.

Fig. 2304. Scleroderma caespitosum.

Fig. 2305. Hexagona albida.
(Thick form.)

Fig. 2306. Irpex pachylon.

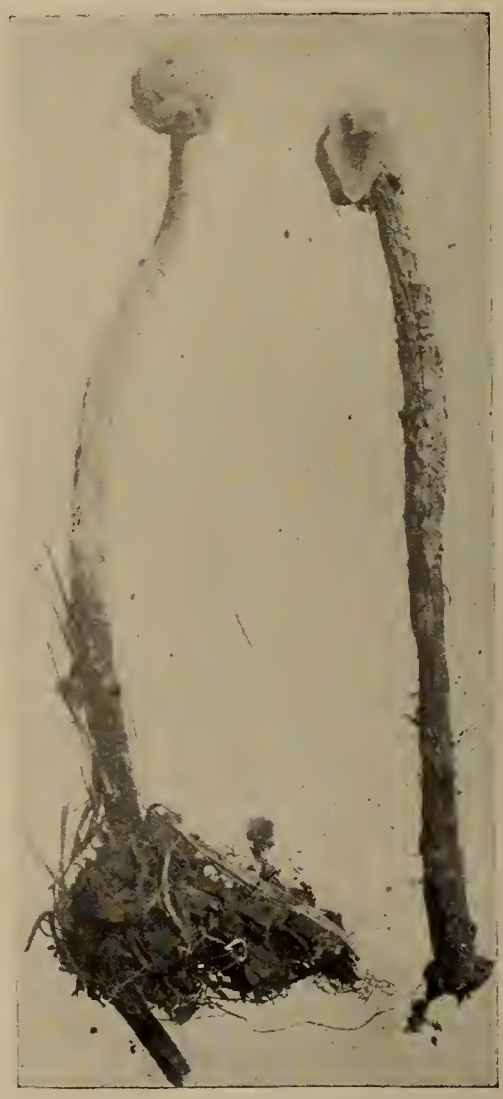


Fig. 2307. Tylostoma Finkii.

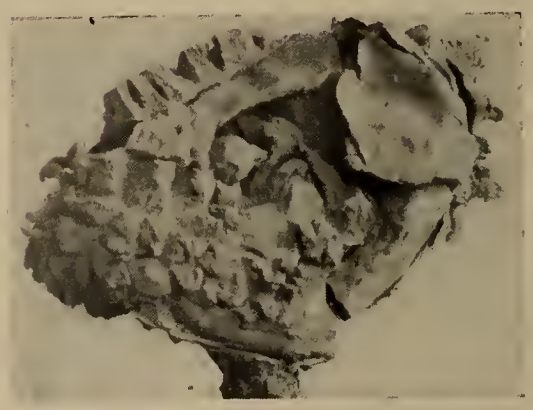


Fig. 2308. Calvatia macrogemmae.

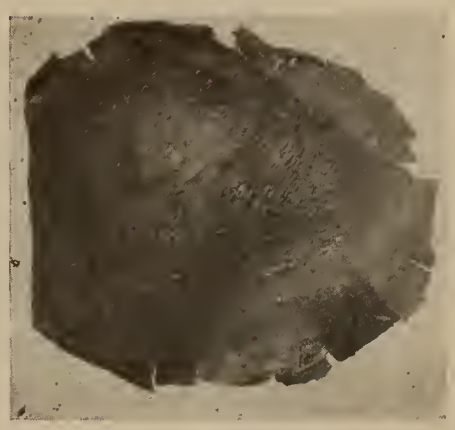


Fig. 2309. Hydnum deceptivum.

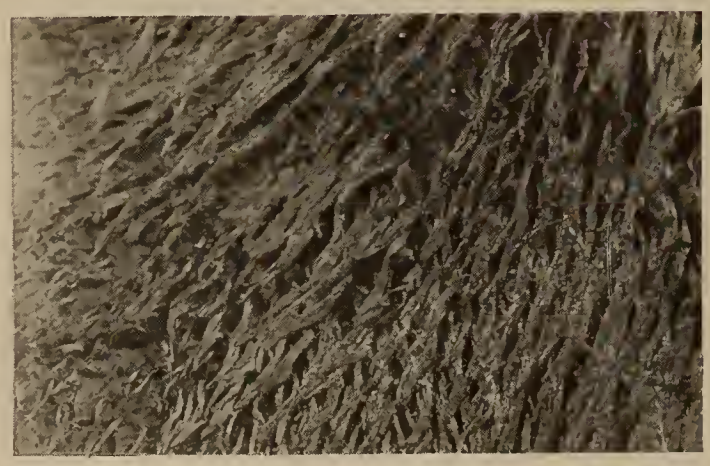


Fig. 2310. Hydnum deceptivum.
(Teeth enlarged.)

Fig. 2311. Mitremyces fuscus.

Fig. 2312. Rhizopogon rubescens.

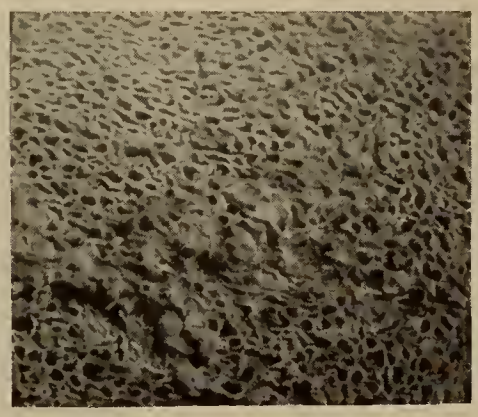


Fig. 2313. Rhizopogon rubescens. (Gleba enlarged.)

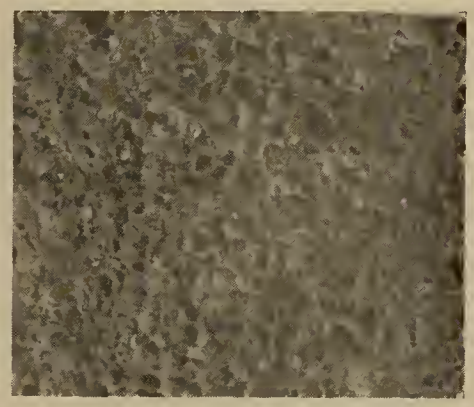


Fig. 2314. Rhizopogon provincialis. (Gleba enlarged.)

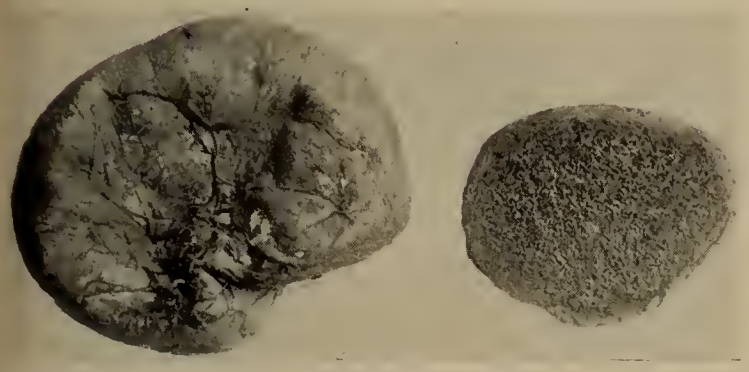


Fig. 2315. Rhizopogon provincialis.

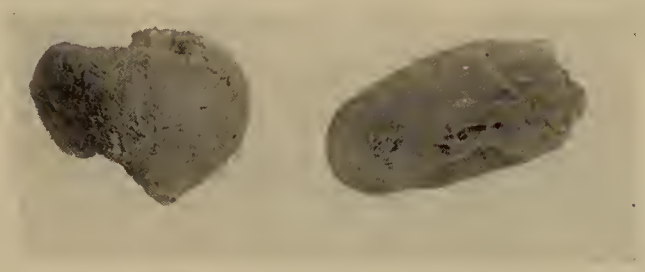


Fig. 2316. Rhizopogon luteolus.

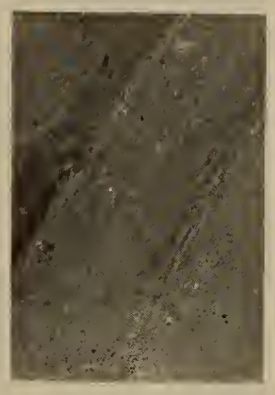


Fig. 2317. Rhizopogon luteolus. (Gleba enlarged.)

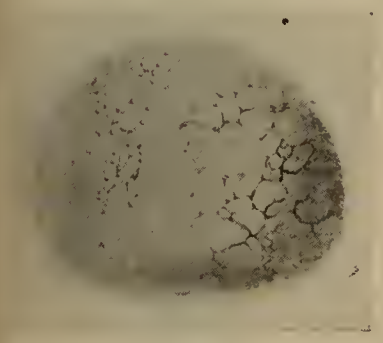


Fig. 2318. Rhizopogon luteolus.

Fig. 2319. Rhizopogon pannosus.

Fig. 2320. Rhizopogon pannosus. (Cortex enlarged.)

Fig. 2321. Rhizopogon virescens.

Fig. 2322. Rhizopogon superdubius.

Fig. 2323. Rhizopogon superdubius. (Section enlarged.)

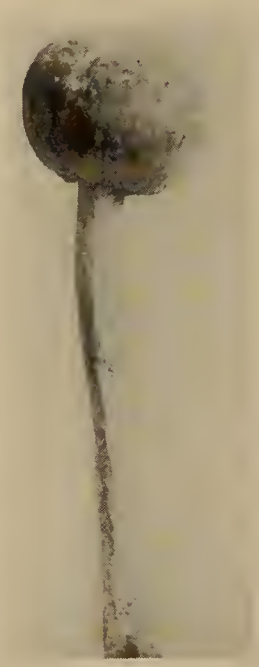
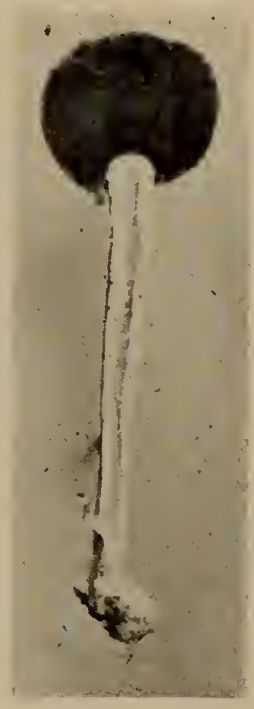


Fig. 2324. Schizostoma laceratum.



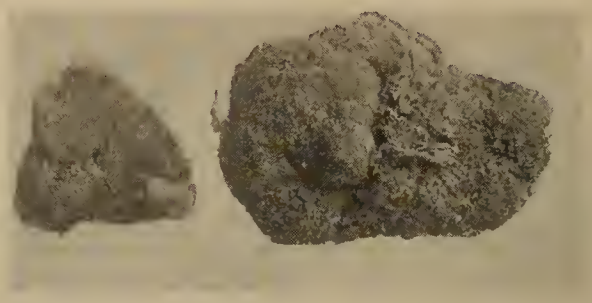


Fig. 2325. Hysterangium niger.

Fig. 2326. "Columella" of Mycenastrum. (Enlarged.)

Fig. 2327. Phellorina strobilina.

Fig. 2328. Tremellodendron (?) dubia.

Fig. 2329. Lycoperdon purpureum.

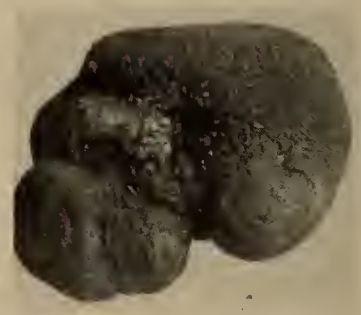


Fig. 2330. Rhizopogon radicans.

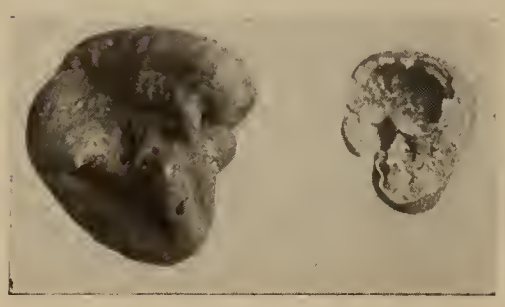


Fig. 2331. Tuber excavatum.

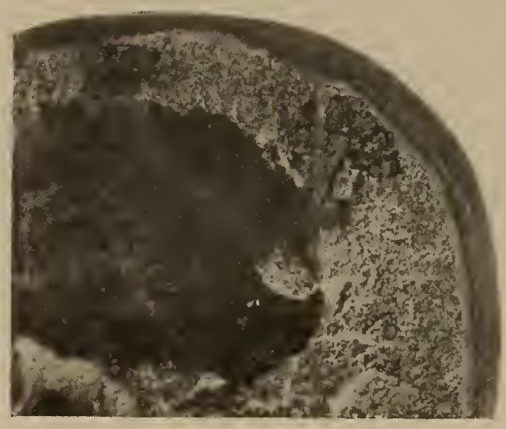


Fig. 2332. Tuber excavatum. (Section enlarged.)

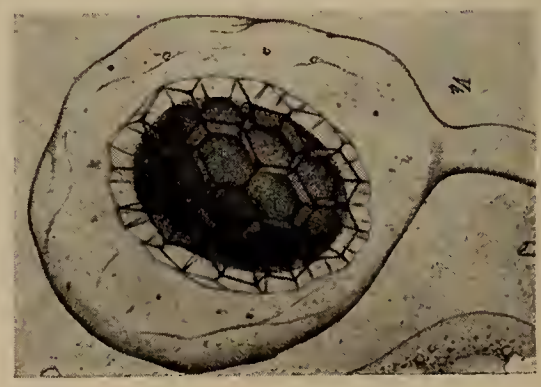


Fig. 2333. Tuber excavatum. (Spore from Tulasne.)

Fig. 2334. Battarrea Digueti.

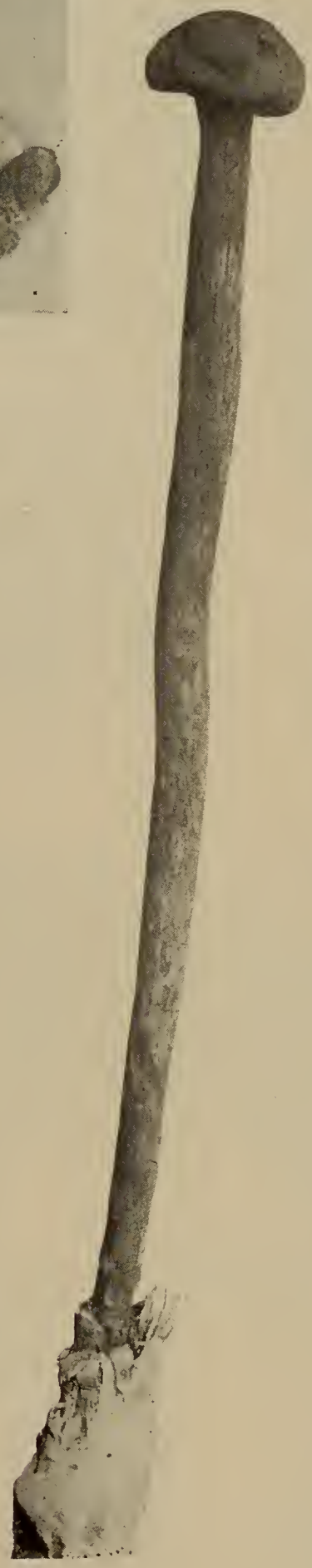


Fig. 2335. Battarrea Digueti. (Minor.)

Fig. 2336. Irpex Miyabei.

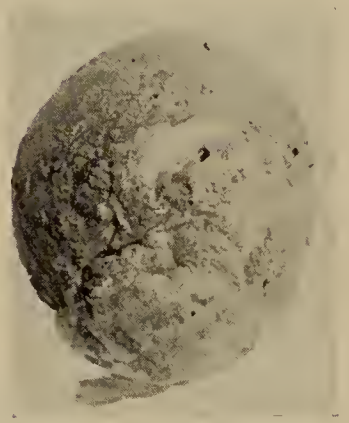


Fig. 2337. Catastoma Townei.

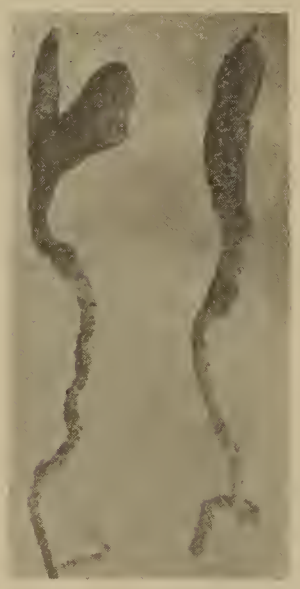


Fig. 2338. Xylaria brasiliensis.

Fig. 2339. Lentinus subglaber.

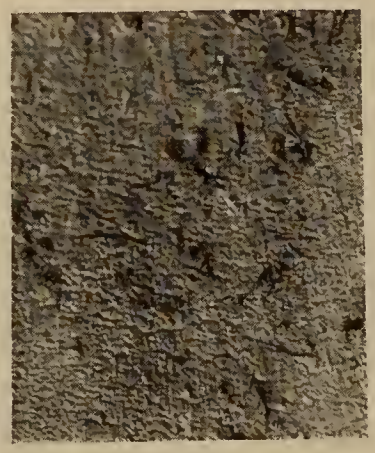


Fig. 2340. Lentinus subglaber.
(Surface enlarged.)

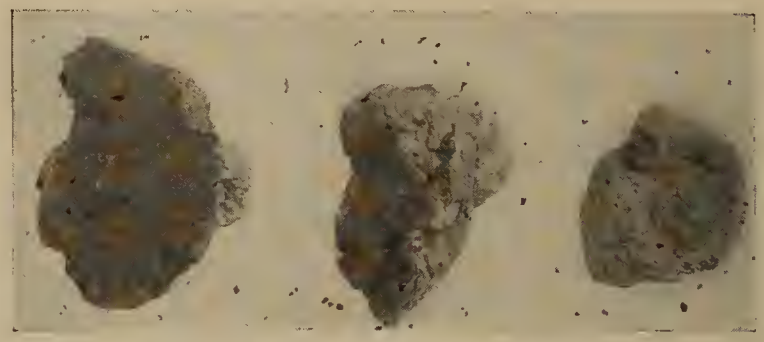


Fig. 2341. Hymenogaster vulgaris.

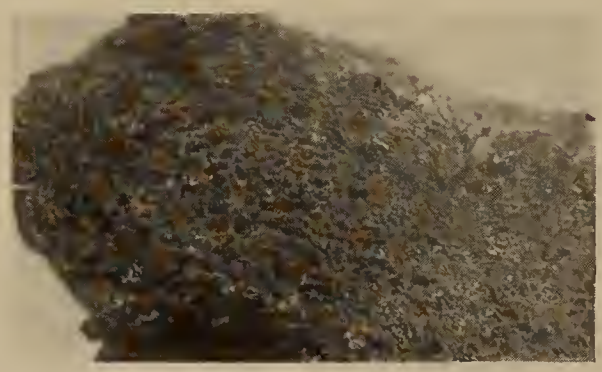


Fig. 2342. Hymenogaster vulgaris.
(Section enlarged.)

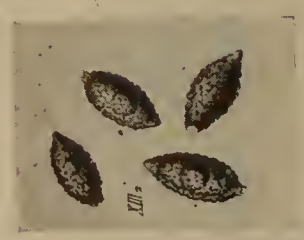


Fig. 2343. Hymenogaster vulgaris.
(Spores after Tulasne.)

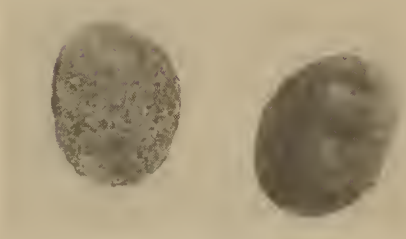


Fig. 2344. Melanogaster Wilsonii.

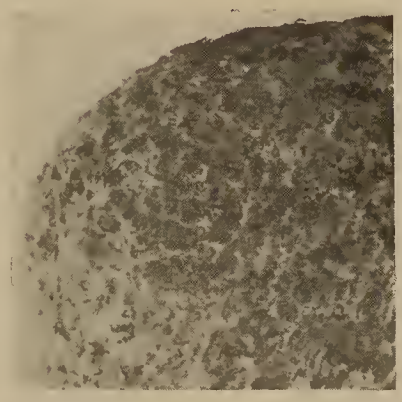


Fig. 2345. Melanogaster Wilsonii.
(Section enlarged.)

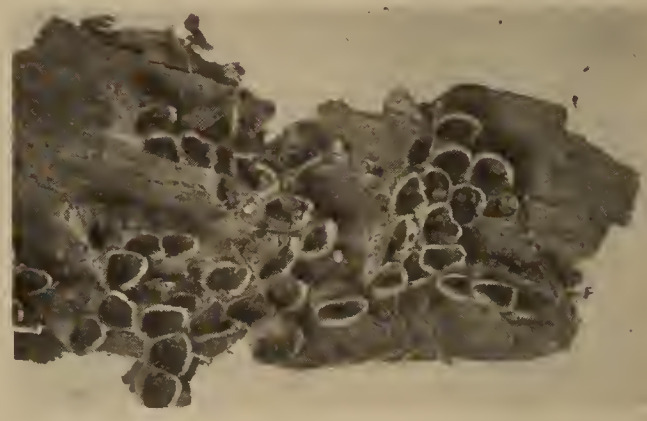


Fig. 2346. Nidula microcarpa.

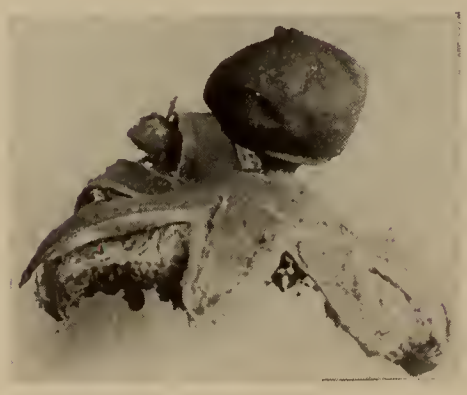


Fig. 2347. Geaster Hieronymii.

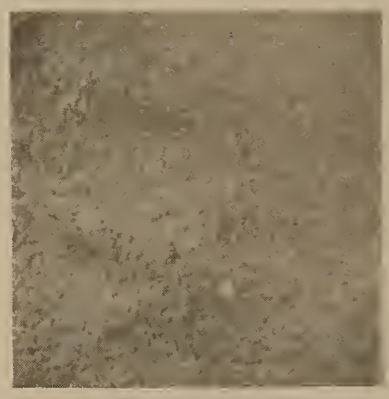


Fig. 2348. Geaster Hieronymii.
(Endoperidium enlarged.)

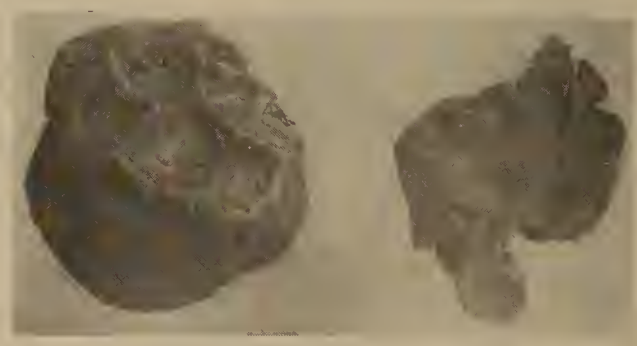


Fig. 2349. Lycoperdon retis.

Fig. 2350. Anthurus Archeri.

Fig. 2351. Anthurus Archeri.
(Alcoholic specimen.)

Fig. 2352. Lanopila capensis.

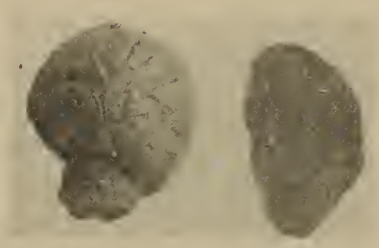


Fig. 2353. Lanopila Yukonensis.

Fig. 2354. Urnula Geaster.

Fig. 2355. Urnula Geaster.
(Unopened.)

Fig. 2356. Trichoscypha Tricholoma.

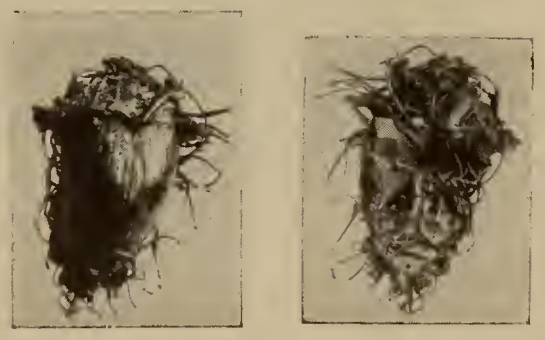


Fig. 2357. Isaria Briquetii.

Fig. 2358. Scleroderma Geaster.
(Section of young plant.)

Fig. 2362. Globosopyreno ater.
(Enlarged.)

Fig. 2359. "Stella Americana."
(Massee's conception.)

Fig. 2360. Type from which he drew it.

Fig. 2361. Globosopyreno ater.

Fig. 2363. Xylaria hypsipoda.

Fig. 2364. Xylaria humosa.

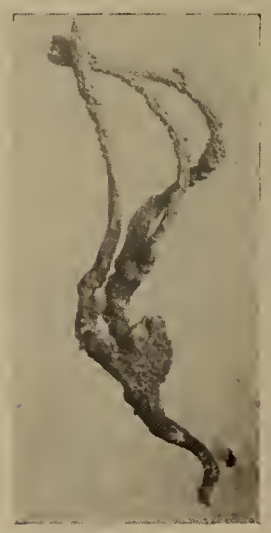


Fig. 2365. Xylaria tenuis.

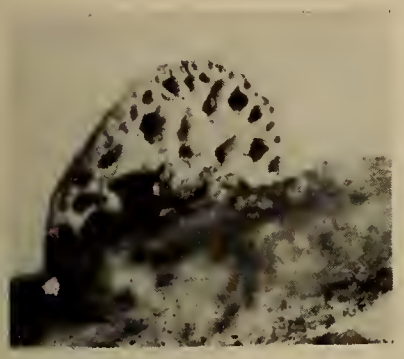


Fig. 2366. Rickiella transiens.

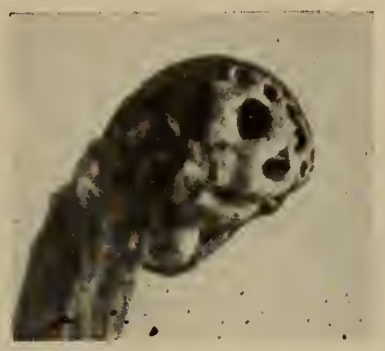


Fig. 2367. Rhizina resupinata.

Fig. 2368. Xylaria badia.

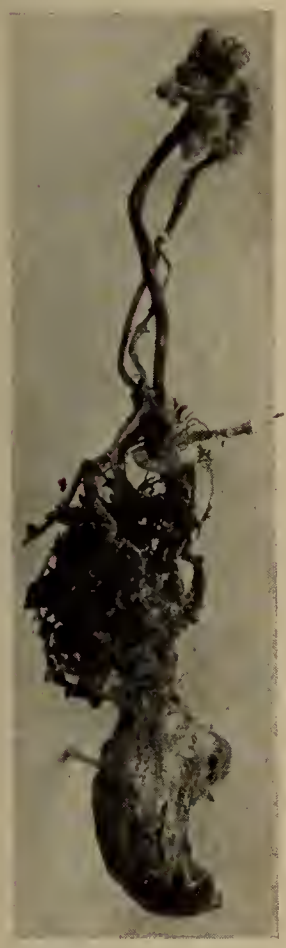


Fig. 2369. Isaria Sinclairii.

Fig. 2370.
Cordyceps concurrens.

Fig. 2372. Xylaria flexa.

Fig. 2371. Cordyceps concurrens.
(Enlarged.)

Fig. 2373. Xylaria scruposa.

Fig. 2374. Xylaria squamosa.

Fig. 2375. Xylaria cuneata.

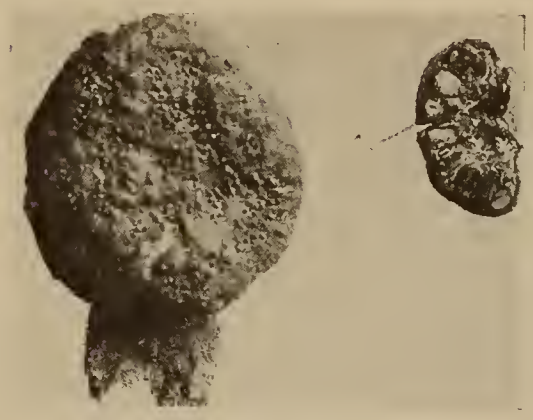


Fig. 2376. Hypoxylon nucele.

Fig. 2377. Camillea Bacillum.

Fig. 2378. Isaria Abutil.

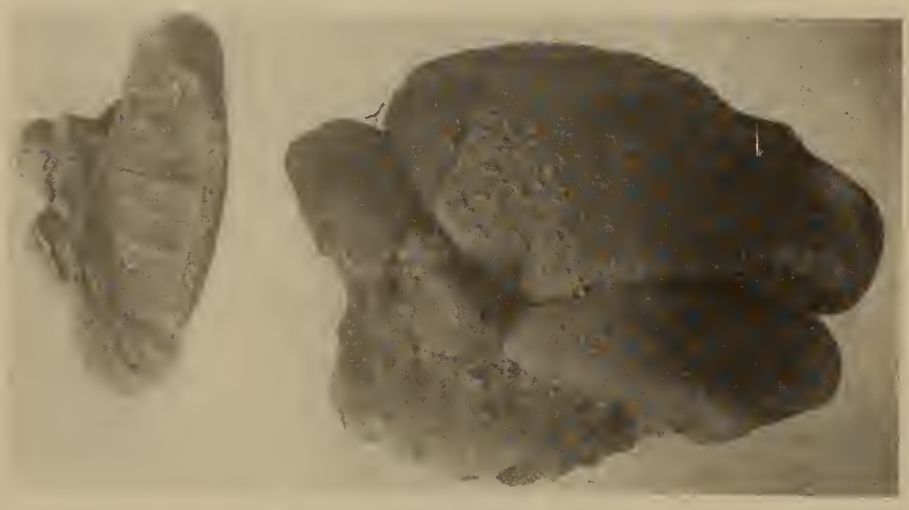


Fig. 2379. Hypodiscus Rickii.

Fig. 2380. Xylaria (?) repens.

Fig. 2381. Xylaria (?) repens. (Enlarged.)

Fig. 2382. Xylaria encephala.

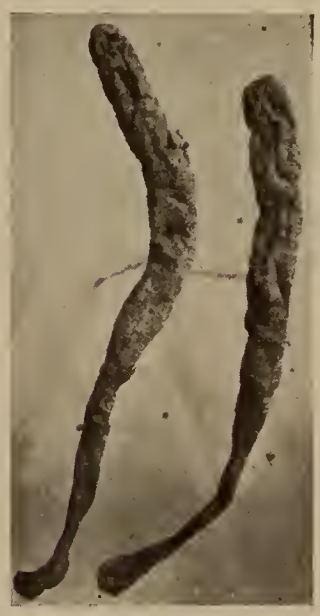


Fig. 2383. Xylaria rhopaloides.

Fig. 2384. Xylaria rhopaloides.

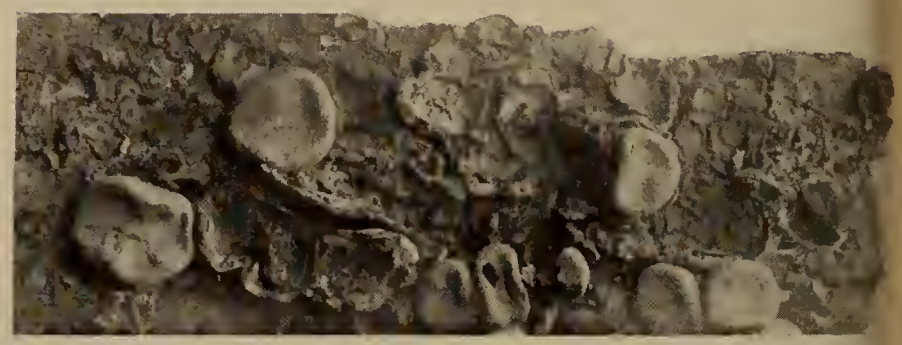


Fig. 2385. Camillea discoidea.

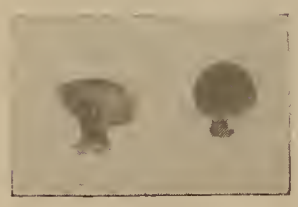


Fig. 2386. Hypocrea poronioidea.

Fig. 2387. Leotia marcida.

Fig. 2388. Polystictus tenuis.

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 69 JULY, 1923

A. D. COTTON

No. 2389. Bresadolia paradoxa.

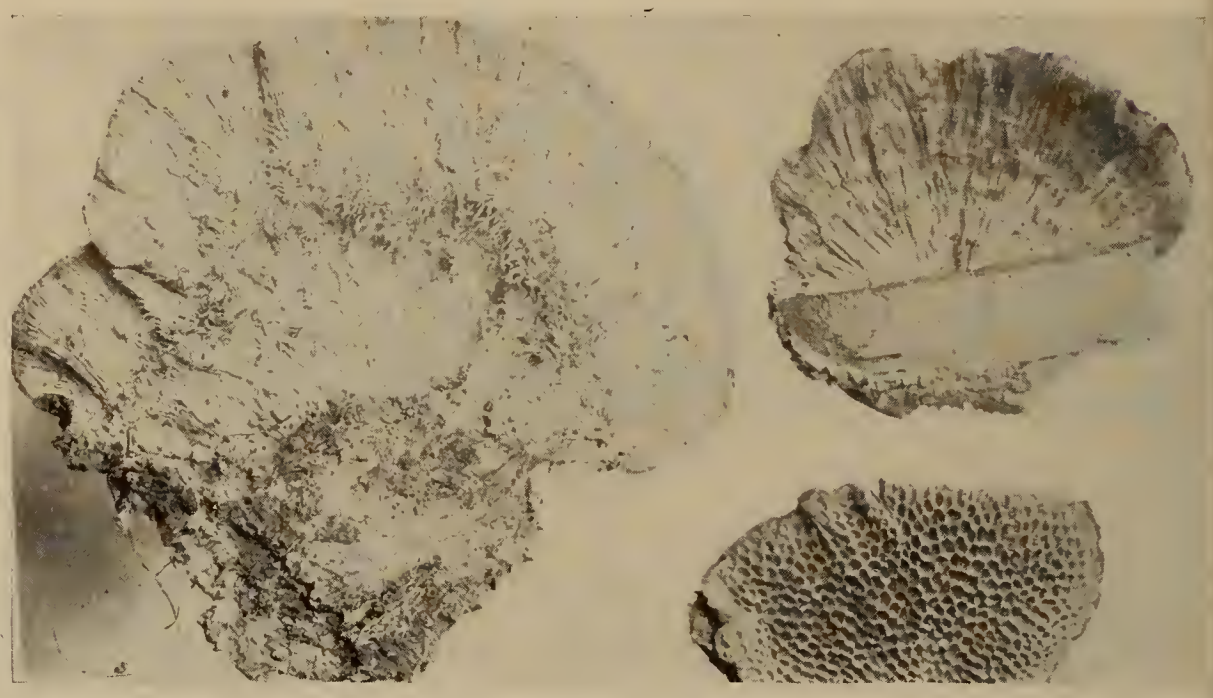


Fig. 2391. Polystictus Dybowski.

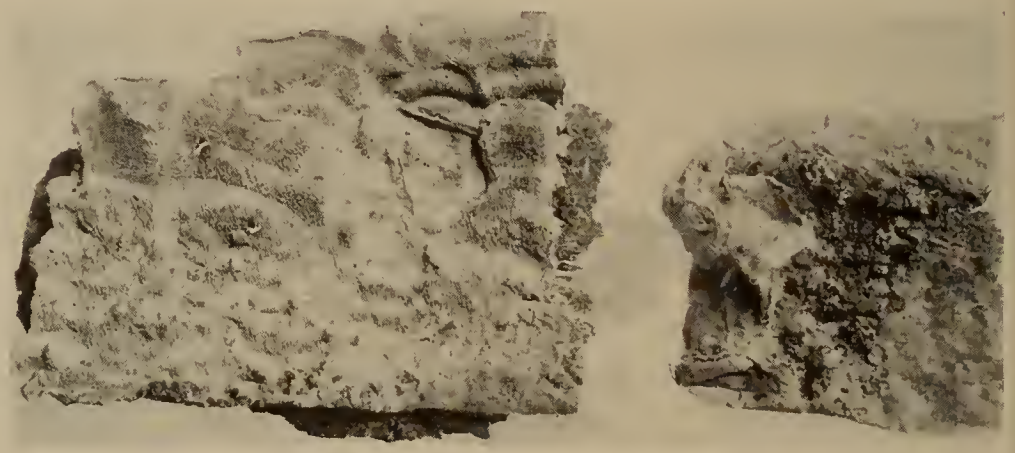


Fig. 2392. Polystictus subochraceus.

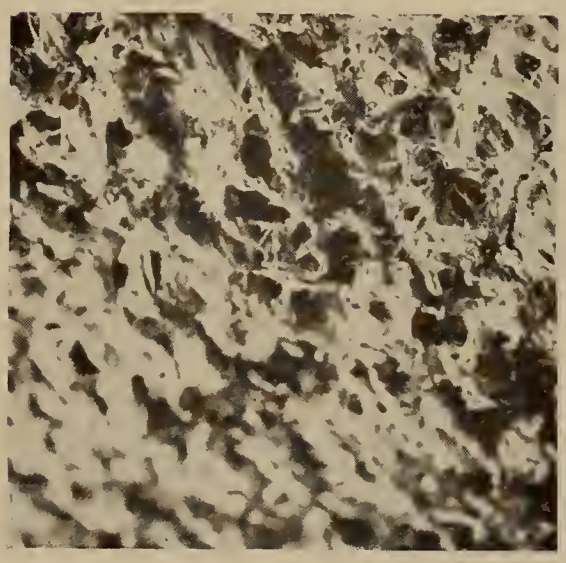


Fig. 2390. Bresadolia paradoxa. Pores enlarged.

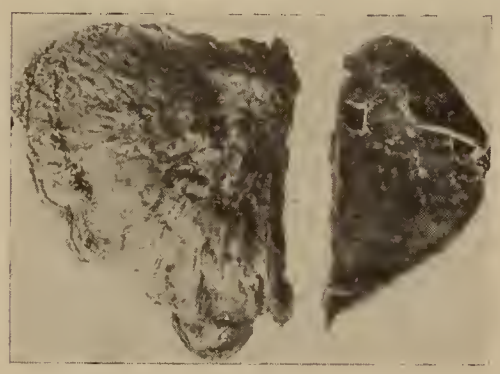


Fig. 2394. Polyporus Poncei.

Fig. 2393. Trametes serialis.

Fig. 2395. Polyporus Balloui.

Fig. 2395. Polyporus rufescens.

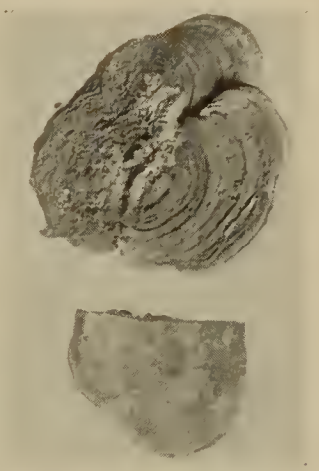


Fig. 2397. Polyporus labis.

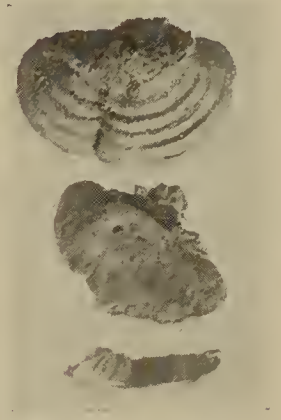


Fig. 2398. Polyporus zonifer.

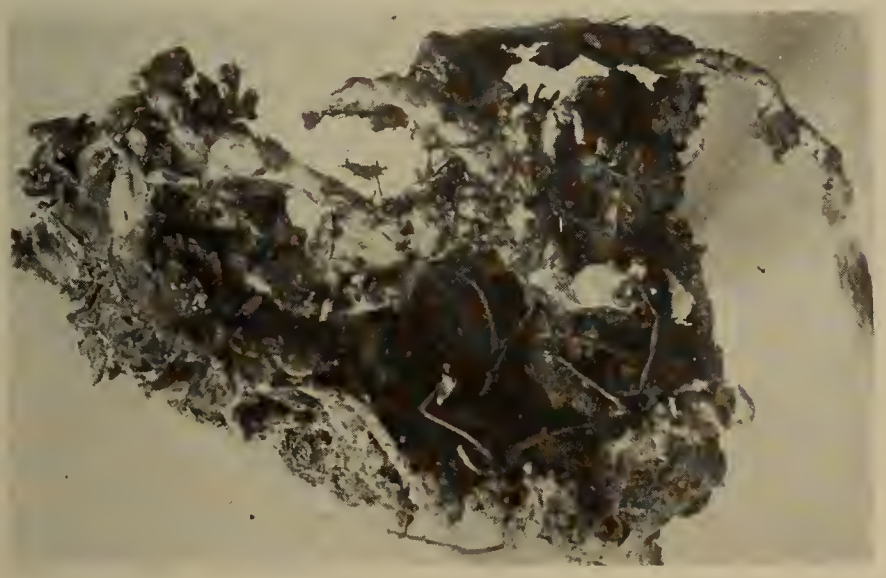


Fig. 2396. Rooting system of Polyporus Balloui.

Fig. 2399. Laschia rubella.

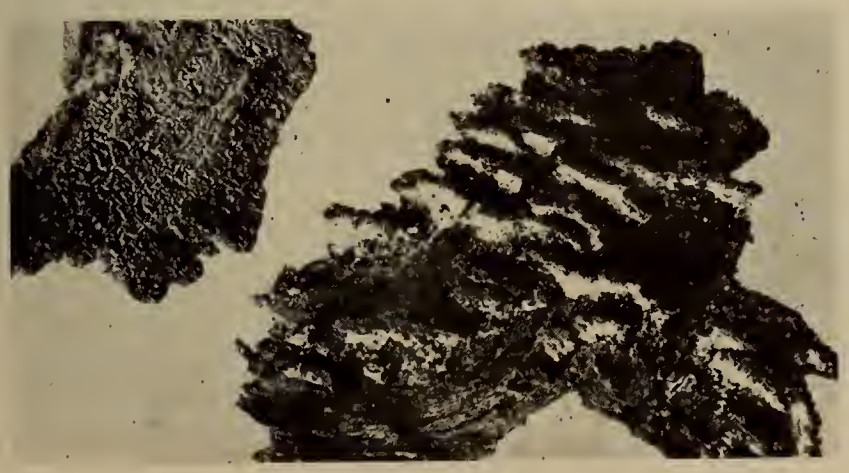


Fig. 2401. Polystictus albo-vestidus.

Fig. 2400. Laschia rubella, enlarged.

Fig. 2402. Polyporus magnovarius.

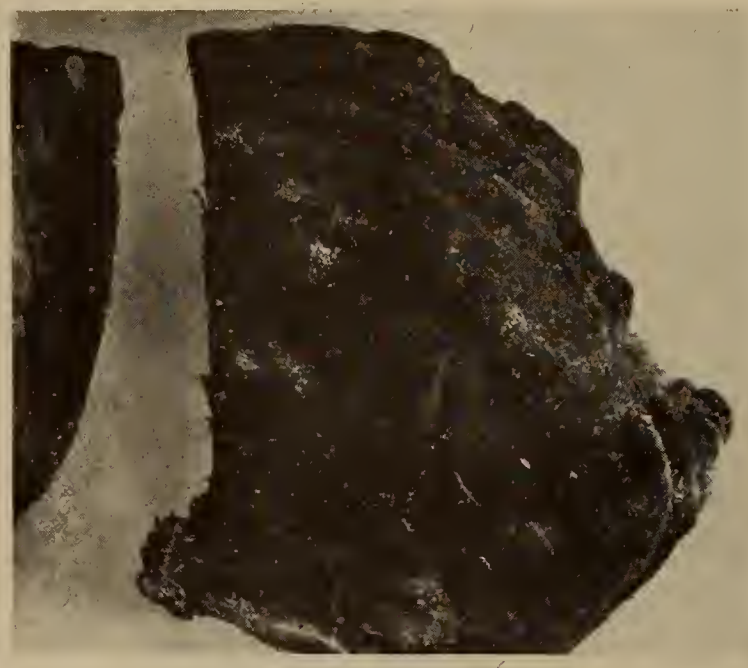


Fig. 2403. Polyporus sinensis.

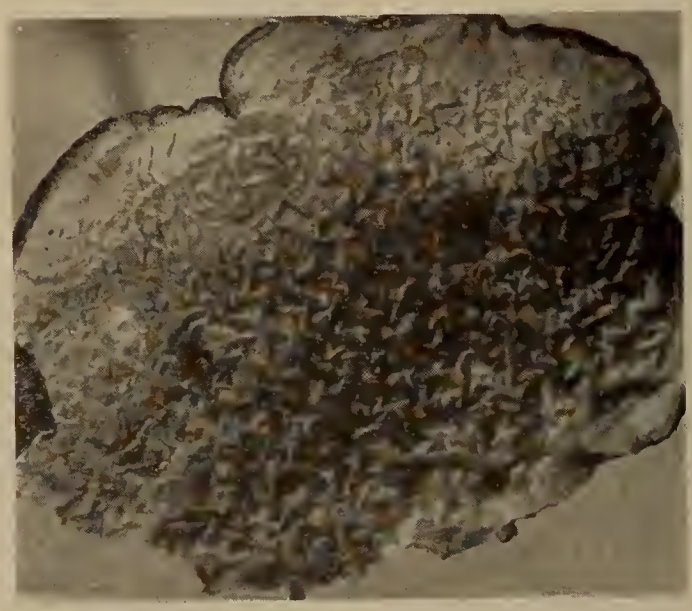


Fig. 2404. Merulius niveus. Pores enlarged.

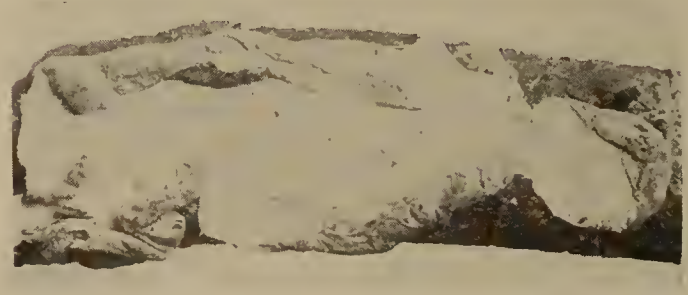


Fig. 2405. Merulius niveus.

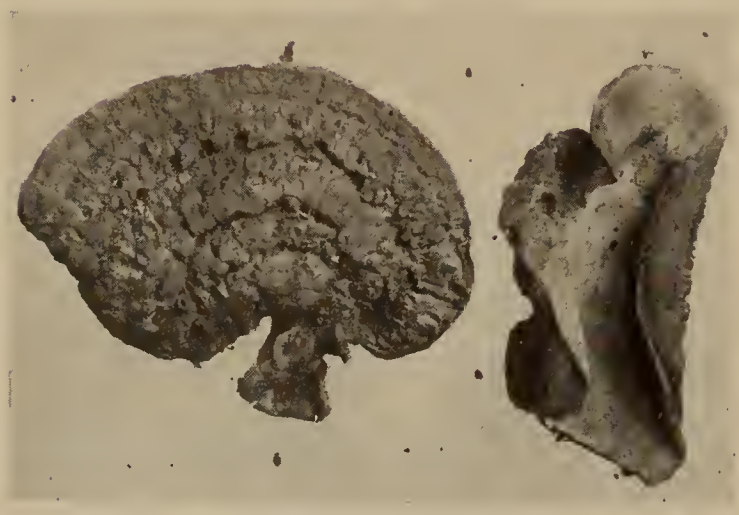


Fig. 2406. Polystictus turgidus.

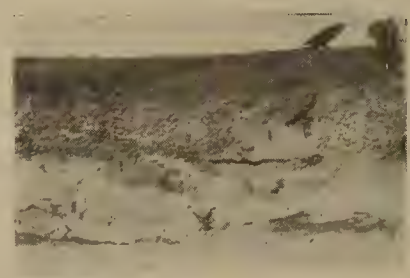


Fig. 2407. Merulius candidus.

Fig. 2408. Favolus novoguineensis.

Fig. 2409. Surface of same enlarged.

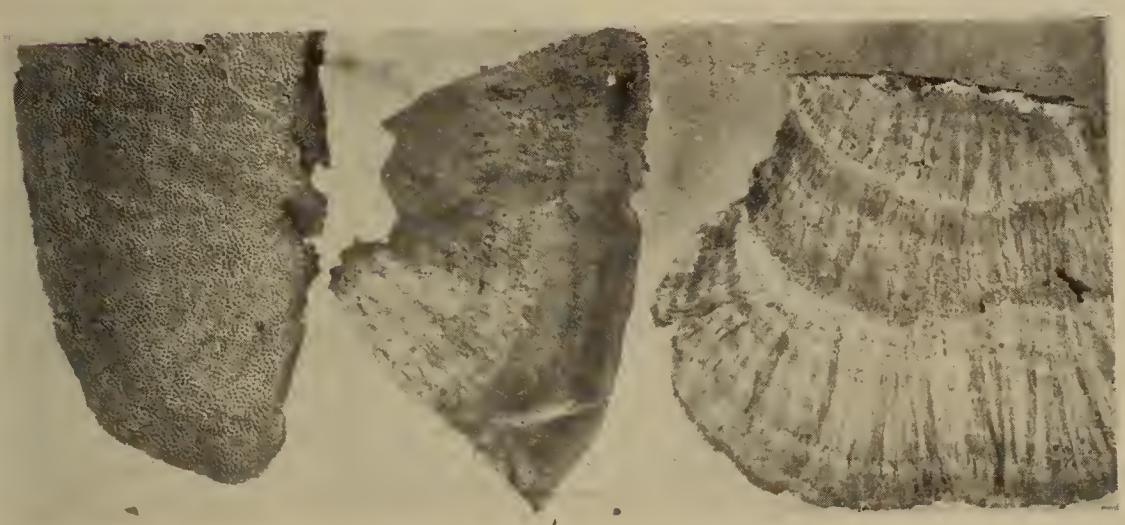


Fig. 2410. Hexagona velutino-glabra.

Fig. 2411. Fomes hornodermus (starved).

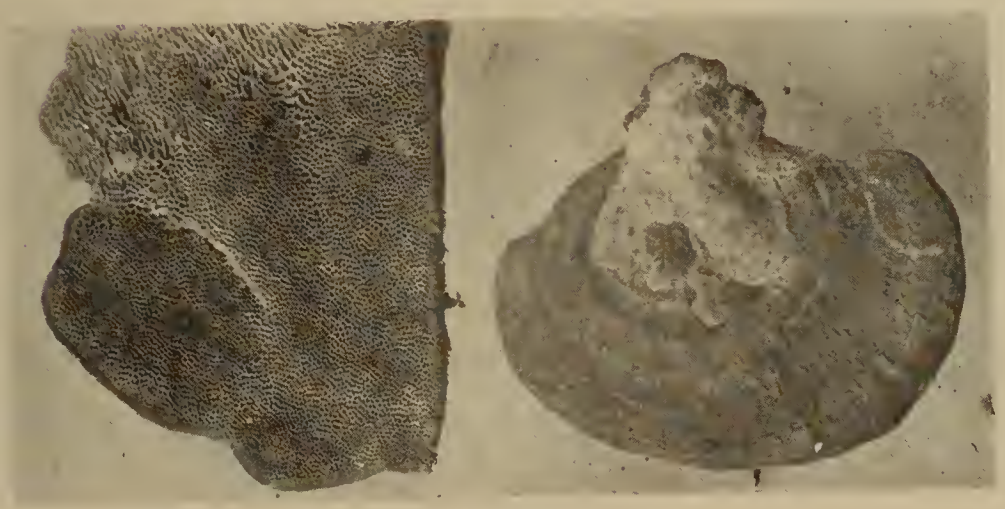


Fig. 2412. Trametes tenuo-rosea.

Fig. 2413. Isaria mycelioides.

Fig. 2414. Favolus princeps.

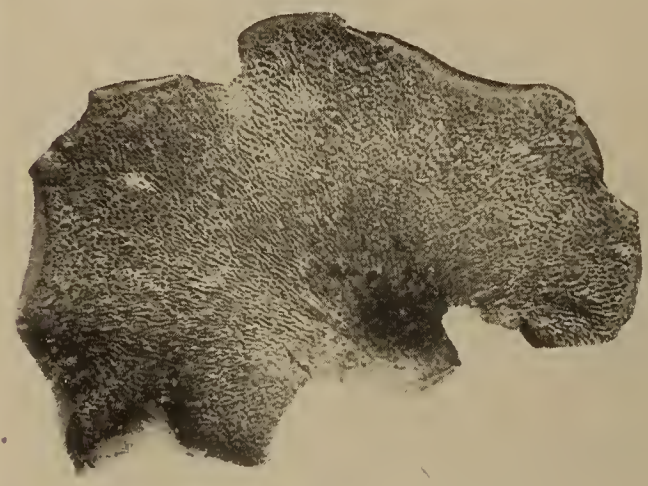


Fig. 2416. Favolus Leeuwenii.

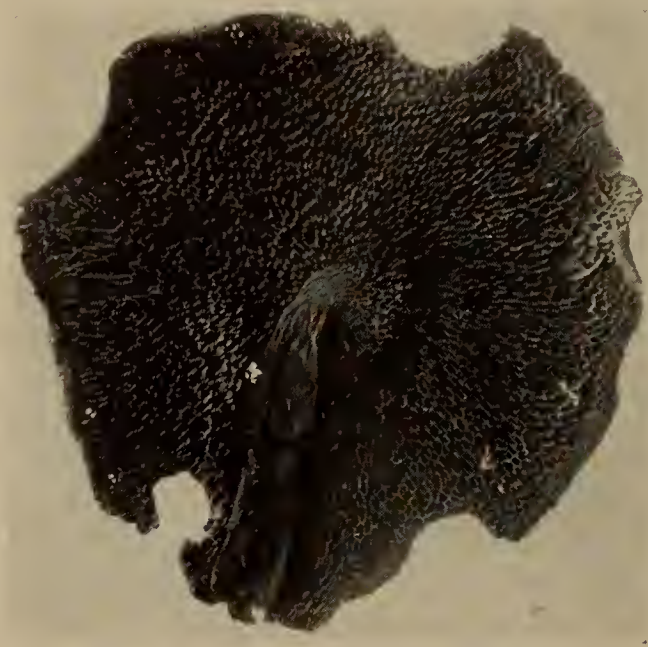


Fig. 2417. Favolus Dussii.

Fig. 2415. Favolus Africanus.

Fig. 2418. Branched setae found on Favoli of this plate.

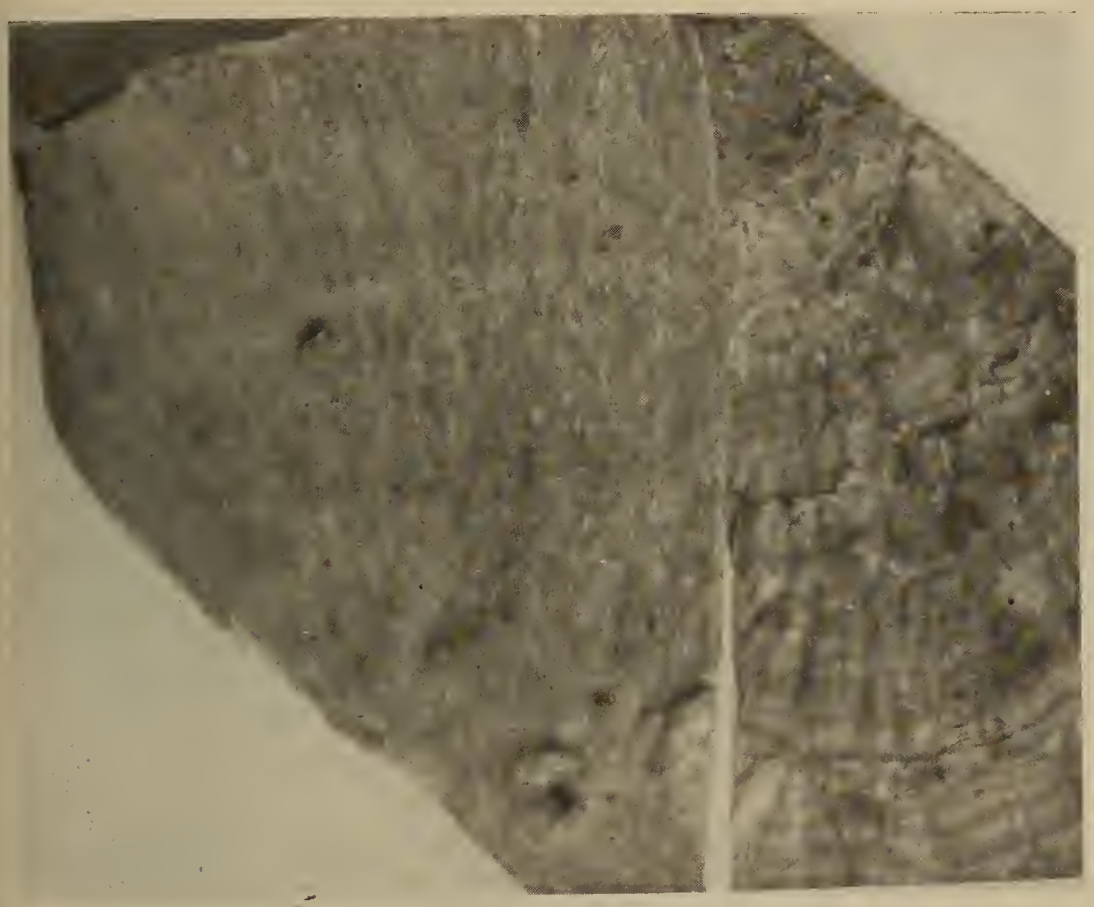


Fig. 2419. Hexagona lineata.

Fig. 2420. Polyporus chocolatus.

Fig. 2421. Favolus Samoensis.

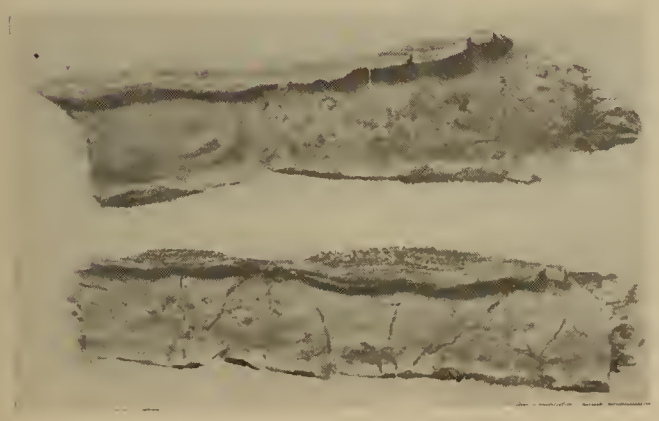
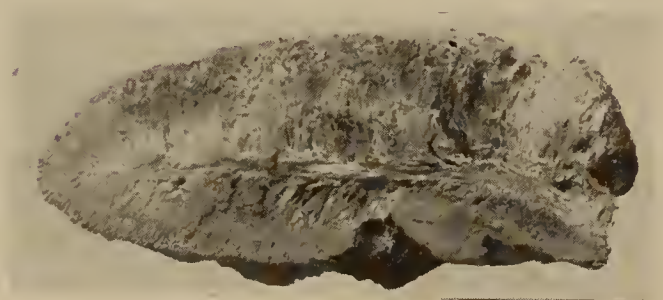


Fig. 2422. Stereum elongatum.

Fig. 2423. Polyporus haedinus (much reduced).

Fig. 2424. Trametes bruneo-flava.

Fig. 2425. Lenzites deplanata.



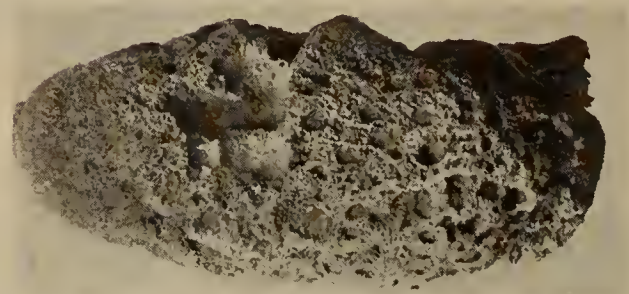


Fig. 2426. Ptychogaster rufescens.

Fig. 2427. Polystictus microlomus. (Aberrant).

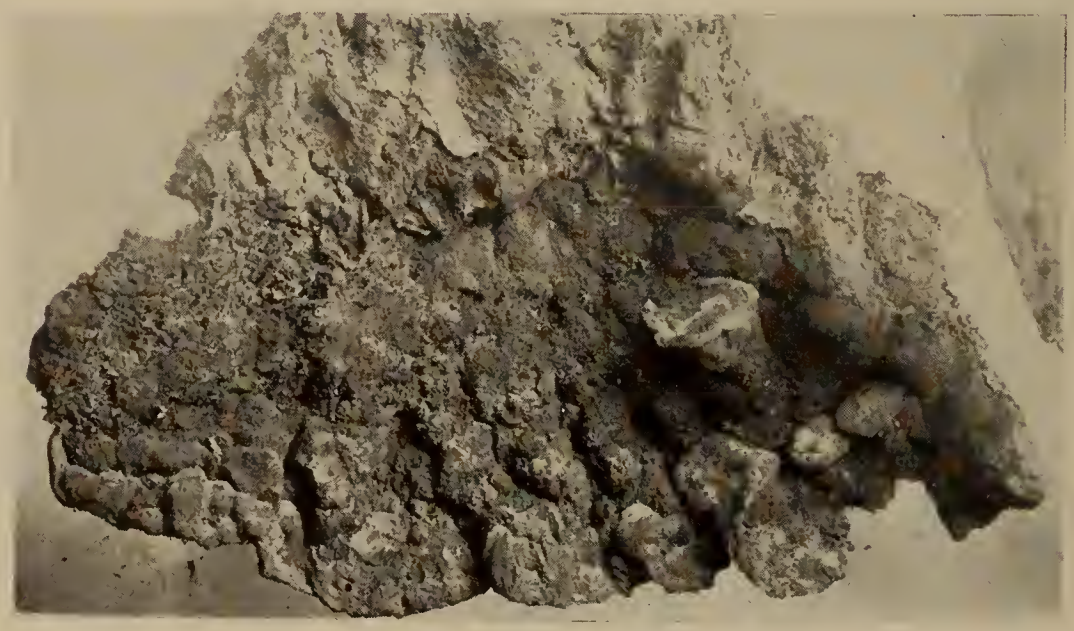


Fig. 2428. Stereum nigro-rugosum.

Fig. 2429. Septobasidium pteruloides.

Fig. 2430. Septobasidium pteruloides (enlarged).

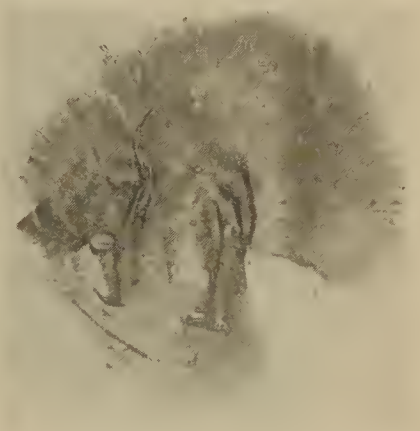


Fig. 2431. Phlebophora Solmsiana.

Fig. 2432. Thelephora crustosa.

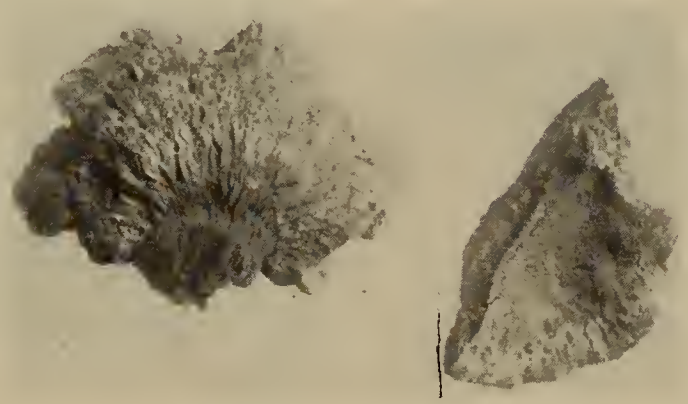


Fig. 2433. Polyporus rugulosus.

Fig. 2434. Tremella undulata.

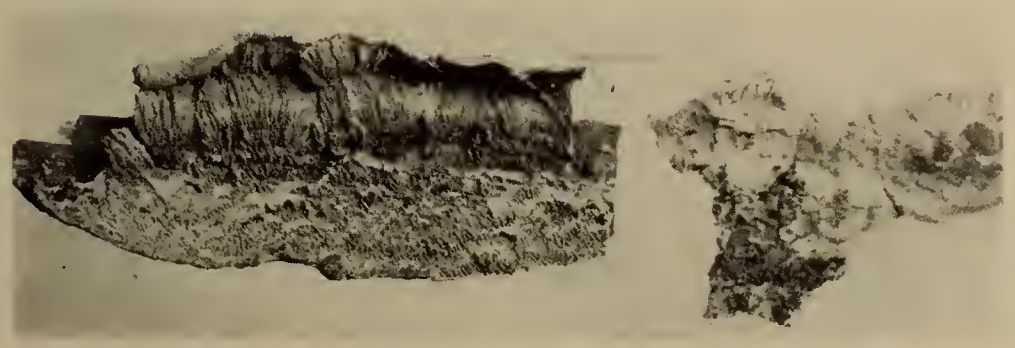


Fig. 2435. Cladoderris Rickii.

Fig. 2436. Calocera rufa.

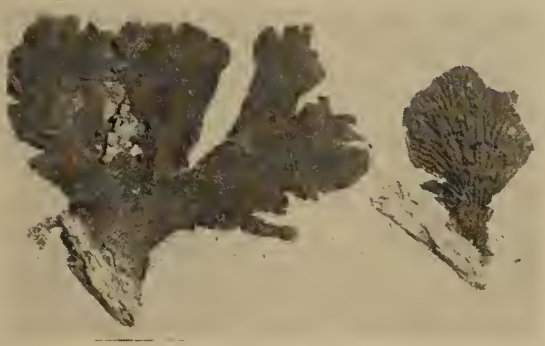


Fig. 2437. Paxillus ferruginosus.

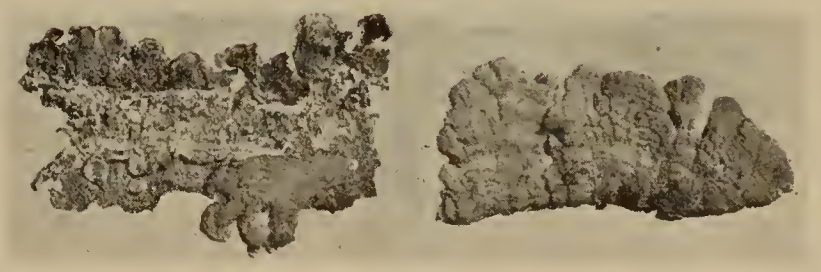


Fig. 2438. Hydnum seriatum.

Fig. 2439. Poria pulvinata (enlarged).

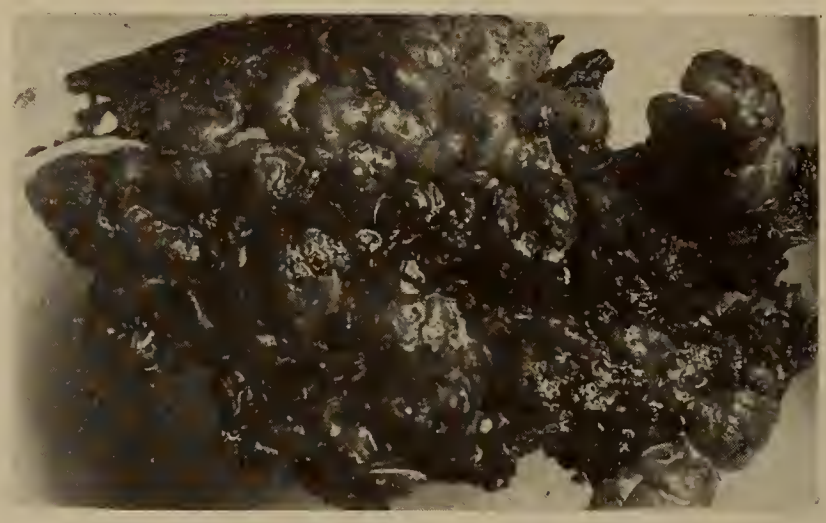


Fig. 2440. Exidia candida.

Fig. 2441. Pseudosclerotium of a Lentinus.

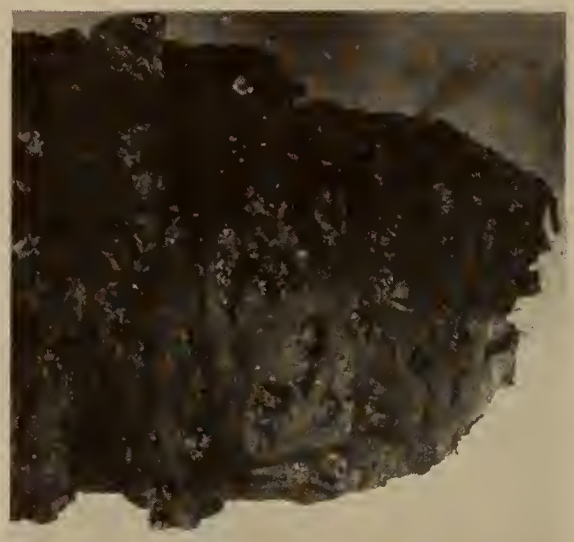


Fig. 2442. Dacryomyces cerebriformis.

Fig. 2444. Lentinus dichrous.

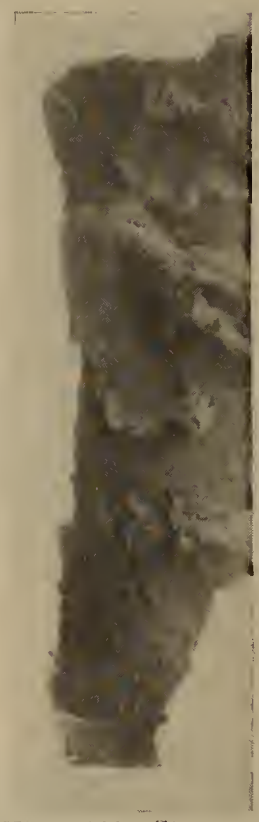


Fig. 2443. Stereum ardoisiacum.

Fig. 2445. Isaria flavo-viridis.

Fig. 2446. Lentinus Ramosii.

Fig. 2447. Isaria Sinclairii.

Fig. 2448. Lentinus nigroglabrus.

Fig. 2449. Lycogalopsis reticulatus.

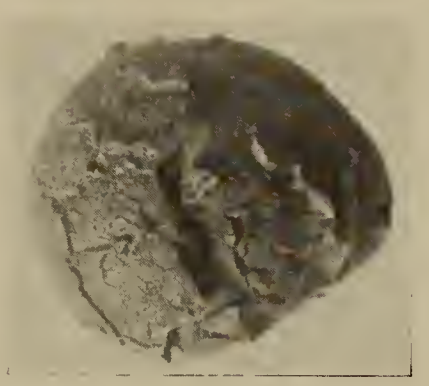


Fig. 2450. Lycogalopsis reticulatus (enlarged).

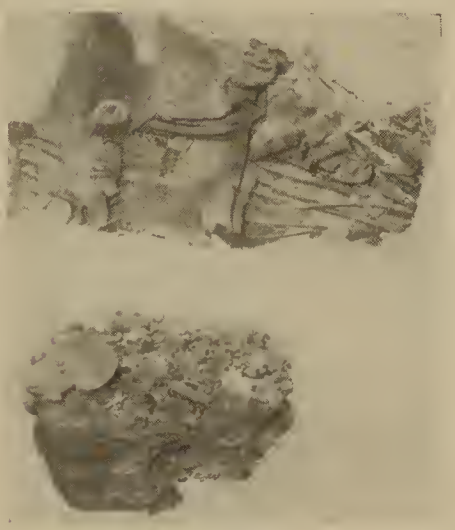


Fig. 2451. Lycogalopsis Solmsii.

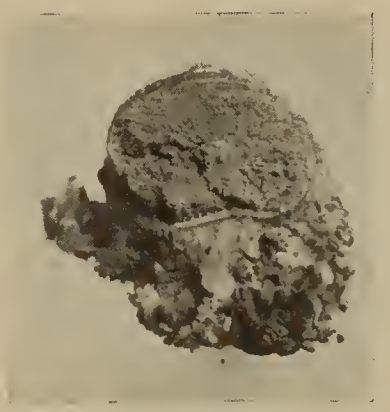


Fig. 2452. Lycogalopsis Solmsii (enlarged).

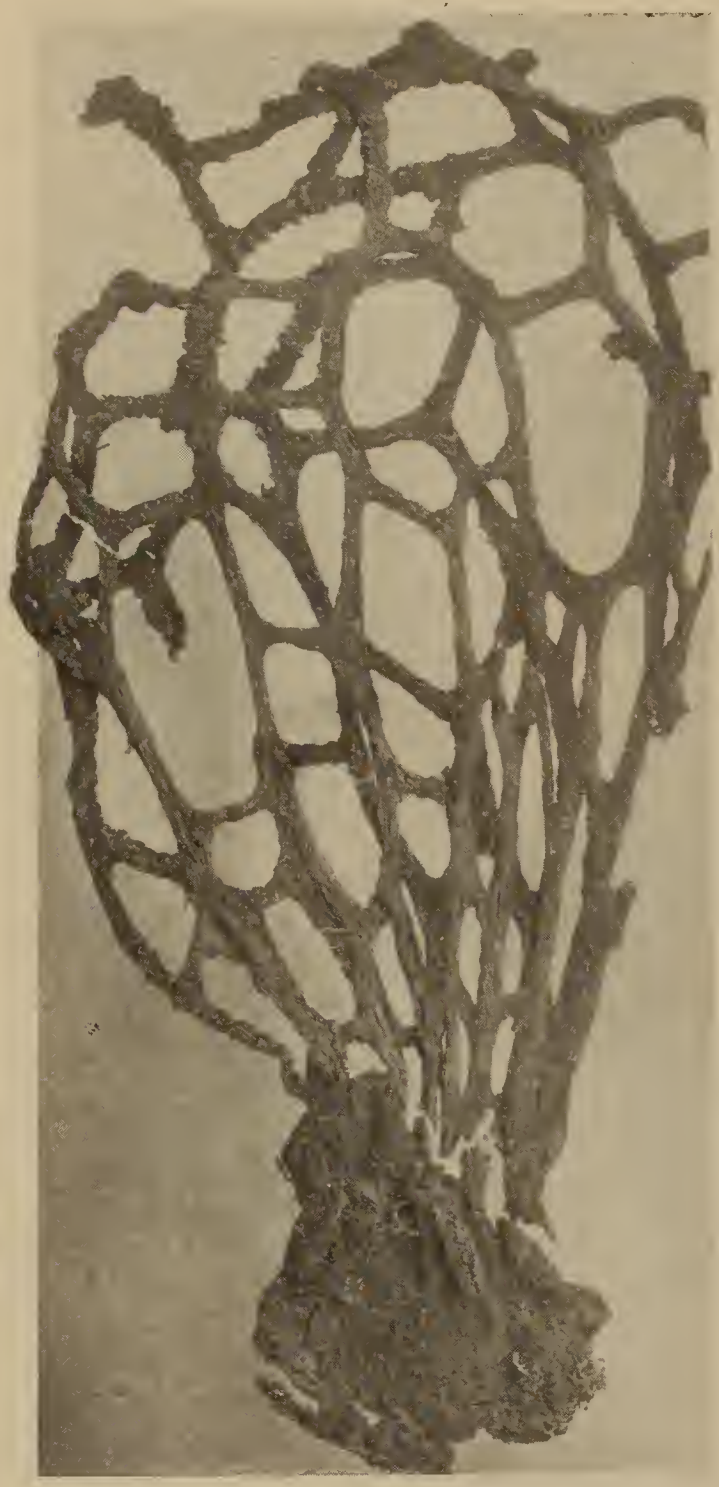


Fig. 2453. Clathrus camerunensis (dried).

Fig. 2454. Auricularia mollis.

Fig. 2455. MacOwanites agaricinus (drawing).

Fig. 2456. MacOwanites agaricinus (section).

Fig. 2457. Tylostoma adhaerens.

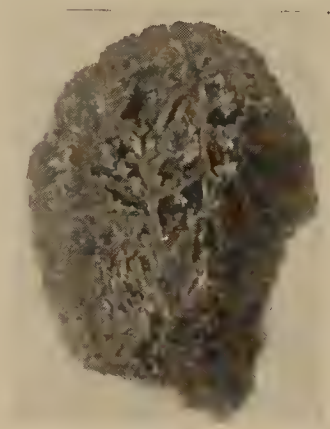


Fig. 2458. Gautieria Trabuti (enlarged).

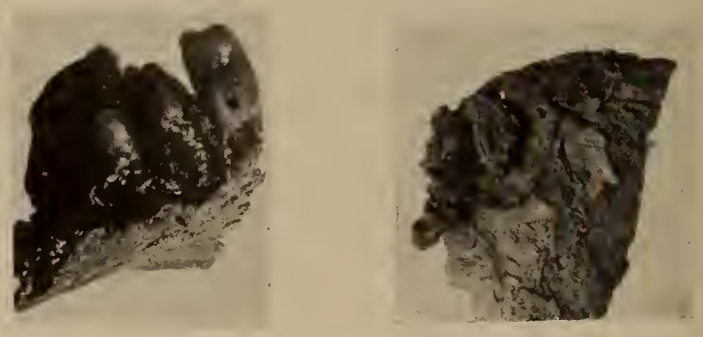


Fig. 2459. Sirobasidium brunnea.

Fig. 2460. Phellorina inquinans (from Texas).

Fig. 2463. Cytospora betulina.

Fig. 2461. Phellorina inquinans (from California).

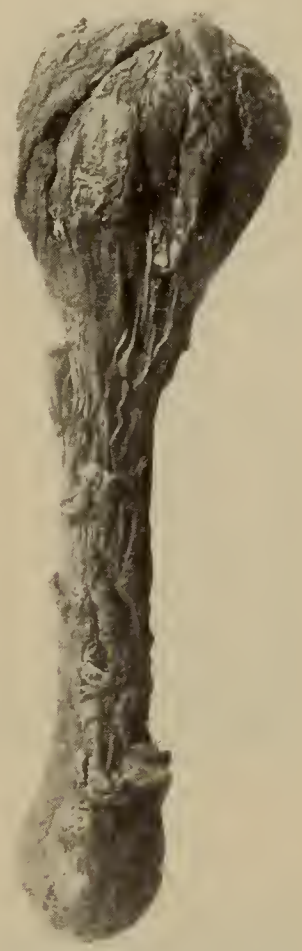


Fig. 2462. Phellorina inquinans (from Tunis).

Fig. 2465. Paucithecium Rickii.

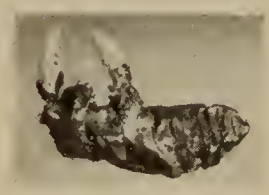


Fig. 2467. Isaria xylariaformis.

Fig. 2464. Sarcosoma rufa.

Fig. 2466. Paucithecium Rickii (enlarged).

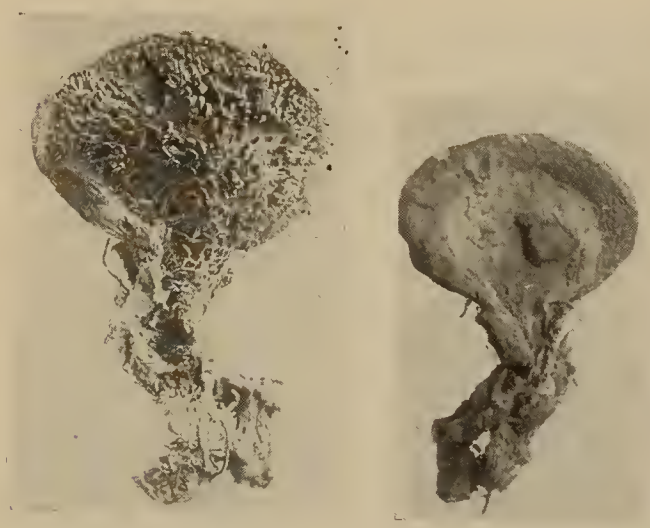


Fig. 2468. Hydnum Wellingtonii.

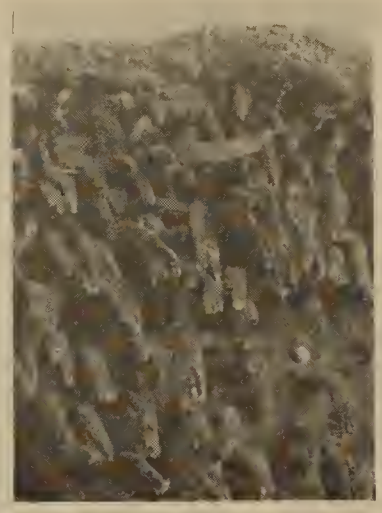


Fig. 2469. Hydnum Wellingtonii (teeth enlarged).

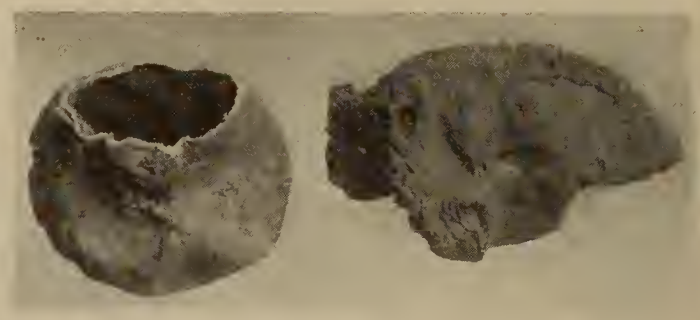


Fig. 2470. Gallacea violacea.

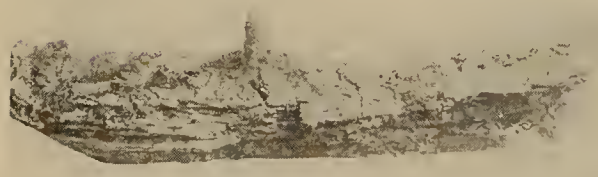


Fig. 2472. Xylaria Zelandiea.

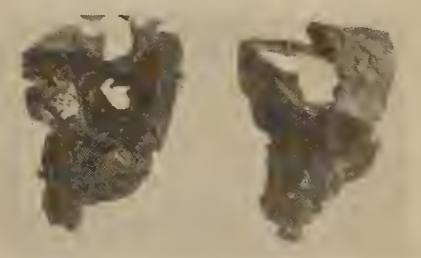


Fig. 2473. Entonaema splendens.

Fig. 2471. Bovista purpurea.

Fig. 2475. Cordyceps Lloydii (enlarged).

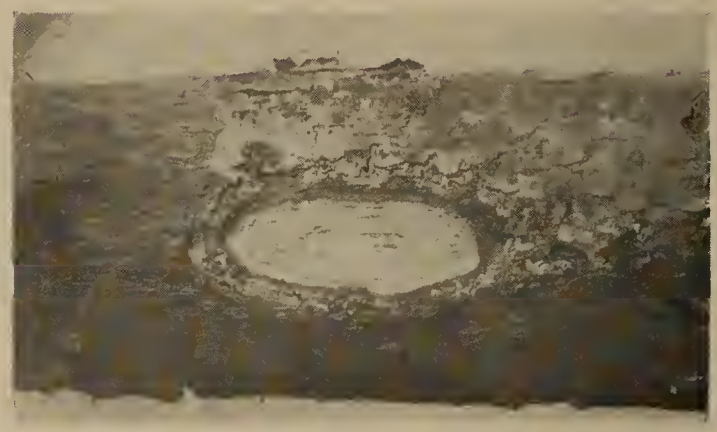


Fig. 2474. Wood showing stromatic layer of Daldinia vernicosa.

Fig. 2476. Fomes pseudopetchii.

Fig. 2477. Xylaria bifigurata.

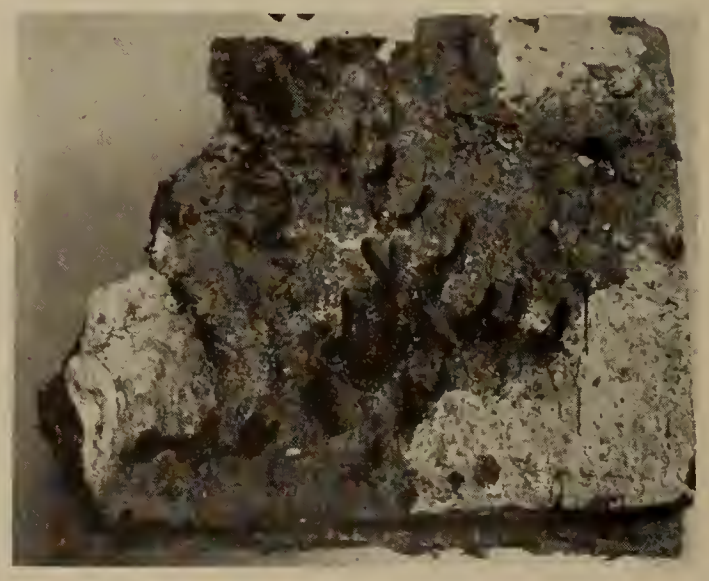


Fig. 2478. Camillea Zenkerii.

Fig. 2479. Entonaema splendens.

Fig. 2480. Cortex of same, enlarged.

Fig. 2481. Entonaema aurantiaca.

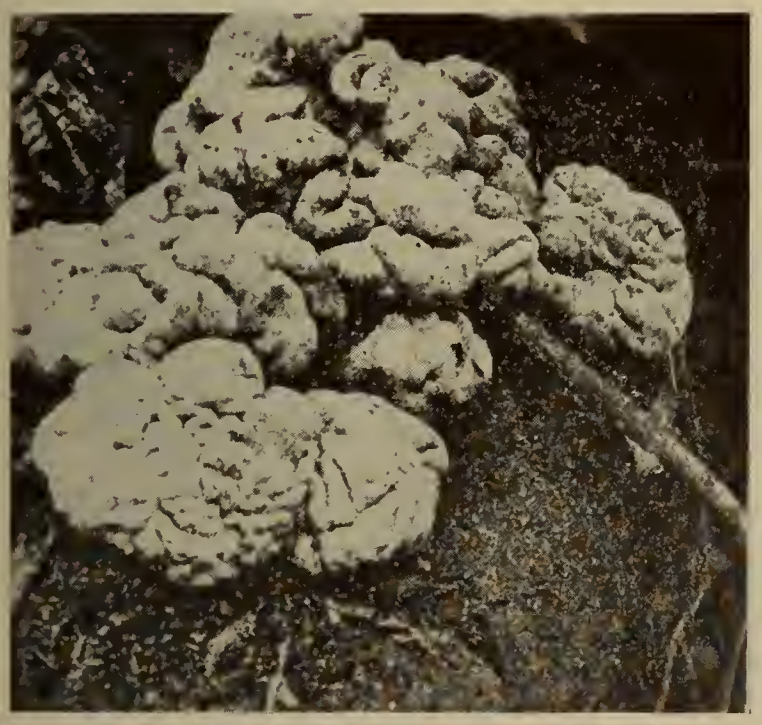


Fig. 2482. Entonaema liquescens.

Fig. 2483. Entonaema cinnabarina (surface enlarged).

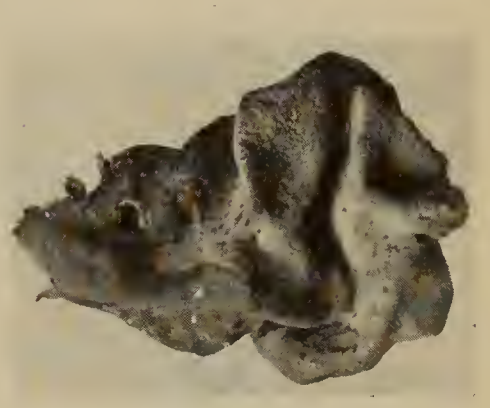


Fig. 2484. Glaziella vesiculosa.

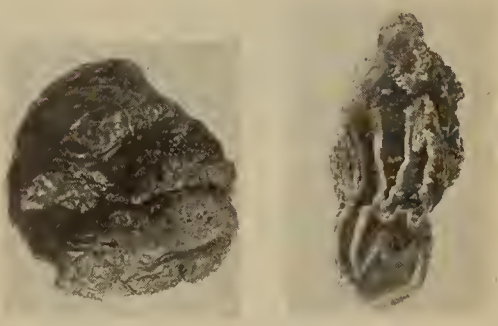


Fig. 2485. Glaziella Berkeleyi.

Fig. 2486. Sarcoxylon compunctum.

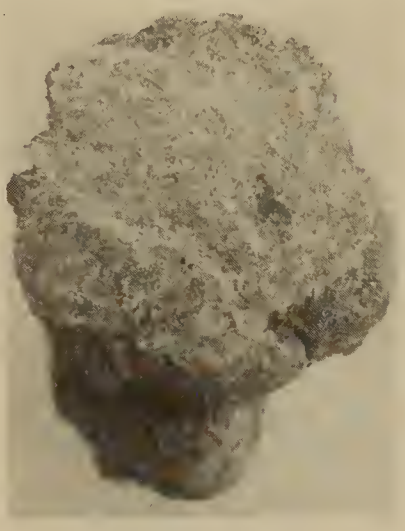


Fig. 2488. Tuber rapaeodorum (section enlarged).

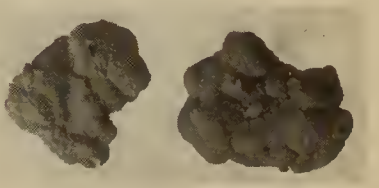


Fig. 2487. Tuber rapaeodorum.

Fig. 2490. Trichocoma paradoxa (section enlarged).

Fig. 2489. Trichocoma paradoxa.

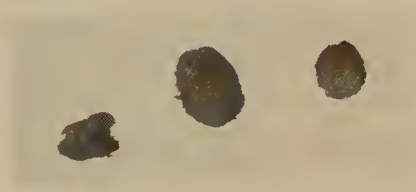


Fig. 2491. Trichocoma levispora.

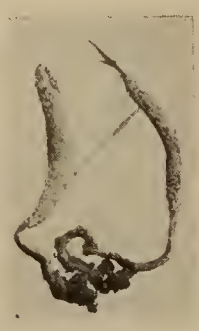


Fig. 2492. Xylaria Reinkingii.

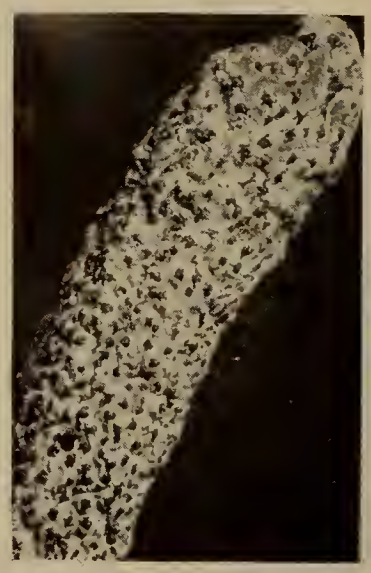


Fig. 2493. Xylaria Reinkingii (enlarged).

Fig. 2495. Penicillopsis Dybowski (conidial).

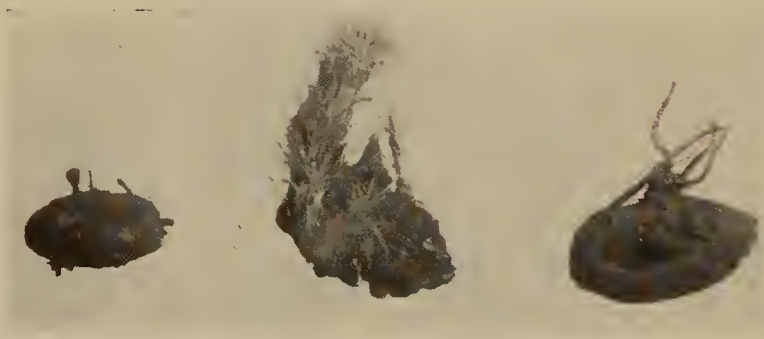


Fig. 2494. Penicillopsis clavariaeformis.

Fig. 2496. Hypocreopsis riccioides.

Fig. 2497. Hypocreopsis solidus (enlarged).

Fig. 2498. Xylaria Cornu-Dorcas.

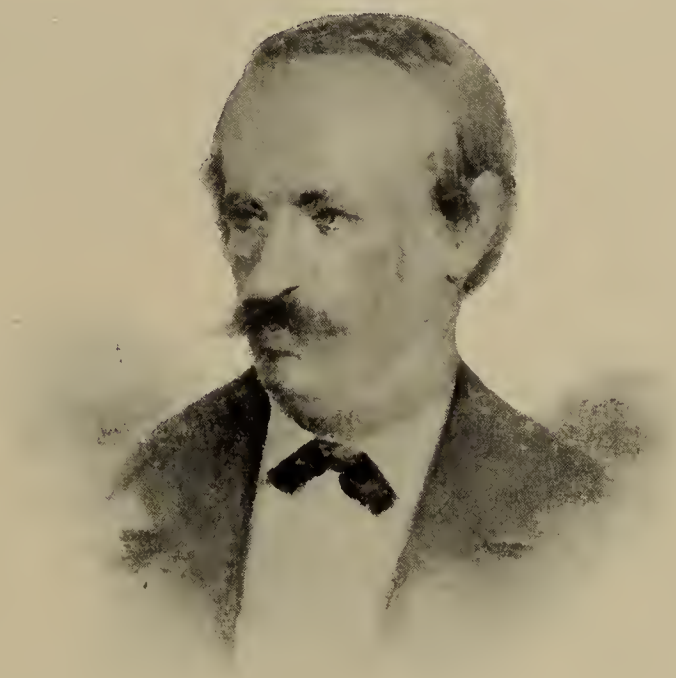
Fig. 2499. Polystictus praegracilis (enlarged).

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 70 SEPTEMBER, 1923



Dr. Carlo Vittadini.

Rev. G. Bresadola.
In his seventy-sixth year.

Trento, Italy, the home of Bresadola.

Signore Lanfrancone.
Moncalvo, Italy, and his truffle dog.

A cut from an old book illustrating truffle digging in ancient days.

Building in Botanical Garden at Padua, showing rooms where Saccardo's herbarium is kept.

View from window of room where Saccardo kept his herbarium.

Truffle hunting with hog and dog.

Fig. 2500. Lycoperdon velatum.

Fig. 2501. Bovista tomentosa.

Fig. 2502. Mouth (enlarged) Tylostoma Vittadinii.

Fig. 2503. Fomes gibbosus (abnormal).

Fig. 2504. Polyporus Cesatii.

Fig. 2505. Polyporus furcatus.

Fig. 2506. Polyporus Sembilanii.

Fig. 2507. Morchella rotunda.

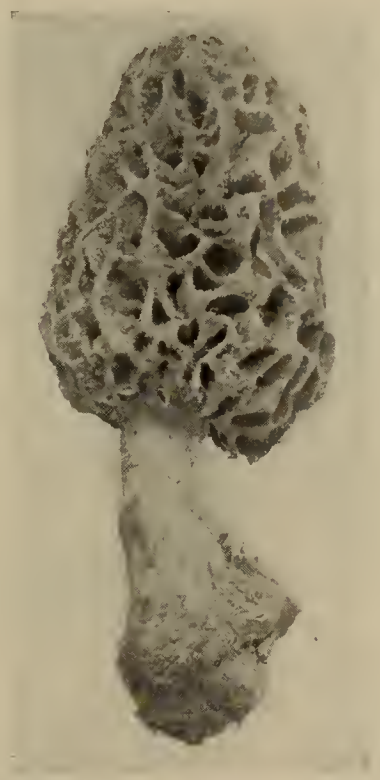


Fig. 2508. Morchella rotunda.

Fig. 2509. Morchella vulgaris.

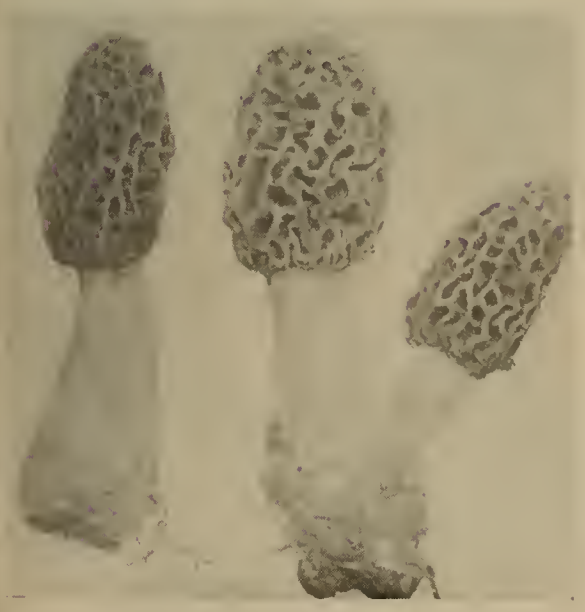


Fig. 2510. Morchella deliciosa.

Fig. 2511. Morchella semilibera.

Fig. 2512. Morchella hortensis.

Fig. 2513. Trametes aurora.

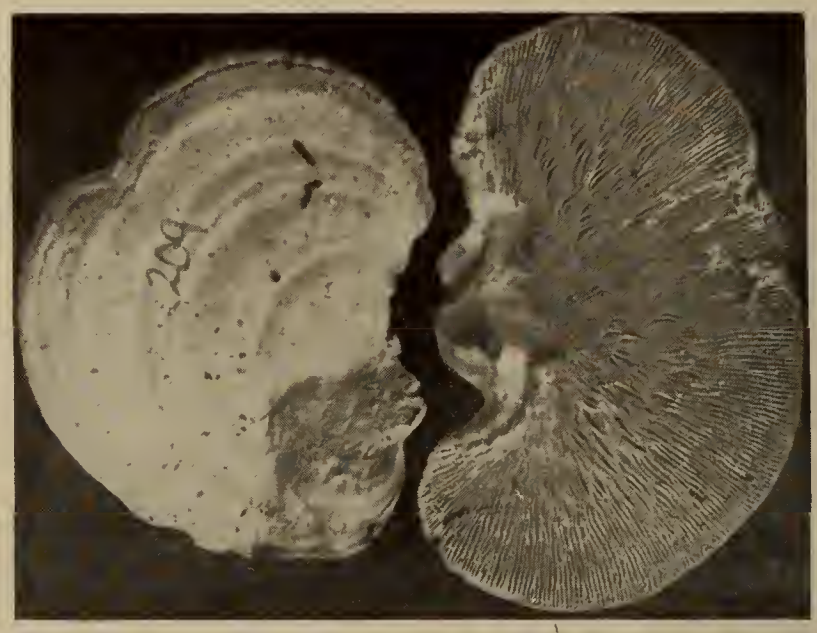


Fig. 2514. Lenzites alborepanda.

Fig. 2515. Polystictus puroalbus.

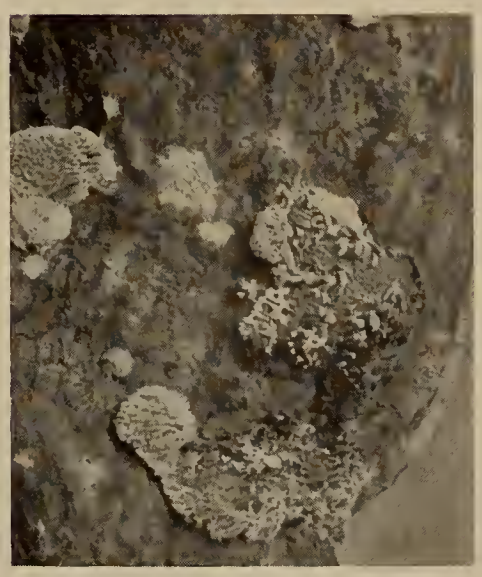


Fig. 2516. Poria Cocos.

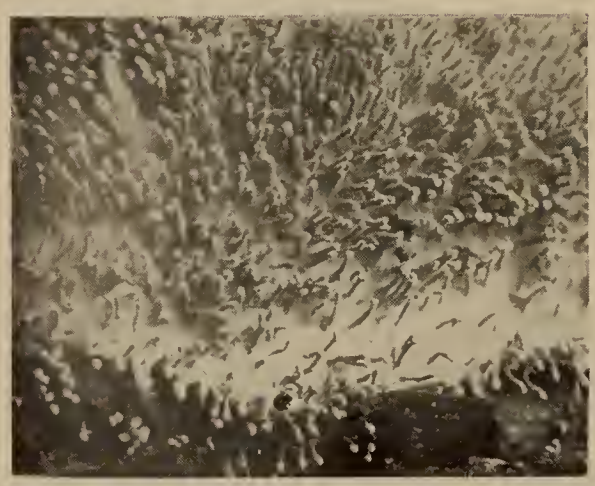


Fig. 2517. Echinodia Theobromae (enlarged).

Fig. 2518. Polyporus Theobromae.

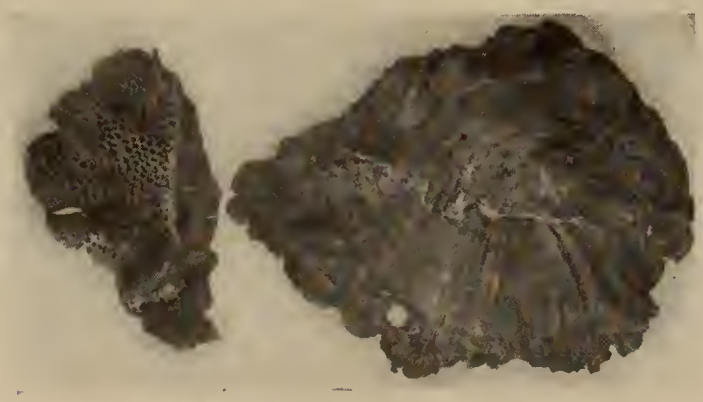


Fig. 2519. Hexagona Fioriani.

Fig. 2520. Stereum Valdezii.

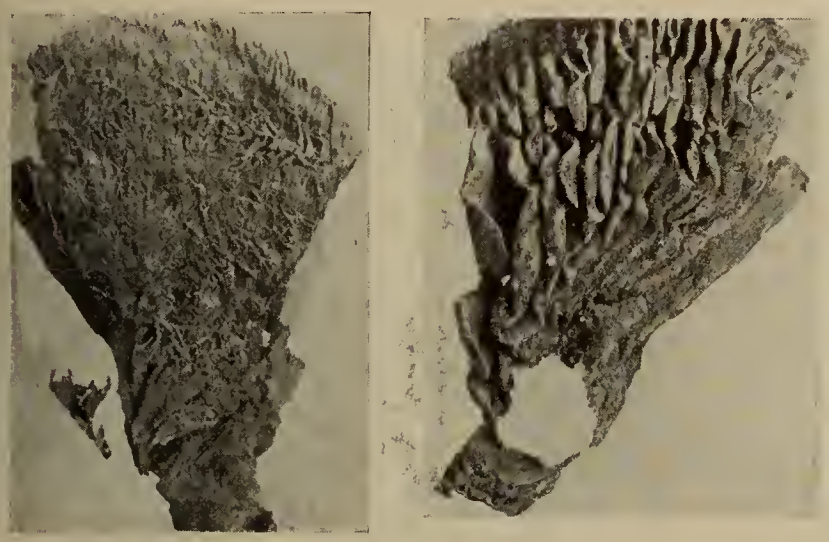


Fig. 2521. Lenzites imponens.

Fig. 2522. Lenzites imponens.

Fig. 2523. Polystictus occidentalis (stalked).

Fig. 2524. Dacryomyces cupularis.

Fig. 2525. Campanella cucullata.

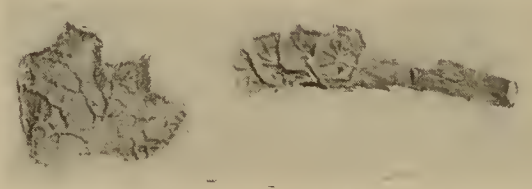


Fig. 2526. Stereum parvulum.

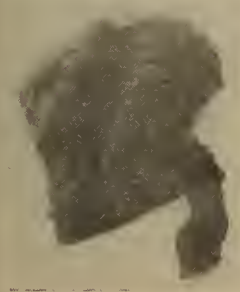


Fig. 2527. Guepinia lutea (enlarged).

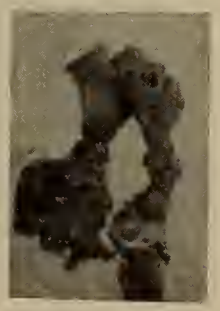


Fig. 2528. Guepinia petaliformis.

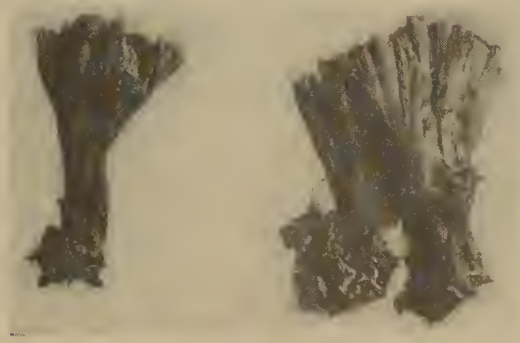


Fig. 2529. Stereum Thozetii.

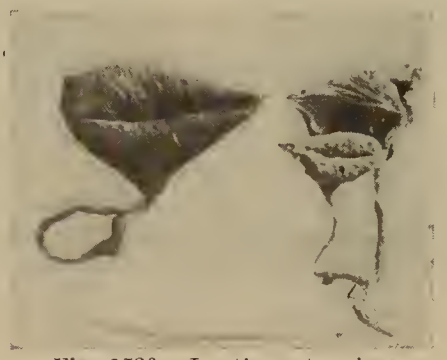


Fig. 2530. Lentinus tenuipes.

Fig. 2531. Xerotus Berterii.

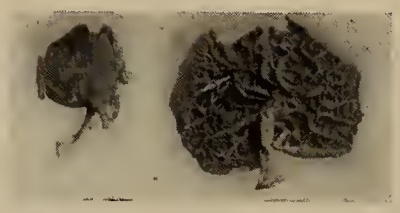


Fig. 2532. Xerotus Rawakensis.

Fig. 2533. Xerotus Belangeri (enlarged).

Fig. 2534. Cantharellus cystidioides.

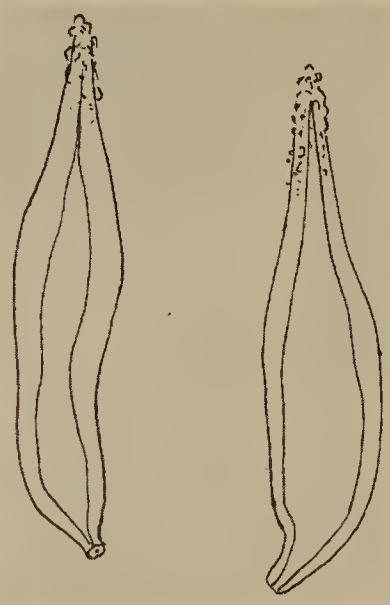


Fig. 2535. Cystidia of same (magnified).

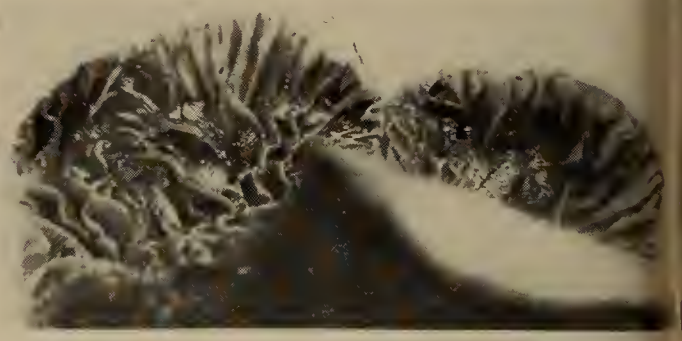


Fig. 2536. Cantharellus cystidioides (enlarged).

Fig. 2537. Cantharellus buccinalis

Fig. 2538. Cantharellus bicolor.

Fig. 2539. Pterula Tasmanica.

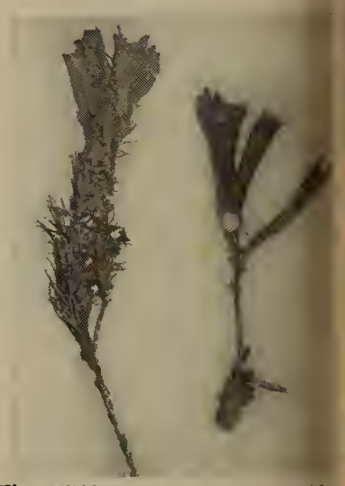


Fig. 2540. Hydnum muscoides.

Fig. 2541. Hydnum Holttumii.

Fig. 2542. Tremella neglecta.

Fig. 2543. Tremella neglecta (enlarged).

Fig. 2544. Thelephora fuscella.

Fig. 2545. Thelephora soluta.

Fig. 2546. Stereum glabrum.

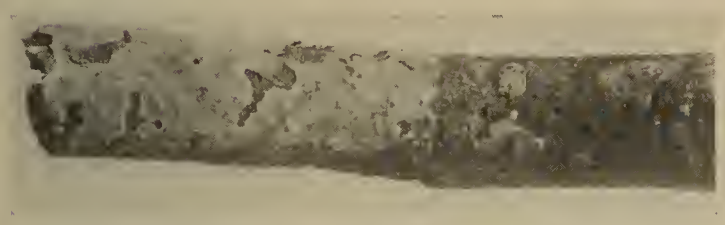


Fig. 2547. Aleurodiscus australiensis.

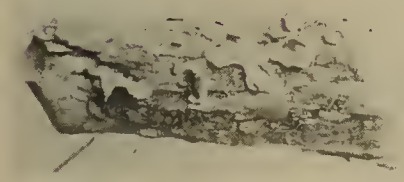


Fig. 2548. Aleurodiscus ochraceo-flavus.

Fig. 2549. Aleurodiscus botryosus.

1. Spores. 2. Portion of hymenium showing *a*. Young basidium, *b*. Pseudophysis, *c*. Dendrophysis (× 550).

Fig. 2550. Aleurodiscus autsarliensis (Hymenium magnified).

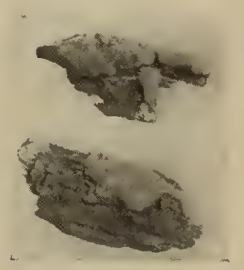


Fig. 2551. Aleurodiscus griseo-canus.

Fig. 2552. Lycoperdon Lewisii (enlarged).

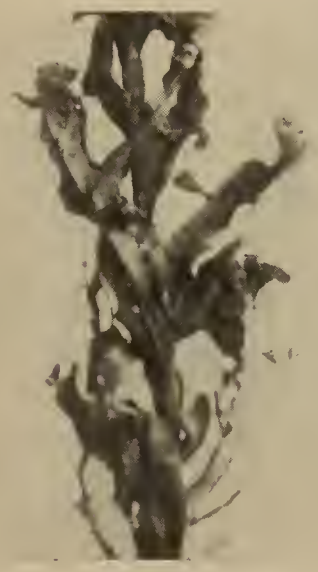


Fig. 2553. Cyphella lutescens (enlarged).

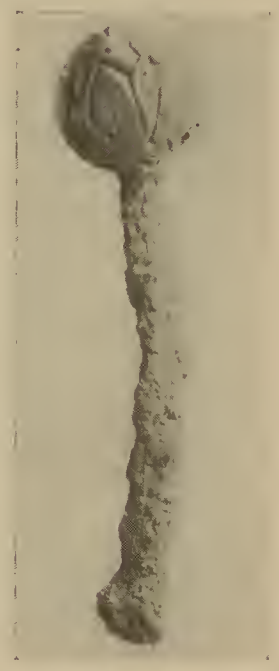


Fig. 2554. Tylostoma Giovanellae.

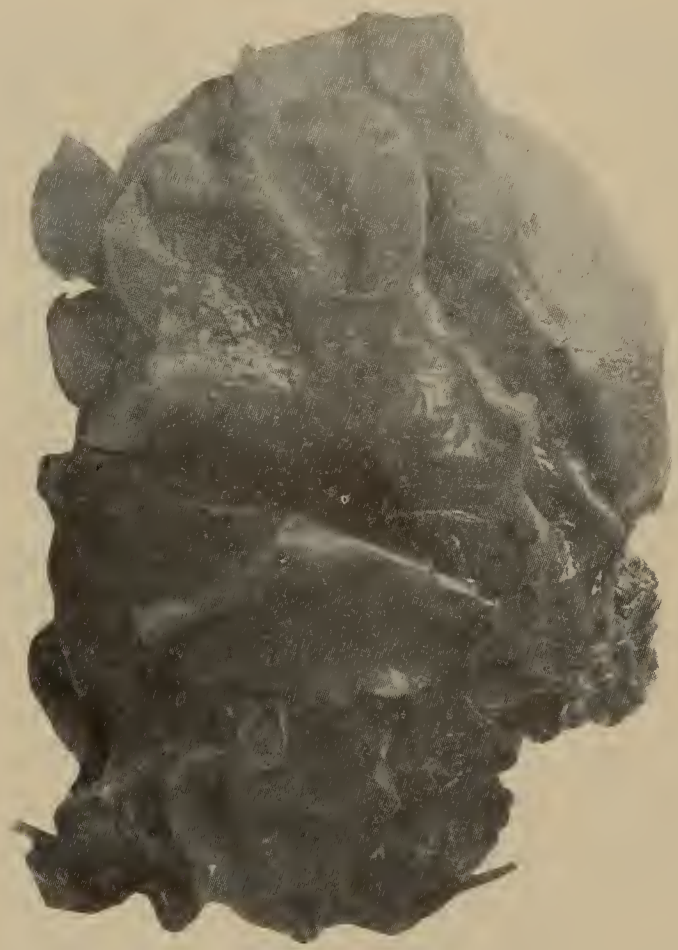


Fig. 2555. Tremella roseo-tincta.

Fig. 2556. Guepinia Brefeldii.

Fig. 2557. Guepinia Brefeldii (enlarged).

Fig. 2560. Guepinia varians (enlarged).

Fig. 2561. Exidia Richenii.

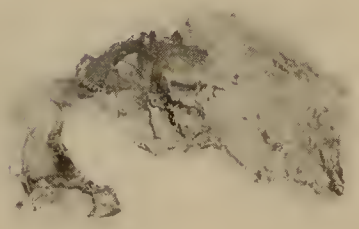


Fig. 2558. Dacryomyces roseotincta (dry).

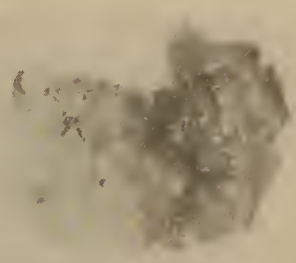


Fig. 2559. Dacryomyces roseotincta (soaked).

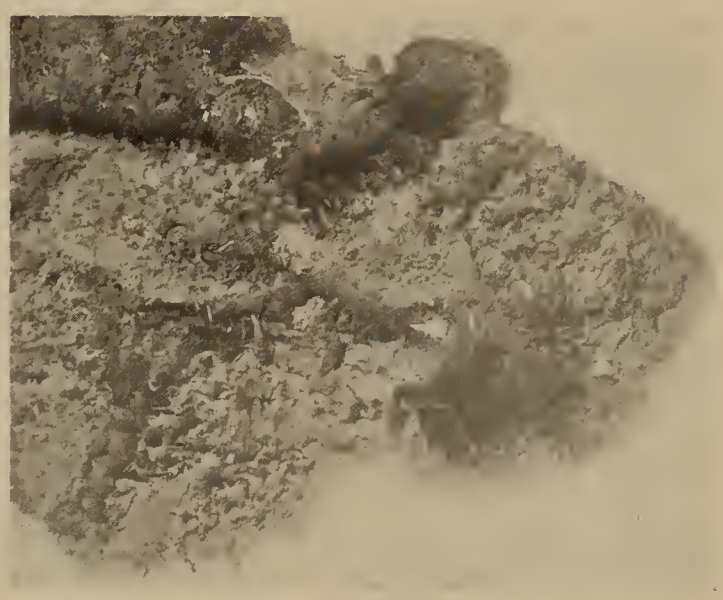


Fig. 2562. Auricularia squamosa.

Fig. 2563. Hydnum alpestre.

Fig. 2564. Kalchbrennera clathratum.

Fig. 2565. Bovistella sinensis.

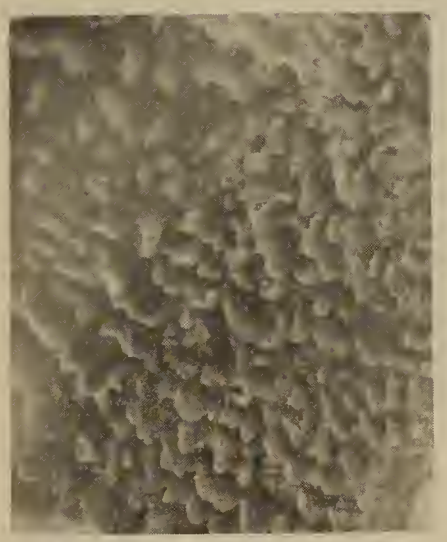


Fig. 2566. Irpex fusco-violaceus (enlarged).

Fig. 2567. Polystictus abietinus (enlarged).

Fig. 2568. Cudonia convoluta.

Fig. 2569. Cudonia convoluta (enlarged).

Fig. 2570. Holwaya ophiobolus.

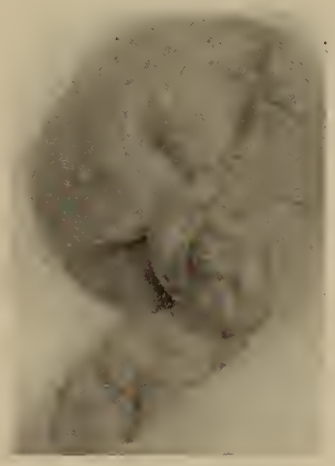


Fig. 2571. Sclerodermatopsis nasihensis.

Fig. 2572. Reticularia Lycoperdon.

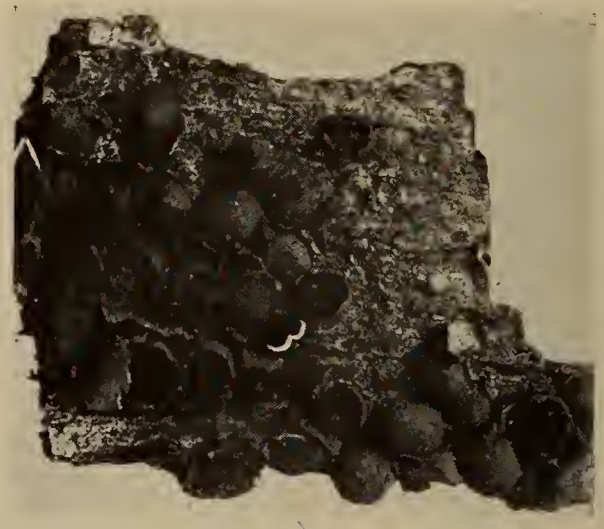


Fig. 2573. Camillea Bomba (unusually large).

Fig. 2574. Daldinia Asphaltum.

Fig. 2577. Fauxtylostoma Beccarii.

Fig. 2575. Isaria anisopleura.

Fig. 2576. Irpex elongatus.

Fig. 2578. Same enlarged.

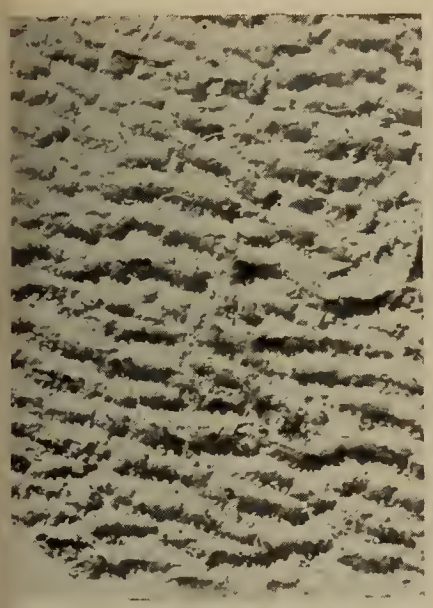


Fig. 2579. Grammothele polygramma (enlarged).

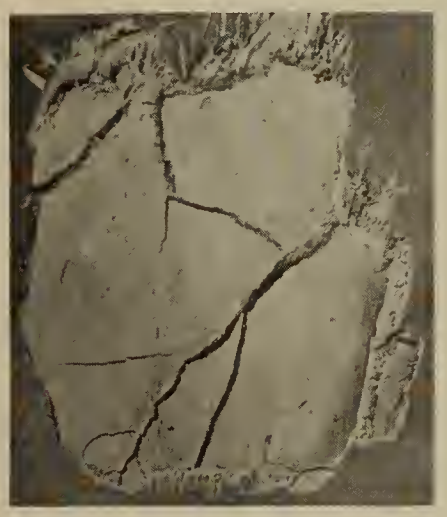


Fig. 2580. Grammothele Javensis.

Fig. 2581. Grammothele Javensis (enlarged).

Fig. 2582. Grammothele crocicreas.

Fig. 2583. Grammothele crocicreas (enlarged).

Fig. 2584. Hymenochaete crocicreas.

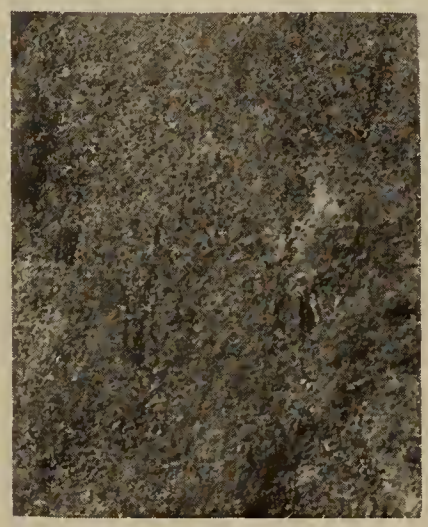


Fig. 2585. Same surface enlarged.

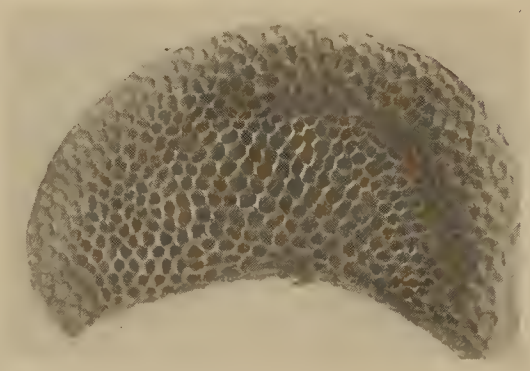
Fig. 2586. Scleroderma Bovonei.

Fig. 2587. Polystictus licmophorus.

Fig. 2588. Rostelia cancellata (enlarged).

Fig. 2589. "Mylitta" Pseudo-Acaciae.

Fig. 2590. Hexagona subaculeata.



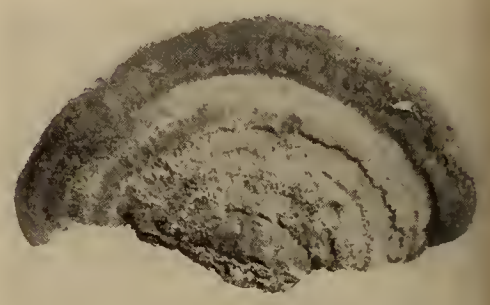


Fig. 2591. Polystictus ochrohirsutus.

Fig. 2592. Polyporus discipes.

Fig. 2593. Polyporus maliensis.

Fig. 2594. Fig. 2595.
Sectional drawings of Thamnomyces.

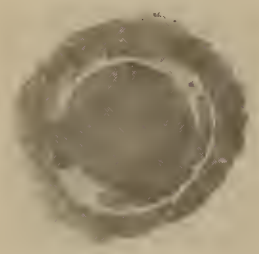


Fig. 2596. Socket of Camillca Leprieurii (enlarged).

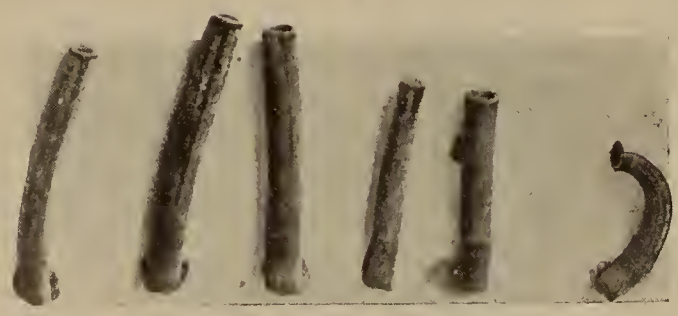


Fig. 2597. Camillca Leprieurii.

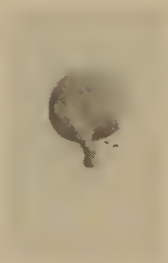


Fig. 2598. Tylostoma pulchellum.

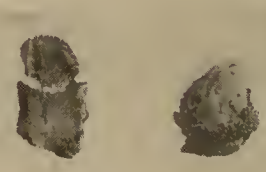


Fig. 2599. Tricoderma paradoxa.

Fig. 2600. Merulius crispatus.

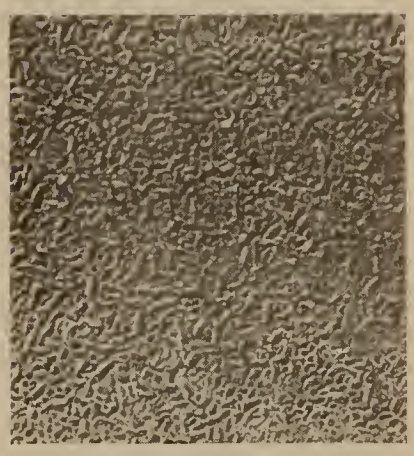


Fig. 2601. Merulius crispatus (enlarged).

Fig. 2602. Polyporus Hookerii.

Fig. 2603. Polyporus Mollerianus.

Fig. 2604. Guepinia peziza (European enlarged).

Fig. 2605. Guepinia peziza (American enlarged).

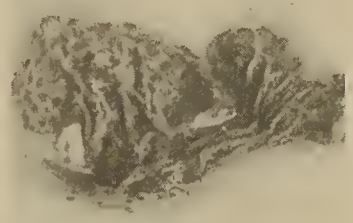


Fig. 2606. Same dried show veins.

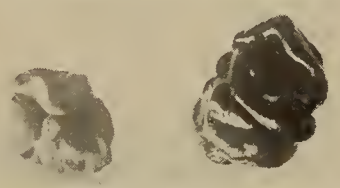


Fig. 2607. Geopora brunneola.

Fig. 2608. Geopora brunneola (section enlarged).

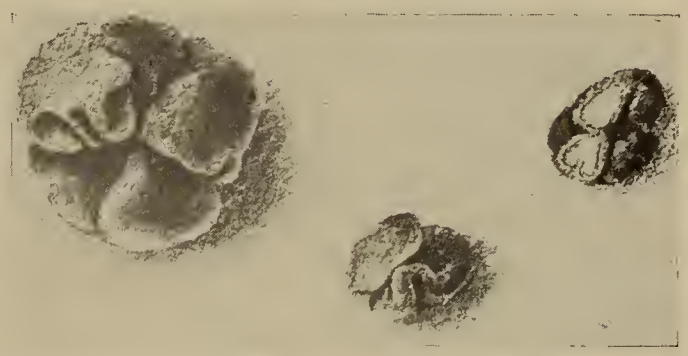


Fig. 2609. Geopora brunneola (from drawing).

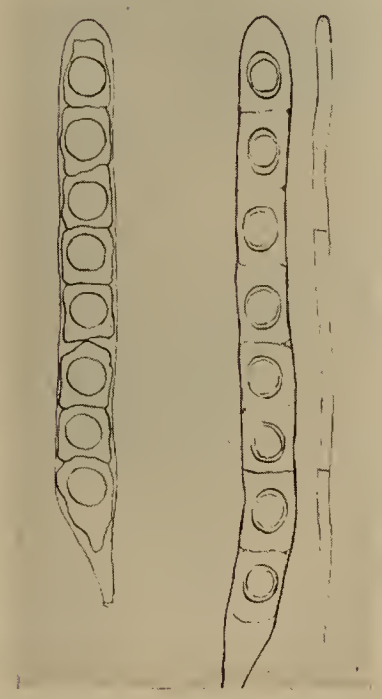


Fig. 2610. Asci and paraphysis of Geopora brunneola.

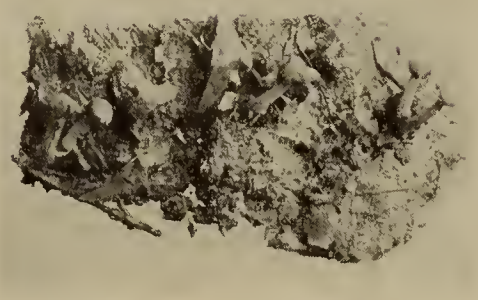


Fig. 2611. Cudonia lutea.

Fig. 2612. Aleurina atrum.

Fig. 2613. Didymium squamulosum (enlarged).

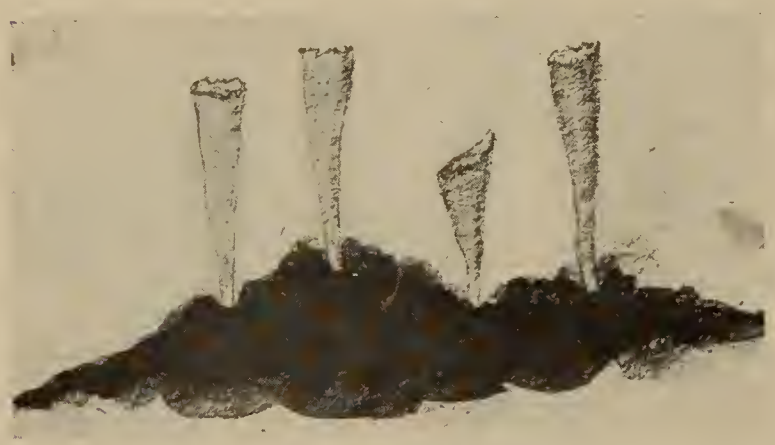


Fig. 2614. Craterellus taxophila.

Fig. 2615. Scleroderma maculatum.

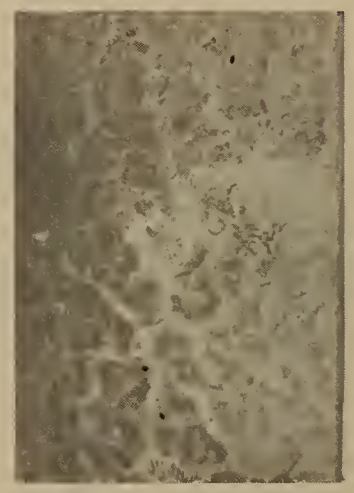


Fig. 2616. Scales of same (enlarged).

Fig. 2617. Lycoperdon scobiculatum (enlarged).

Fig. 2618. Mitremyces insignis (large specimen).

Fig. 2619. Mitremyces insignis.

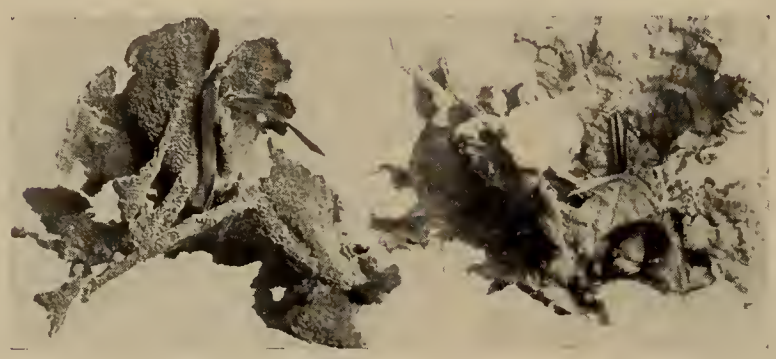


Fig. 2621. Polystictus semiincrustans.

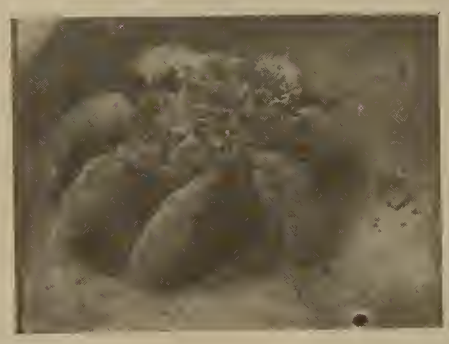


Fig. 2620. Mouth of Mitremyces insignis (enlarged).

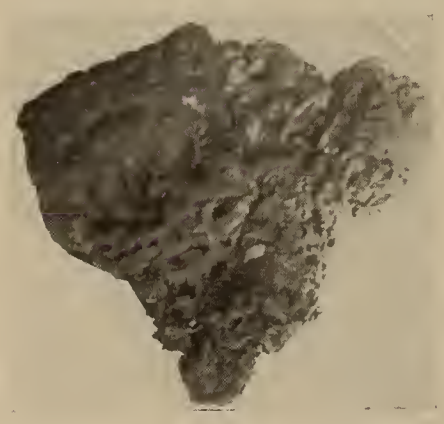


Fig. 2622. Ptychogaster Fischeri.

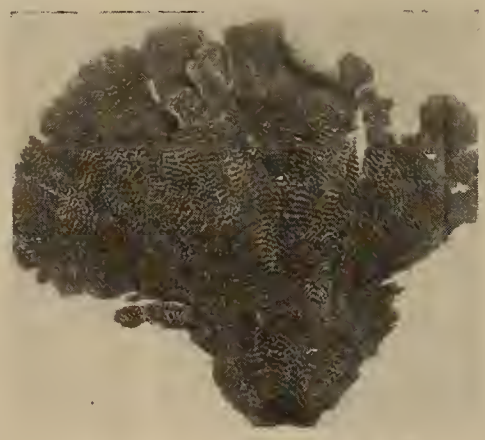


Fig. 2623. Cyclomyces fuscus.

Fig. 2624. Podocrea Petersii.

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 71 JANUARY, 1924

PROFESSOR A. H. R. BULLER

Fig. 2625. Polyporus imporcatus.

Fig. 2626.
Polyporus vinosus (spathulate).

Fig. 2627. Polyporus luteonitidus.

Fig. 2628. Polystictus incisus.

Fig. 2629. Polyporus nigroporus.

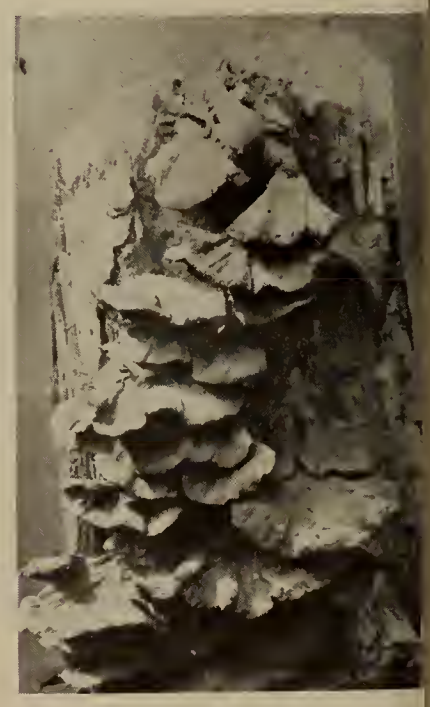


Fig. 2630.
Polystictus gilvocolor.

Fig. 2631. Polyporus Warburgianus.

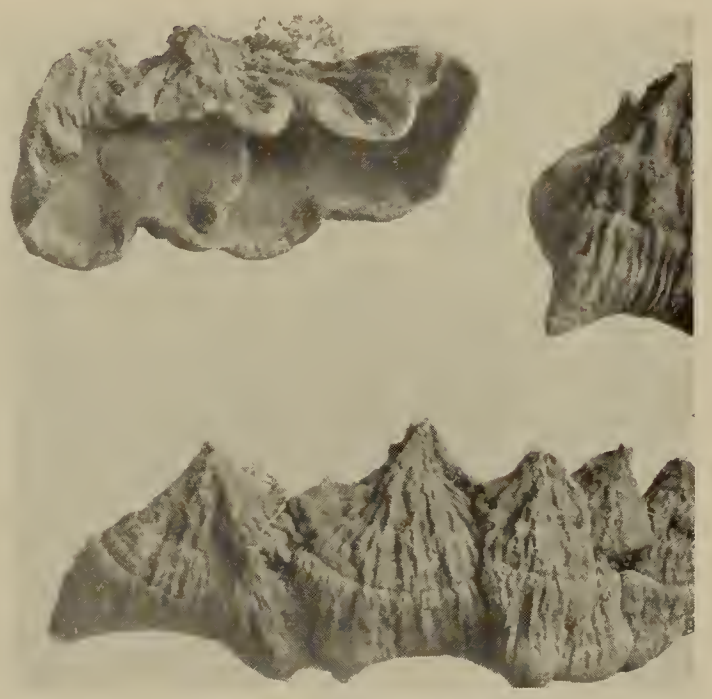


Fig. 2632. Polyporus elatinus.

Fig. 2633. Polystictus subaffinis.

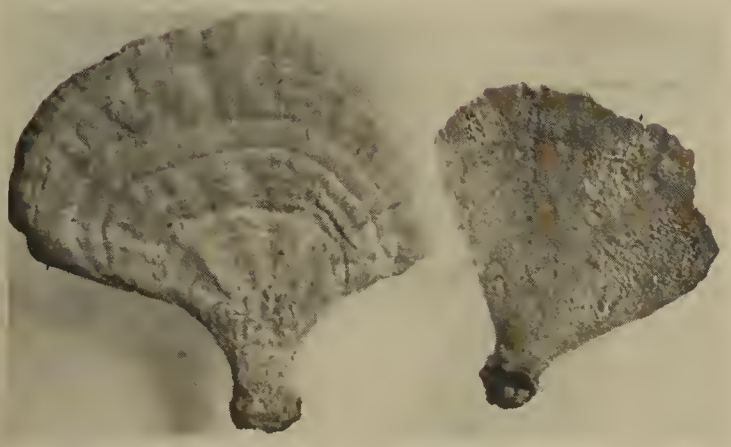


Fig. 2634. Polystictus Lamii.

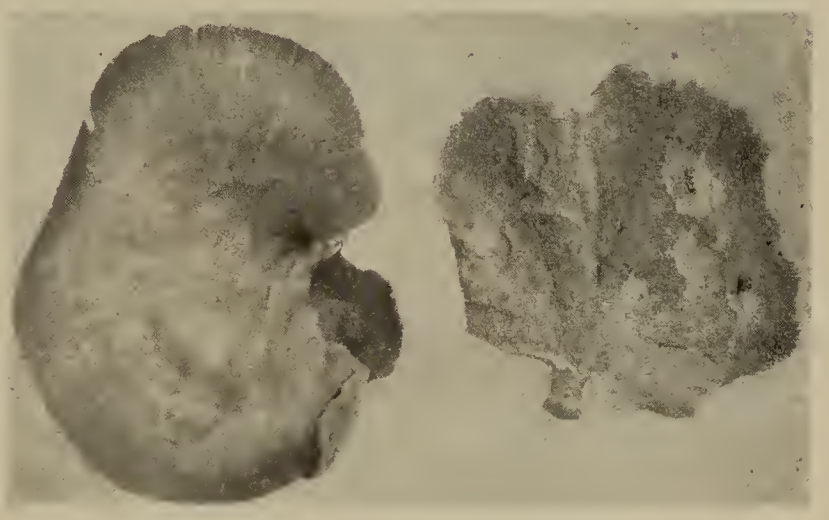


Fig. 2635. Polystictus Sebesici.

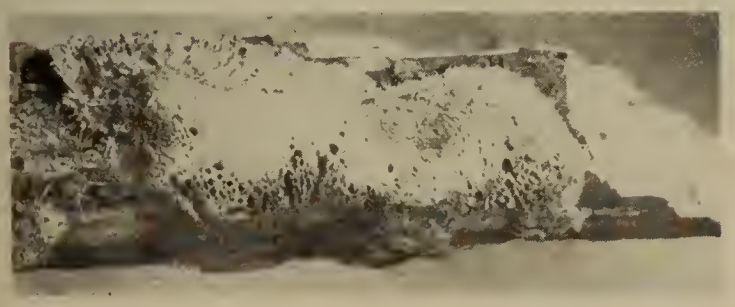


Fig. 2636. Polyporus hydnophorus.

Fig. 2637. Polystictus cinerascens.

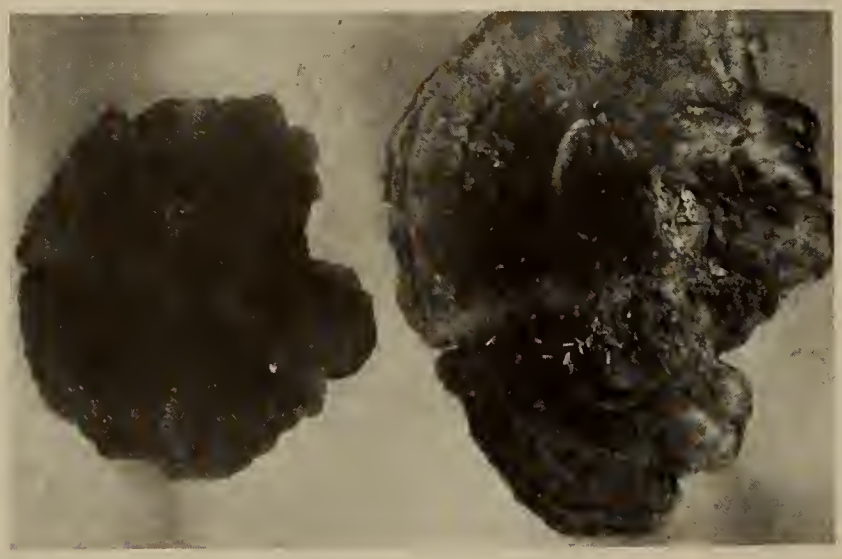


Fig. 2638. Polystictus scytinus.

Fig. 2639. Polystictus leiodermus.

Fig. 2640. Poria orchidaceae.

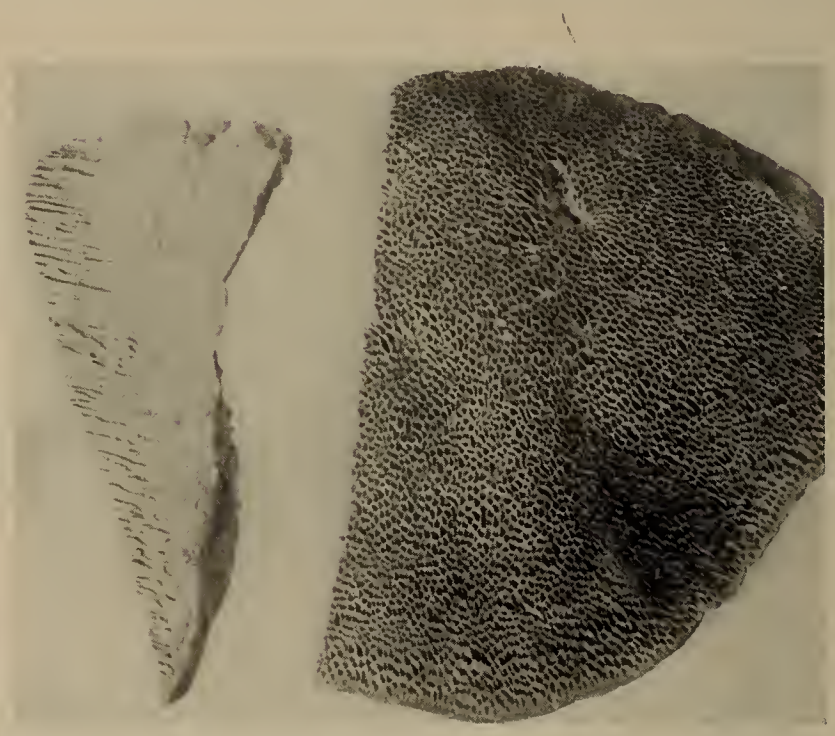


Fig. 2641. Trametes crenulata.

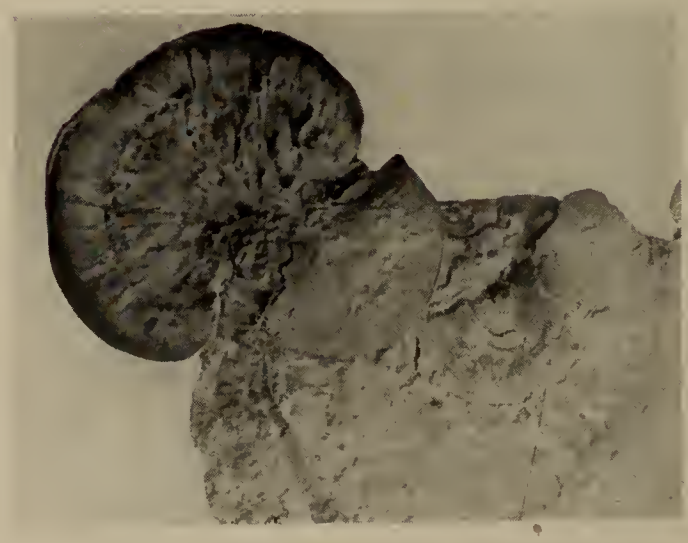


Fig. 2642. Hexagona murina.

Fig. 2643. Favolus molluccensis.

Fig. 2644. Polystictus ferruginosus.

Fig. 2645. Polyporus Krakatani.

Fig. 2646. Wood rot of Grammothelea crocistroma.

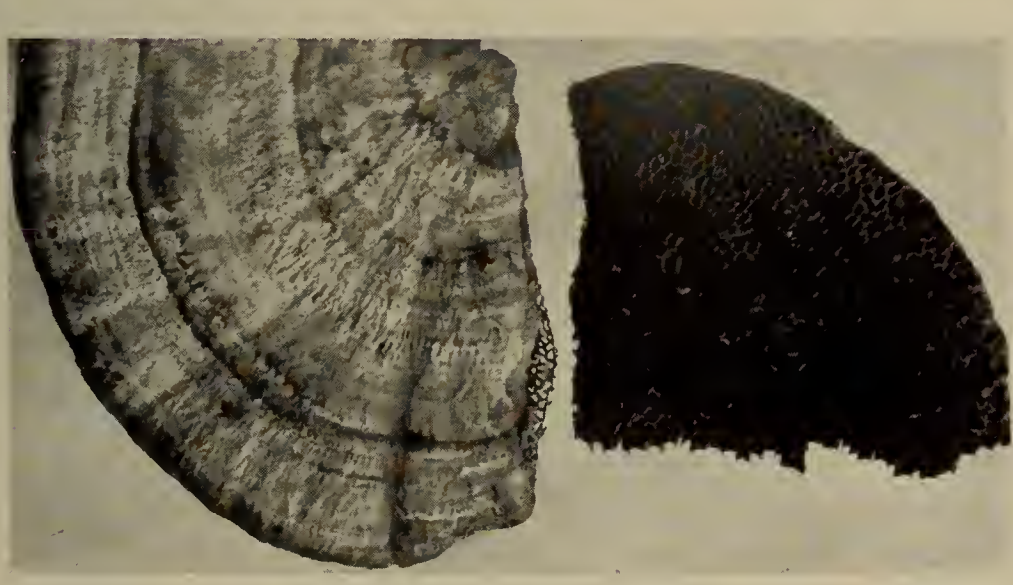


Fig. 2647. Hexagona flavofusca.

Fig. 2648.
Grammothele javensis.

Fig. 2649. Lycogalopsis subiculosus.

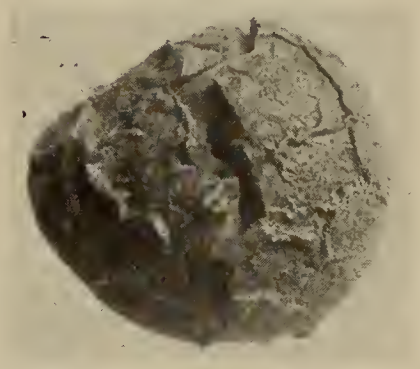


Fig. 2650. Lycogalopsis reticulatus.

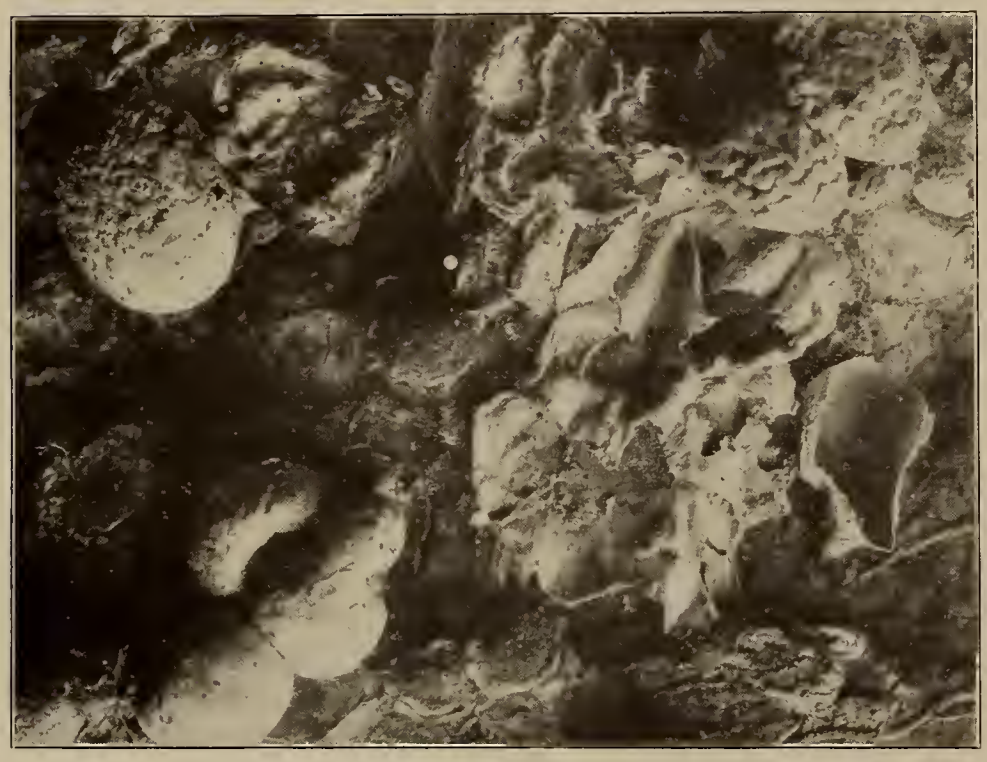


Fig. 2651. Lycogalopsis Solmsii.

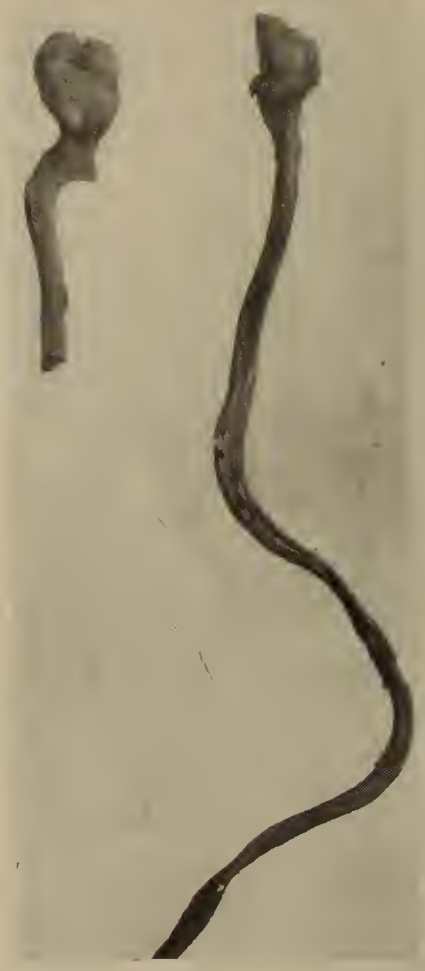


Fig. 2652. Dendrosphaera Eberhardti.

Fig. 2653. Thelephora pusilla.

Fig. 2654. Thelephora pusilla (type).

Fig. 2655. Thelephora radicans.

Fig. 2656. Stereum javanicum.

Fig. 2657. Stereum fomitopsis.

Fig. 2658. Septobasidium Cladoderris.

Fig. 2659. Stereum roseohirsutum.

Fig. 2660.
Stereum auriforme.

Fig. 2661. Polyporus albojavensis.

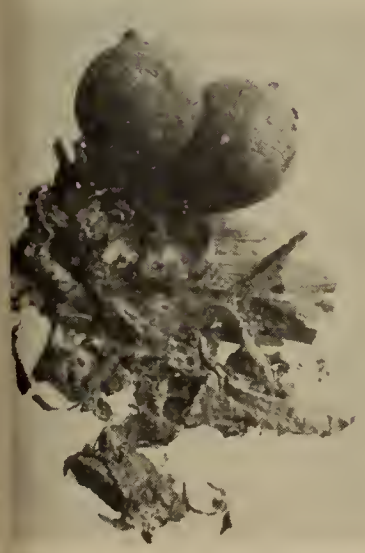


Fig. 2662. Geaster subiculosus.

Fig. 2663. Xylaria stromafera.

Fig. 2664. Xylaria caespitulosa.

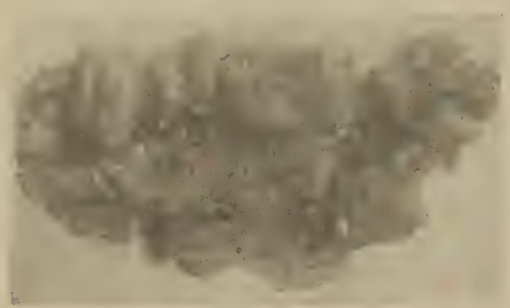


Fig. 2665. Xylaria Beccarii.

Fig. 2666. Xylaria complanata.

Fig. 2667.
Xylaria fissilis.

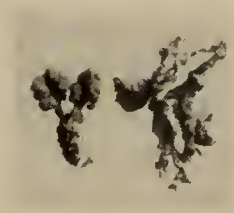


Fig. 2668.
Xylaria botrys.

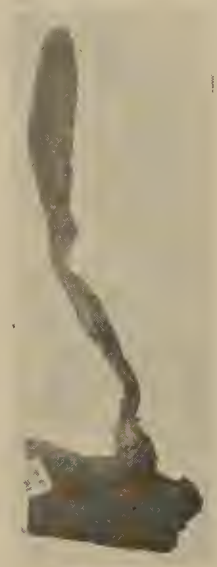


Fig. 2669.
Xylaria longipes.

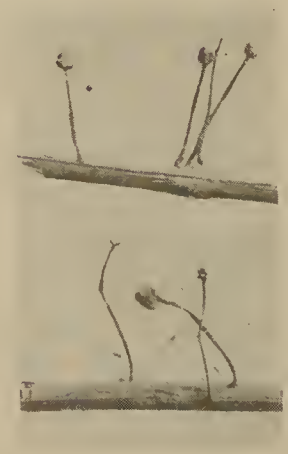


Fig. 2670.
Xylaria oocephala.

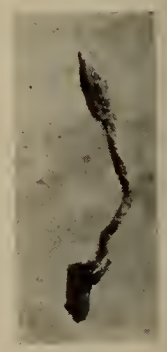


Fig. 2671.
Xylaria venosula.

Fig. 2672.
Xylaria encephala.

Fig. 2673.
Xylaria encephala (enlarged).

Fig. 2674. Xylaria rugosa.

Fig. 2675.
Xylaria corniculata.

Fig. 2676.
Xylaria brevipes.
(bis)

Fig. 2677. Xylaria Assamensis.

Fig. 2678. Xylaria rhizophila (enlarged).

Fig. 2679. Xylaria Morganii.

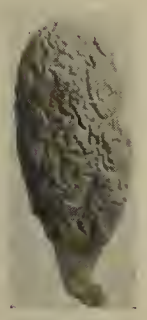


Fig. 2680.
Xylaria Schweinitzii

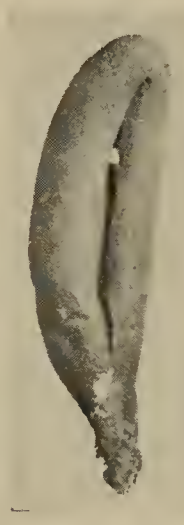


Fig. 2681.
Xylaria Cubensis.

Fig. 2682.
Xylaria rhytidophloea.

Fig. 2683.
Xylaria spathulata.

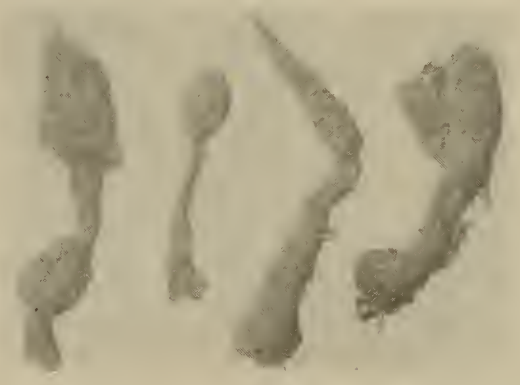


Fig. 2684. Xylaria cupressiformis.

Fig. 2685.
Xylaria platypoda (enlarged).

Fig. 2686.
Xylaria hispidula.

Fig. 2687.
Xylaria Cornu-Damae.

Fig. 2688.
Xylaria Guyanensis (enlarged).

Fig. 2689.
Xylaria comosa.

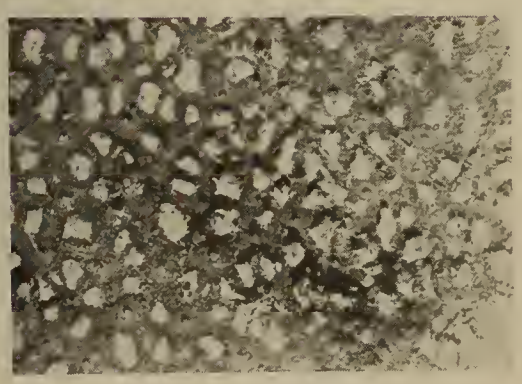


Fig. 2690.
Xylaria comosa (surface enlarged).

Fig. 2691. Xylaria correcta.

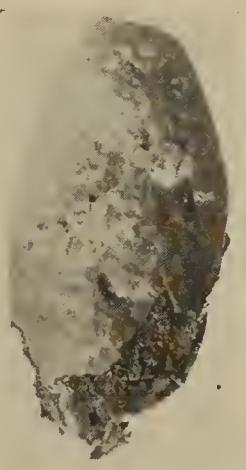


Fig. 2692.
Xylaria obtussima.

Fig. 2693.
Xylaria salmonicolor.

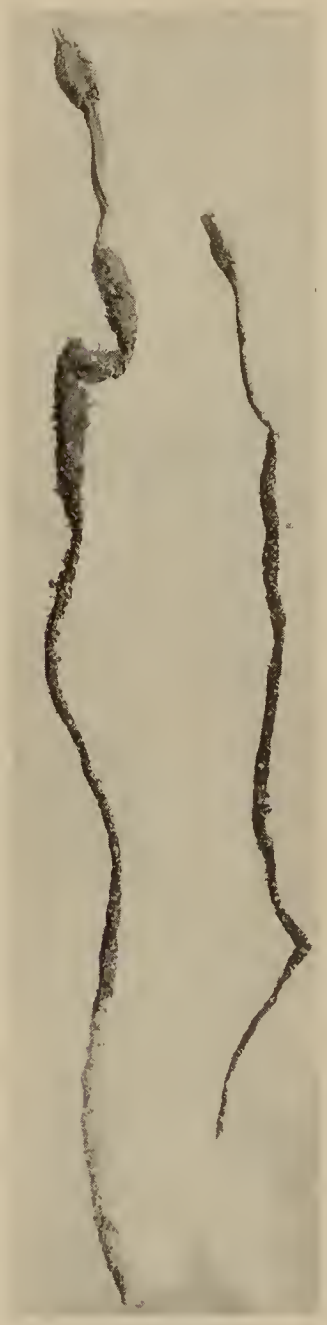


Fig. 2694.
Xylaria Readeri.

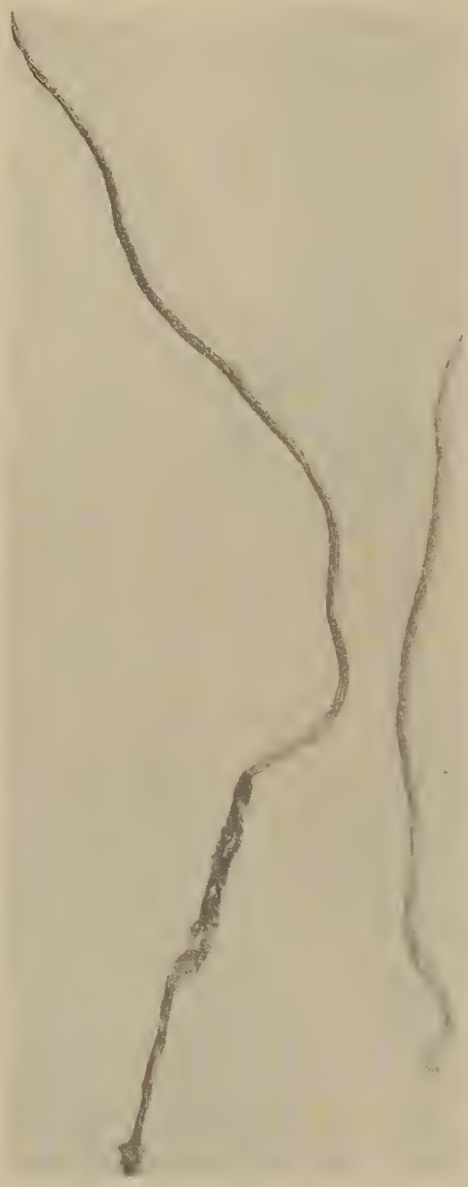


Fig. 2695. Xylaria deceptivus.

Fig. 2696. Xylaria ianthino-velutina.

Fig. 2697.
Xylaria bulbosa.

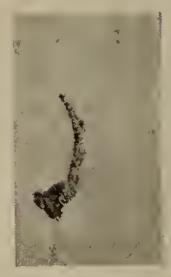


Fig. 2698.
Xylaria microceras.

Fig. 2699.
Xylaria ellipsospora.

Fig. 2700.
Xylaria anisopleura.

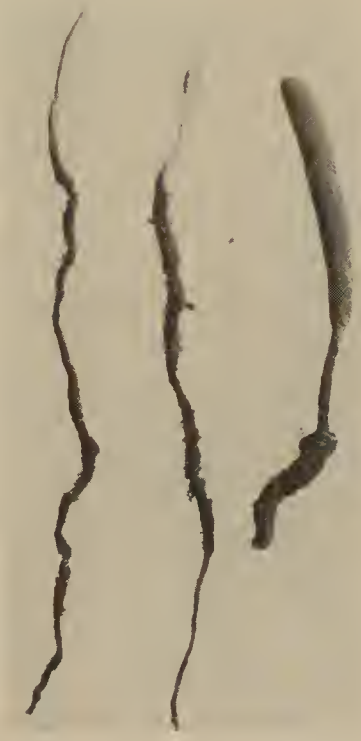


Fig. 2701. Xylaria nigripes.

Fig. 2702. Xylaria Juruensis.

Fig. 2703. Xylaria Mellisii.

Fig. 2704. Xylaria cynoglossa.

Fig. 2705.
Xylaria cerebriformis.

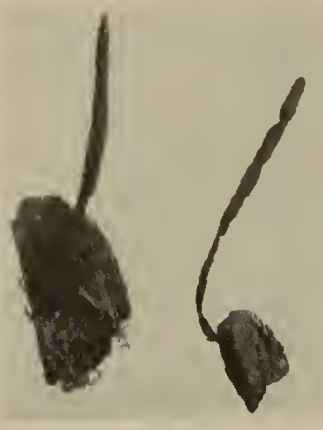


Fig. 2706.
Xylaria hirtella.

Fig. 2707.
Xylaria Froggattii.

Fig. 2708.
Xylaria fulvella.

Fig. 2709. Xylaria hypoxyloides.

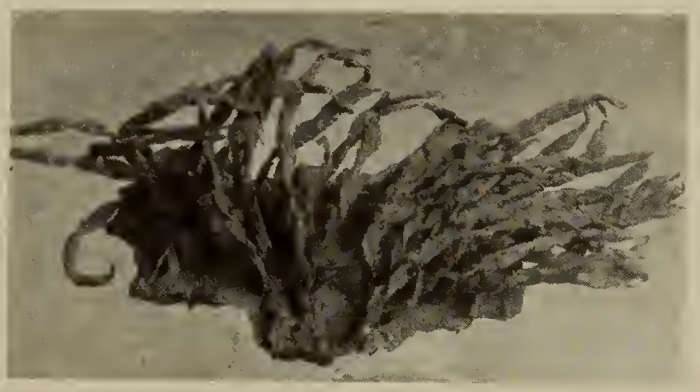


Fig. 2710. Xylaria castorea.

Fig. 2711. Xylaria dealbata.

Fig. 2712. Xylaria pyramidata (enlarged).

Fig. 2713.
Xylaria phosphora.

Fig. 2714.
Xylaria Feegensis.

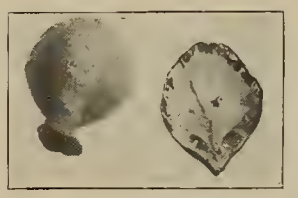


Fig. 2715.
Xylaria obovata.

Fig. 2716.
Xylaria fistulosa.

Fig. 2717. Xylaria hystrix.

Fig. 2718. Penzigia cretacea.

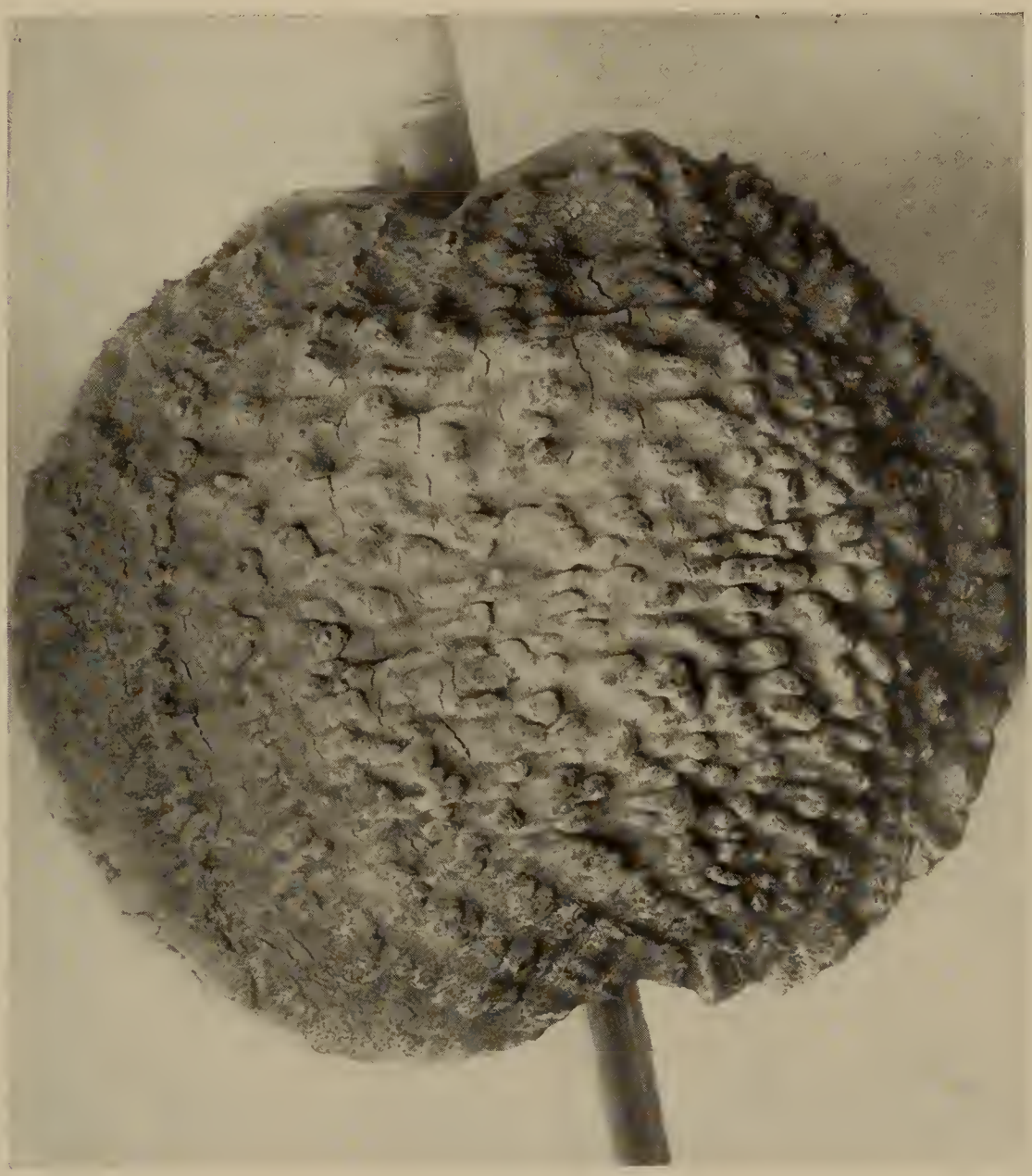


Fig. 2719. Engleromyces Goetzei.

Fig. 2720. Poronia agariciformis.

Fig. 2721. Daldinia cudonia.

Fig. 2722. Hypocrea insignis.

Fig. 2723. Kretzschmaria Kurziana.

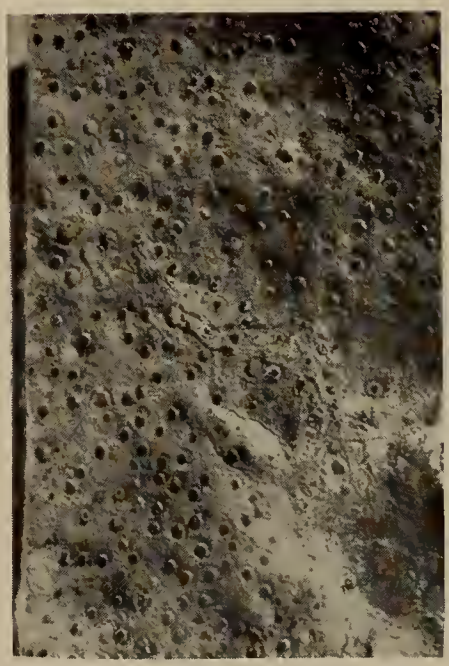


Fig. 2724. Hypocrea Glaziovii.

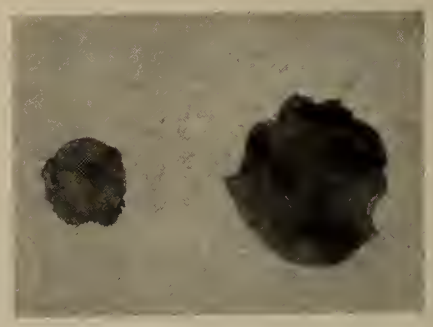


Fig. 2725. Hypocrea pezizoides.

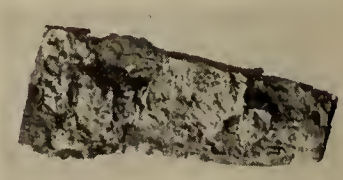


Fig. 2726. Hypocrea Carteri.

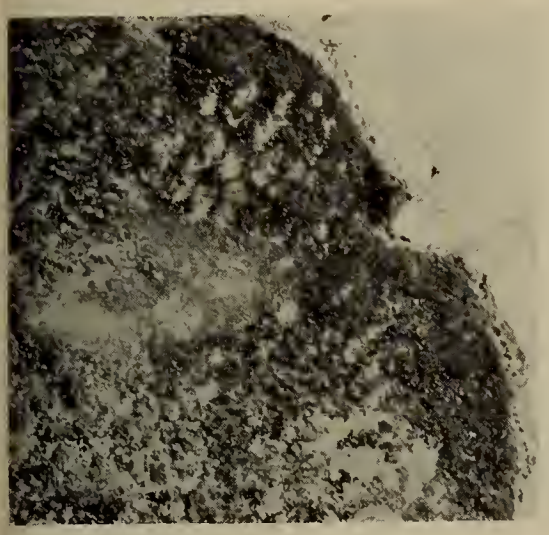


Fig. 2727. Hypocrea fungicola.

Fig. 2728. Hypocrea pulvinata.

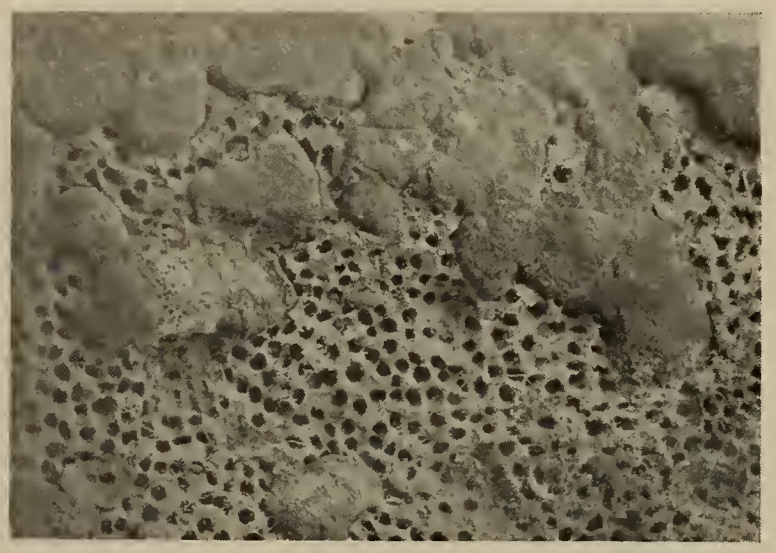


Fig. 2729. Hypocrea pulvinata (on Fomes, enlarged).

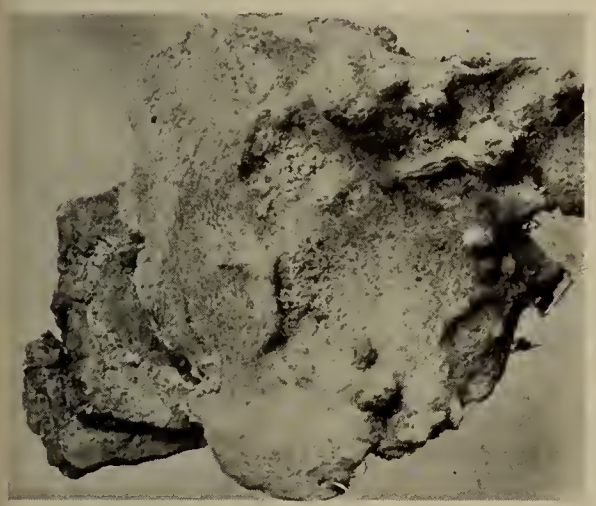


Fig. 2730. Hypocrea ustulinoides.

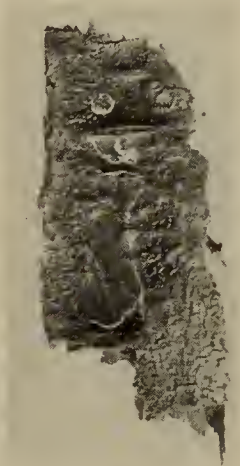


Fig. 2731. Hypocrea maculata.

Fig. 2732. Hypocrea polyporoidea.

Fig. 2733. Hypocrea Maitlandii.

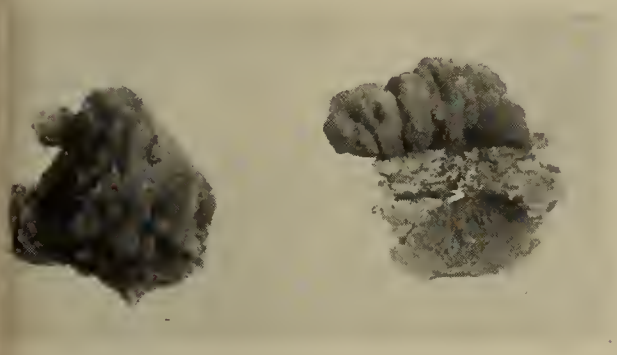


Fig. 2734. Hypocrea cerebriformis.

Fig. 2735. Hypocrea subcitrina.

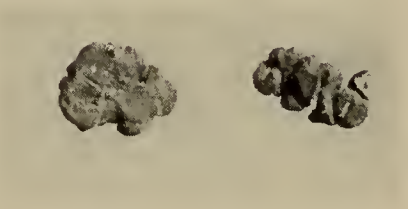


Fig. 2736. Hypocrea Borneensis.

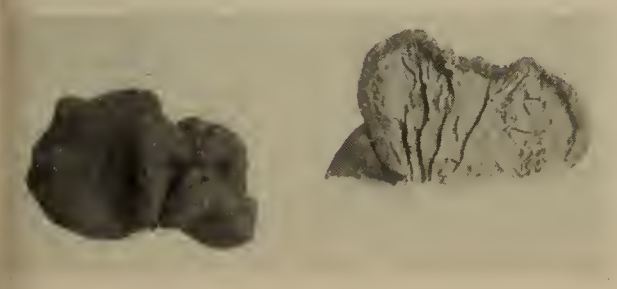


Fig. 2737. Hypocrea peltata.

Fig. 2738. Hypocrea Colensoi.

Fig. 2739. Sarawakus lycogaloides.

Fig. 2740. "Cordyceps" peltata (enlarged).

Fig. 2741. "Cordyceps" peltata (spores magnified).

Fig. 2742. Konradia bambusina.

Fig. 2743. Stereocrea Schizostachyi.

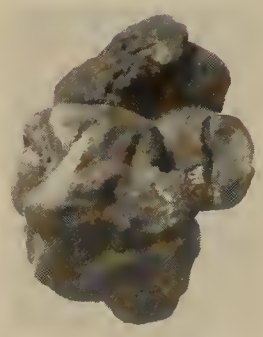


Fig. 2744. "Xylaria" abnormalis.

Fig. 2745. Balansia clavula (enlarged).

Fig. 2746. Cordyceps ophioglossoides.

Fig. 2747. Podocrea grossa.

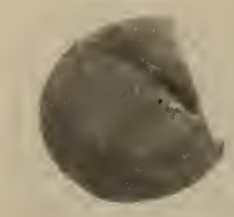
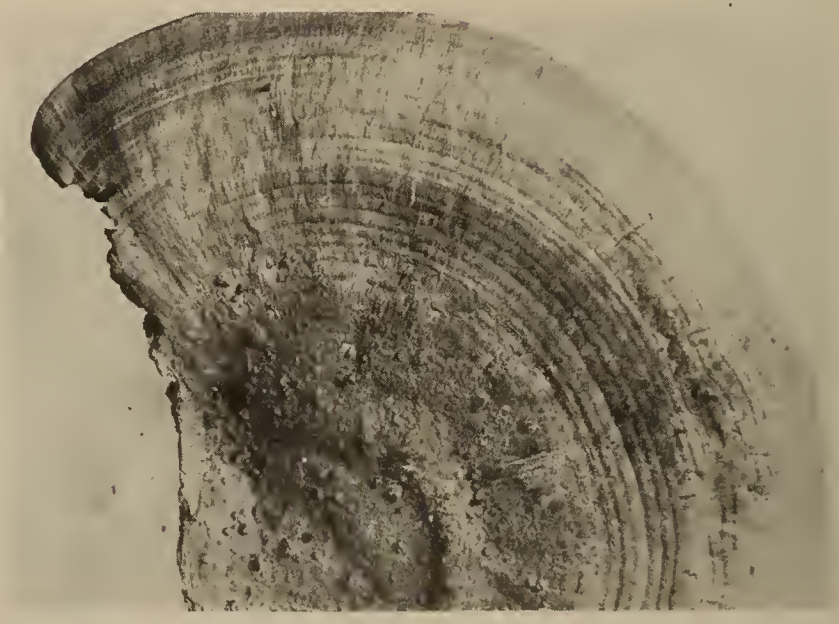


Fig. 2748. Ascopolyporus maculaeformis.



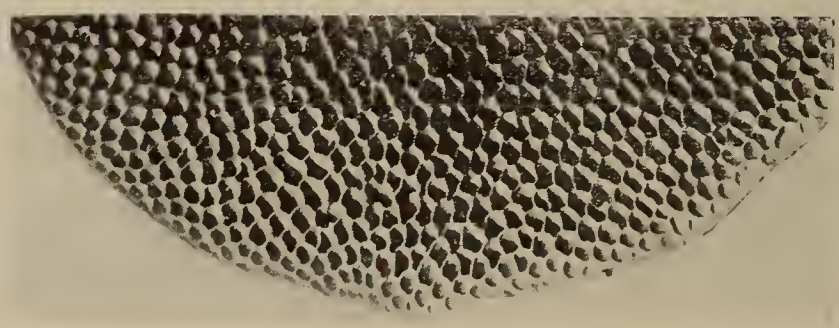


Fig. 2749. Hexagona sericata.

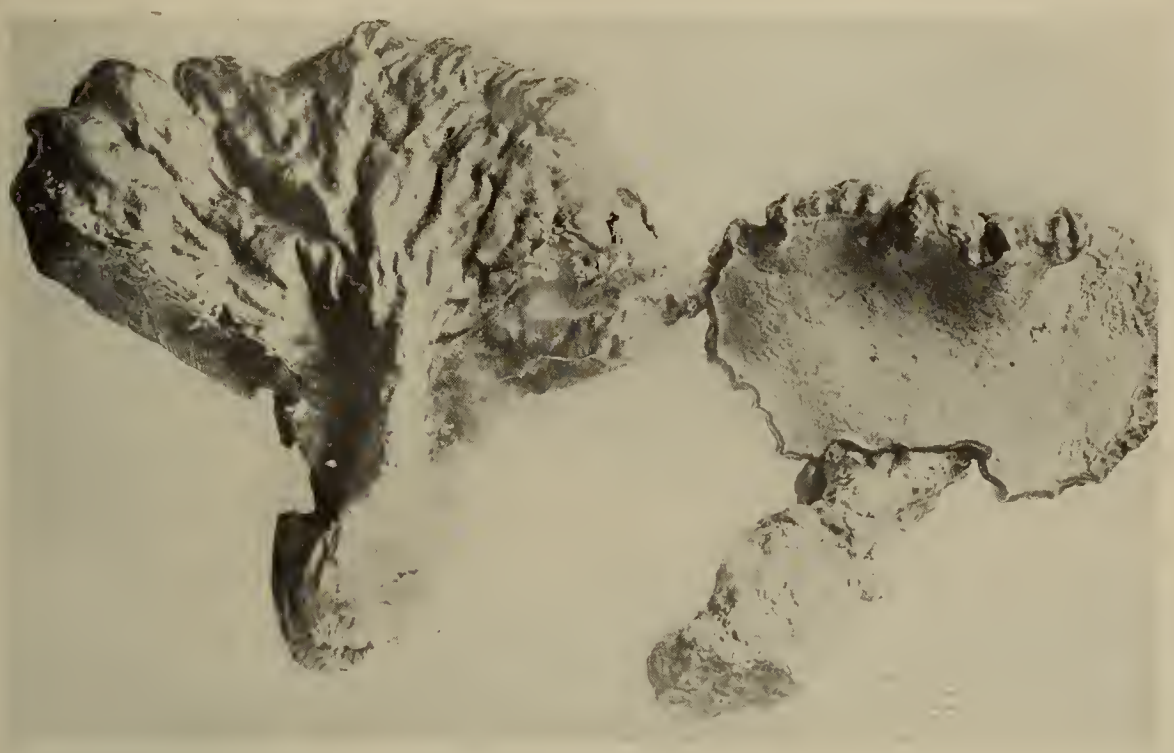
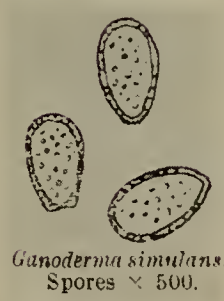


Fig. 2750. Polyporus simulans (tris).

Fig. 2752. Polyporus Mylittae.



Ganoderma simulans.
Spores × 500.

Fig. 2751. Polyporus simulans (spores).

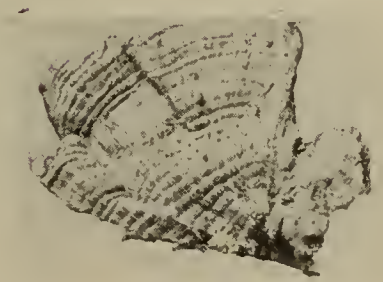


Fig. 2753. Daedalia favoloides.

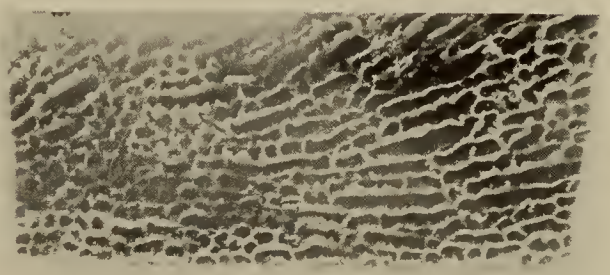


Fig. 2754. Daedalea favoloides (pores enlarged).

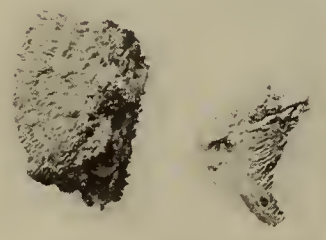


Fig. 2755. Polyporus epileucus.

Fig. 2756. Polyporus Coffeae (reduced by half).

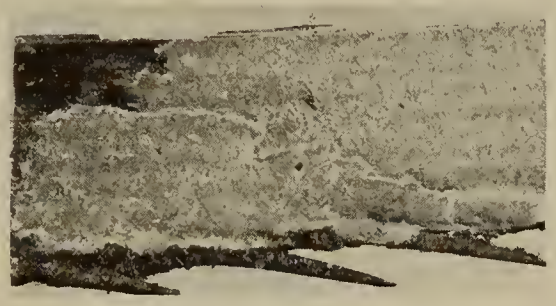


Fig. 2757. Poria Ravenalae.

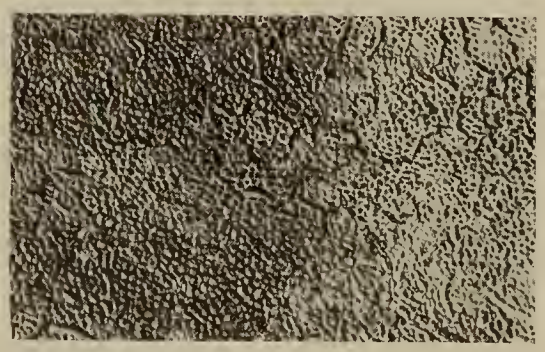


Fig. 2758.
Poria Ravenalae (enlarged).

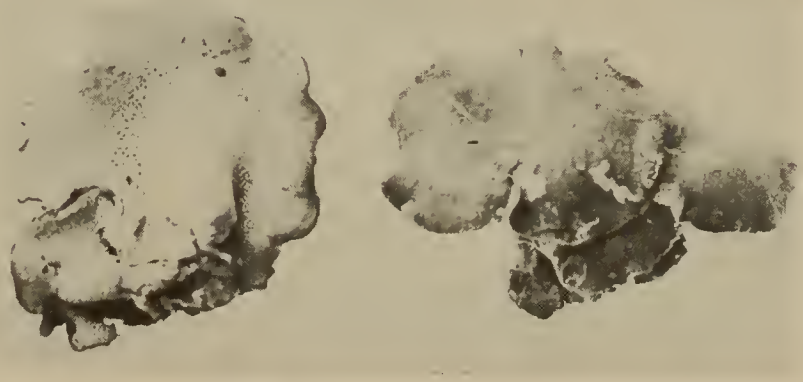


Fig. 2759. Polyporus lentus.

Fig. 2760. Cyclomyces Greenii (Polyporoid).

Fig. 2761. Polystictus cinnamomeus (van polycephalus).

Fig. 2762. Polyporus raphanipes.

Fig. 2763. Polyporus infundibuliformis (much reduced).

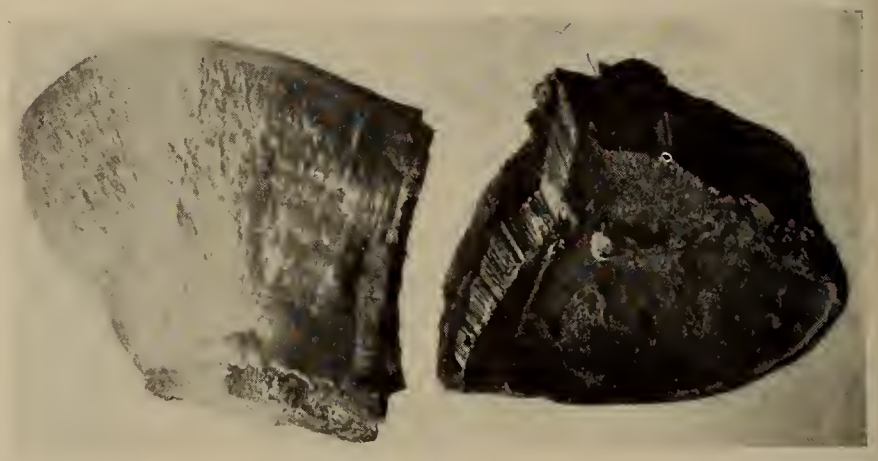


Fig. 2764. Polyporus Mindoroi.

Fig. 2765. Stereum contrastum.

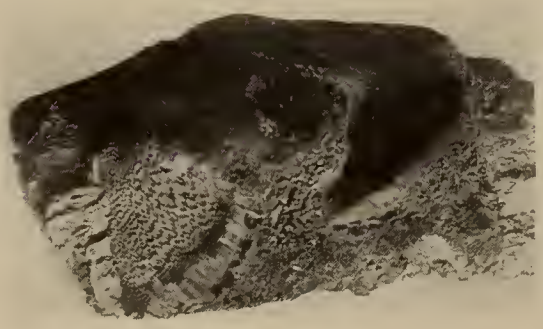


Fig. 2766. Trametes gilvoides.

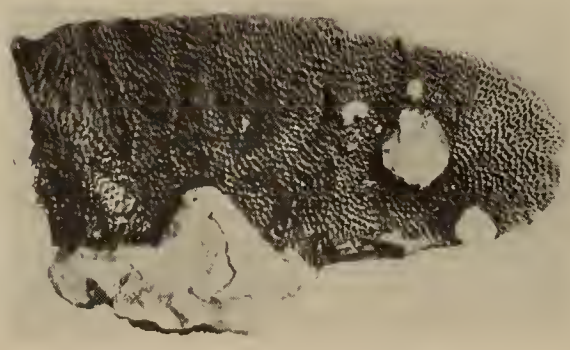


Fig. 2767. Polystictus cristatus.

Fig. 2768.
Amylocarpus encephaloides (enlarged).

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 72 JUNE, 1924

ELSIE M. WAKEFIELD

Exhibit F.

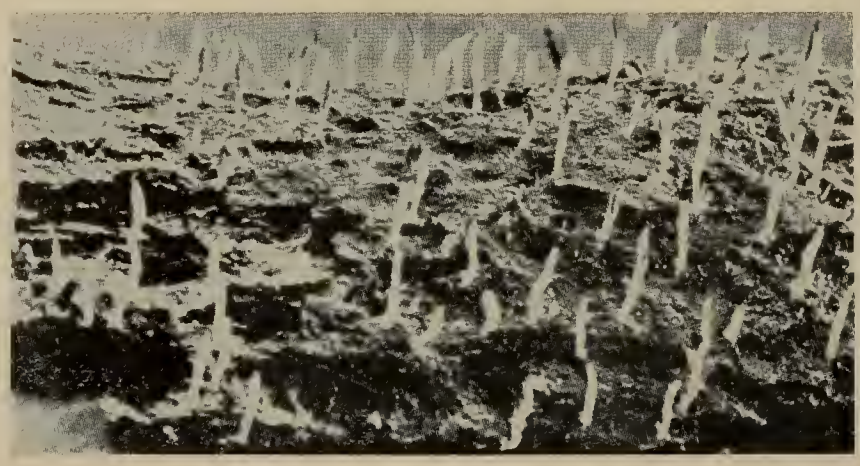


Fig. 2769. Clavaria mucida.

Fig. 2770. Polyporus Saitoi.

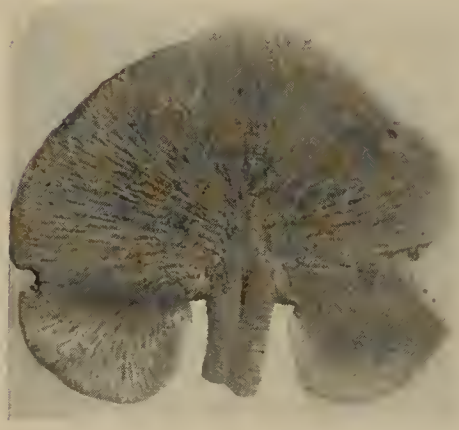


Fig. 2771. Renilla reniformis.

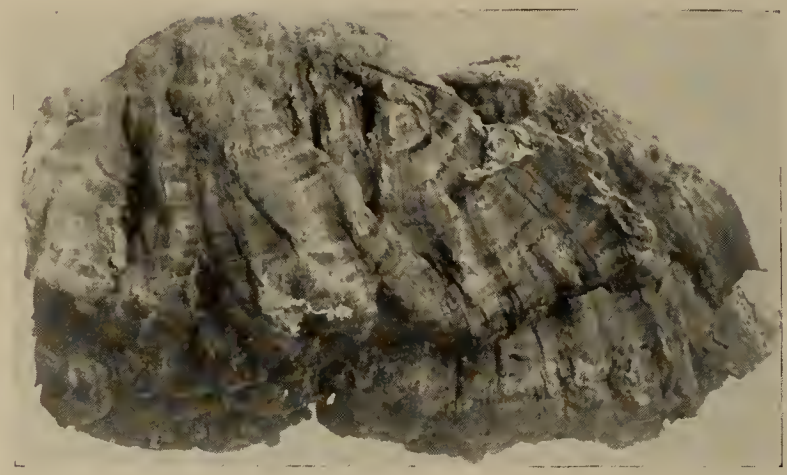


Fig. 2772. Polystictus schizodon.

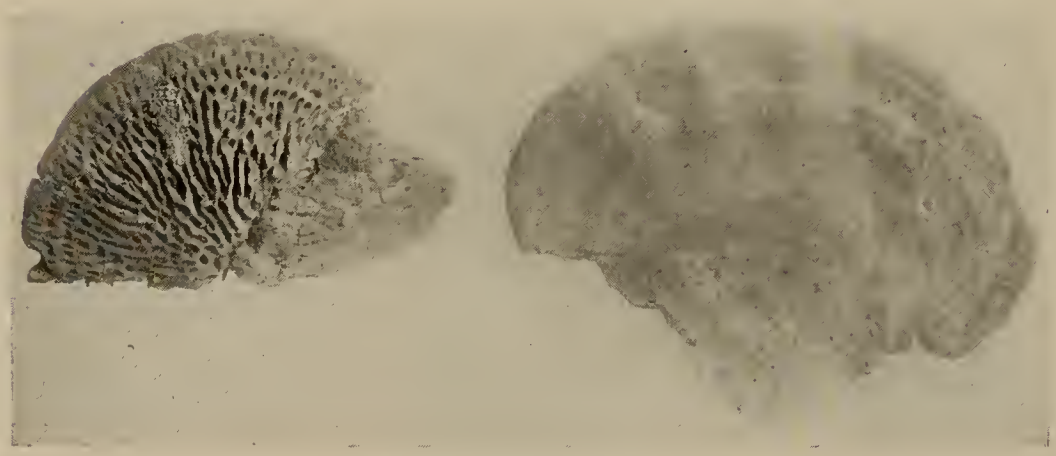


Fig. 2773. Daedalea glabra.

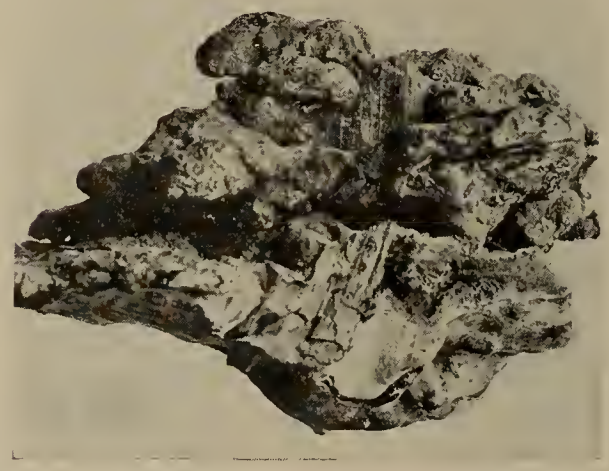


Fig. 2774. Fomes pseudoferreus.

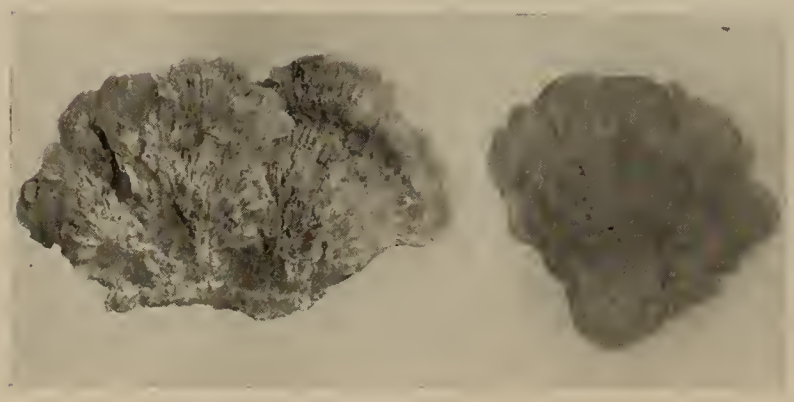


Fig. 2775. Polyporus nigro-rugosa.

Fig. 2776. Cyclomyces isabellina.

Fig. 2777. Daedalea fusco-stratosa.

Fig. 2778. Polystictus lenis.

Fig. 2779. Polystictus occidentalis.

Fig. 2780. Polystictus sanguineus.

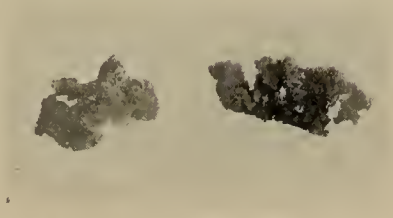


Fig. 2781. Ptychogaster frondosus.

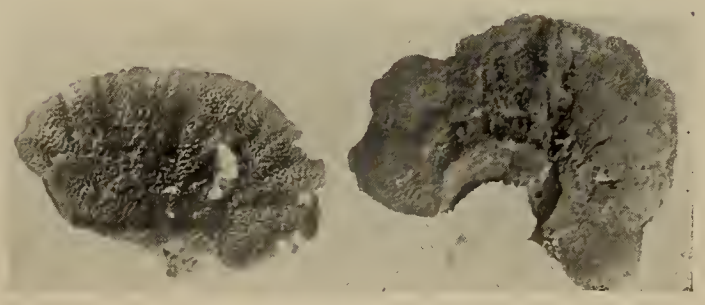


Fig. 2782. Hexagona Friesiana.

Fig. 2783. Polyporus semistipitatus.

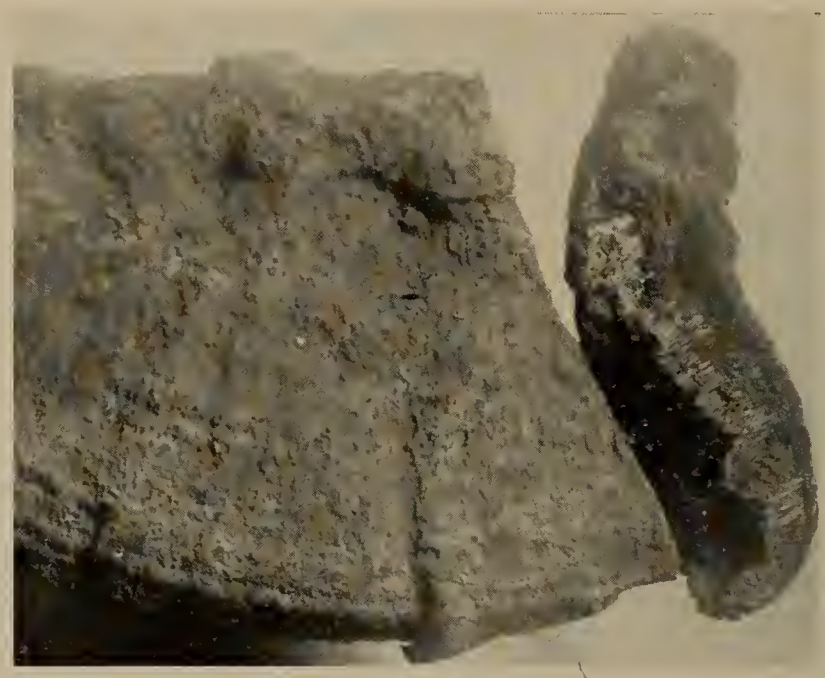


Fig. 2784. Trametes obscurotexta.

Fig. 2785. Favolus grammocephalus.

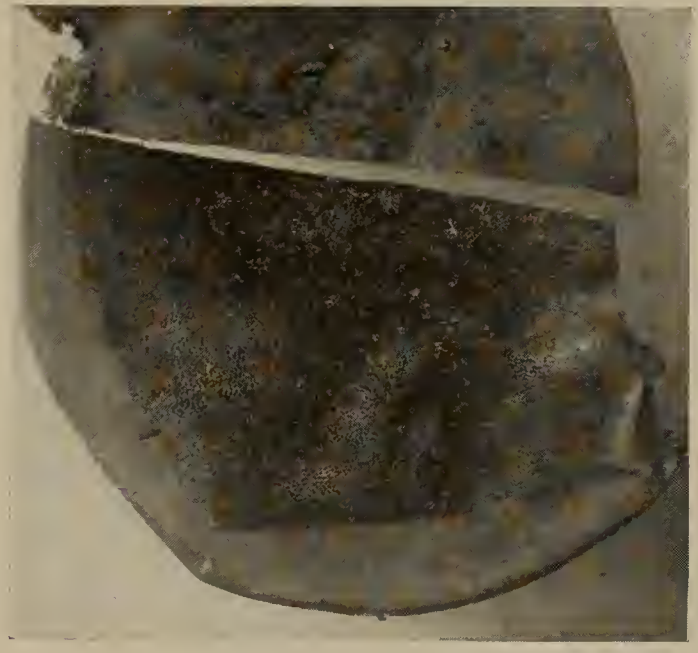


Fig. 2786. Polyporus orinocensis.

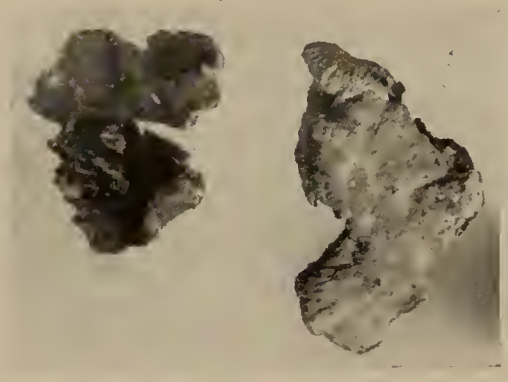


Fig. 2787. Stereum dichroides.

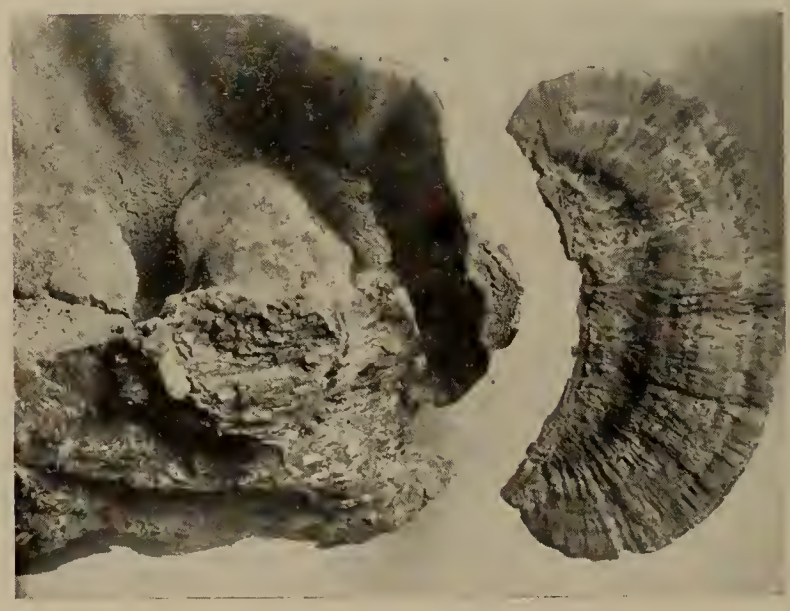


Fig. 2788. Trametes Feei.

Fig. 2789. Trametes Philippensis.

Fig. 2790. Merulius insignis.

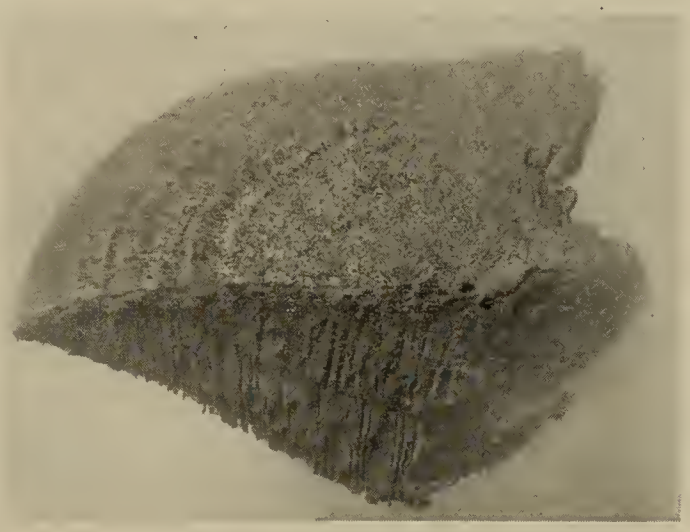


Fig. 2792. Daedalea confragosa.

Fig. 2791. Favolus lutescens.

Fig. 2793. Trametes nigroaspera.

Fig. 2794. Thelephora "anthocephala" (American tradition).

Fig. 2795.
Thelephora anthocephala.

Fig. 2797.
Thelephora multipartita.

Fig. 2796. Thelephora anthocephala (after Bulliard).

Fig. 2798.
Thelephora regularis.

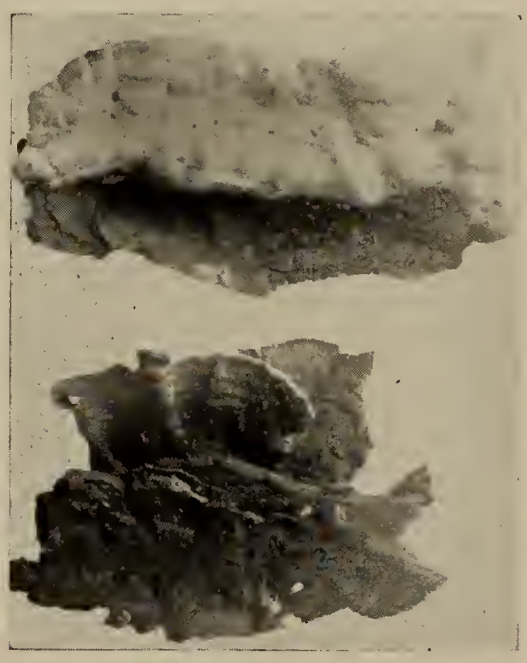


Fig. 2799. Merulius succineus.

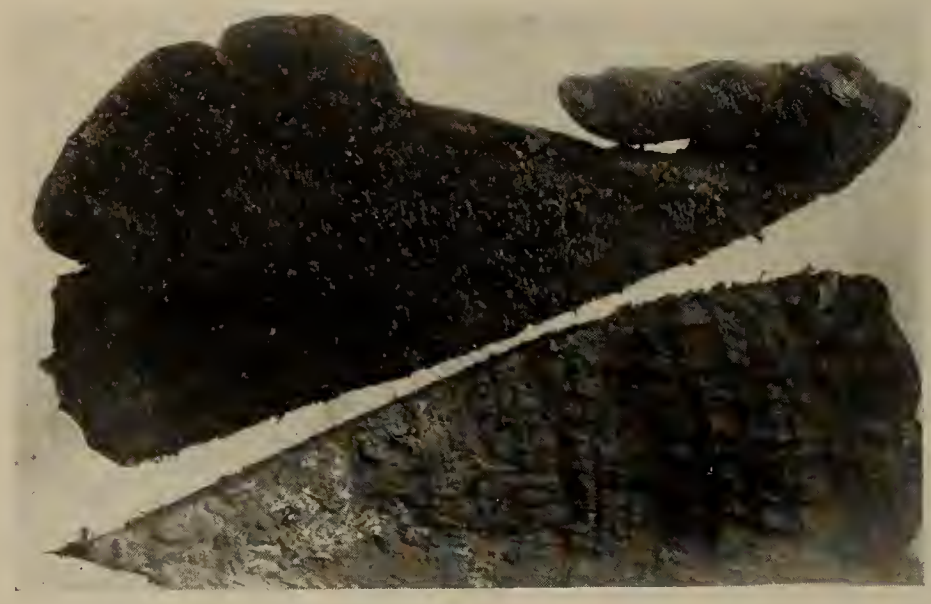


Fig. 2800. Polyporus discipes.

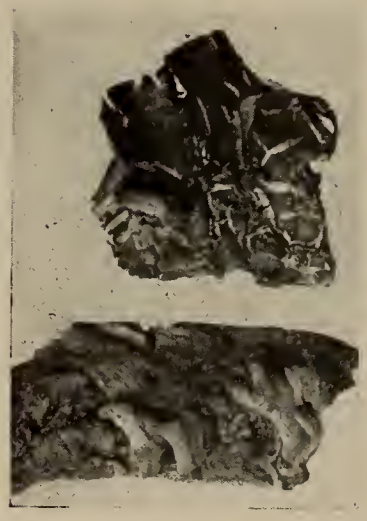


Fig. 2801. Stereum nipponicum.

Fig. 2802. Thelephora soluta.

Fig. 2803. Irpex ochrosimilis.

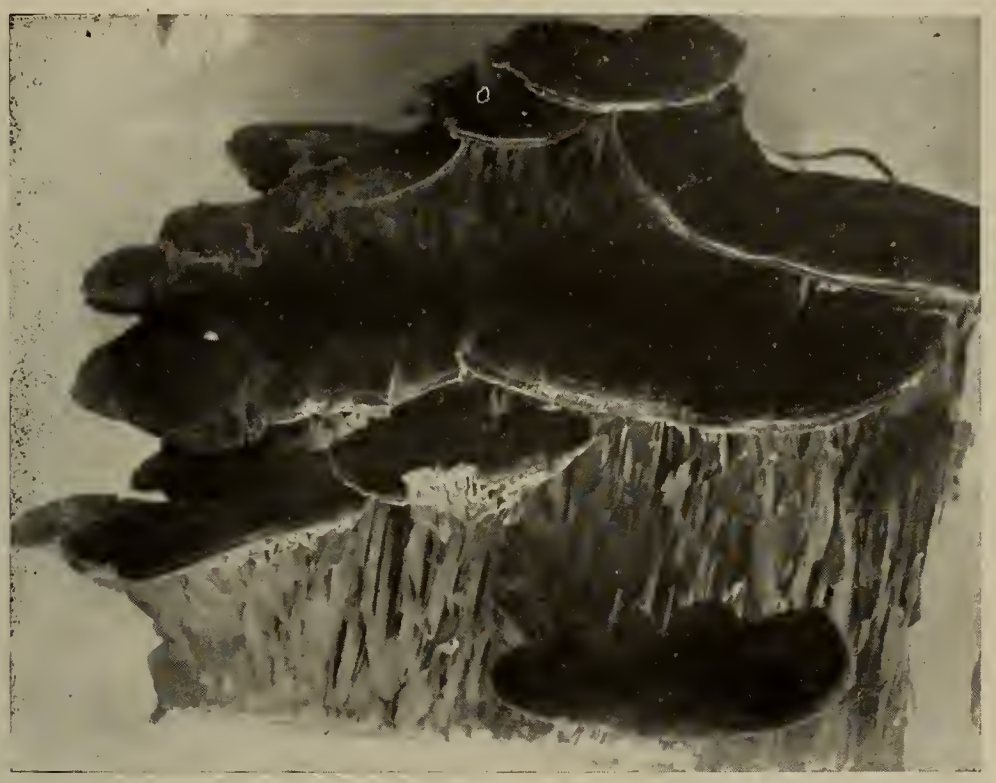


Fig. 2804. Lenzites variegata.

Fig. 2805. Lenzites betulina (thick form).

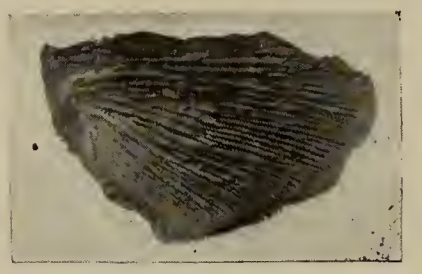


Fig. 2806. Lenzites abietinella.

Fig. 2807. Lenzites saepiaria.

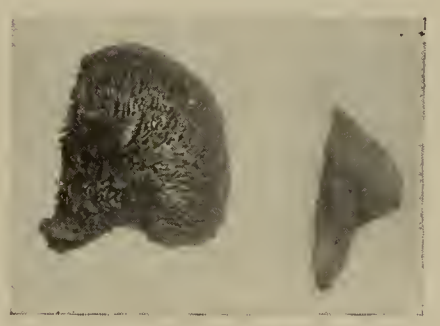


Fig. 2808. Lenzites trabeiformis.

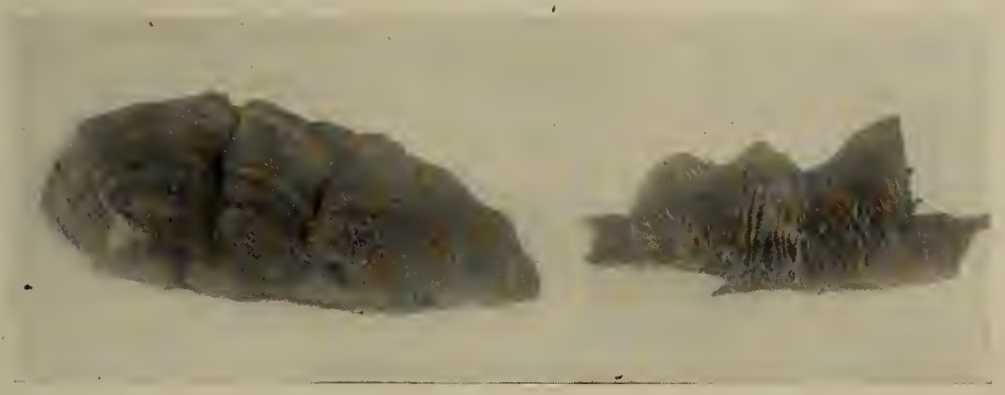


Fig. 2809. Lenzites saepiformis.

Fig. 2810.
Stereum Japonicum.

Fig. 2811.
Stereum Miquelianum.

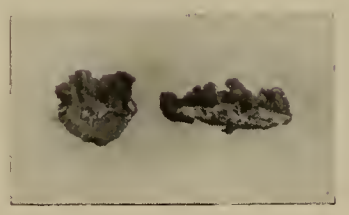


Fig. 2812.
Dacryomyces roseotincta.

Fig. 2813. Cyphella (?) involuta.

Fig. 2814. Daedalea stereoides.

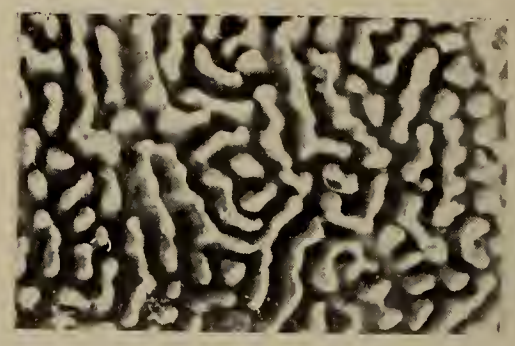


Fig. 2815. Daedalea stereoides (Hymenium enlarged).

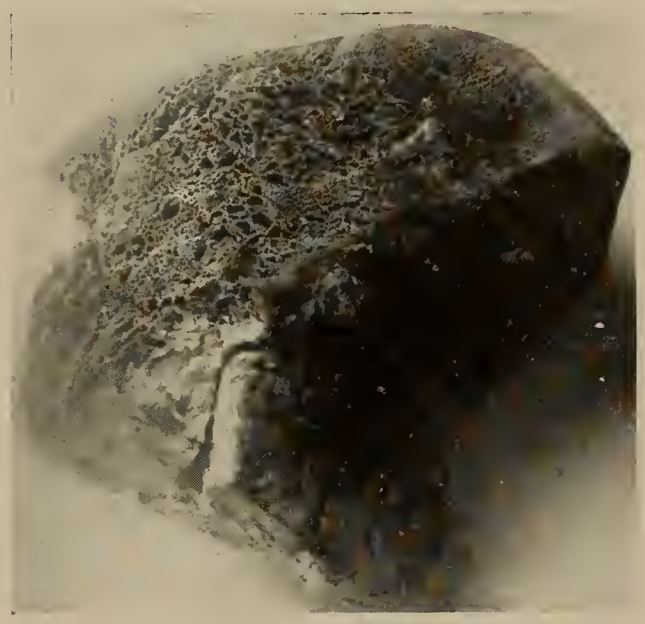


Fig. 2816. Polyporus Itoi.

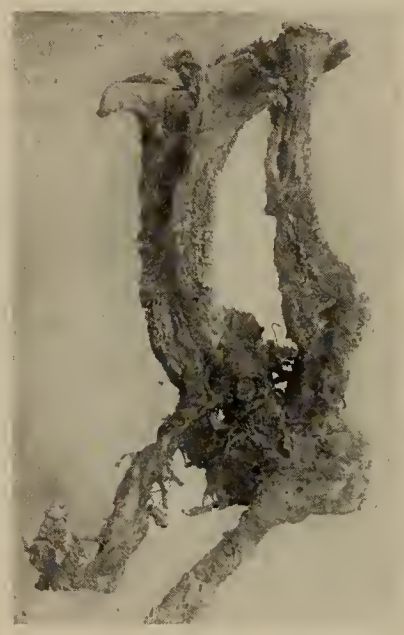


Fig. 2817. Lentinus Bostonensis.

Fig. 2818. Phlebia merismatoides (English sense).

Fig. 2819. Tremella incisa.

Fig. 2820. Femsjonia luteo-alba.

Fig. 2821. Auricularia scutellaeformis.

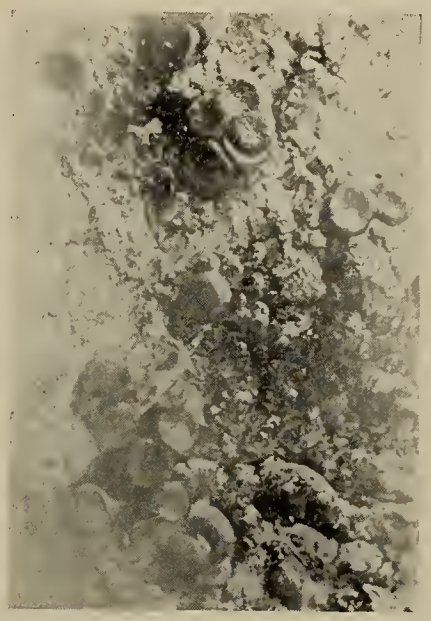


Fig. 2822. Exidia bullata.

Fig. 2823. Campanella Sarasinii.

Fig. 2824. Tremella fimbriata.

Fig. 2825. Auricularia crassa (dried).

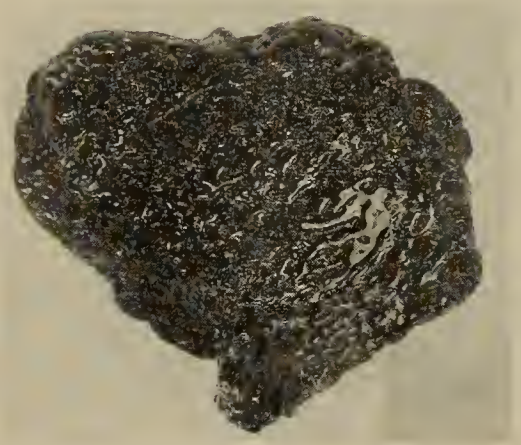


Fig. 2826. Auricularia crassa (soaked).

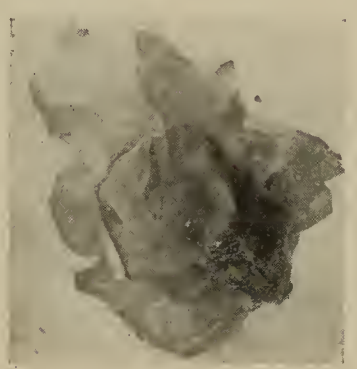


Fig. 2827. Tremella flavidula.

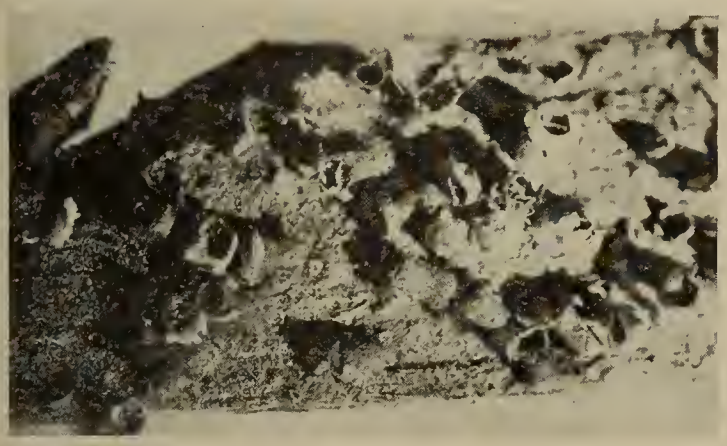


Fig. 2828. Pilacre pallida (enlarged).

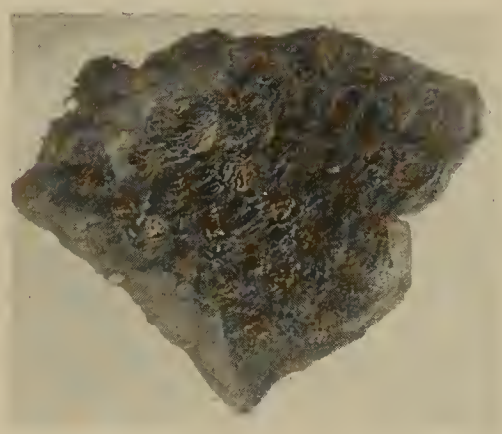


Fig. 2829. Hydnum Sanchezii.

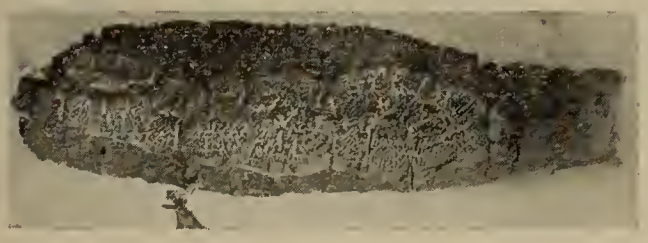


Fig. 2830. Radulum pallidum (dried).

Fig. 2831. Radulum pallidum (enlarged).

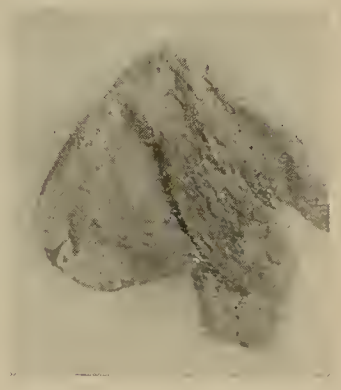


Fig. 2832. Secotium globososporum.

Fig. 2833. Broomeia congregata.

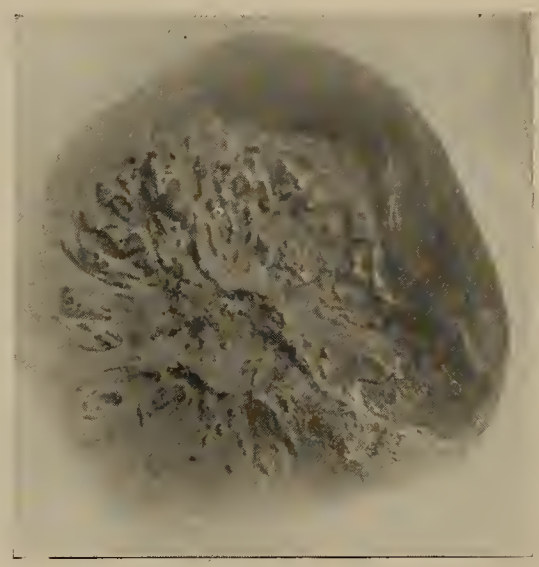


Fig. 2834.
Arcangiella Borziana (base enlarged).

Fig. 2835. Arcangeliella Lorziana (section enlarged).

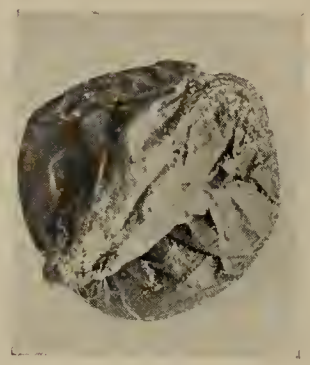


Fig. 2836. Lycoperdon bispinosum.

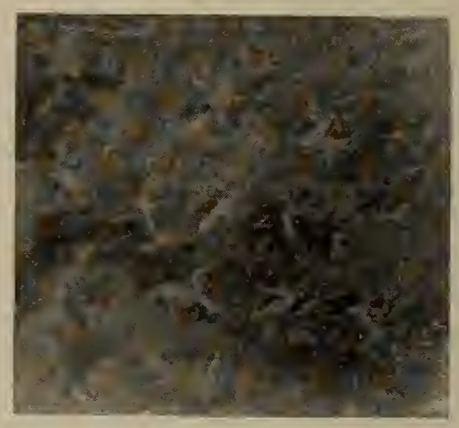


Fig. 2837.
Lycoperdon bispinosum (cortex enlarged).

Fig. 2838. Mitremyces Junghuhni (enlarged).

Fig. 2839. Simblum spaerocephalum.

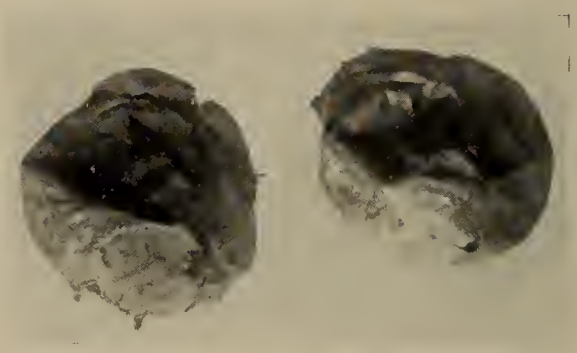


Fig. 2840. Bovistella flaccida.

Fig. 2841. Hymenogaster Behrii.

Fig. 2842. Laternea cristata.

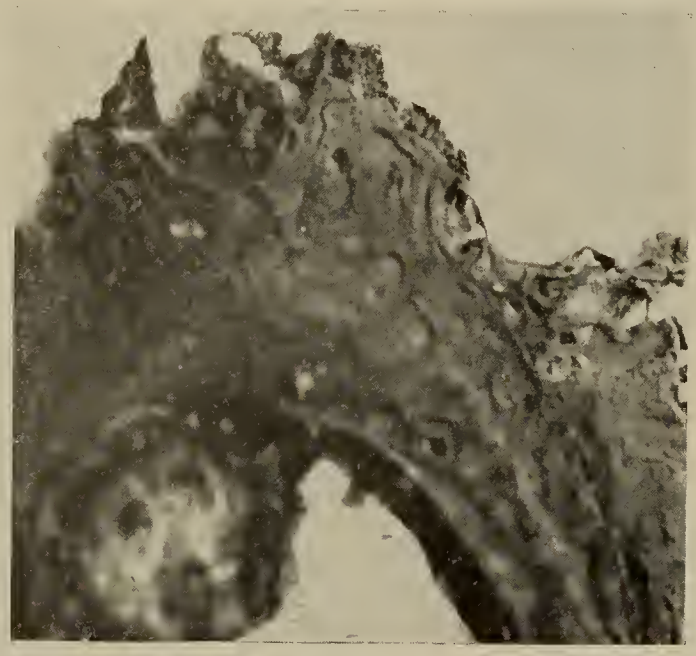


Fig. 2843. Laternea cristata (enlarged).

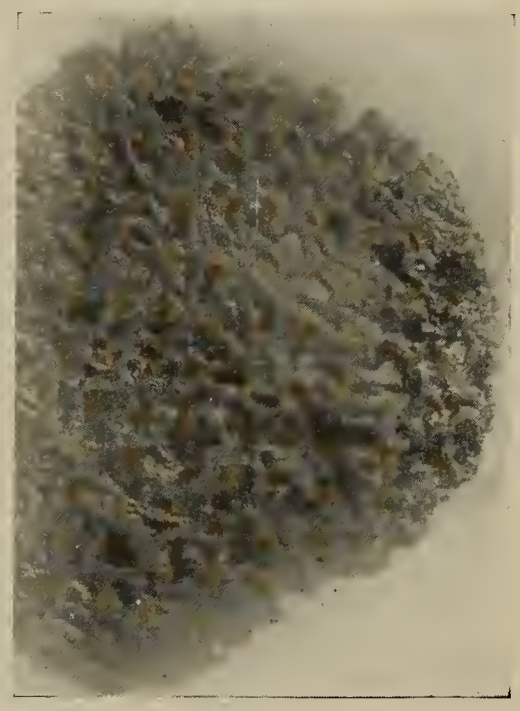


Fig. 2844. Octaviania carnea (section enlarged).

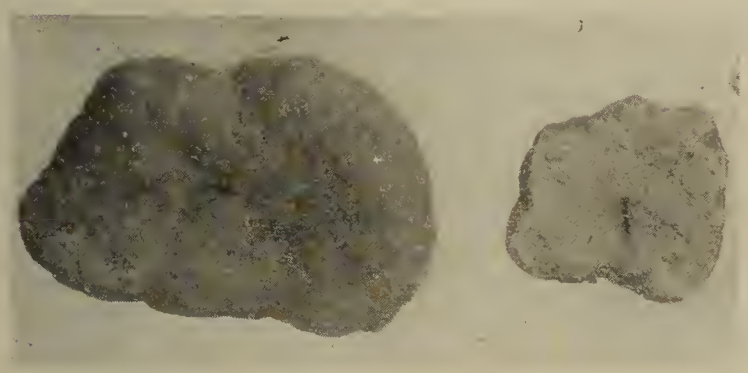


Fig. 2845. Cremeogaster levisporus.

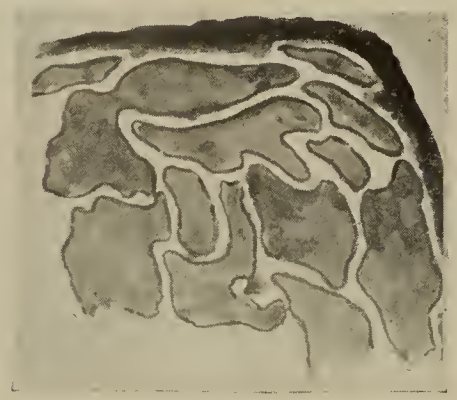


Fig. 2846. Cremeogaster levisporus (section enlarged).

Fig. 2847. Cremeogaster levisporus (spores magnified).

Fig. 2848. Lycoperdopsis arcyrioides.

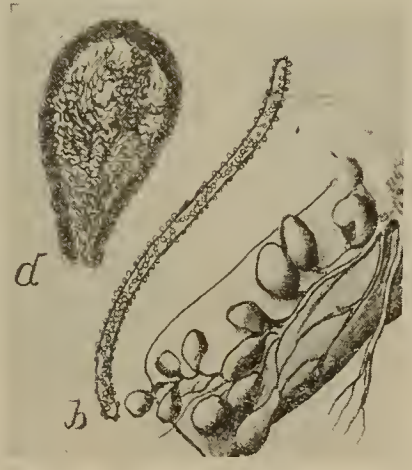


Fig. 2849. Lycoperdopsis arcyrioides (Henning's drawing).

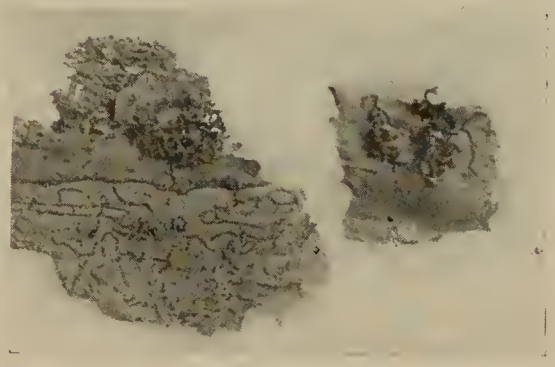


Fig. 2850. Calocera flavida.

Fig. 2851. Geaster leptospermus.

Fig. 2852. Calvatia defodiodis.

Fig. 2853. Hydnocystis Thwaitesii.

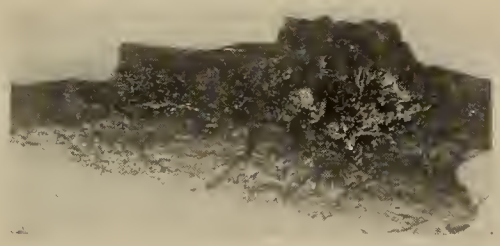


Fig. 2854. Sarcosoma godronioides.

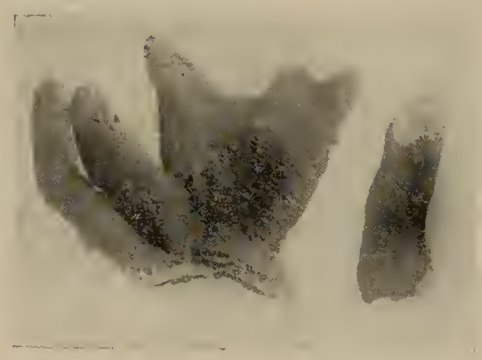


Fig. 2856. Xylaria Maumeei.

Fig. 2855. Sarcosoma godronioides (enlarged).

Fig. 2857. Otidea leporina.

Fig. 2858. Xylaria squamosa (?).

Fig. 2859. Geaster Reinkingii.

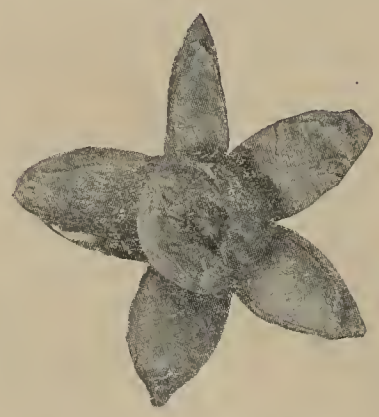


Fig. 2860. Geaster Hariotii.

Fig. 2861.
Nummularia pezizaeformis (enlarged six fold).

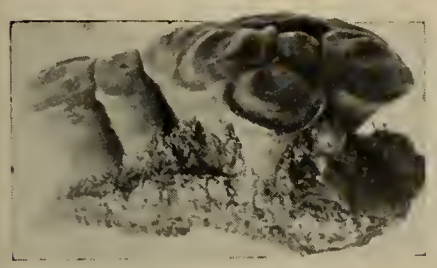


Fig. 2862. Camillea turbinata.

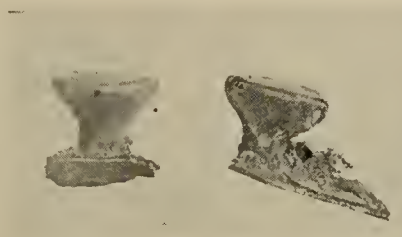


Fig. 2863. Camillea turbinata.

Fig. 2864. Camillea globoso-turbinata.

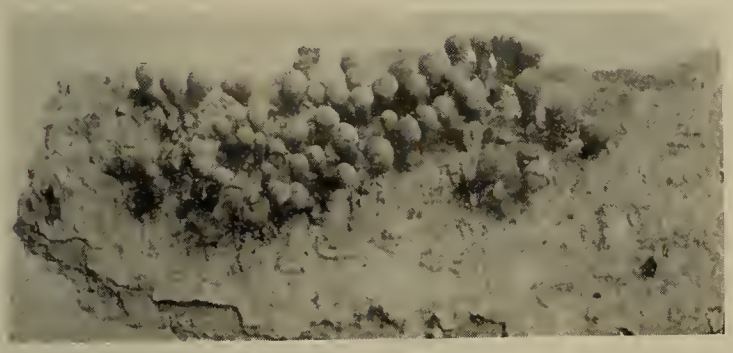


Fig. 2865. Camillea africana.

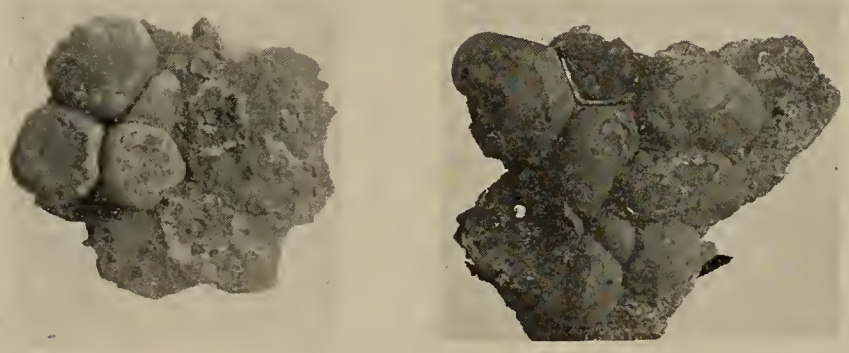


Fig. 2866. Camillea Williamsii.

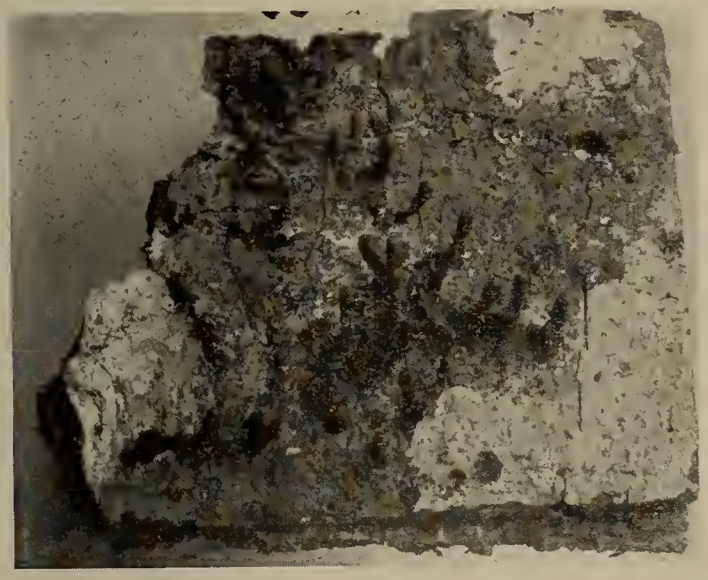


Fig. 2867. Camillea Zenkerii.

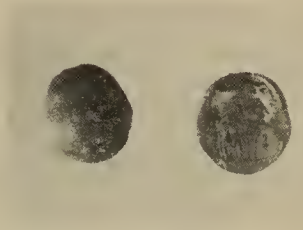


Fig. 2868. Camillea pila

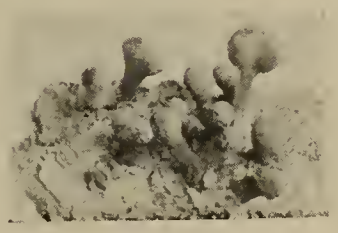


Fig. 2870. Camillea Luzonensis.

Fig. 2869. Camillea pila (enlarged six fold).

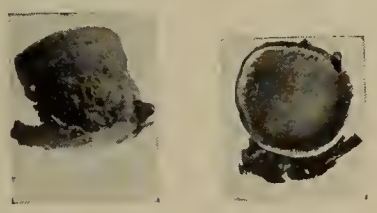


Fig. 2871. Camillea Labellum.

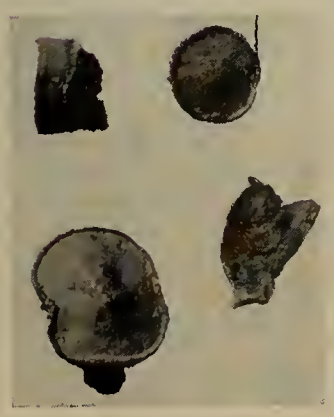


Fig. 2872. Nummularoidea artocreas.

Fig. 2873. Camillea Sagraena.

Fig. 2874. Camillea sulcata.

Fig. 2875. Camillea bilabiata (enlarged).

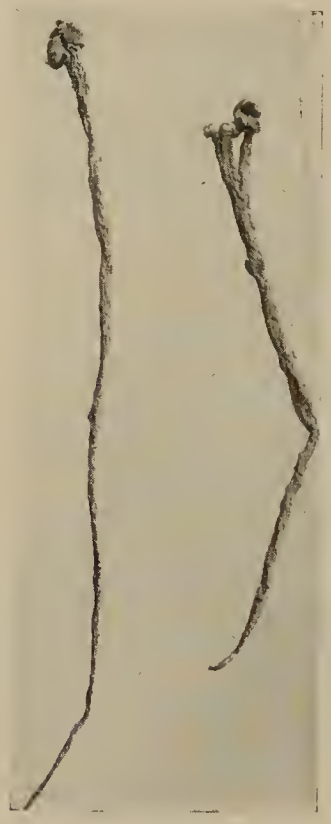


Fig. 2876. Xylaria pedunculata.

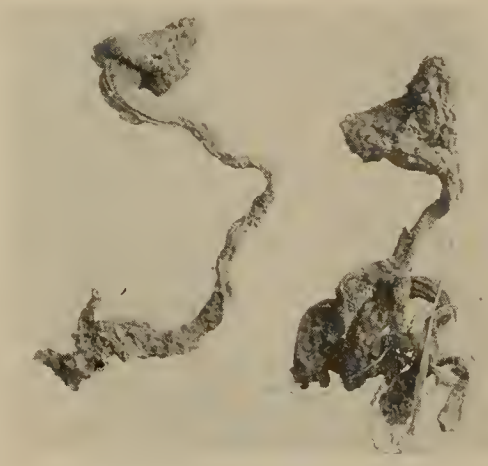


Fig. 2877. Xylaria vaporaria.

Fig. 2878. Xylaria vaporaria.

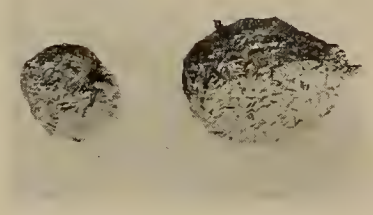


Fig. 2879.
Xylaria pusilla (usual habits).

Fig. 2880. Xylaria pusilla.

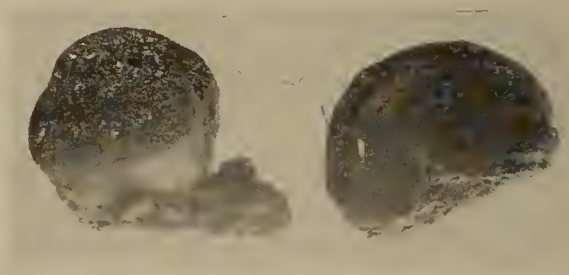


Fig. 2881. Hypoxylon simile.

Fig. 2882. Lycoperdon polycephalum.

Fig. 2883. Xylaria ramus.

Fig. 2884. Xylaria Sanchezii.

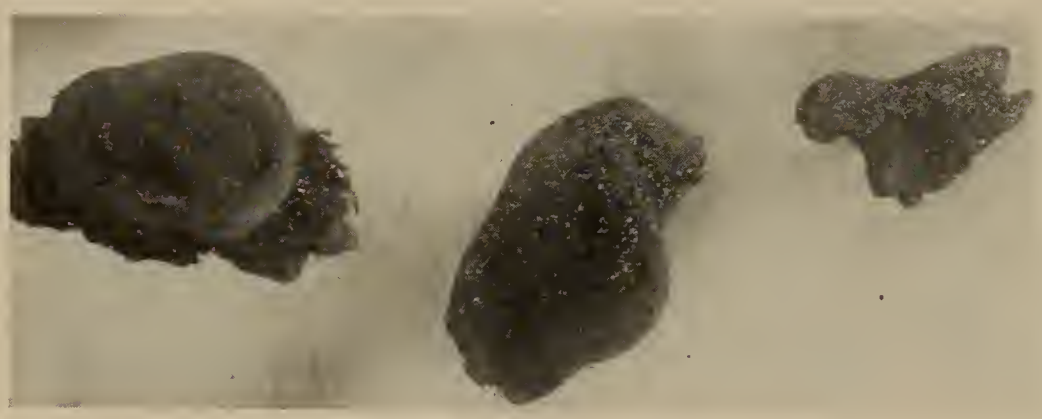


Fig. 2885. Bolinia Petersii.

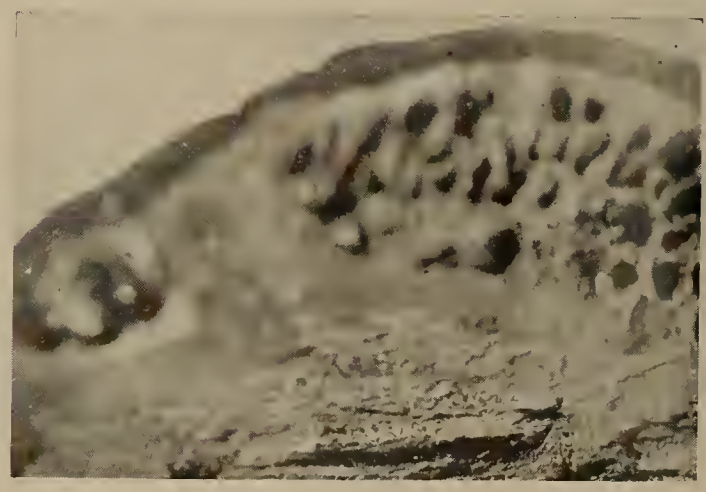


Fig. 2886. Bolinia Petersii (section enlarged).

Fig. 2887. Xylaria Longiana.

Fig. 2888. Hypocrea lactea.

Fig. 2889. Xylaria brevicephala.

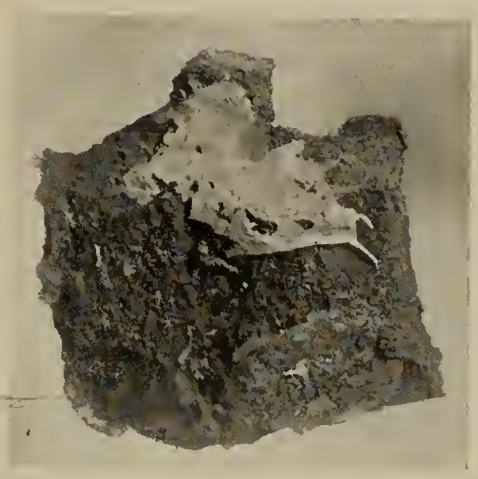


Fig. 2890. Hypocrea stipata.

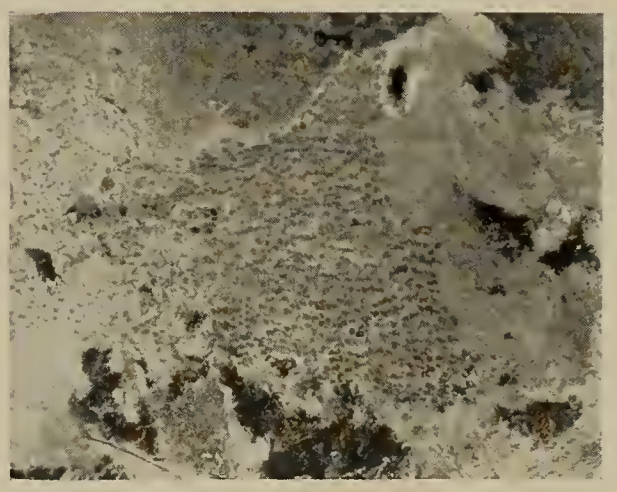


Fig. 2891. Hypocrea stipata (enlarged).

Fig. 2892. Poronia leporina.

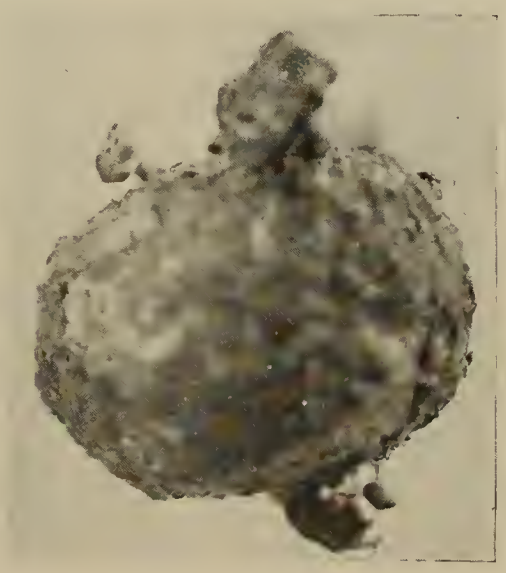


Fig. 2893. Poronia leporina (enlarged six fold).

Fig. 2894. Hypoxylon haematostroma.

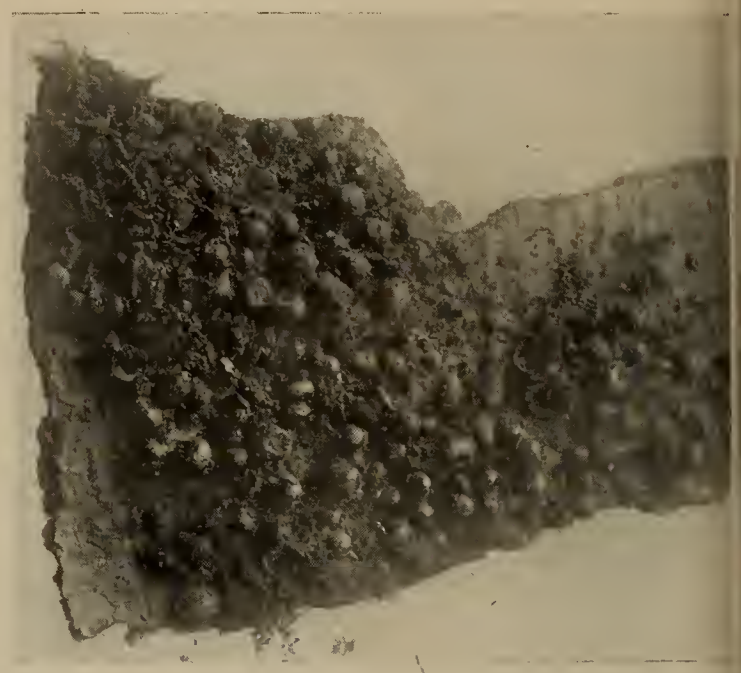


Fig. 2895. Camillea Bomba.

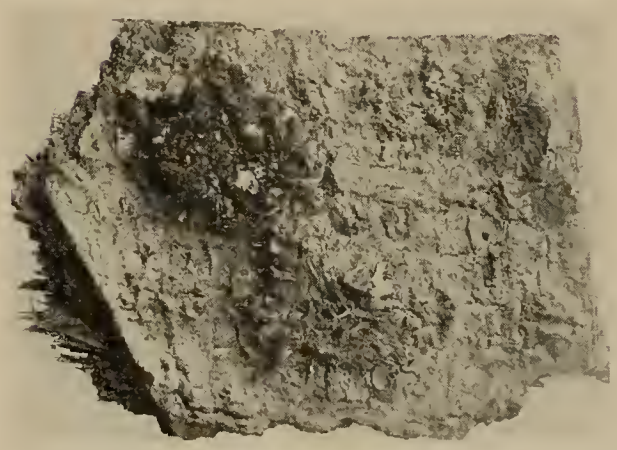


Fig. 2896. Wood from which Holttumia congregata has been broken.

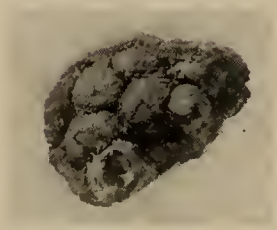


Fig. 2897.
Holttumia congregata (under side).

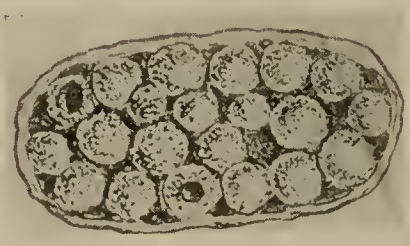


Fig. 2898. Holttumia congregata (drawing under side).

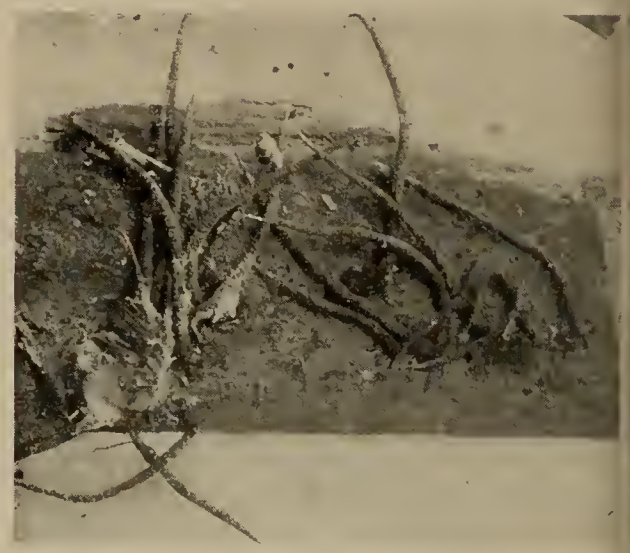


Fig. 2899. Xylaria bambooensis.

Fig. 2900. Xylaria guyanensis.

Fig. 2901. "Septobasidium" retiforme (enlarged).

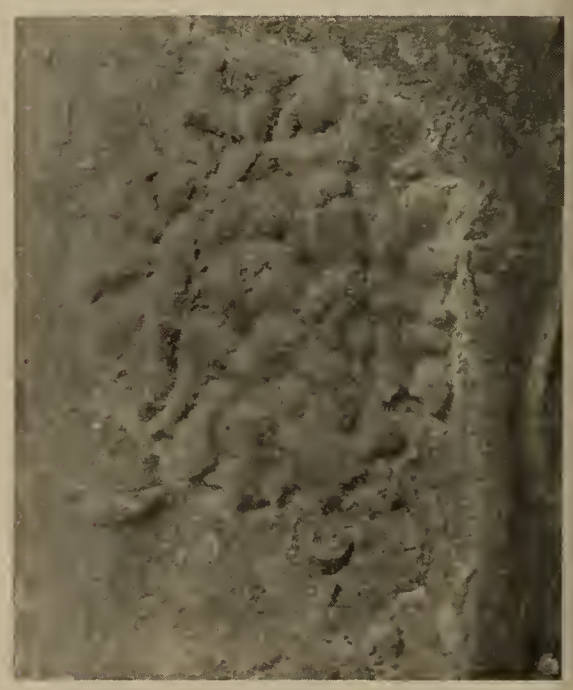


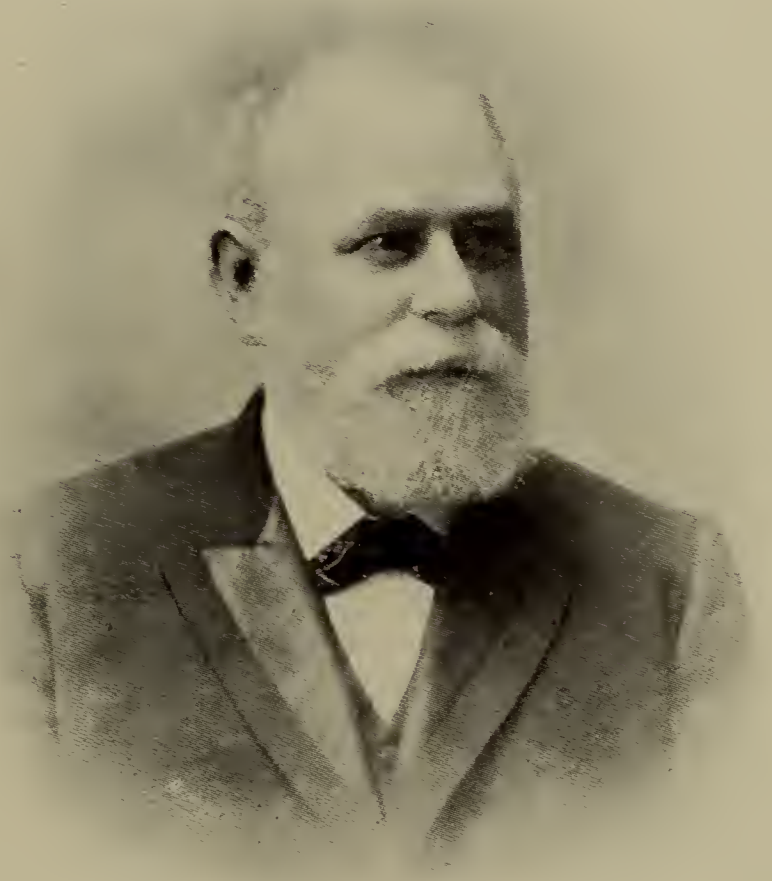
Fig. 2902. Septobasidium Burtii (enlarged).

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 73 OCTOBER, 1924



CHARLES CROSSLAND

Fig. 2903.
Kupsura sphaerocephala.

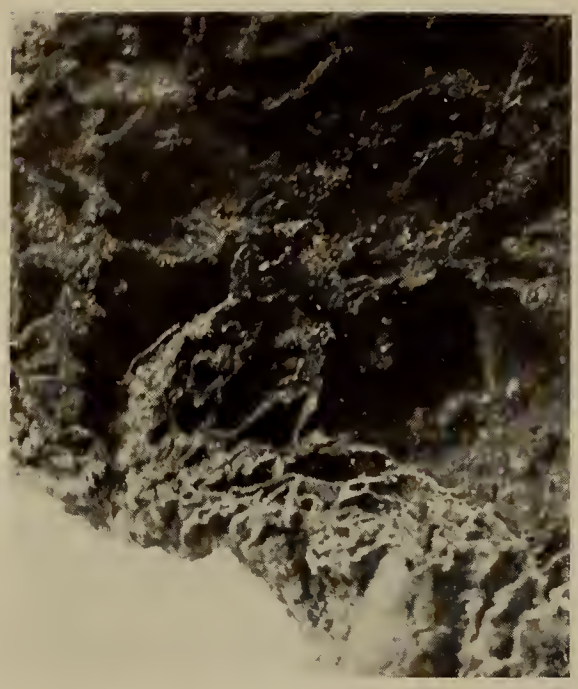


Fig. 2904. Kupsura sphaerocephala (section enlarged).

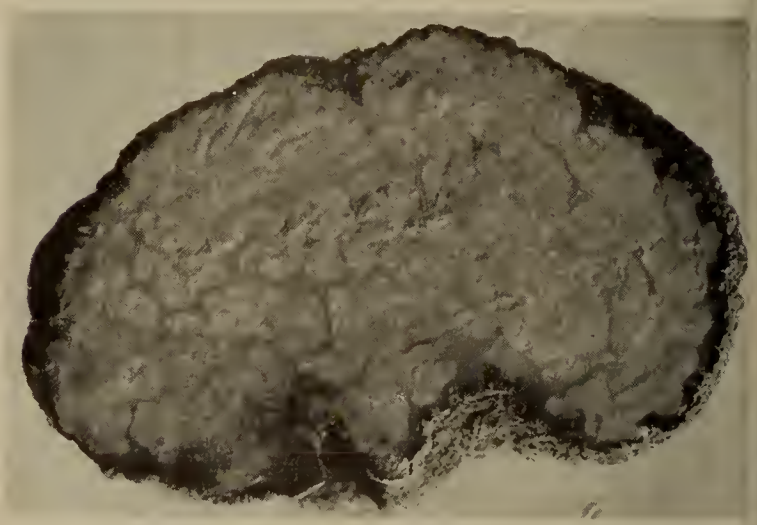


Fig. 2906. Picoa Lefebvrei (section enlarged).

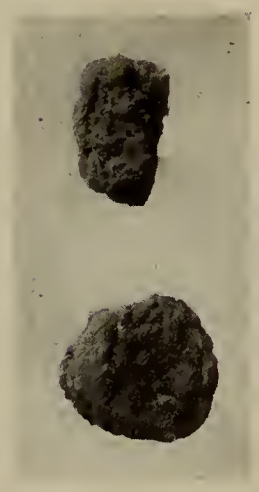


Fig. 2905.
Picoa Lefebvrei.

Fig. 2907.
Picoa Lefebvrei (surface enlarged).

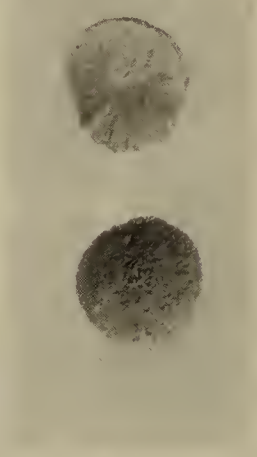


Fig. 2908.
Hymenogaster radiatus.

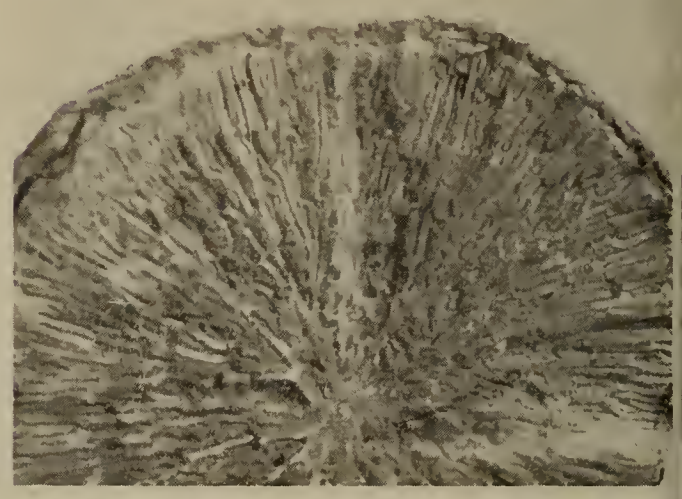


Fig. 2909. Hymenogaster radiatus (section enlarged).

Fig. 2910. Calvatia pachyderma.

Fig. 2911. Mitremyces orinuber.

Fig. 2912. Rhizopogon lutcolus.

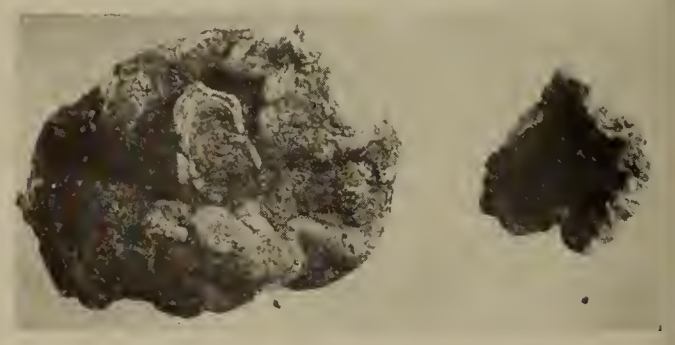


Fig. 2913. Hymenogaster lilacinus.

Fig. 2914. Mesophellia Taylorii.

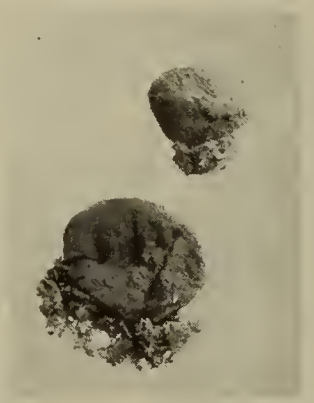


Fig. 2915. Scleroderma capensis.

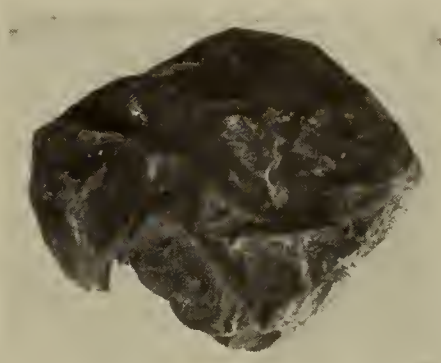


Fig. 2916. Lycoperdon nitidum.

Fig. 2917.
Geaster Drummondii (mouth enlarged).

Fig. 2918.
Geaster striatulus (mouth enlarged).

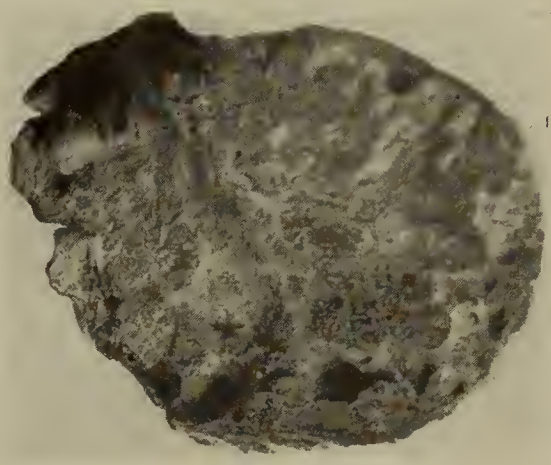


Fig. 2919.
Durosaccum pisoforme (section enlarged).

Fig. 2920. Scleroderma nitidum.

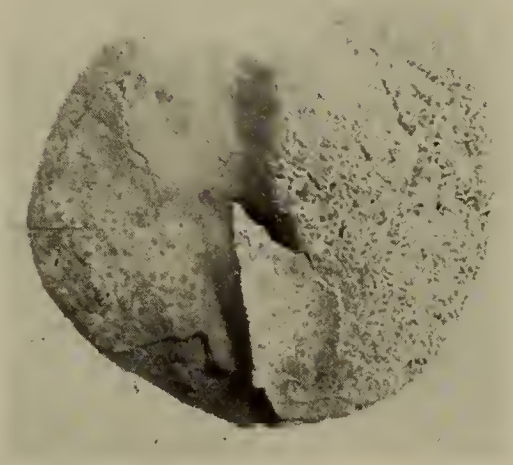


Fig. 2921. Scleroderma violaceum.

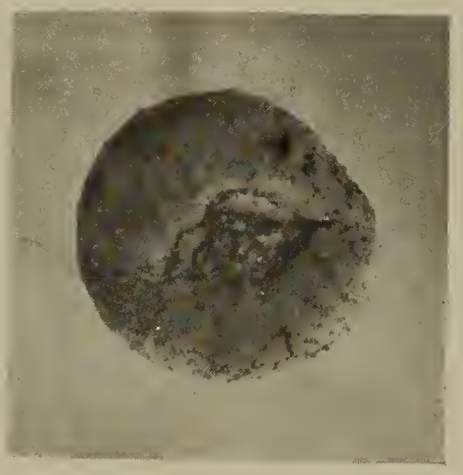


Fig. 2922. Endogone reniformis (enlarged).

Fig. 2923. Lycoperdon semi-immersum.

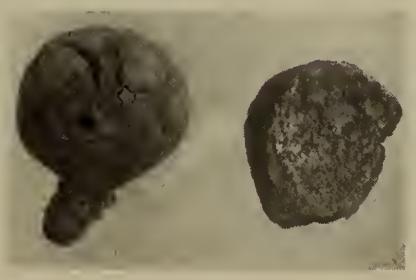


Fig. 2924. Polysaccum pygmaeum.

Fig. 2925. Poroniopsis Bruchi.

Fig. 2926. Wynnea macrotis.
(Doubtful as to specific name.)

Fig. 2927. Hypocrella ceramichroa.

Fig. 2928.
Hypocrella ceramichroa (section enlarged).

Fig. 2929. Hypocrella Japonica.

Fig. 2930.
Hypocrella Japonica (section enlarged.

Fig. 2931. Hypocrea rufa.

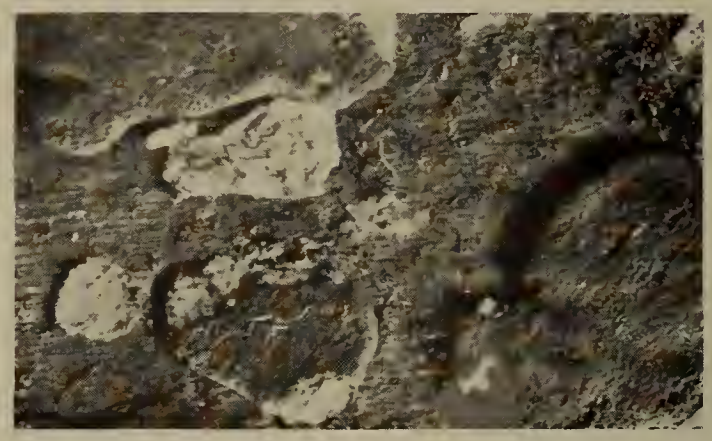


Fig. 2932. Hypocrea rufa (enlarged).

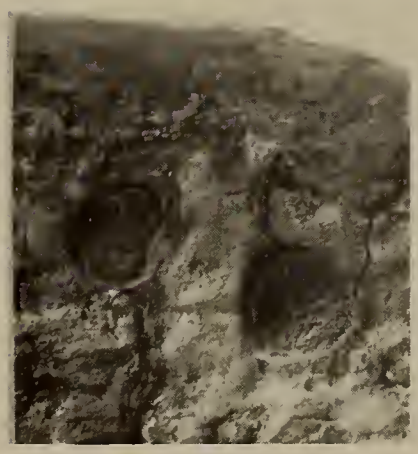


Fig. 2933. Hypocrea rufa discoidea.

Fig. 2934. Hypocrea patella.

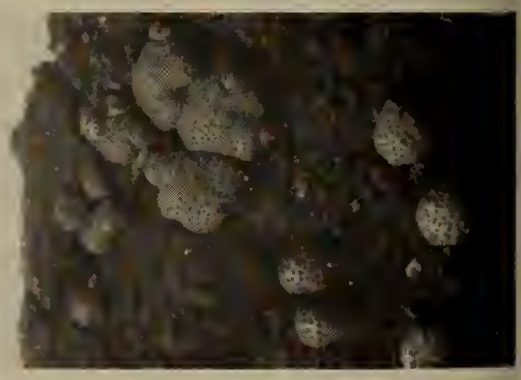


Fig. 2935. Hypocrea patella (enlarged).

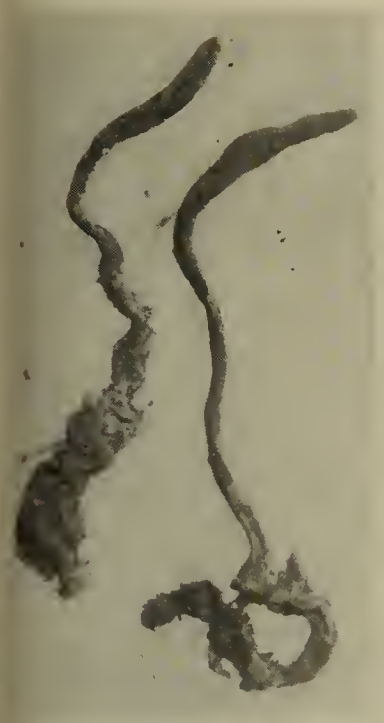


Fig. 2936. Cordyceps olivacea.

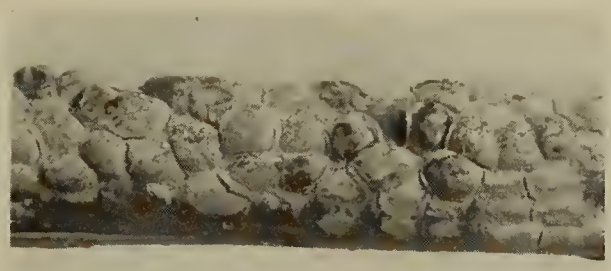


Fig. 2937. Torrubiella rubra.

Fig. 2938. Torrubiella rubra (enlarged).

Fig. 2939. Torrubiella aranicida.

Fig. 2940. Torrubiella aranicida (perithecia enlarged).

Fig. 2941. Torrubiella rubra (enlarged).

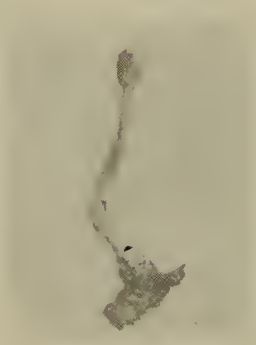


Fig. 2942. Cordyceps gracilis.

Fig. 2943. Cordyceps submiltaris.

Fig. 2944. Cordyceps furcata.

Fig. 2945. Cordyceps dipterigena (enlarged).

Fig. 2946. Hypocrea Borneoensis.

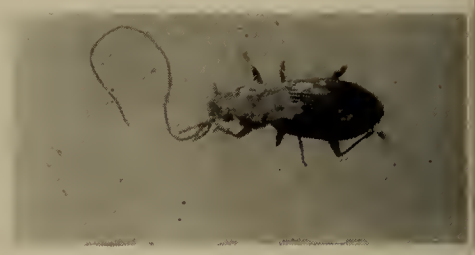


Fig. 2947. Isaria patrobus.

Fig. 2948. Xylaria aristata.

Fig. 2950. Xylaria Bogoriensis.

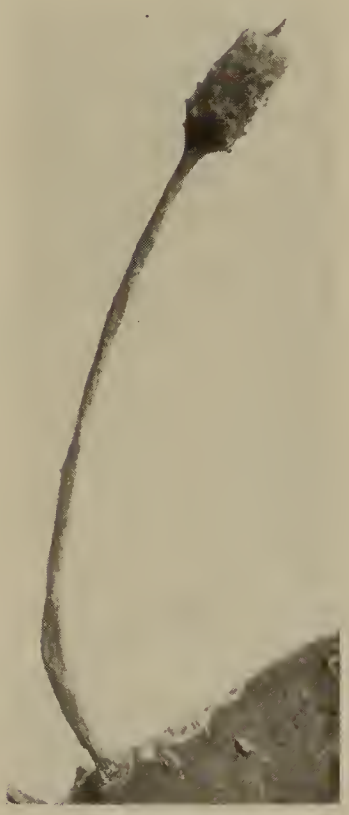


Fig. 2949.
Xylaria aristata (enlarged).

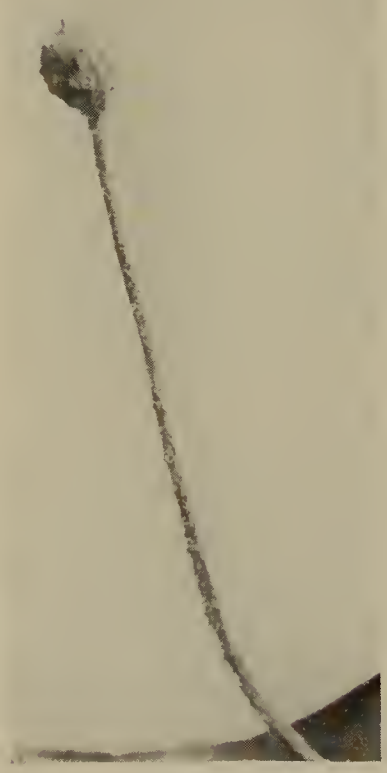


Fig. 2951.
Xylaria Bogoriensis (enlarged).

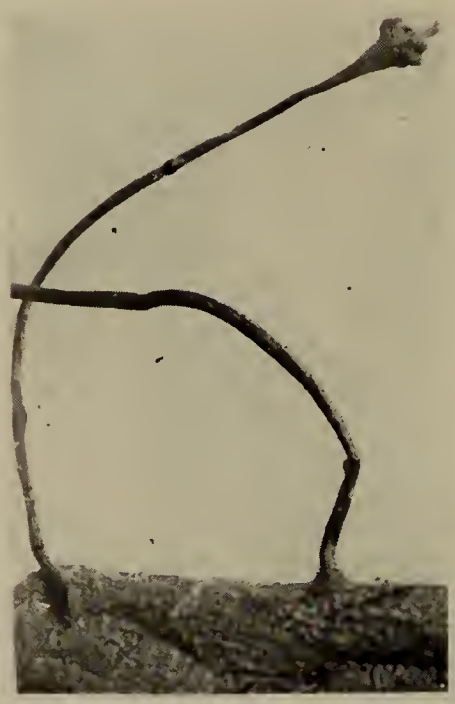


Fig. 2952. Xylaria sicula (enlarged).

Fig. 2953. Xylaria sicula (enlarged).

Fig. 2954. Xylaria Maumeei.

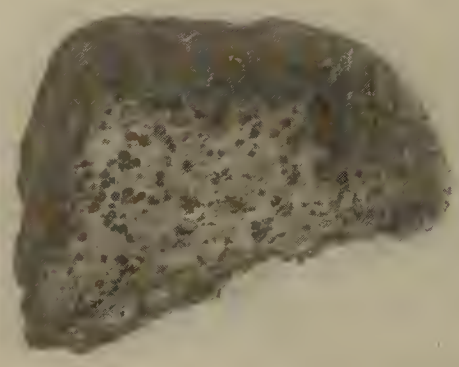


Fig. 2955. Melanospora Zobelii.

Fig. 2956. Porodiscus Rickii.

Fig. 2957.
Xylaria herculea (slender form).

Fig. 2958. Xylaria transiens.

Fig. 2959. Xylaria myceloides.

Fig. 2961.
Xylaria Petchii (enlarged).

Fig. 2960. Xylaria Petchii.

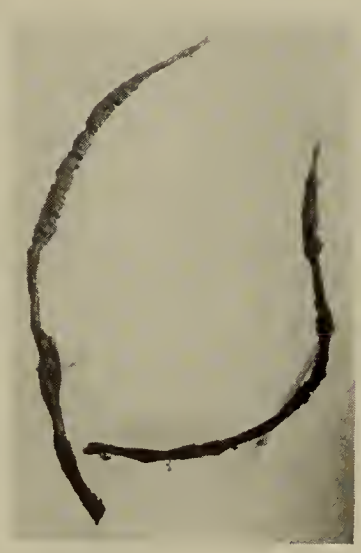


Fig. 2962. Xylaria cuspidata.

Fig. 2963. Xylaria cuspidata (enlarged).

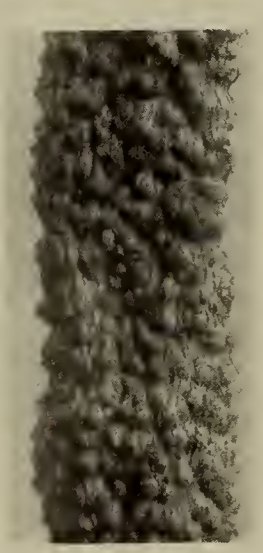


Fig. 2964. Xylaria Hypoxylon (enlarged).

Fig. 2965. Xylaria leprosoides.

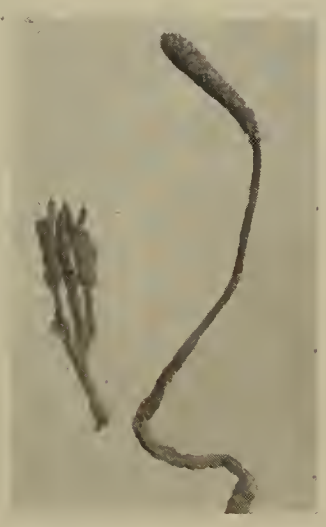


Fig. 2966. Xylaria Sanchezii.

Fig. 2967.
Xylaria Sanchezii (enlarged).

Fig. 2968. Stereum multifidum.

Fig. 2969. Nummularia Bulliardii.

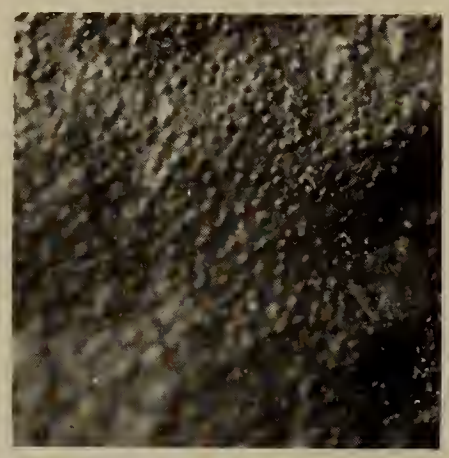


Fig 2970.
Nummularia Bulliardii (surface enlarged).

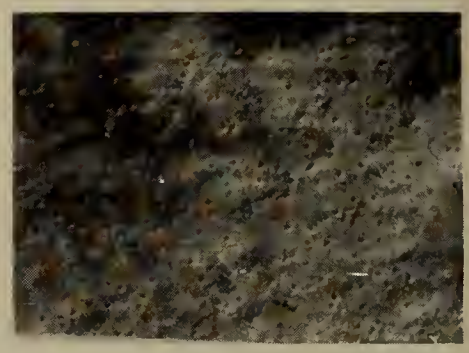


Fig. 2972.
Nummularia tinctor (surface enlarged).

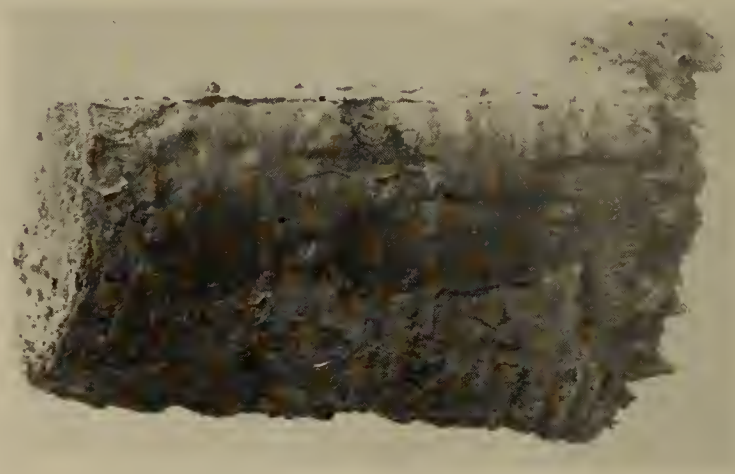


Fig. 2973. Nummularia punctulata.

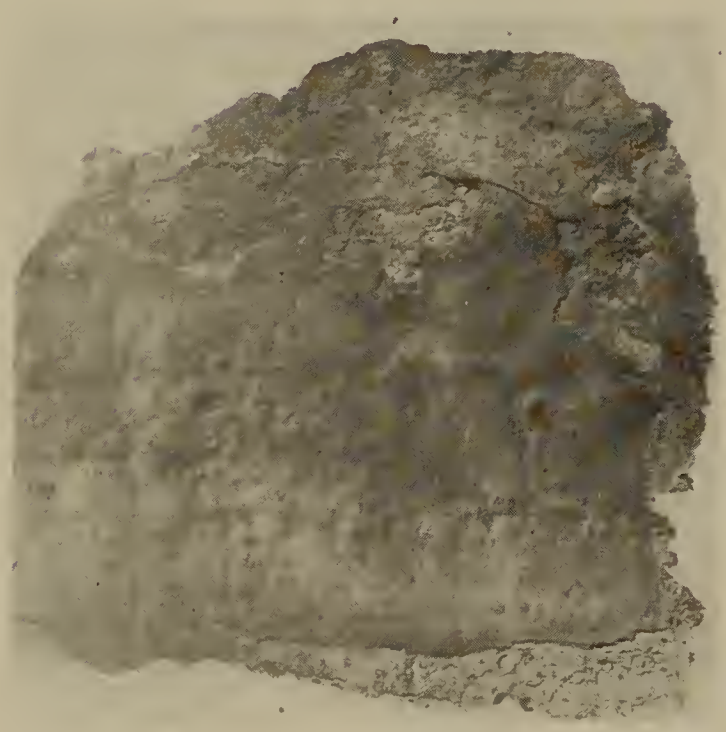


Fig. 2971. Nummularia tinctor.

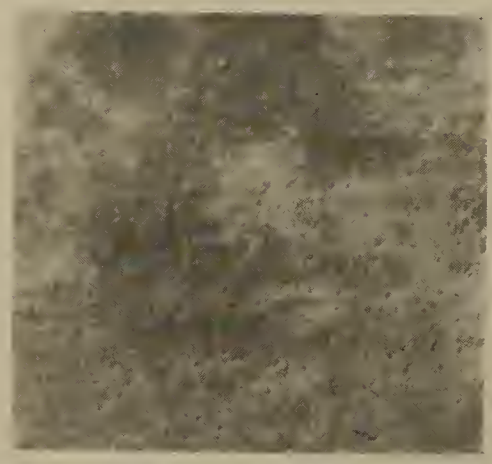


Fig. 2974.
Nummularia punctulata (surface enlarged).

Fig. 2975. Nummularia ianthina.

Fig. 2976. Nummularia ianthina (enlarged).

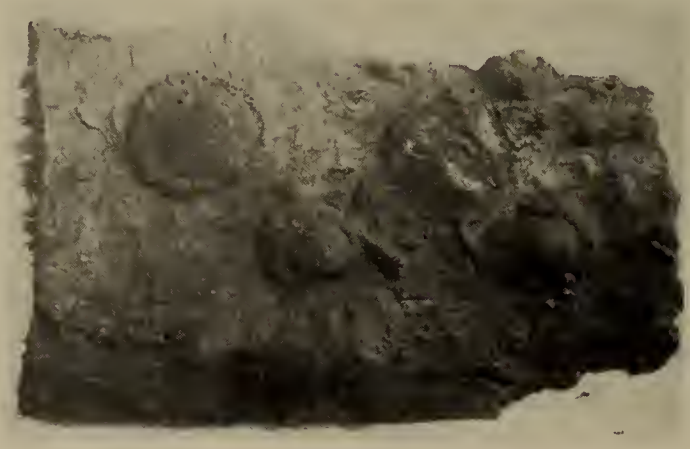


Fig. 2977. Hypoxylon circumscribum.

Fig. 2978. Hypoxylon multiforme (on oak).

Fig. 2979. Hypoxylon multiforme (on birch).

Fig. 2980. Hypoxylon multiforme (enlarged).

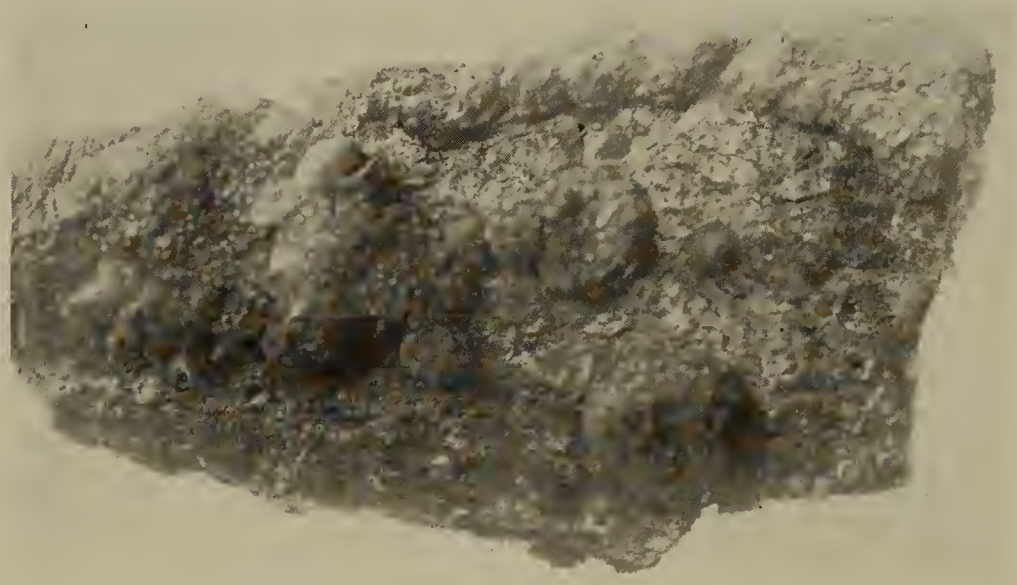


Fig. 2981. Hypoxylon perforatum (enlarged).

Fig. 2984. Solenoplea microspora (surface enlarged).

Fig. 2982. Hypoxylon perforatum (effused).

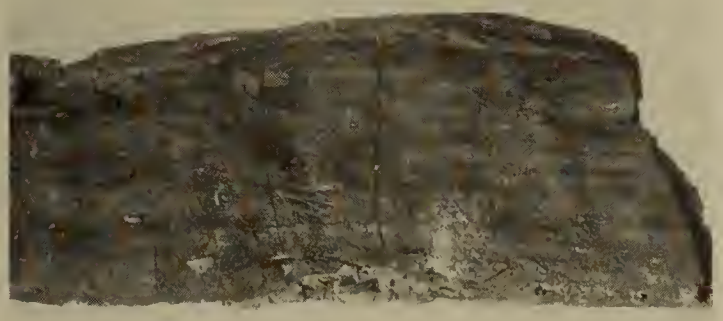


Fig. 2983. Solenoplea microspora.

Fig. 2985. Solenoplea microspora (section enlarged).

Fig. 2986. Daldinia fissa.

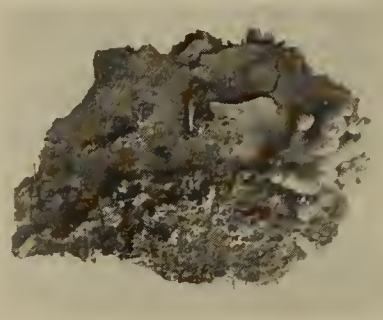


Fig. 2987.
Kretzschmaria (?) pusilla.

Fig. 2988. Kretzschmaria (?) pusilla (enlarged).

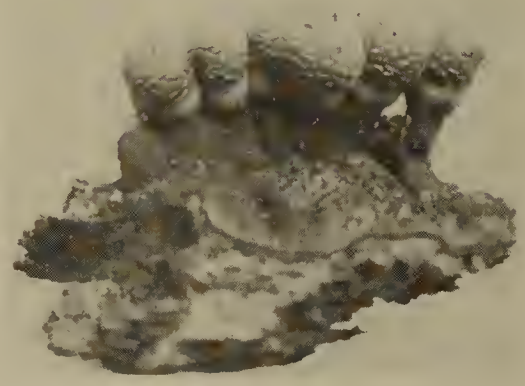


Fig. 2989. Kretzschmaria (?) pusilla (conidial enlarged).

Fig. 2990.
Kretzschmaria albocephala.

Fig. 2991. Kretzschmaria albocephala (enlarged).

Fig. 2992. Hypoxylon Thouarsianum (cushion shape).

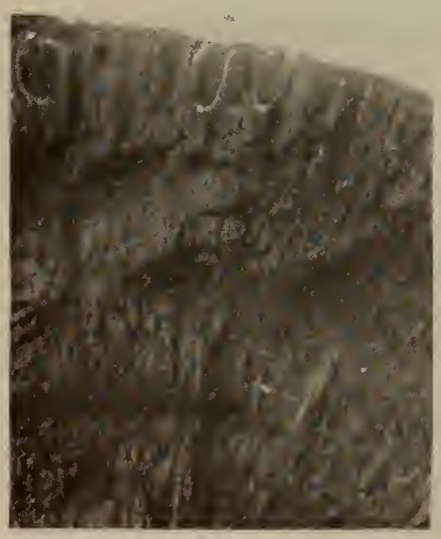


Fig. 2993. Hypoxylon Thouarsianum (perithecial section enlarged).

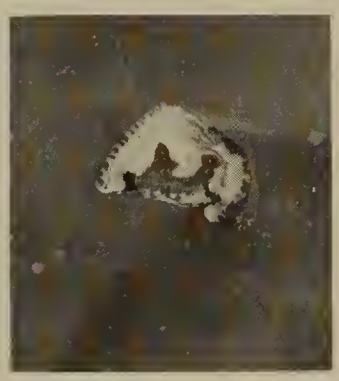


Fig. 2994.
Hypoxylina fusco-areolata (section).

Fig. 2995.
Hypoxylina fusco-areolata.

Fig. 2996. Hypoxylina fusco-areolata (surface enlarged).

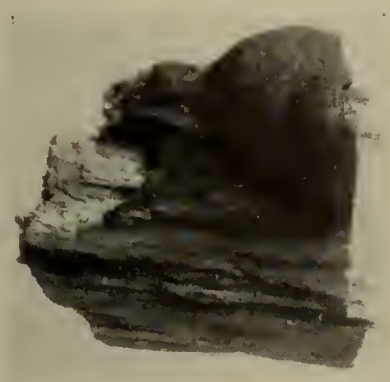


Fig. 2997. Hypoxylon Tahitiensis.

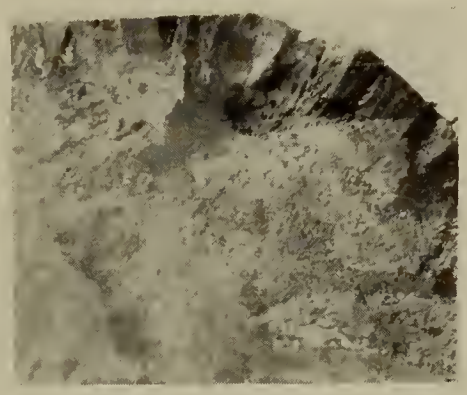


Fig. 2998. Hypoxylon Tahiticnsis (section enlarged).

Fig. 2999. Hypoxylon seperans.

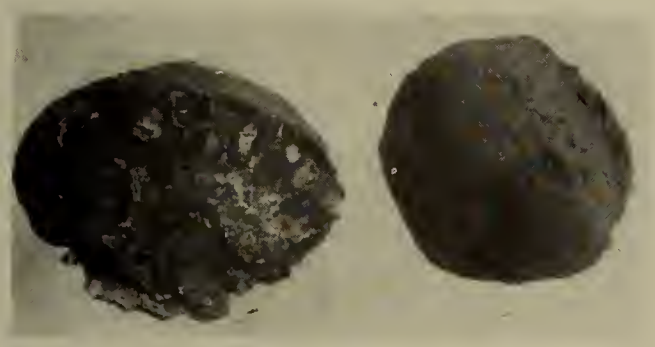


Fig. 3000. Hypoxylon nucele.

Fig. 3001. Hypoxylon nucele (surface enlarged).

Fig. 3002. Polystictus ater.

Fig. 3003. Hypoxylon Morsei.

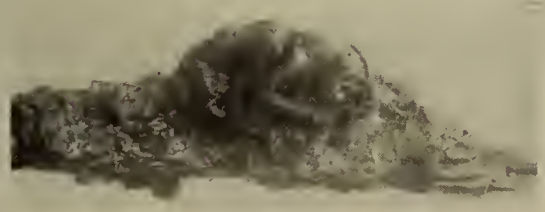


Fig. 3006. Entonaema liquescens.

Fig. 3004. Hypoxylon Morsei (enlarged).

Fig. 3005. Stereum Grantii.

Fig. 3007. Hypoxylina peltata.

Fig. 3008. Merulius debriscola.

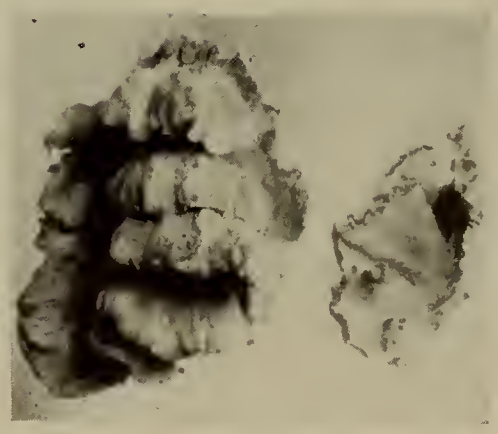


Fig. 3009. Polyporus pectunculus.

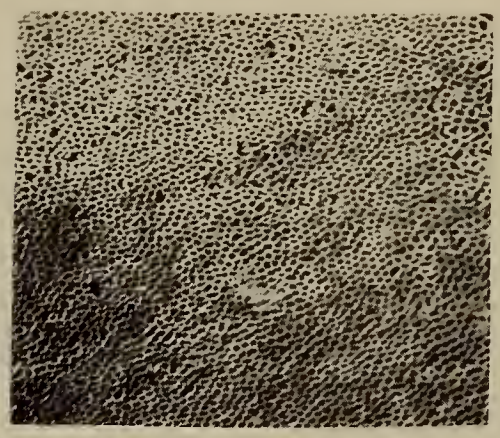


Fig. 3010. Polystictus gallo-pavonis (pores enlarged).

Fig. 3011. Polystictus bruneolus.

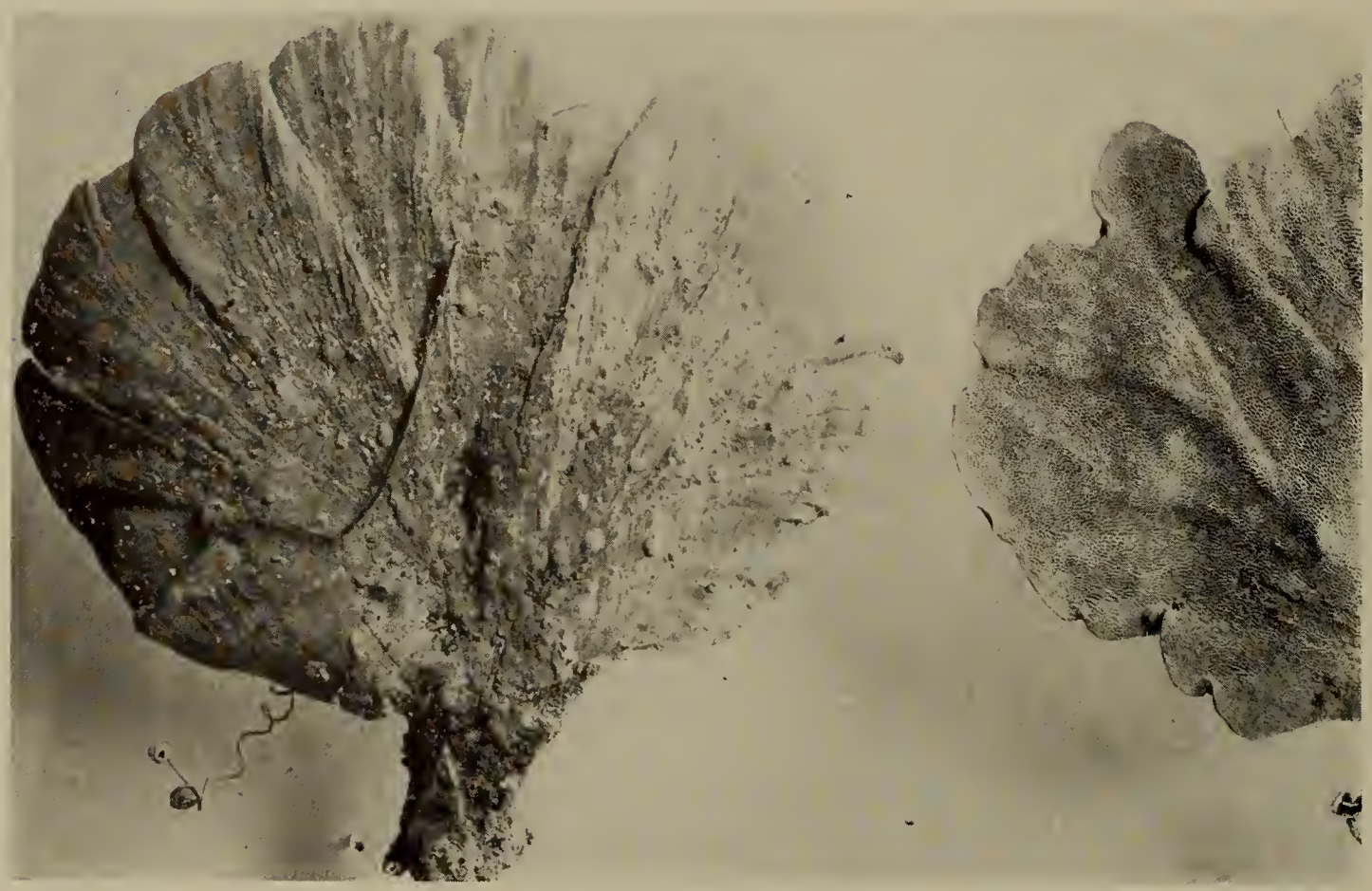


Fig. 3012. Polystictus Hunteri.

Fig. 3013. Polystictus vittatus.

Fig. 3014. Polystictus gallo-pavonis.

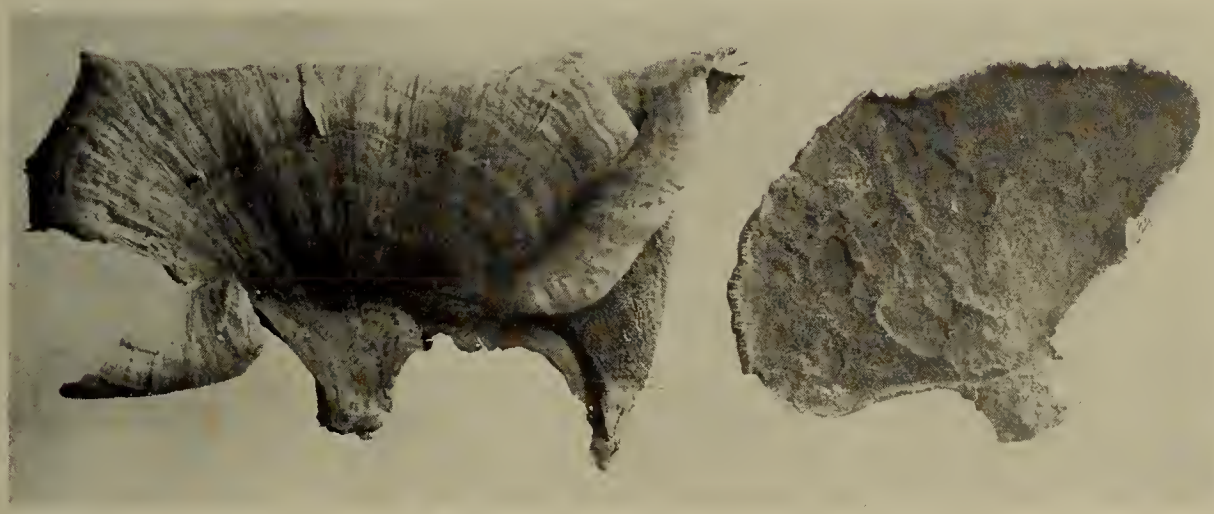


Fig. 3015. Polystictus meleagris.

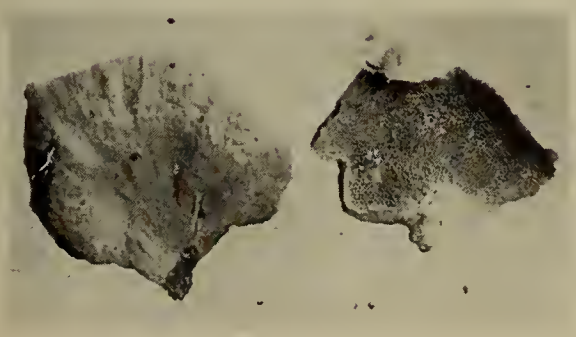


Fig. 3016. Polystictus cinerascens.

Fig. 3018. Polystictus Blumei (pores enlarged).

Fig. 3017. Polystictus incurvatus.

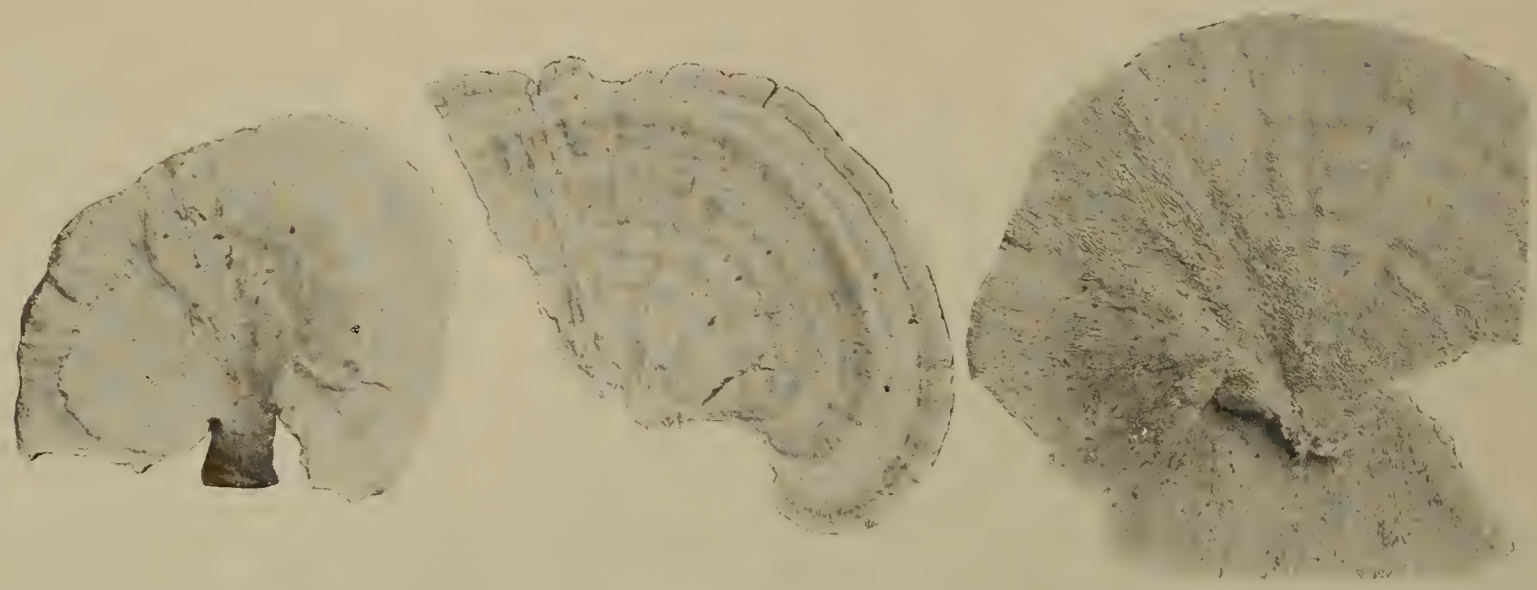


Fig. 3019. Polystictus Blumei.

Fig. 3020. Polystictus Hutchingsii.

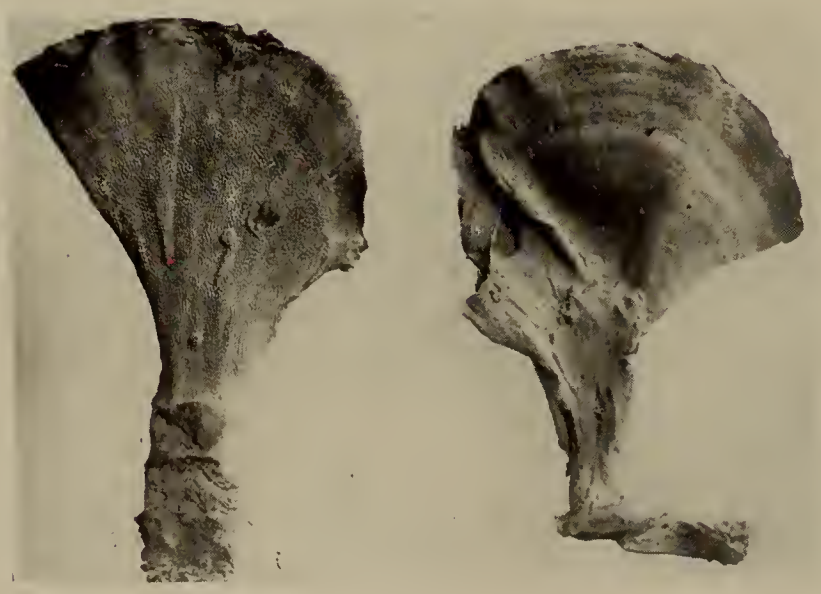


Fig. 3021. Polystictus Gaudichaudii (?).

Fig. 3022. Polystictus Gaudichaudii.

Fig. 3023. Polystictus Thwaitesii.

Fig. 3024. Polyporus deceptivus.

Fig. 3026. Polyporus (Amau.) variabilis.

Fig. 3025. Polyporus cornucopiae.

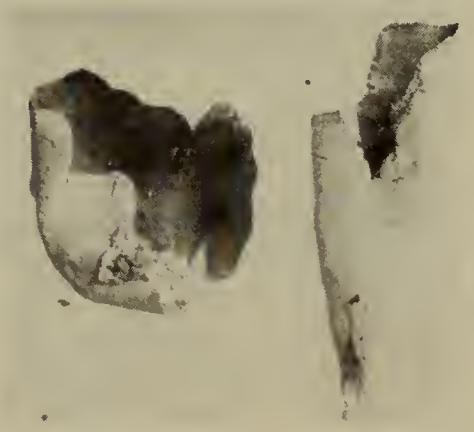


Fig. 3027. Polystictus minutoporus.

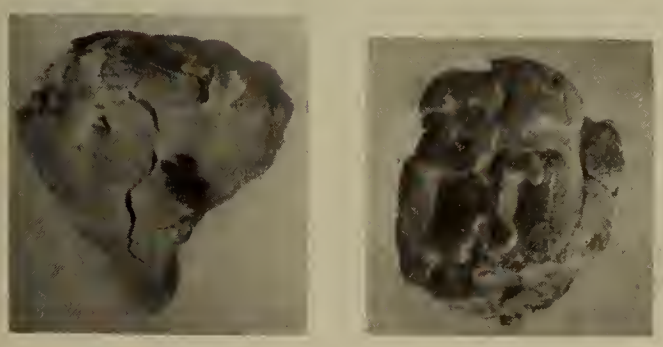


Fig. 3028. Polyporus junctus.

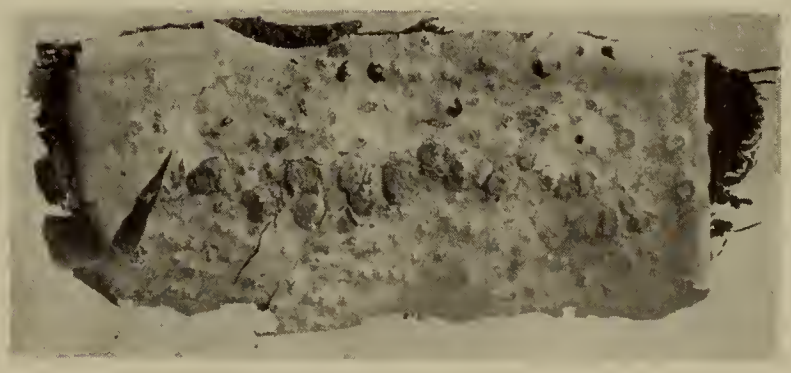


Fig. 3029. Stereum rufum.

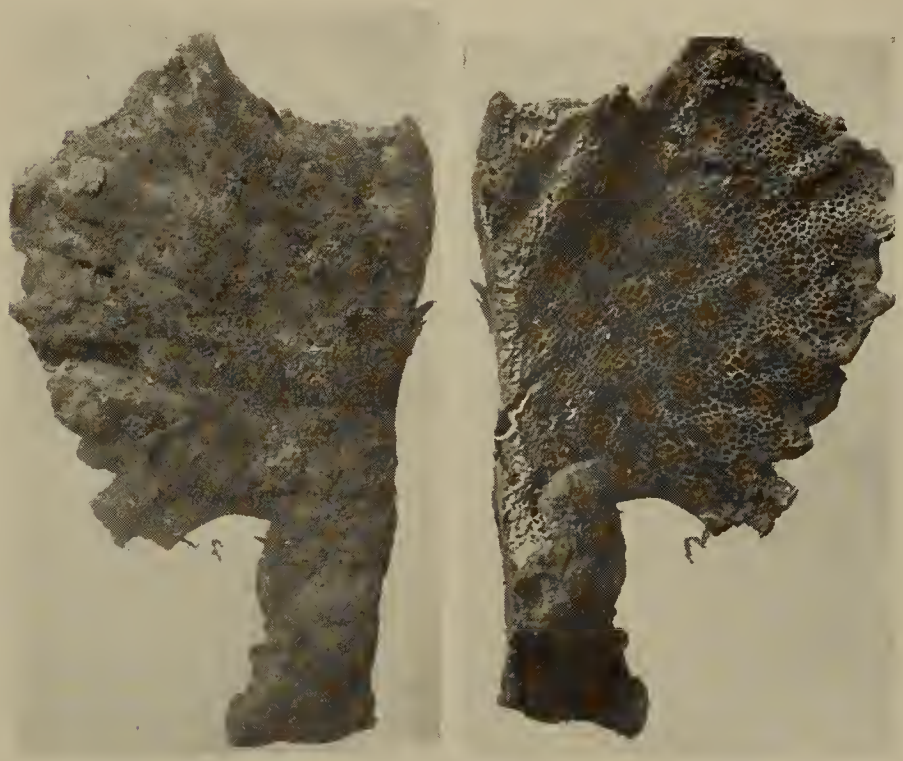


Fig. 3030. Polyporus duostratosus.

Fig. 3031. Polyporus sideroides.

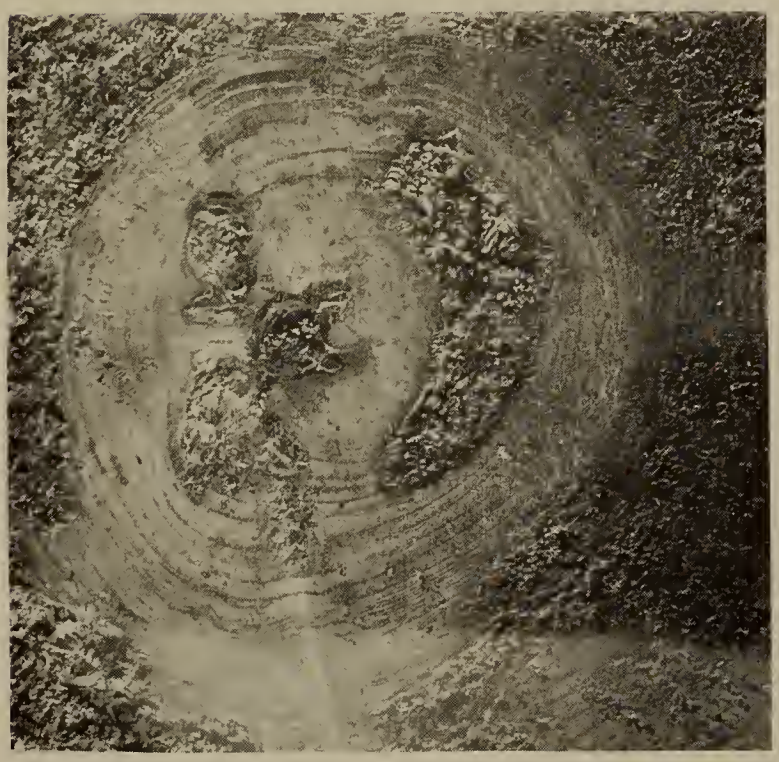


Fig. 3032. Disease of Fomes robustus.

Fig. 3034. Polystictus ochrotenuis.

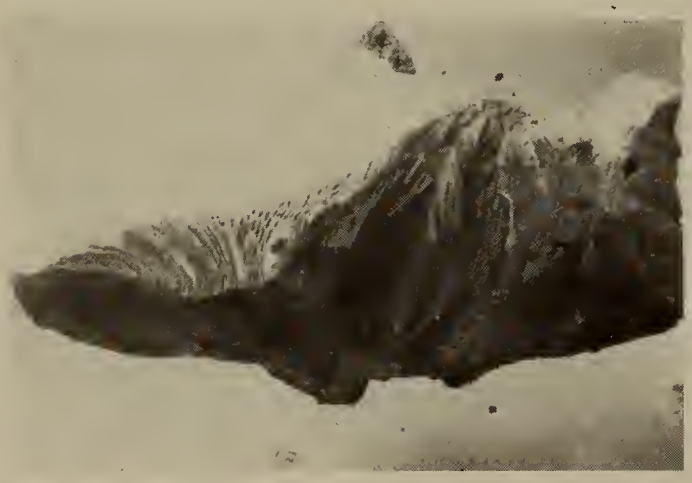


Fig. 3033. Polyporus albo-fuscus.

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 74 MARCH, 1925

(Vol. 7, No. 9)

PAUL ANDRIES VAN DER BIJL

A. C. J. Corda.

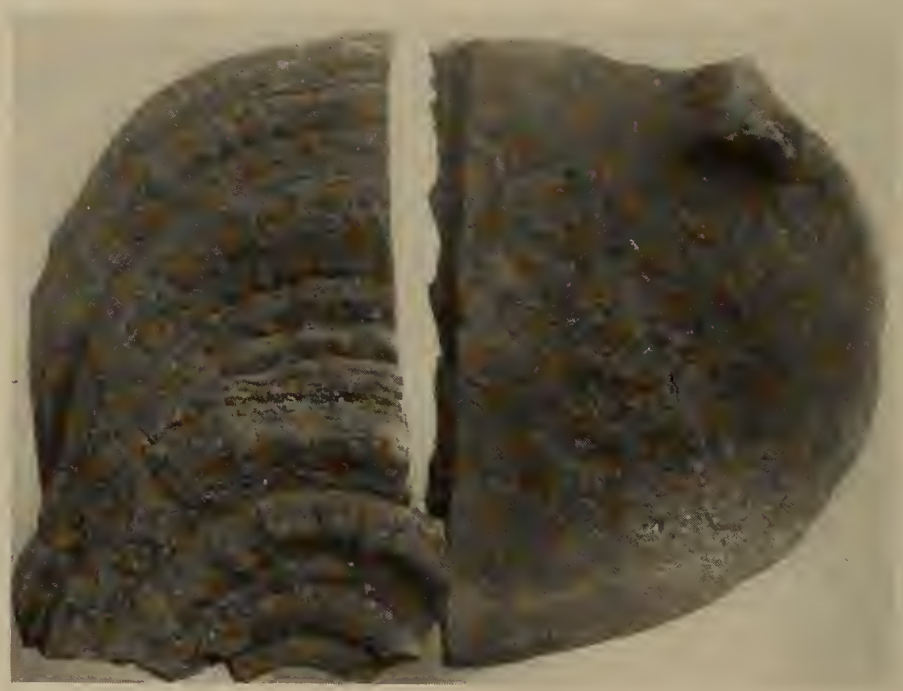


Fig. 3035. Fomes extensus.

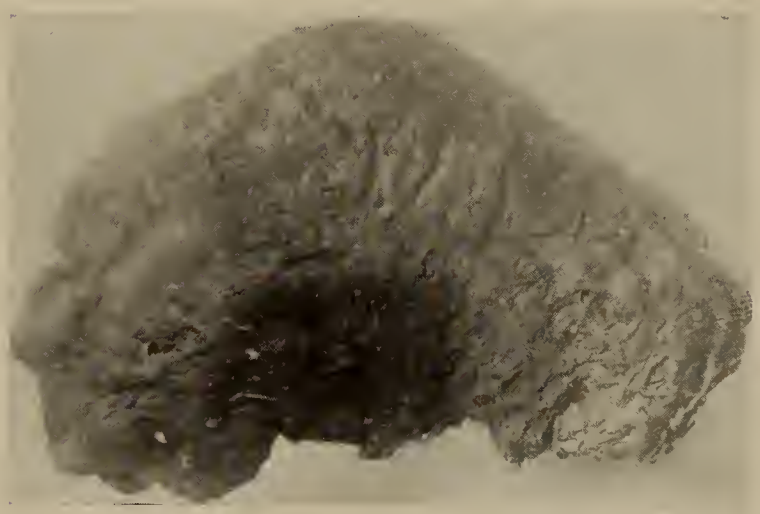


Fig. 3036. Polyporus bibulosus.

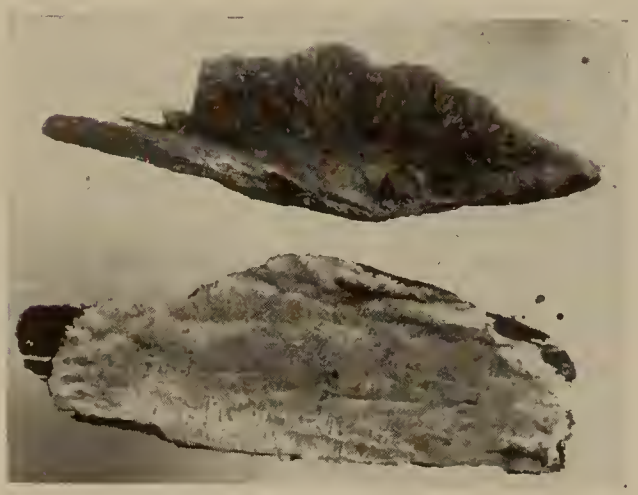


Fig. 3037. Polyporus setiger.

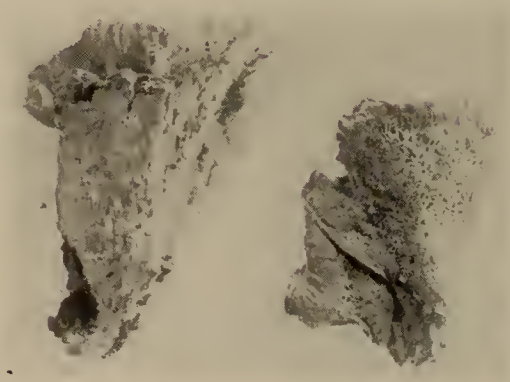


Fig. 3038. Polyporus strigoso-albus.

Fig. 3039. Polystictus Doidgei.

Fig. 3040. Polyporus rugiceps.

Fig. 3041. Polyporus tumulosus.

Fig. 3042. Fomes cuneatus.

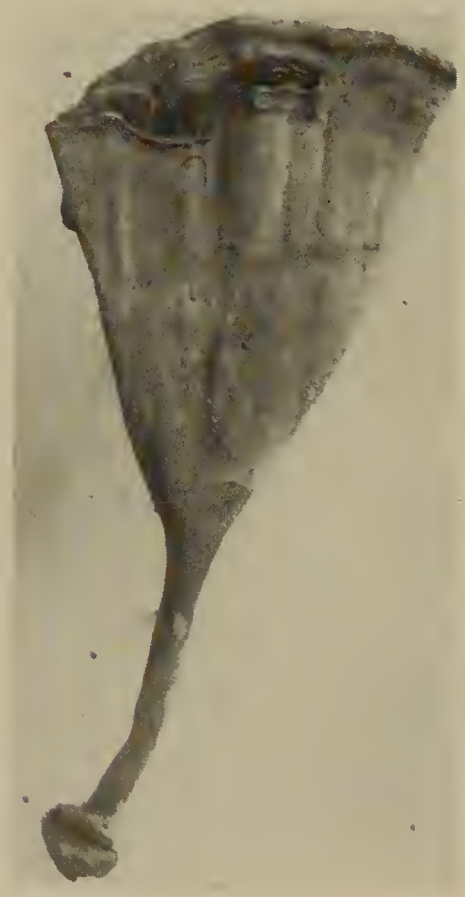


Fig. 3043. Polystictus florideus (narrow funnel form).

Fig. 3044. Favolus mollis.

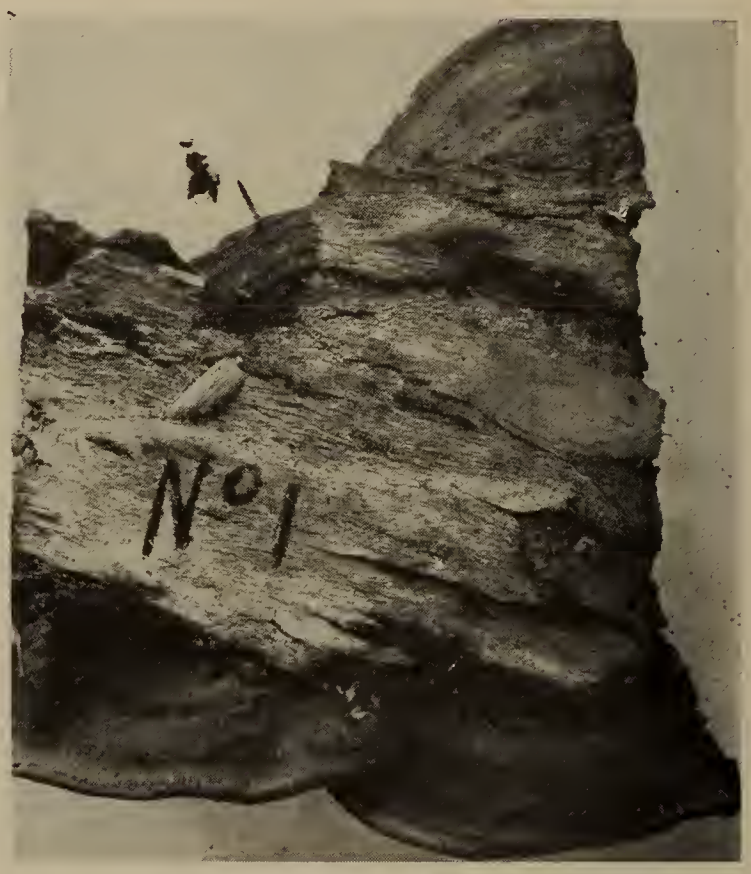


Fig. 3045. Polystictus rufo-rigidus.

Fig. 3046. Polyporus subhispidus.

Fig. 3047. Polystictus roseolus.

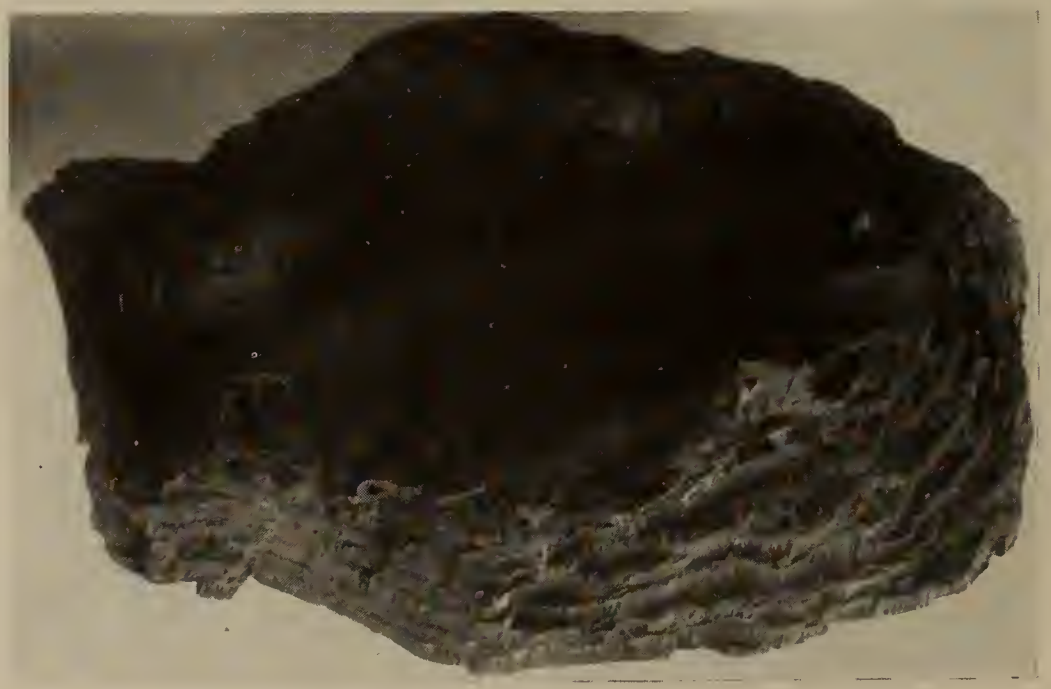


Fig. 3048. Fomes oroniger.

Fig. 3049. Polyporus medullae.

Fig. 3050. Polyporus extenuatus.

Fig. 3051. Polyporus Beardsleei.

Fig. 3052. Polystictus subiculoides.

Fig. 3053. Polystictus roseoporus.

Fig. 3054. Daedalea Kusanoi.

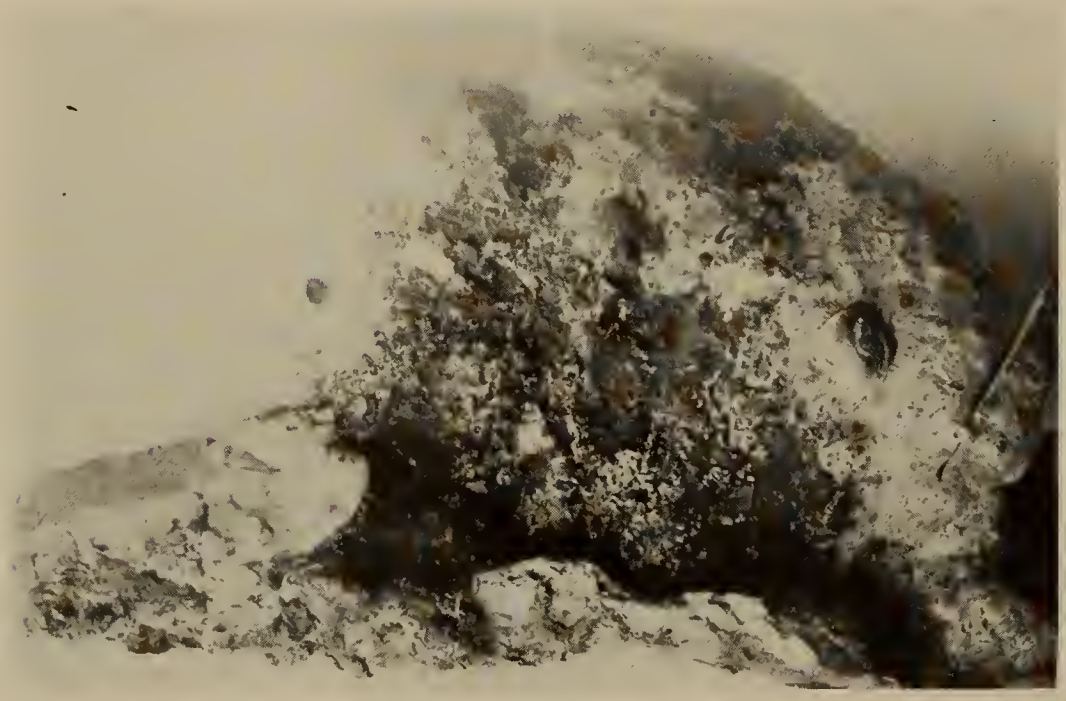


Fig. 3055. Polyporus vicinus.

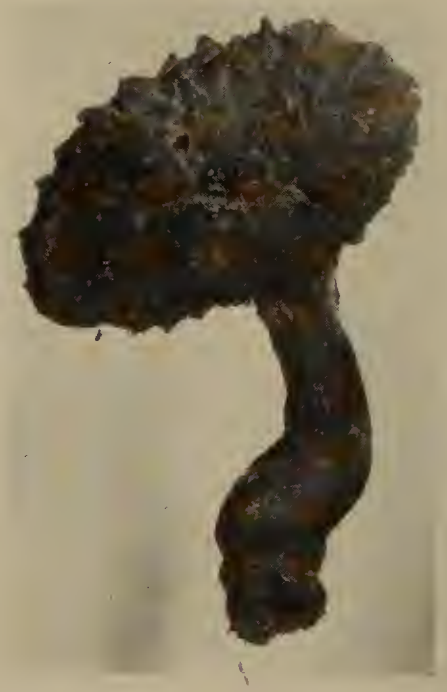


Fig. 3056. Strobilomyces indica.

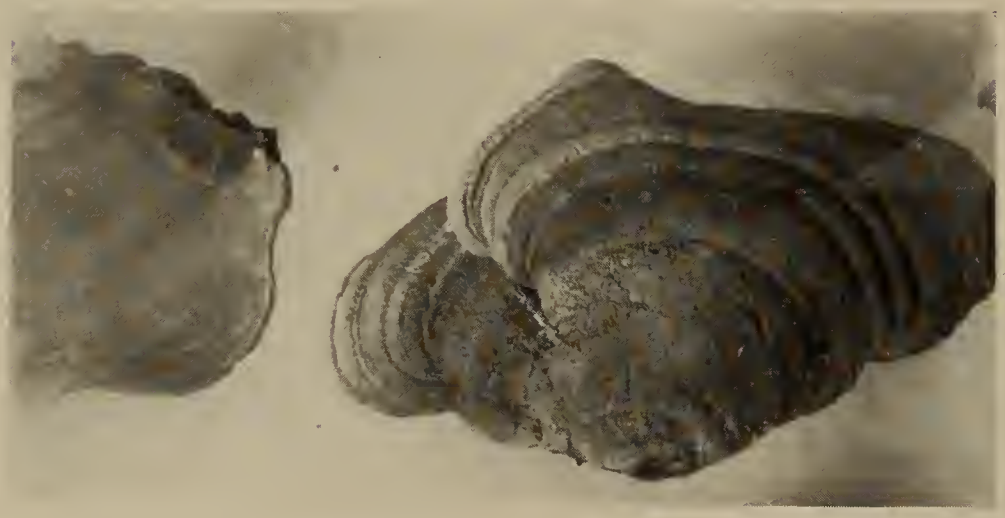
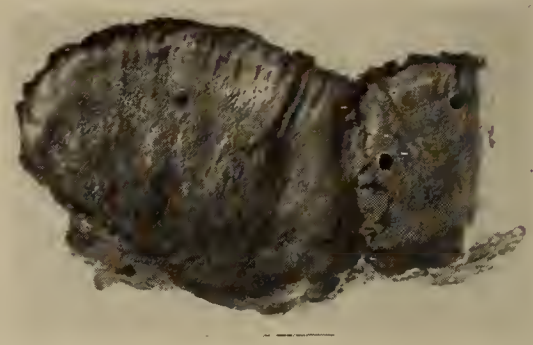


Fig. 3057. Polyporus spadiceus.



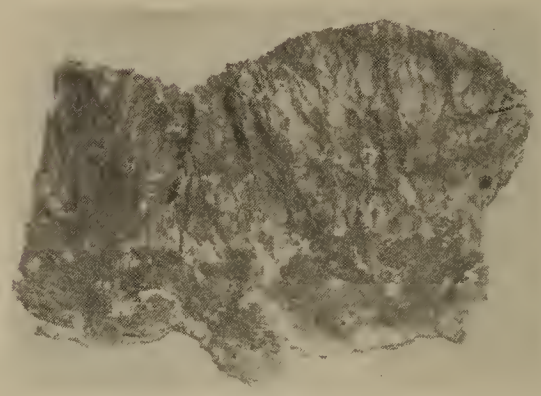


Fig. 3058. Polyporus ruforugosus.

Fig. 3059. Polyporus subcretaceus.

Fig. 3060. Polystictus eburneus.

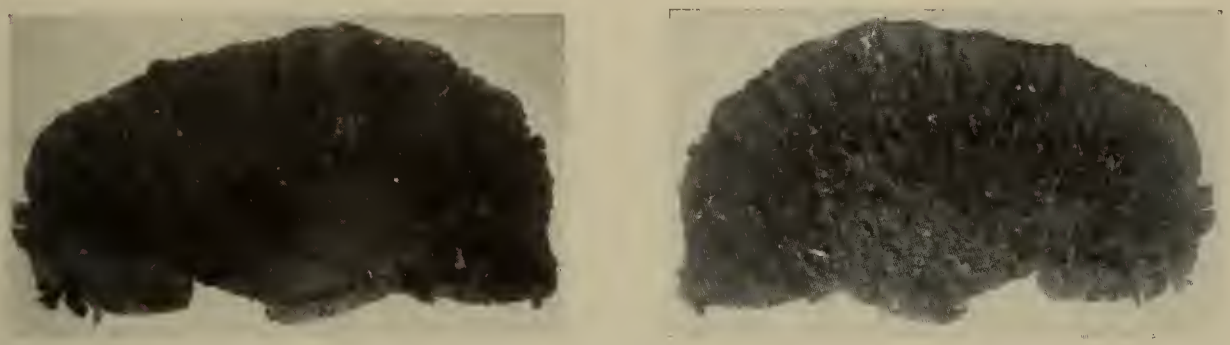


Fig. 3061. Polyporus pertenuis.

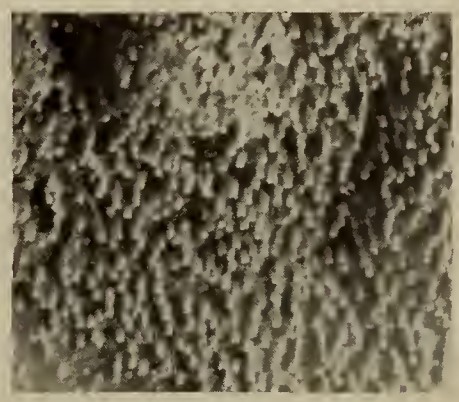


Fig. 3062. Solenia Moelleri.

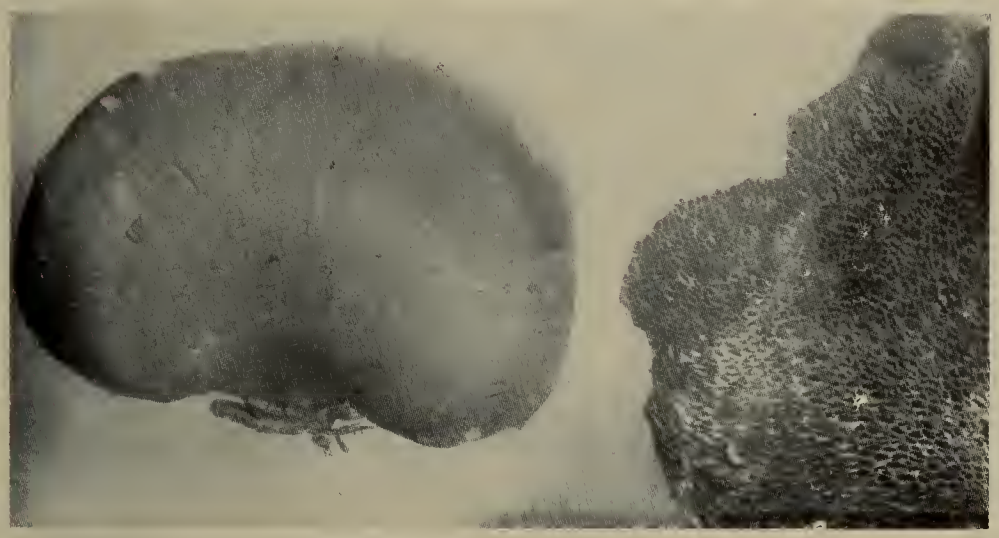


Fig. 3063. Favolus trigonus.

Fig. 3064. Fomes albotextus.

Fig. 3065. Polyporus atrostrigosus.

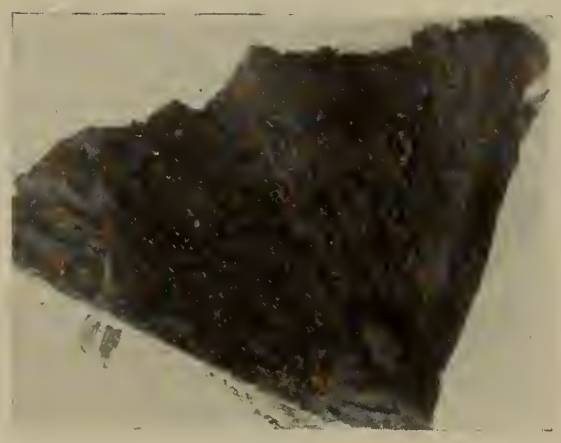


Fig. 3066. Polyporus atrohispidus.

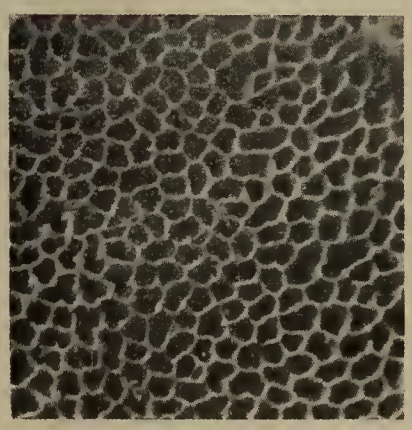


Fig. 3067. Polystictus occidentalis (pores enlarged).

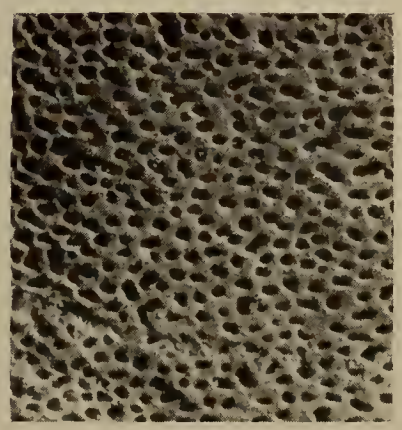


Fig. 3068. Trametes occidentalis (pores enlarged).

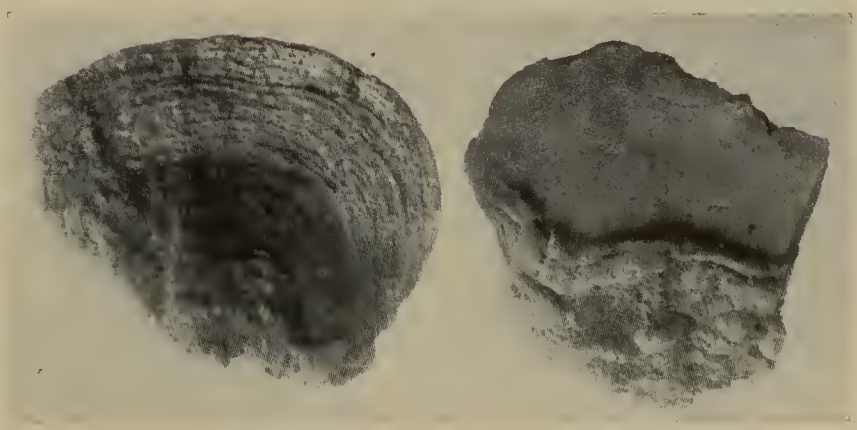


Fig. 3069. Polyporus recurvatus.

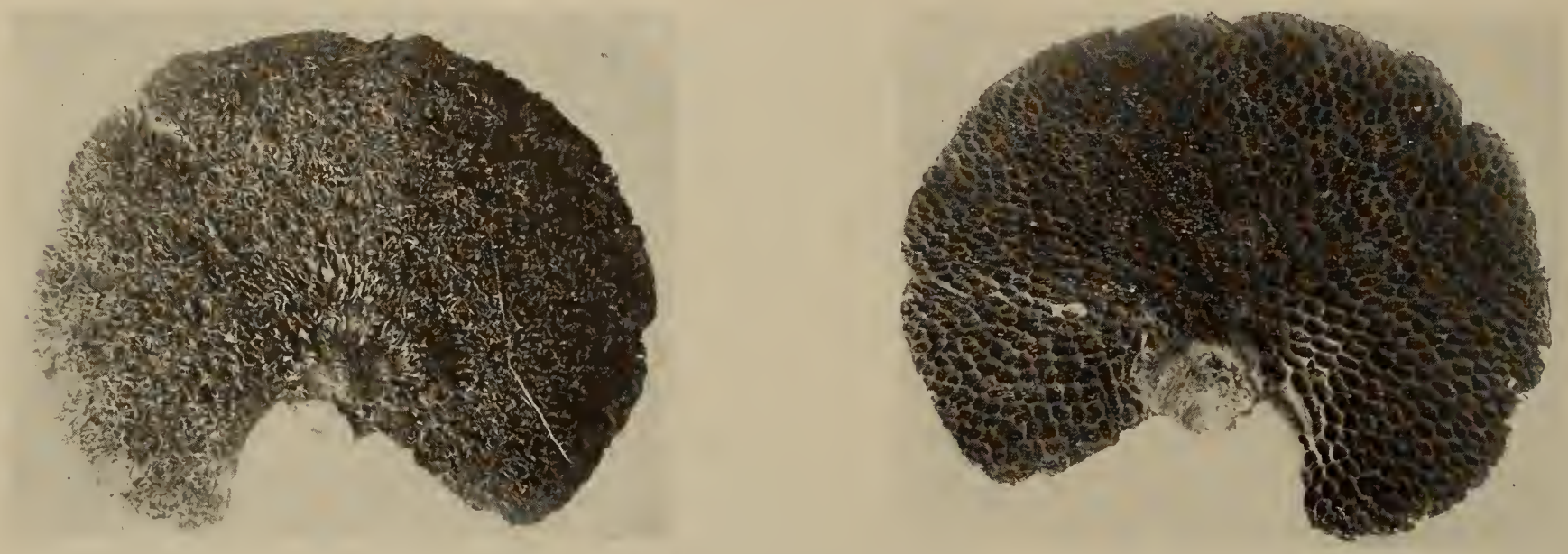


Fig. 3070. Hexagona capillacea.

Fig. 3071. Polyporus gilvo-rigidus.

Fig. 3072. Polyporus inusitatus.

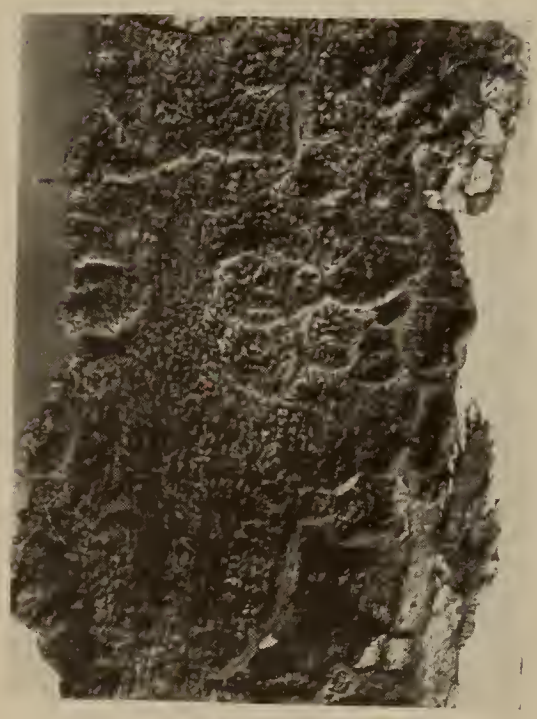


Fig. 3073. Polystictus flavidus. (young).

Fig. 3074. Polystictus glauco-effusus.

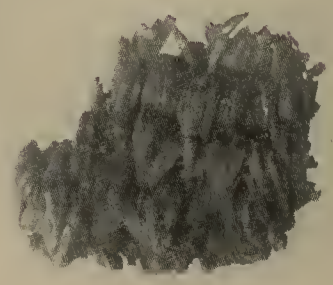


Fig. 3075. Stereum spectabile.

Fig. 1076. Stereum translucens.

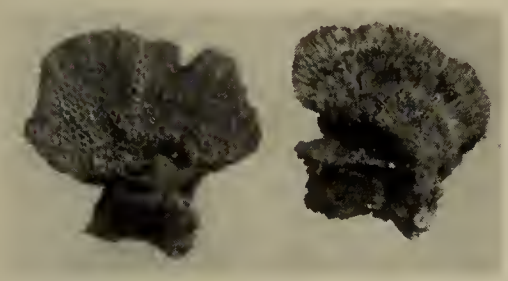


Fig. 3077. Hexagona pectinata.

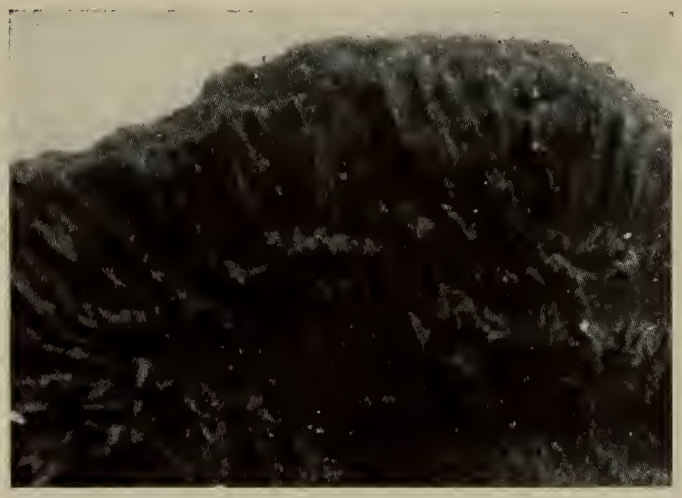


Fig. 3078. Hexagona pectinata (surface enlarged).

Fig. 3079. Stereum Miquelianum.

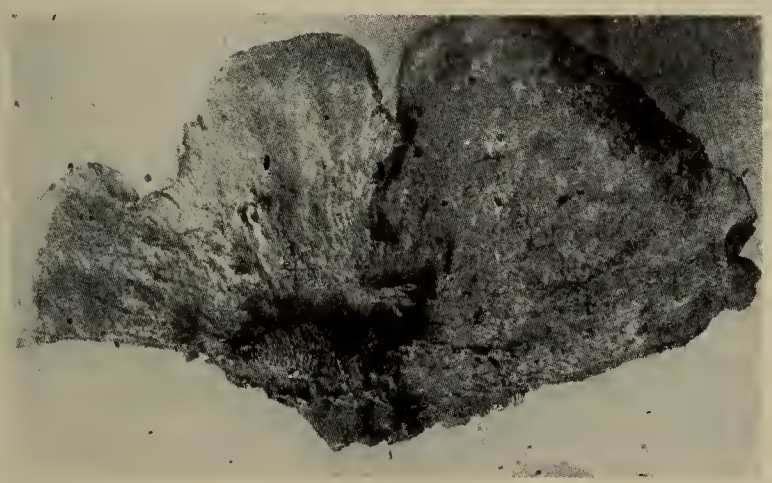


Fig. 3080. Polystictus glaucoporus.

Fig. 3081. Fomes longinquus.

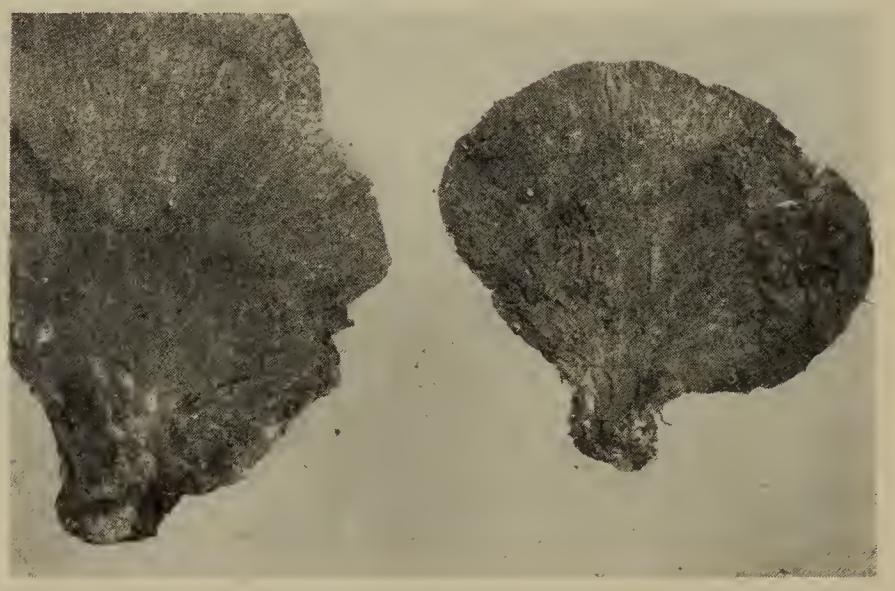


Fig. 3082. Stereum dubium.

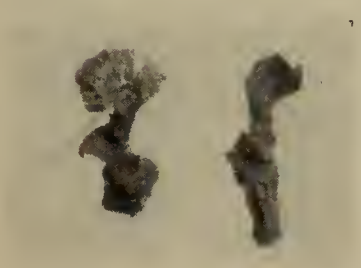


Fig. 3083. Thelephora spathulata.

Fig. 3084. Stereum radians.

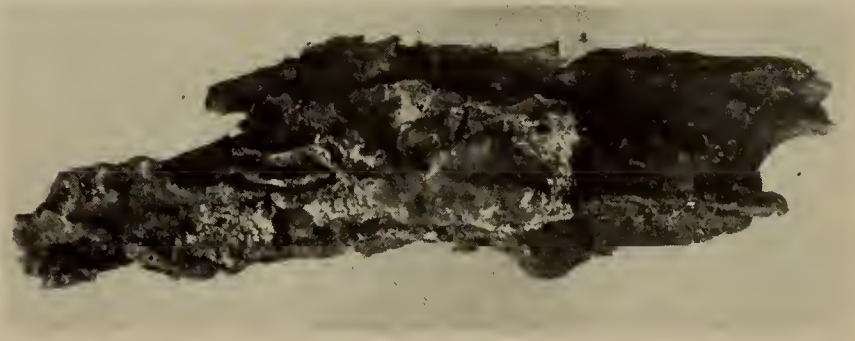


Fig. 3085. Aleurodiscus strumosus.

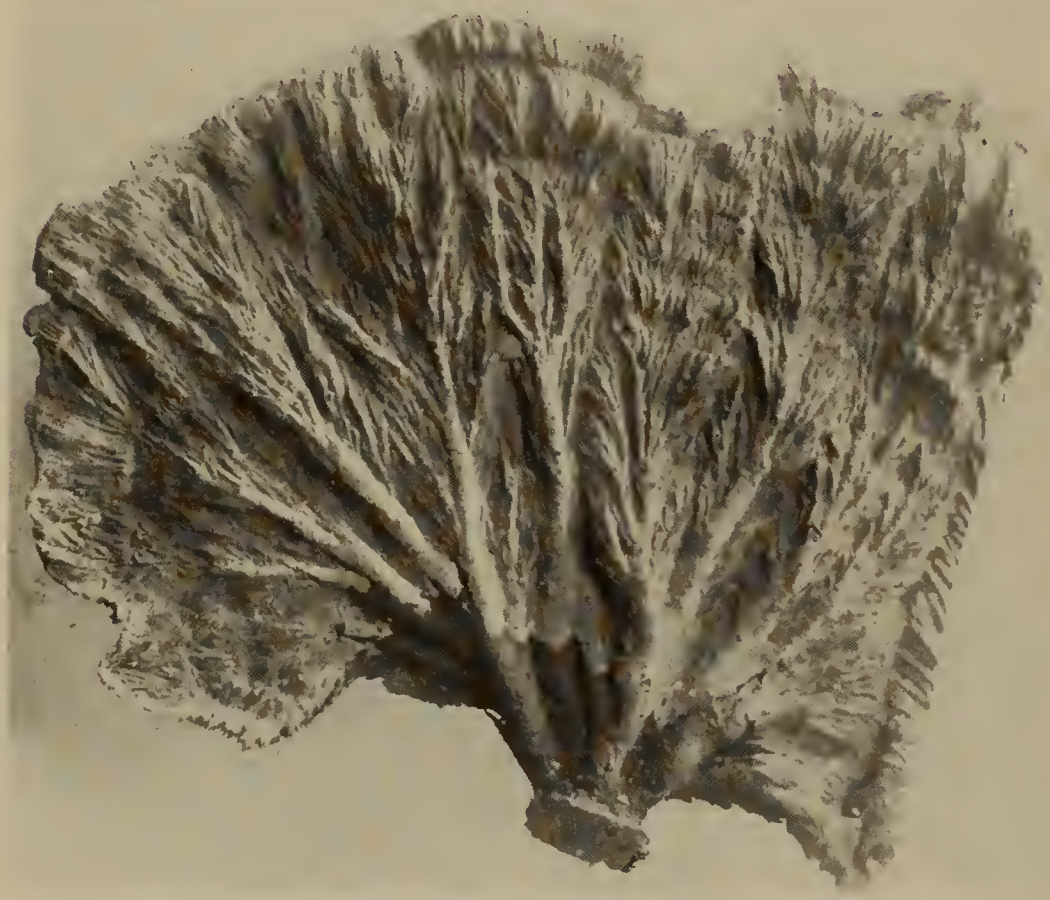


Fig. 3086. Cladoderris Blumei.

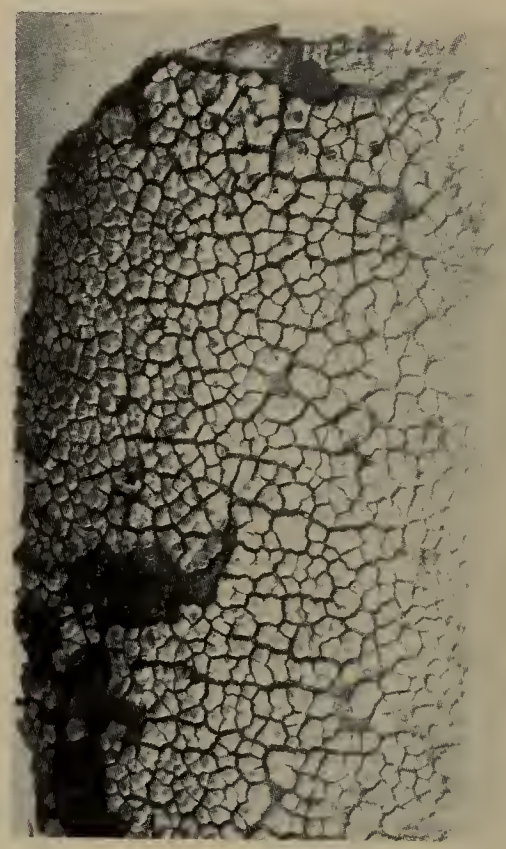


Fig. 3087. Stereum frustulosum.

Fig. 3088. Septobasidium protractum.

Fig. 3089. Septobasidium protractum (surface enlarged).

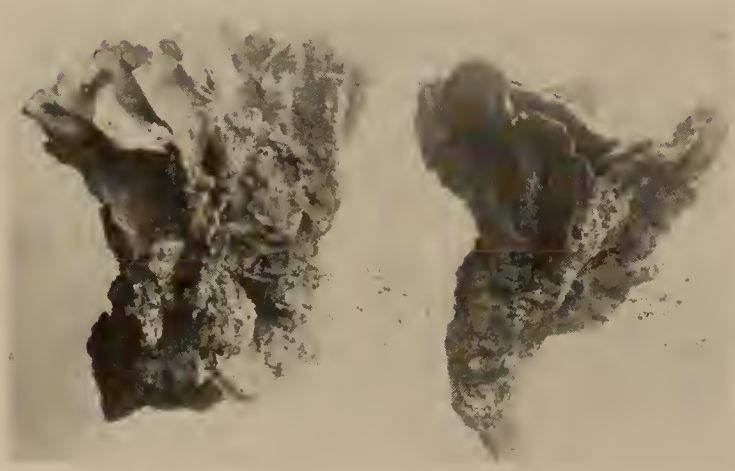


Fig. 3090. Stereum lignosum.

Fig. 3091. Stereum elegans.

Fig. 3092. Stereum bombycinum.

Fig. 3093. Stereum adnatum.

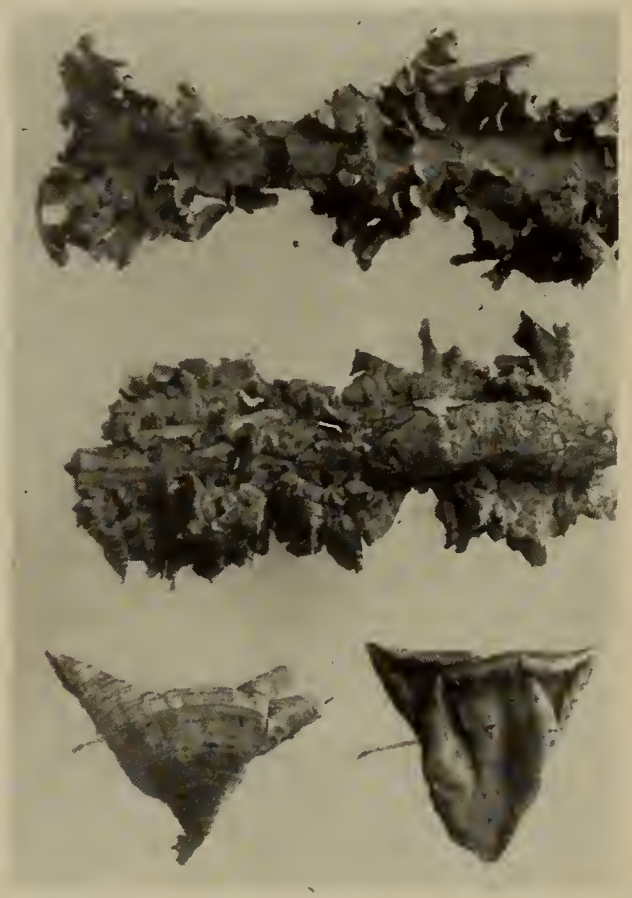


Fig. 3094. Stereum complicatum.

Fig. 3095. Stereum (Hym.) Cacao.

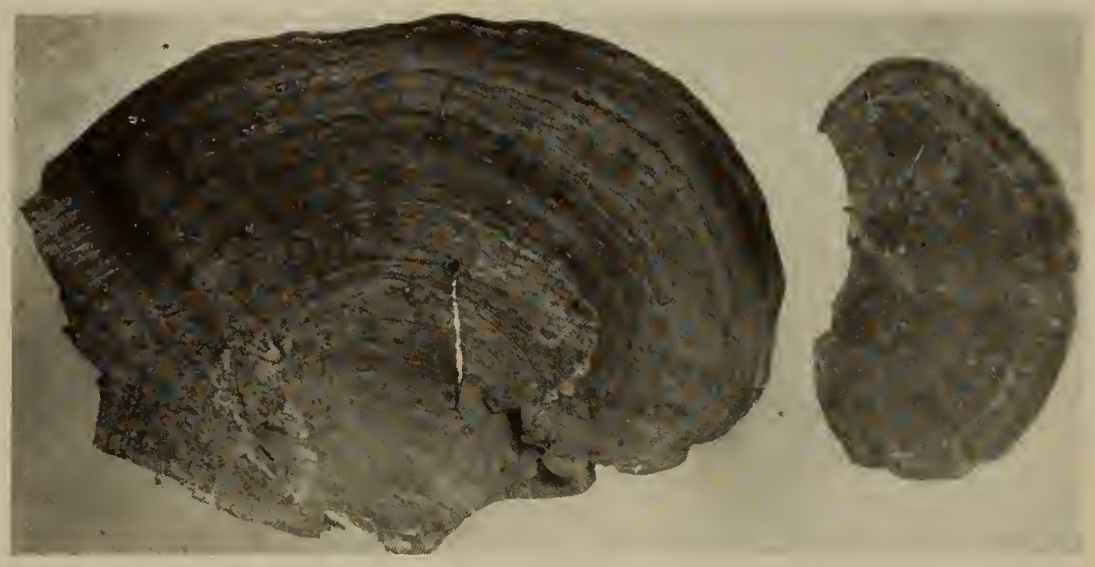


Fig. 3096. Stereum (Hym.) variegatum.

Fig. 3097. Stereum (Hym.) molle.

Fig. 3098. Stereum fasciatum (showing one abnormal shape).

Fig. 3099. Stereum Thwaitesii.

Fig. 3100. Cladoderris dendritica (made from fresh specimen).

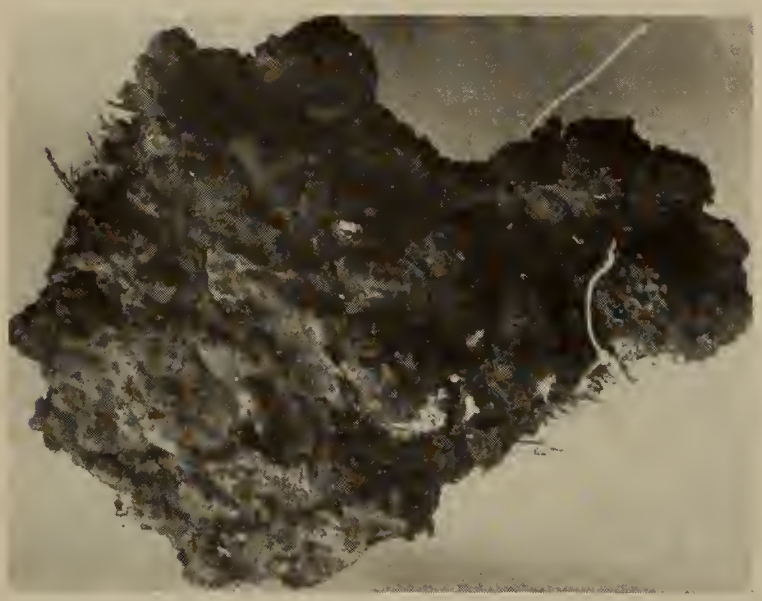


Fig. 3101. Hymenochaete sphaeriacola.

Fig. 3102. Stereum coalescens.

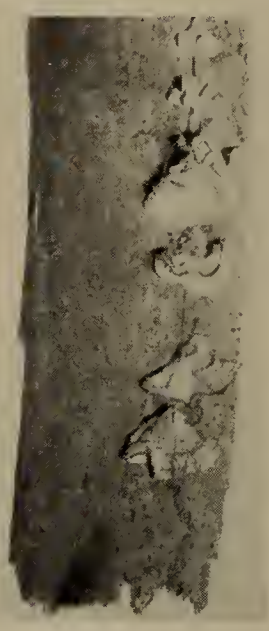


Fig. 3103. Stereum conchoides.

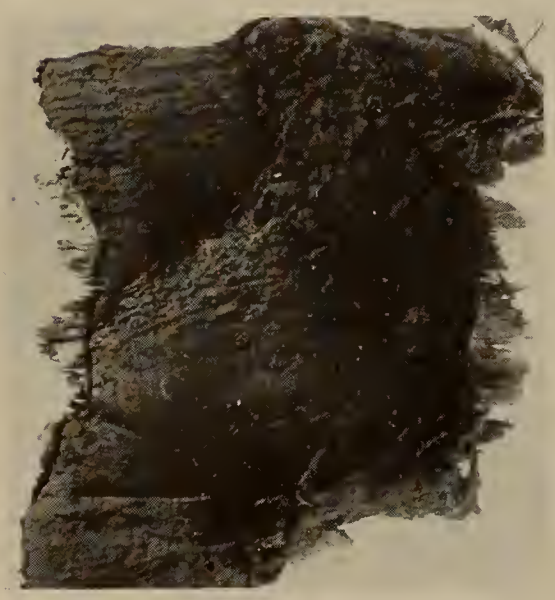


Fig. 3104. Tremella hemifoliacea (dried).

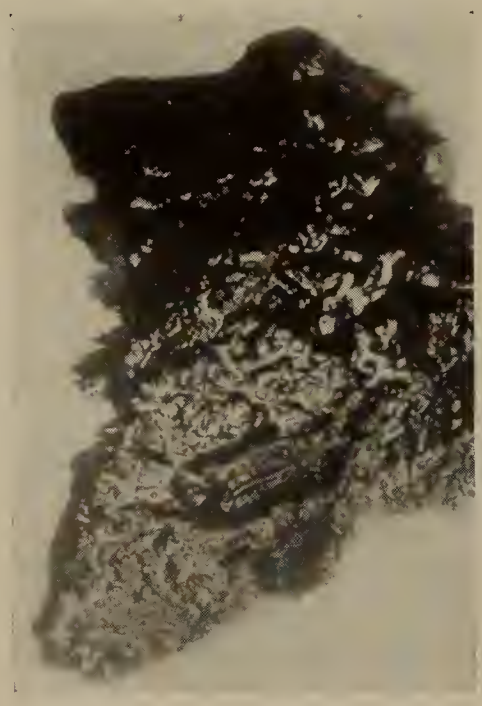


Fig. 3105. Tremella hemifoliacea (soaked)

Fig. 3106. Irpex javensis,

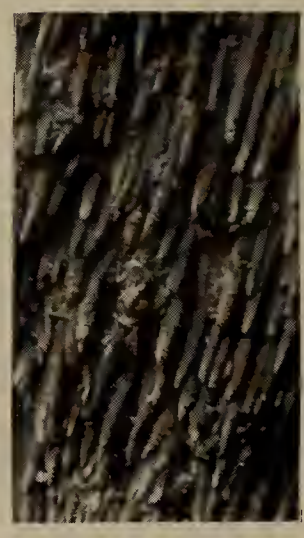


Fig. 3107. Same, teeth enlarged,

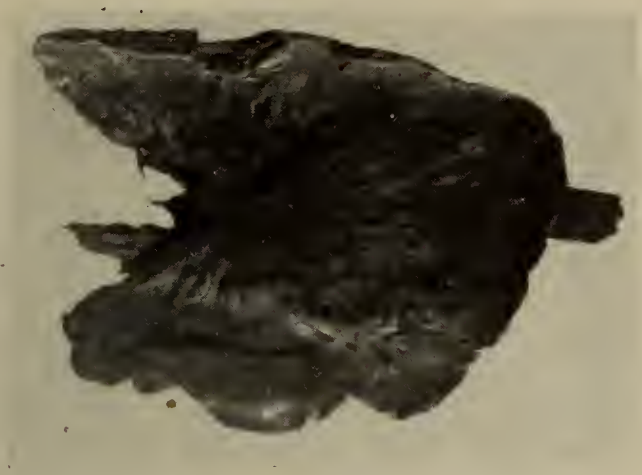


Fig. 3108. Stereum radiatum.

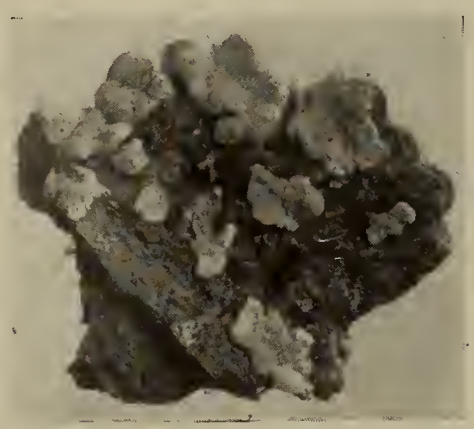


Fig. 3109. Aleurodiscus atlanticus.

Fig. 3110. Tremella philippiensis (enlarged).

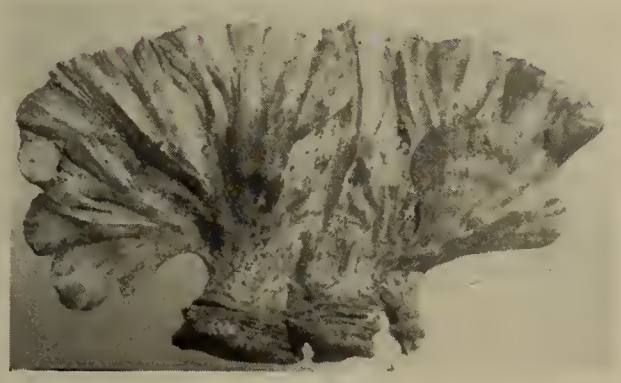


Fig. 3111. Stereum replicatum.

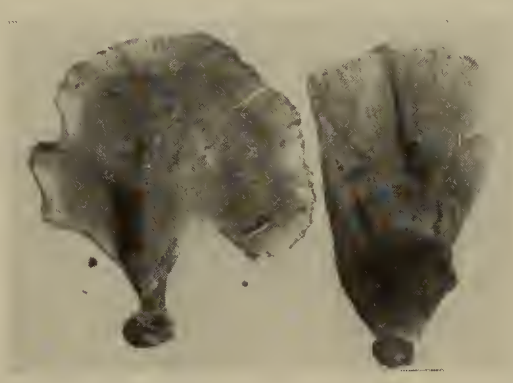


Fig. 3112. Stereum nigrobasum.

Fig. 3113. Stereum viridans.

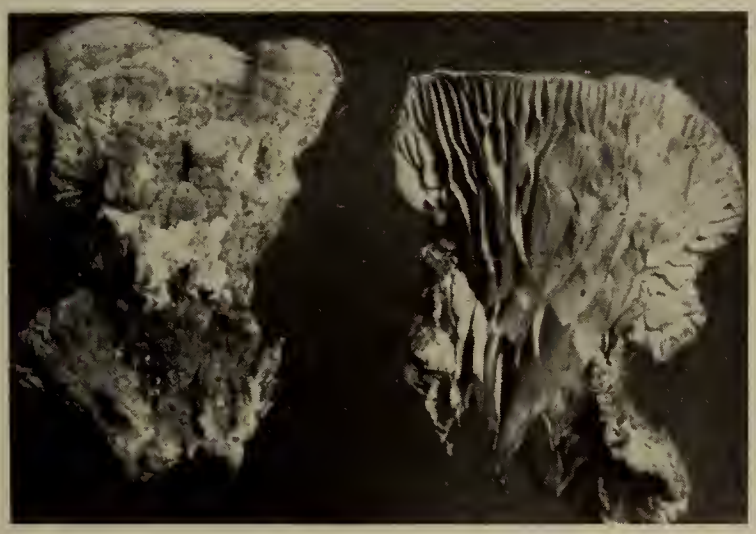


Fig. 3114. Lenzites betulina (white form).

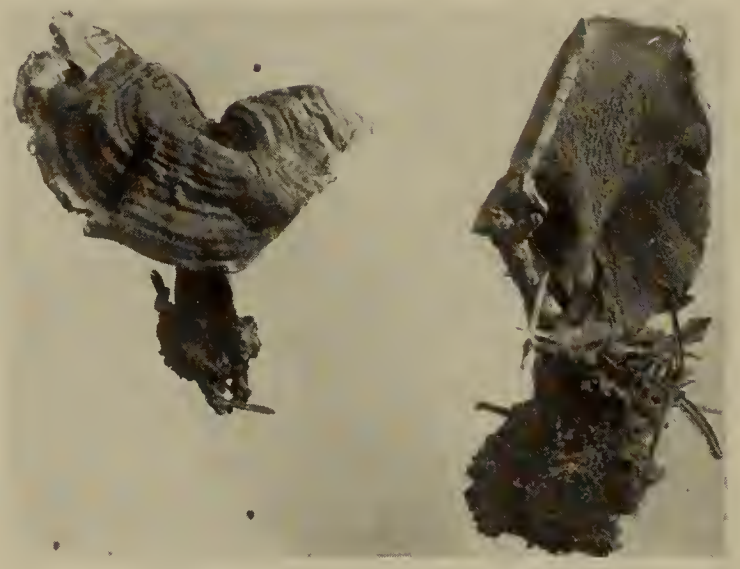


Fig. 3115. Hydnum subzonatum.

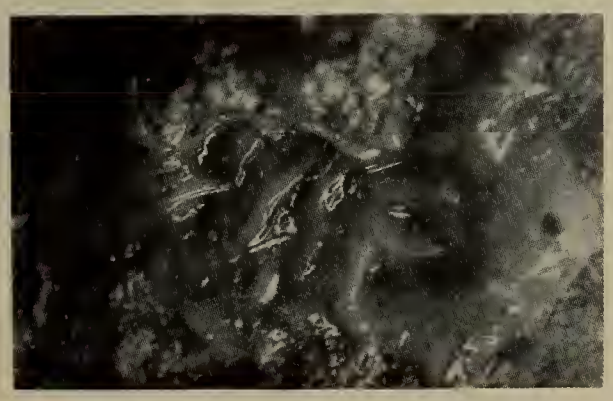


Fig. 3116. Calopposis nodulosa (enlarged).

Fig. 3117. Lenzites furcata.

Fig. 3118. Lenzites erubescens.

Fig. 3119. Calocera guepinoides.

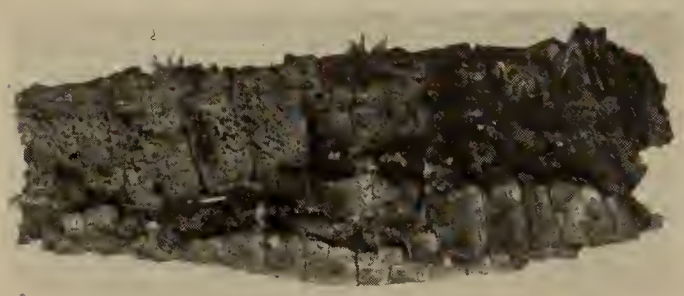


Fig. 3120. Calopposis damae-cornis.

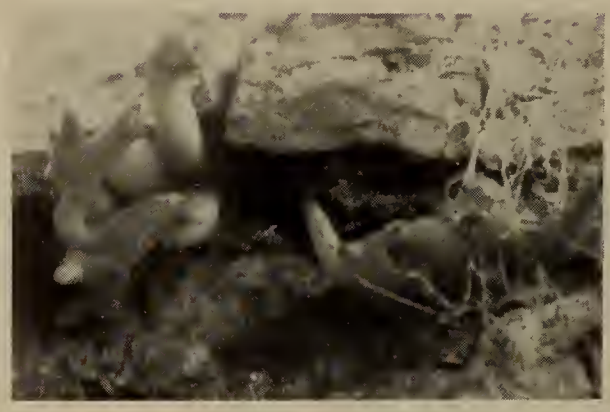


Fig. 3121. Calopposis damae-cornis (enlarged).

Fig. 3122. Dacryomitra minuta (inaccurate, enlarged).

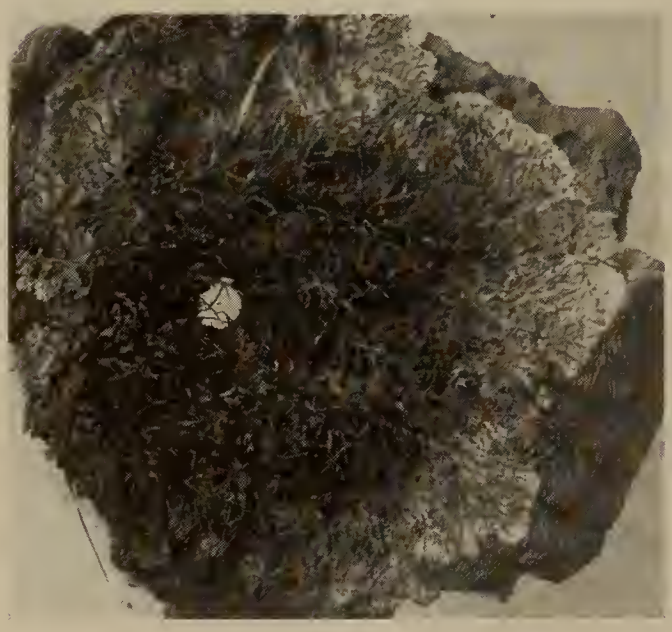


Fig. 3123. Pterula sclerodontia.

Fig. 3124. Heterotextus flavus.

Fig. 3125. Pterula penicellata

Fig. 3126. Fuligo septica.

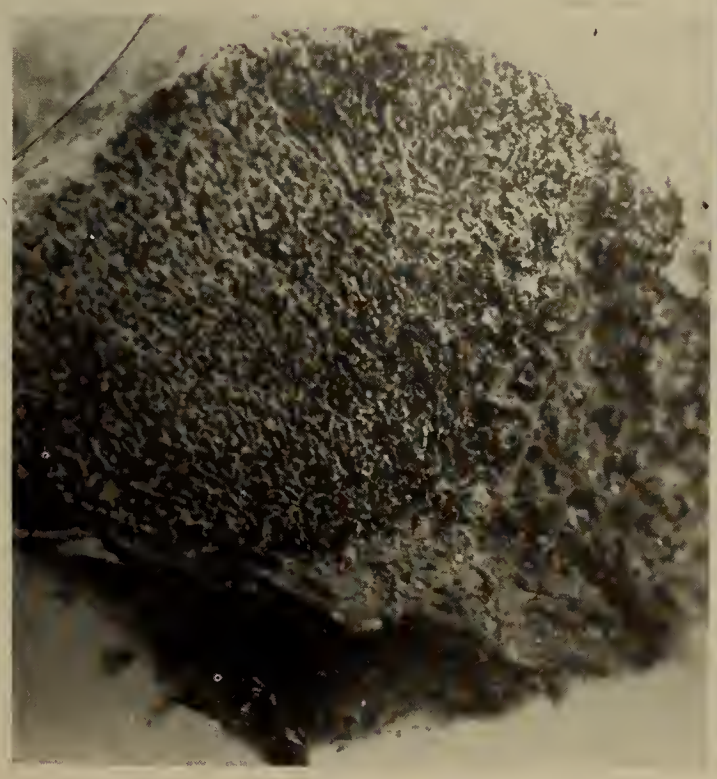


Fig. 3127. Fuligo septica (section enlarged).

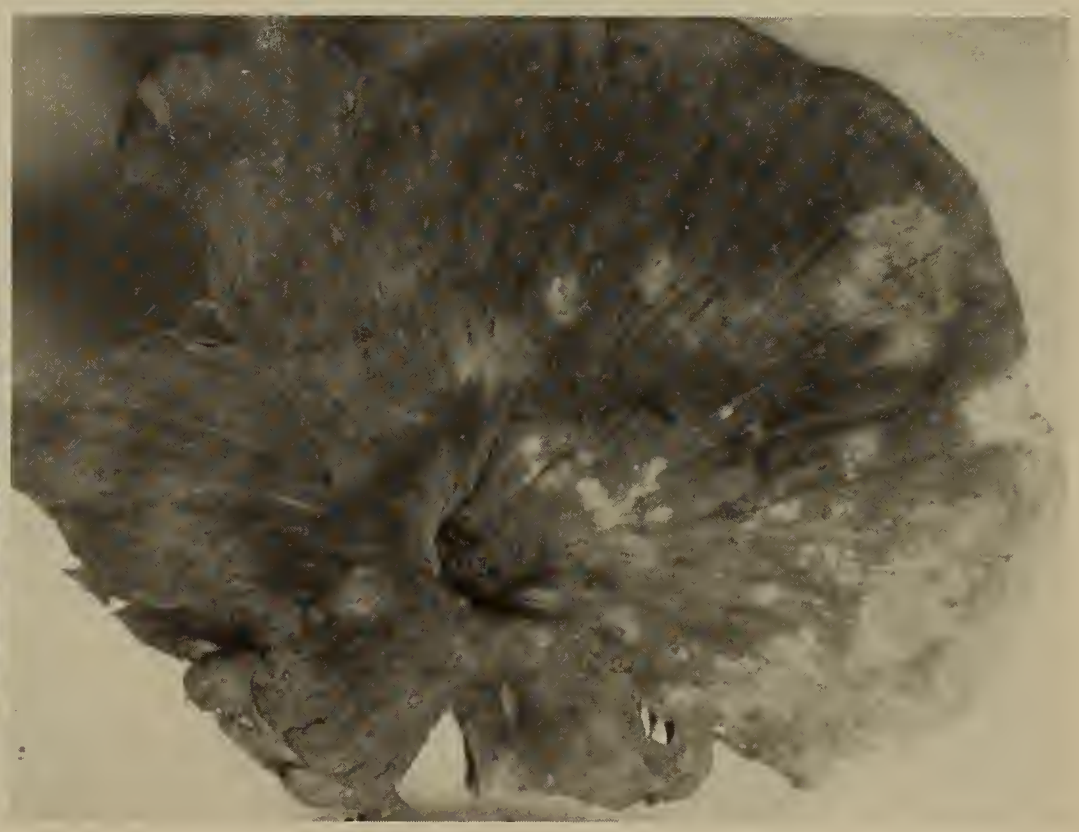


Fig. 3128. Lentinus fuscus.

Fig. 3129. Polyplocium inquinans (egg state).

Fig. 3130. Polyplocium inquinans (section).

Fig. 3131. Polyplocium inquinans (mature plant).

Fig. 3132. Polyplocium inquinans (photographed in situ).

PLATES FOR

MYCOLOGICAL NOTES

By C. G. LLOYD

CINCINNATI, OHIO No. 75 JULY, 1925

(Vol. 7, No. 10)

CARLETON REA

Dr. Jos. Velenovsky.

Fig. 3135.
Xylobotrium Rickii.

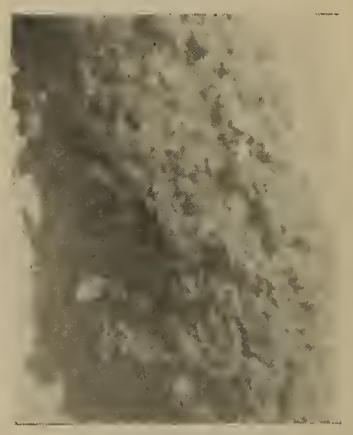


Fig. 3136.
Xylobotrium Rickii (enlarged).

Fig. 3137.
Cordyceps translucens.

Fig. 3138.
Cordyceps unilateralis (enlarged).

Fig. 3139.
Cordyceps Blattae.

Fig. 3133.
Xylobotrium portentosum.

Fig. 3134. Xylobotrium portentosum (enlarged).

Fig. 3140.
Cordyceps coccinea.

Fig. 3141.
Cordyceps dipterigena (enlarged).

Fig. 3142.
Cordyceps Ouwensii
(enlarged).

Fig. 3143. Cordyceps Thwaitesii (enlarged).

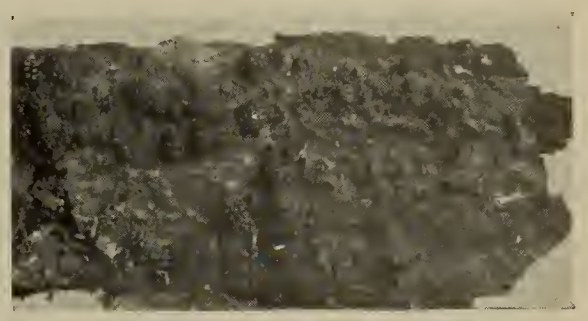


Fig. 3144. Hypoxylon annulatum.

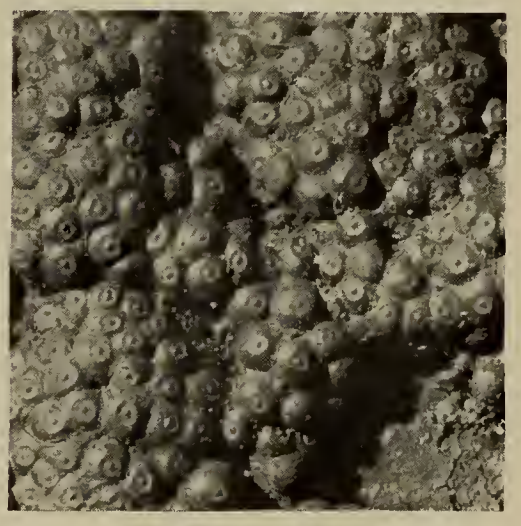


Fig. 3145. Hypoxylon annulatum (enlarged).

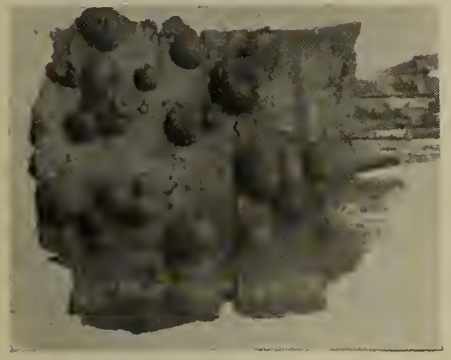


Fig. 3146. Hypoxylon marginatum.

Fig. 3147. Hypoxylon marginatum (enlarged).

Fig. 3151.
Cordyceps consumpta.

Fig. 3152 bis. Cordyceps Kirkii
(section enlarged).

Fig. 3148. Hypoxylon diffusum.

Fig. 3149.
Hypoxylon Michelianum.

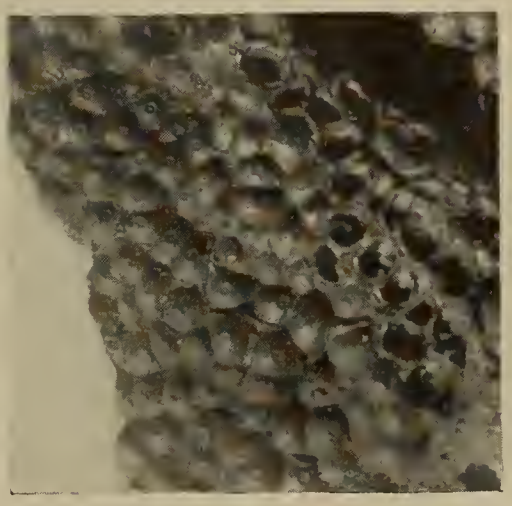


Fig. 3150. Hypoxylon Michlianum (enlarged).

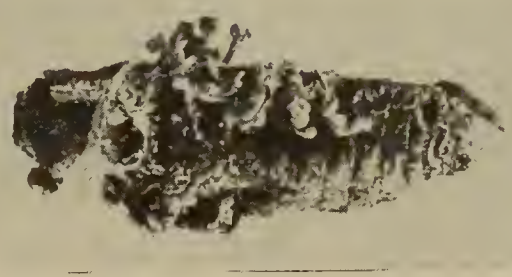


Fig. 3152. Cordyceps Kirkii.

Fig. 3153. Cordyceps Taylori (reduced one-half).

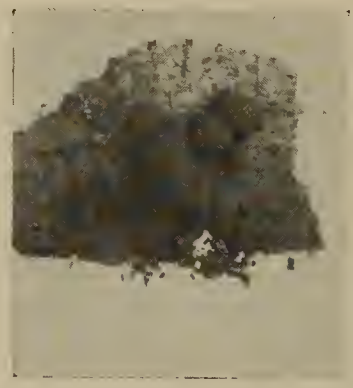


Fig. 3154. Hypoxylon cohaerens.

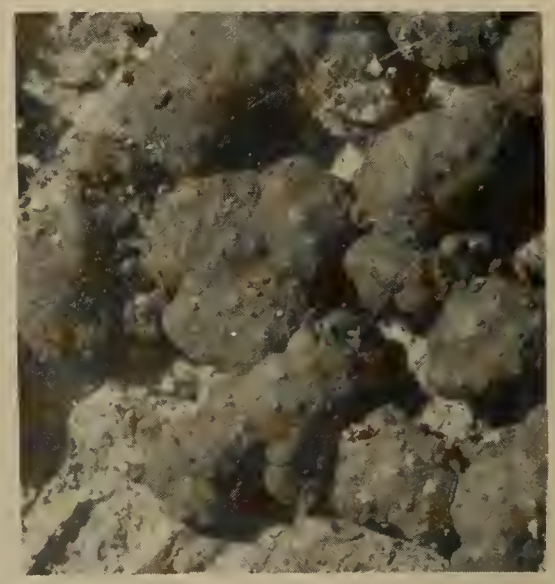


Fig. 3155. Hypoxylon cohaerens (enlarged).

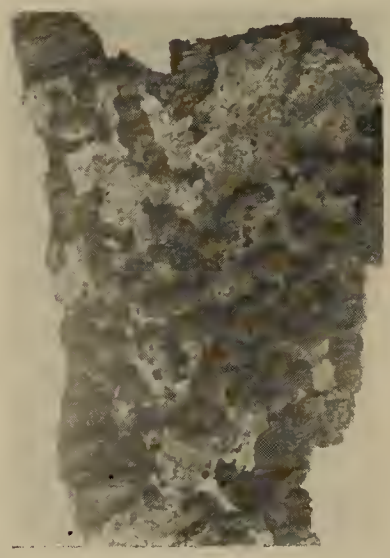


Fig. 3156.
Hypoxylon cohaerens (conidial).

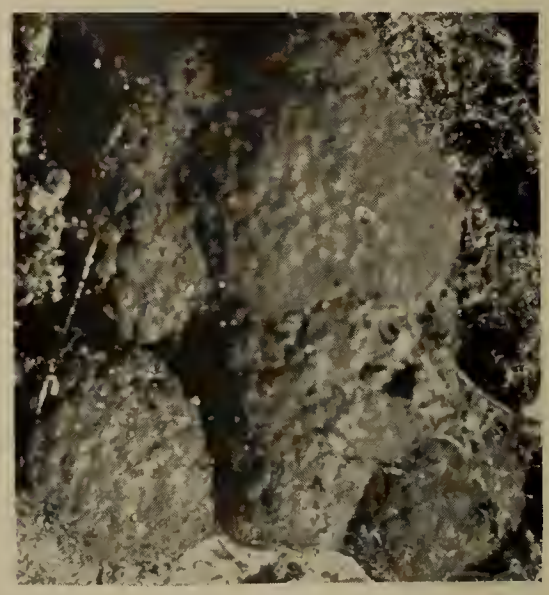


Fig. 3157. Hypoxylon cohaerens
(conidial enlarged).

Fig. 3159. Nummularia emergens
(section enlarged).

Fig. 3158. Nummularia emergens.

Fig. 3160. Nummularia emergens
(surface enlarged).

Fig. 3161.
Nummularia asarcodes.

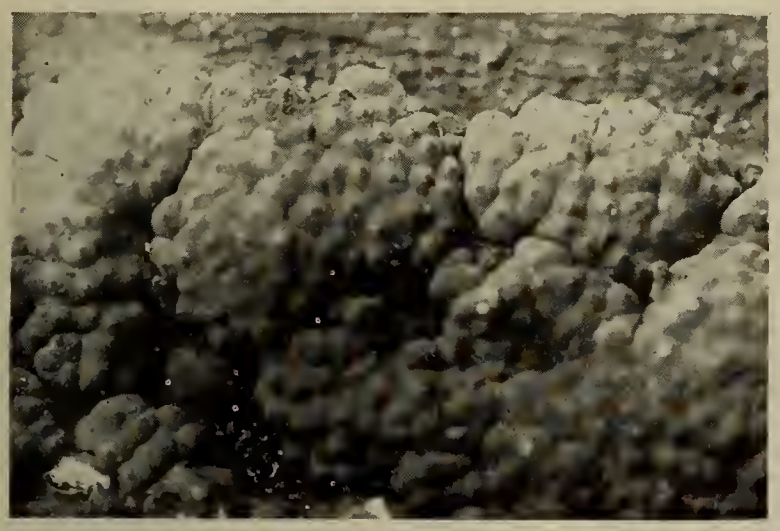


Fig. 3162. Hypoxylon multiforme (young enlarged).

Fig. 3163. Kretzschmaria Tuckerii.

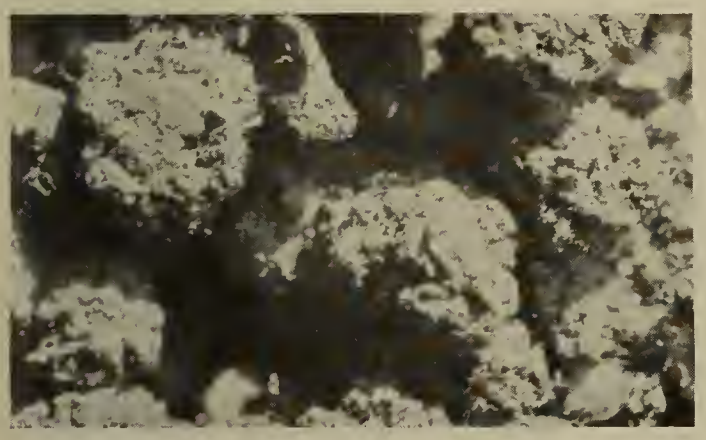


Fig. 3164. Kretzschmaria Tuckerii (enlarged).

Fig. 3165. Nummularia Bulliardii (surface old, enlarged).

Fig. 3166. Xylaria polymorpha (with exuded spores).

Fig. 3167. Nummularia atropunctata.

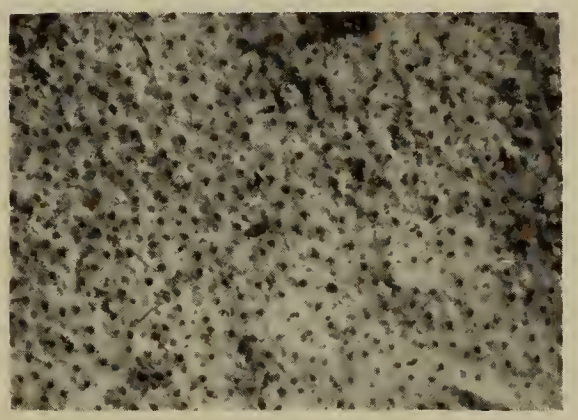


Fig. 3168. Nummularia atropunctata. (surface enlarged).

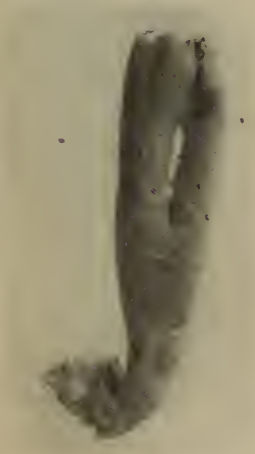


Fig. 3169. Xylaria reticulata.

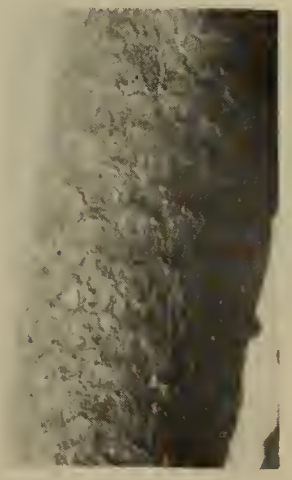


Fig. 3170. Xylaria reticulata (surface enlarged.)

Fig. 3171. Hypoxylina discina.

Fig. 3172. Hypoxylina discina (enlarged).

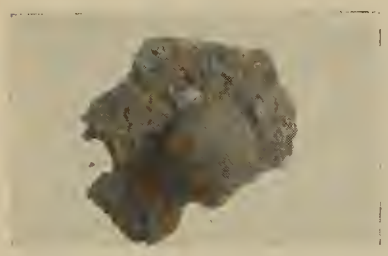


Fig. 3173. Solenoplea peltata.

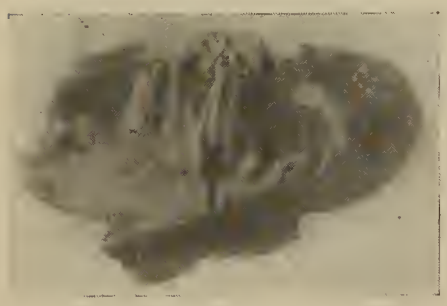


Fig. 3174. Solenoplea peltata (section enlarged).

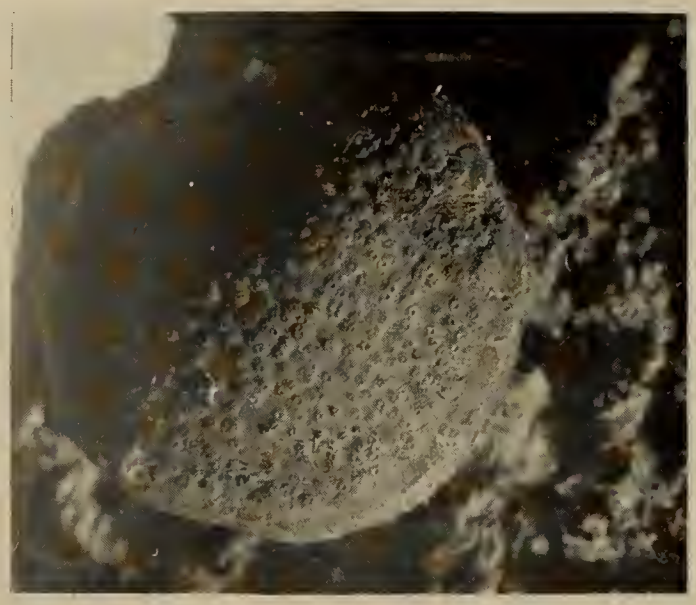


Fig. 3175. Solenoplea peltata (surface enlarged).

Fig. 3176. Hypoxylon Morsei (enlarged).

Fig. 3177. Xylaria rimulata.

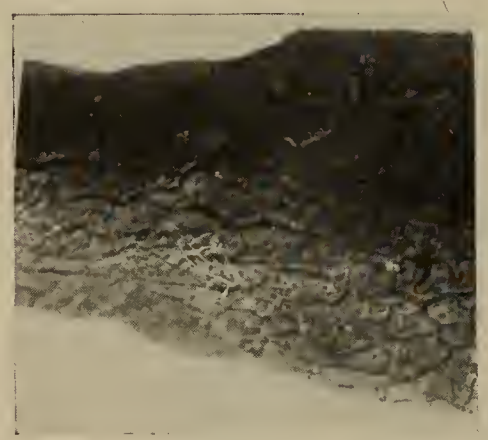


Fig. 3178. Xylaria rimulata (surface enlarged).

Fig. 3179. Xylaria ianthino-velutina (on Magnolia fruit).

Fig. 3180. Xylaria ianthino-velutina.

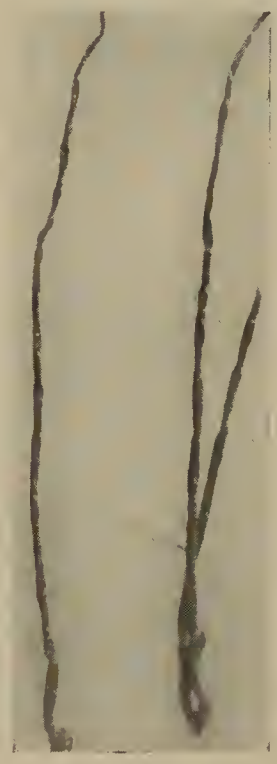


Fig. 3181. Xylaria scopiformis.

Fig. 3182. Xylaria scopiformis (enlarged).

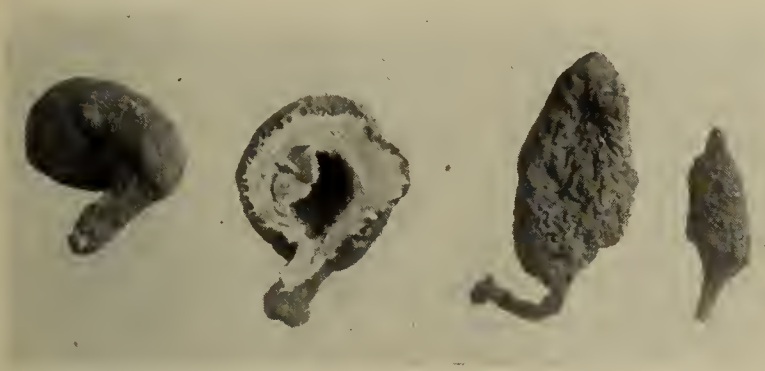


Fig. 3183. Xylaria curta.

Fig. 3184. Xylaria myrosimila.

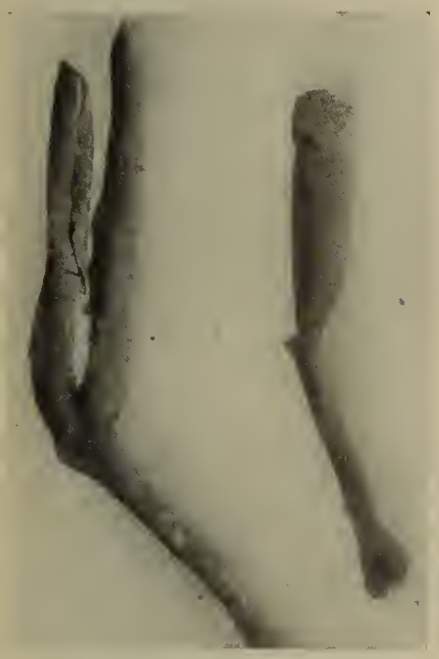


Fig. 3185. Xylaria dealbata (cylindrical form).

Fig. 3186. Tubercularia vermicularis (enlarged).

Fig. 3187. Lentinus terrestris.

Fig. 3188. Nepotatus stellatus.

Fig. 3189. Tuber candidum.

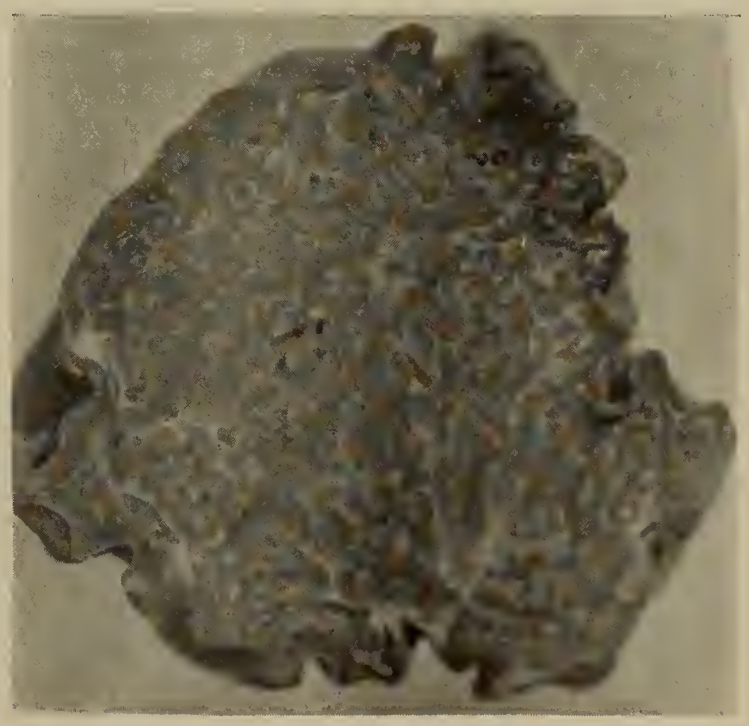


Fig. 3190. Tuber candidum (section enlarged).

Fig. 3191. Pilacre faginea (enlarged).

Fig. 3192. Pilacre faginea (enlarged).

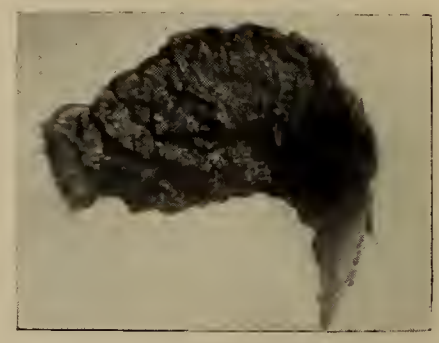


Fig. 3193. Exidia Novo-Zealandica.

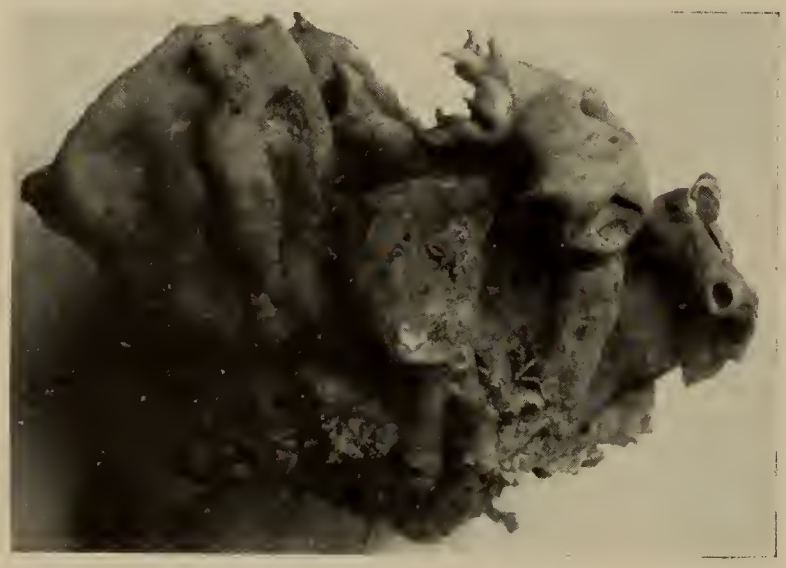


Fig. 3194. Tremella vesicaria.

Fig. 3195. Exidia albo-globosa.

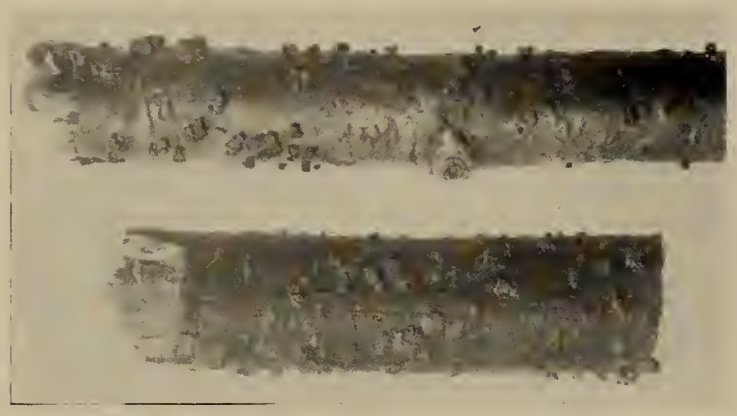


Fig. 3196. Cyphella quercina (above).
Cyphella fasciculata (below).

Fig. 3197. Cyphella fasciculata (enlarged).

Fig. 3198. Cyphella quercina (enlarged).

Fig. 3199. Calocera fusca.

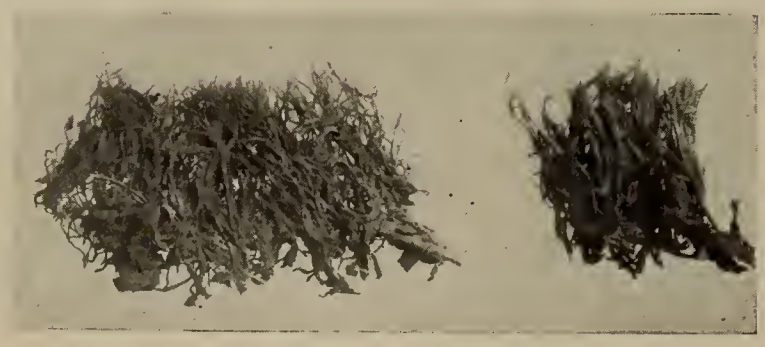


Fig. 3200. Pterula abietis.

Fig. 3201. Tremella isabellina.

Fig. 3202. Cantharellus floccosus.

Fig. 3203. Pseudohydnum translucens.

Fig. 3204. Exidia saccharina.

Fig. 3205. Tremellodendron pallidum.

Fig. 3206. Irpen lamelliformis.

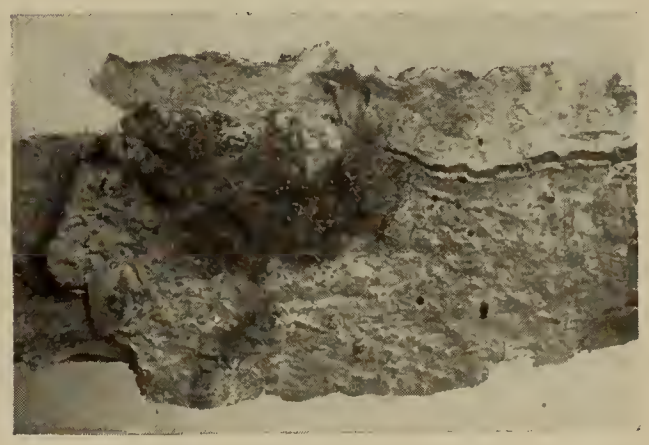


Fig. 3207. Cytospora chrysosperma.

Fig. 3208. Lentinus similis.

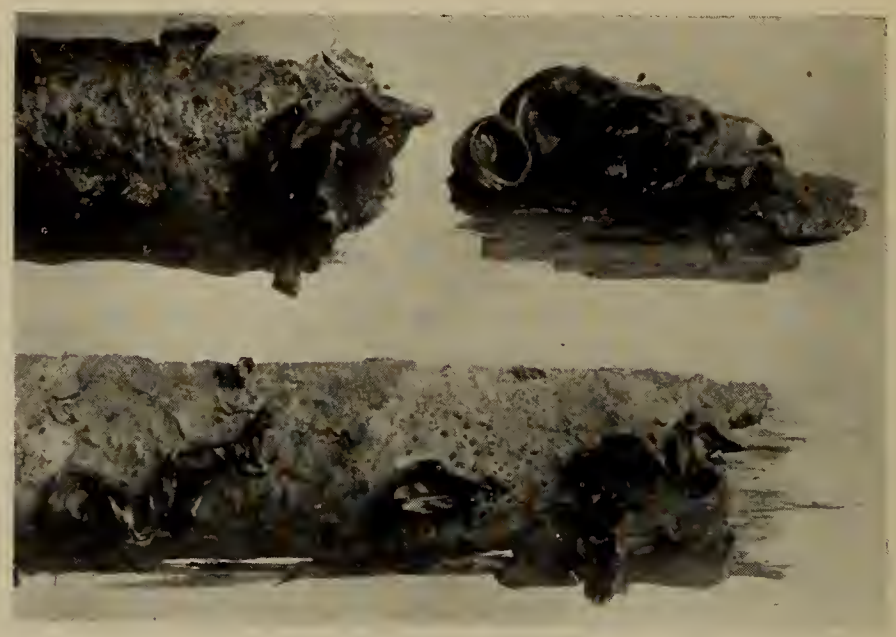


Fig. 3209. Exidia recisa.

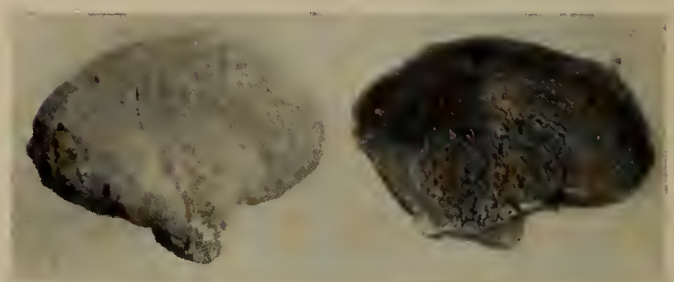


Fig. 3210. Hydnum Rawakense.

Fig. 3211. Irpex Rickii.

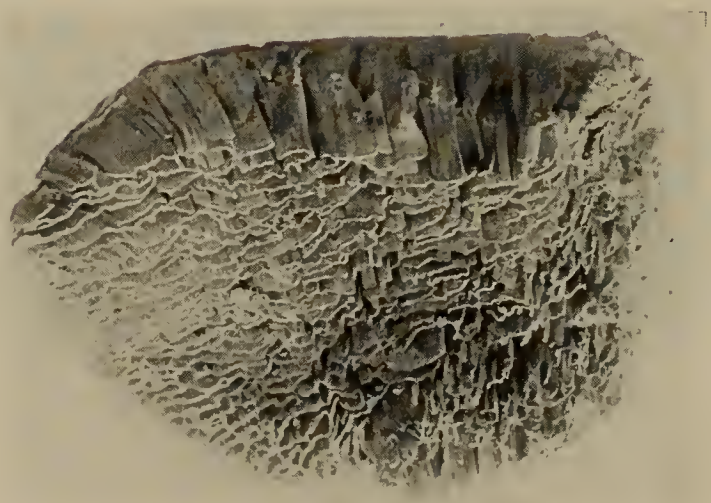


Fig. 3212. Daedalea Sprucei.

Fig. 3213. Pterula densissima.

Fig. 3214. Heterotextus pezizaeformis.

Fig. 3215. Calocera fusca.

Fig. 3216. Pterula Winkleriana.

Fig. 3217. Lentinus stuppeus.

Fig. 3218.
Calocera variiformis.

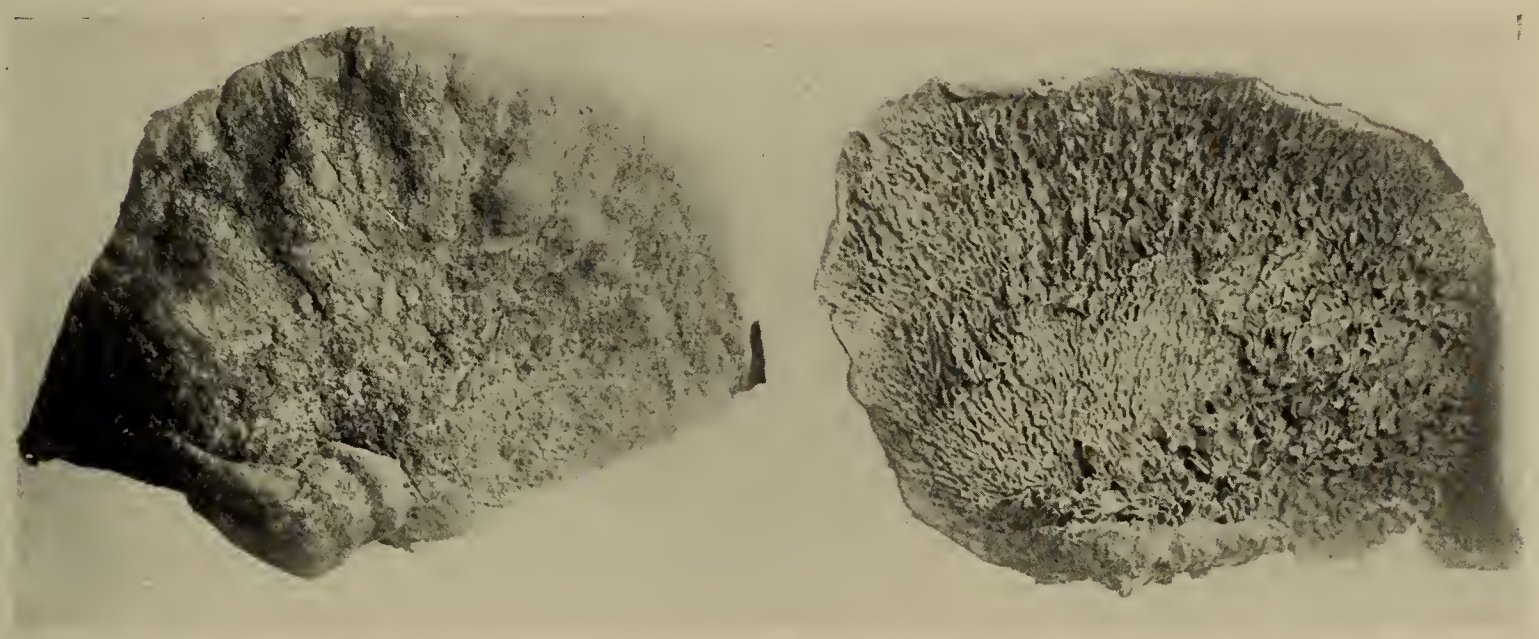


Fig. 3219. Lentinus erosus.

Fig. 3220. Ditiola radicata (enlarged).

Fig. 3221. Ditiola radicata (side view, enlarged).

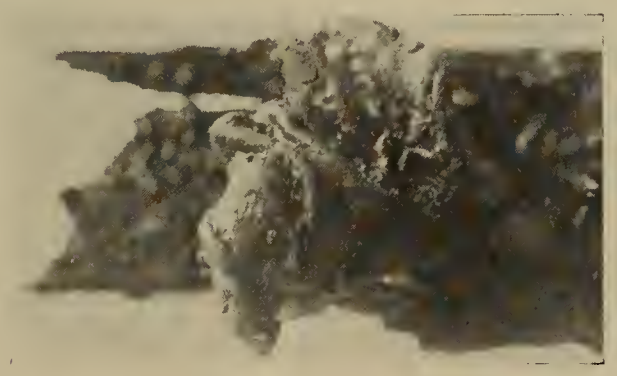


Fig. 3222. Ditiola radicata (top view, enlarged).

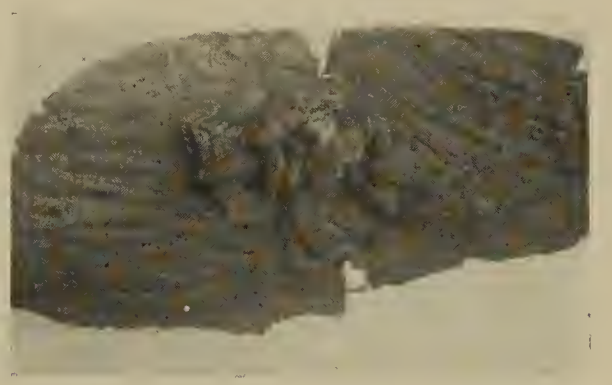


Fig. 3223. Tremella compacta (dried).

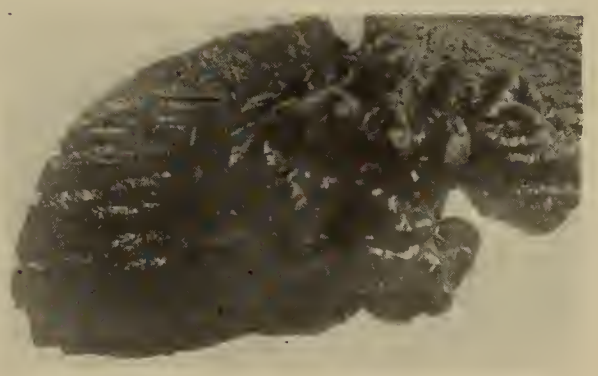


Fig. 3224. Tremella compacta (soaked).

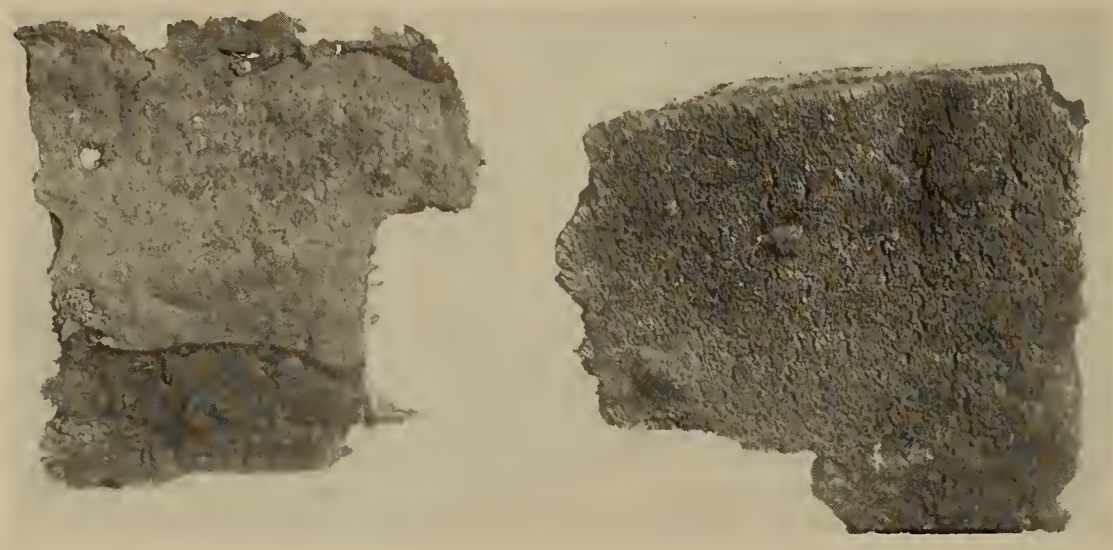


Fig. 3225. Hydnochaete badia.

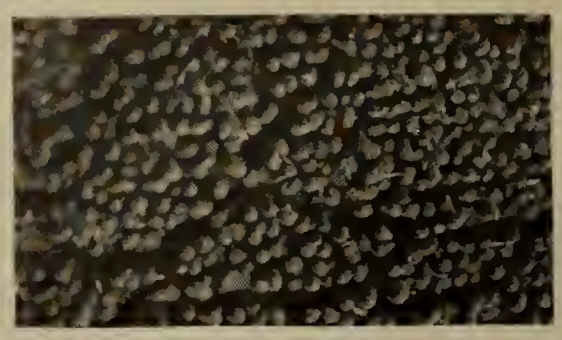


Fig. 3226. Hynochaete badia (enlarged).

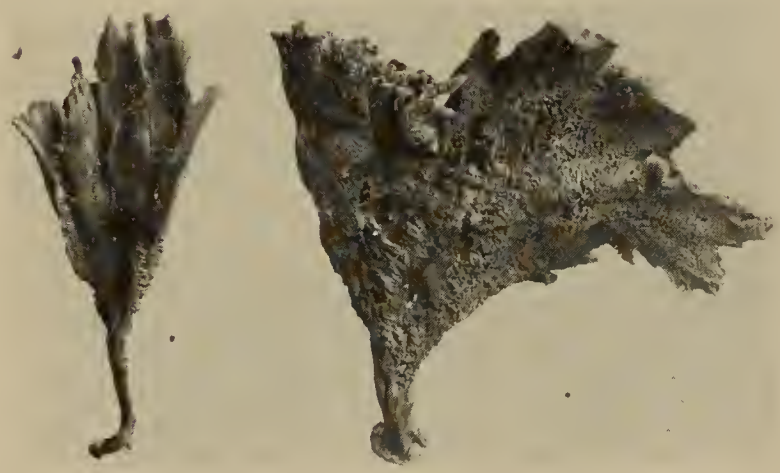


Fig. 3227. Hydnum plicatum.

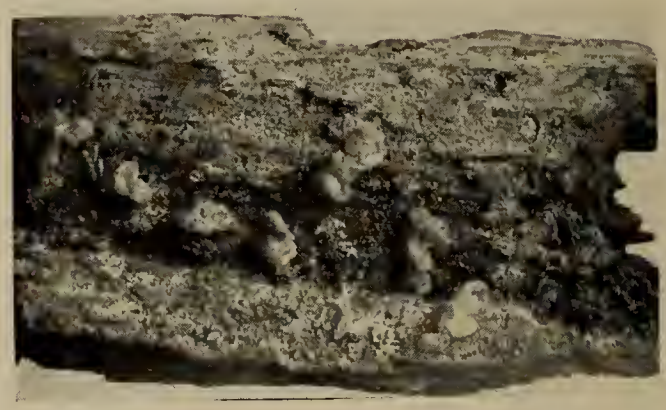


Fig. 3228. Dacryomyces puroalba.

Fig. 3229. Hydnum coralloides.

Fif. 3230. Hydnum pleuropodium.

Fig. 3231. Pilacre faginea.

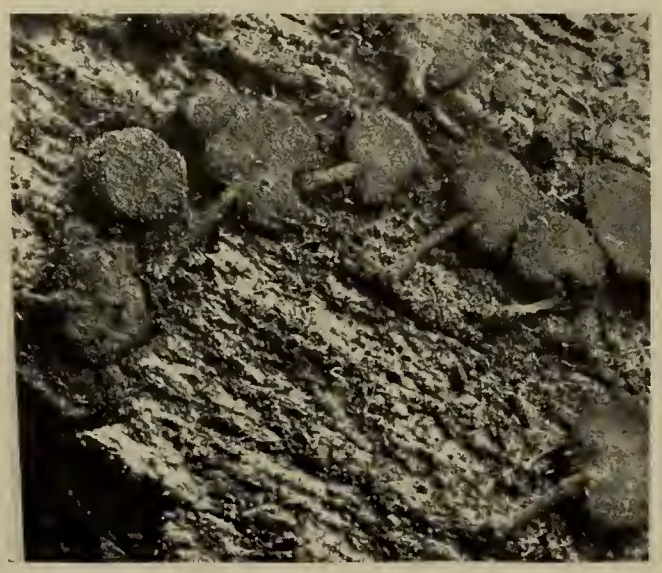


Fig. 3232. Pilacre faginea (enlarged).

Fig. 3233.
Geoglossum irregulare.

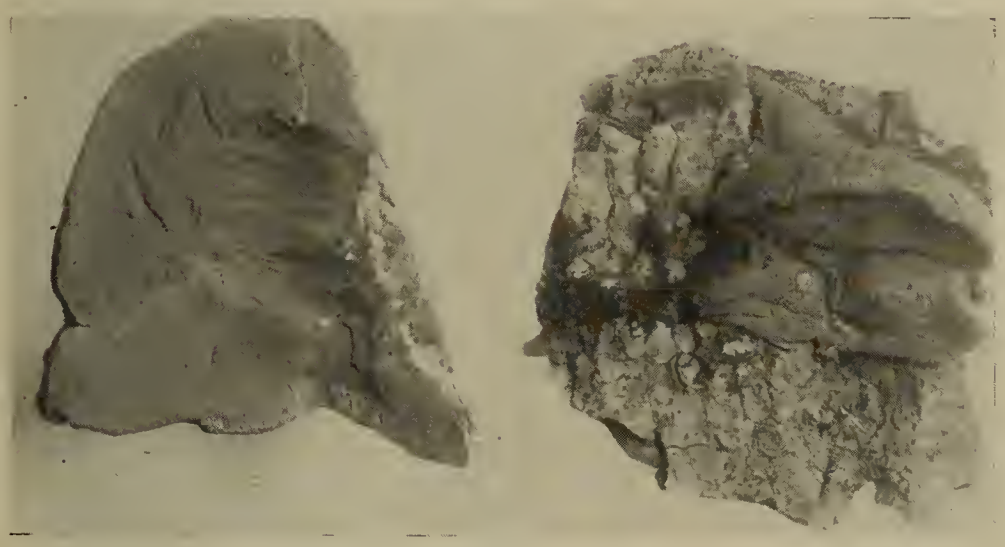


Fig. 3234. Polyporus salmonicolor.

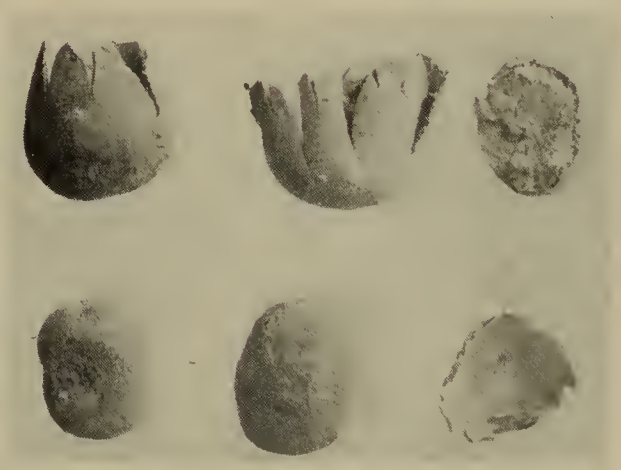


Fig. 3235. Diploderma dehiscens.

Fig. 3236. Anthurus aseroiformis.

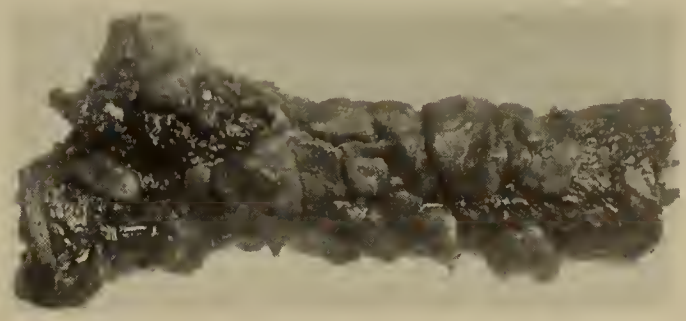


Fig. 3237. Exidia purpureo-cinerea (dried and soaked).

Fig. 3238. Sebacina incrustans.

Fig. 3239. Sebacina incrustans.

Fig. 3240. "Thelephora laciniata" (from Bulliard).

Fig. 3241. Sebacina cristata.

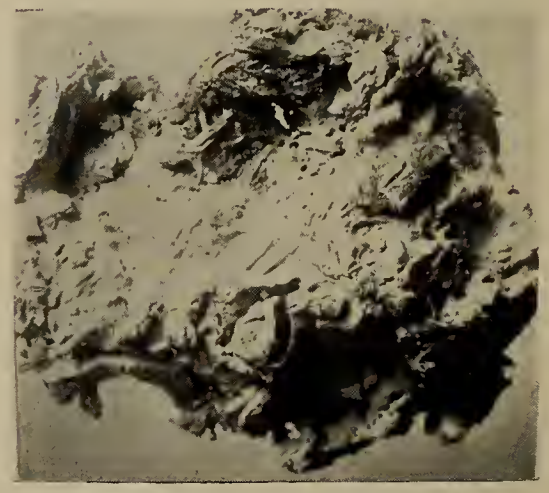


Fig. 3242. Sebacina epigeae.

Fig. 3244. Merulius crassus.

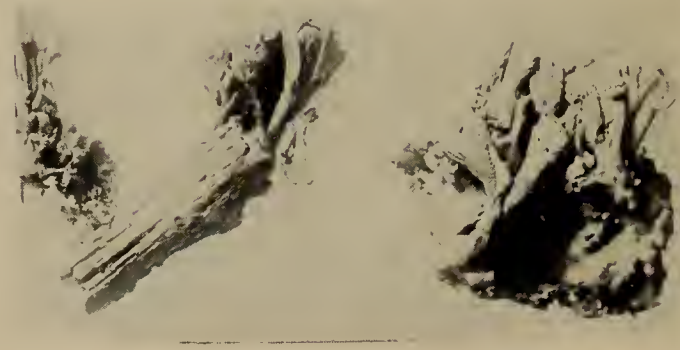


Fig. 3243. Sebacina Bresadolae.

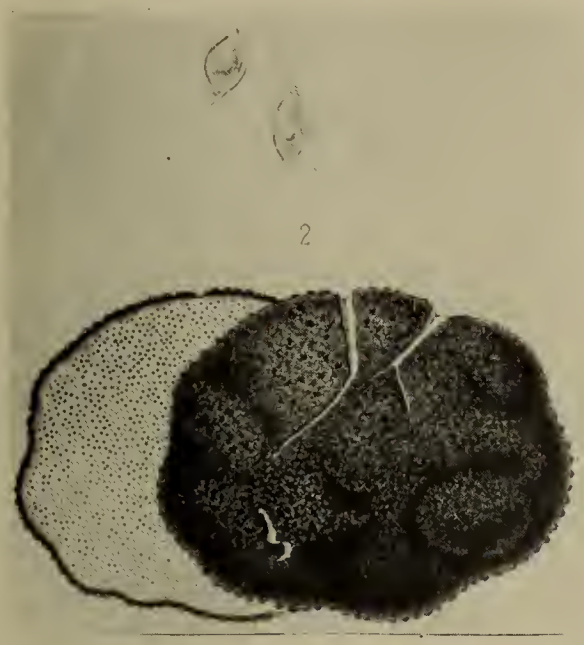


Fig. 3245. Leucangium carthusianum.

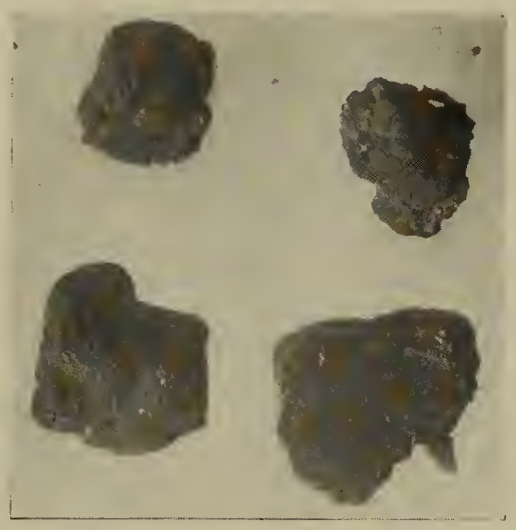


Fig. 3246. Leucangium carthusianum.

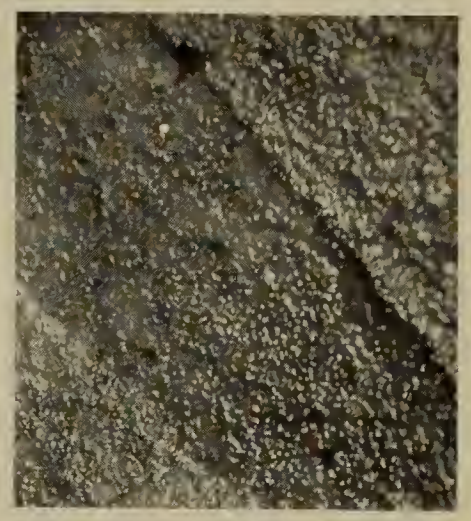


Fig. 3247. Leucangium carthusianum. (section enlarged).

Fig. 3248. Mitremyces Rodwayi.

Fig. 3249. Mitremyces Rodwayi (mouth enlarged).

Fig. 3250. Mitremyces lutescens (mouth enlarged).

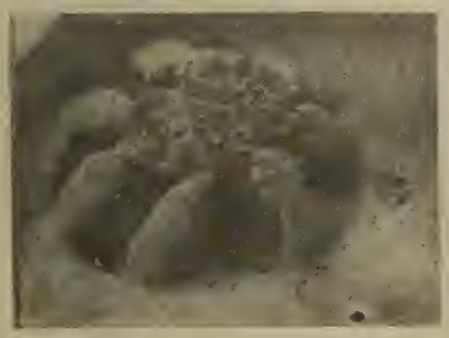


Fig. 3251. Mitremyces insignis (mouth enlarged).

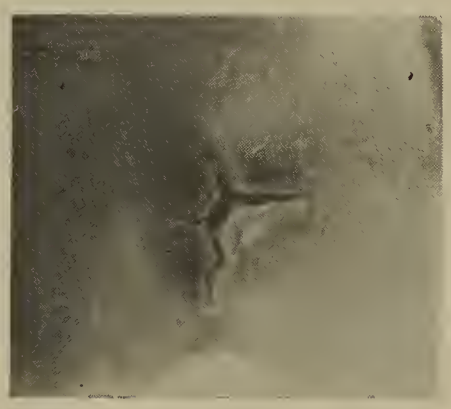


Fig. 3252. Mitremyces cinnabarinus (mouth enlarged).

Fig. 3253. Mesophelia arenaria.

Fig. 3254. Tremella carneocolor.

Fig. 3255. Auricularia albicans.

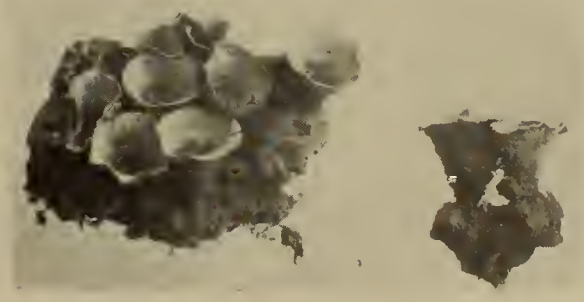


Fig. 3256. Cyathus Canna.

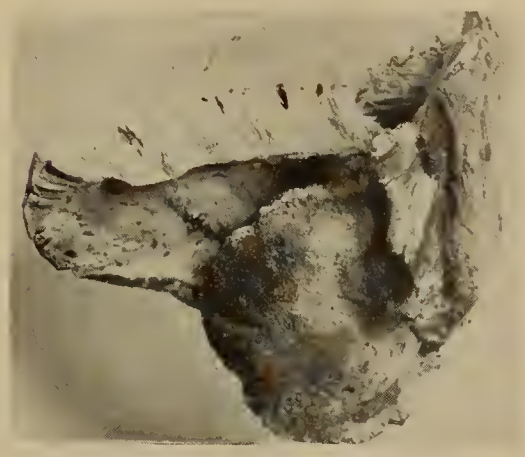


Fig. 3257. Polyporus Iowensis.

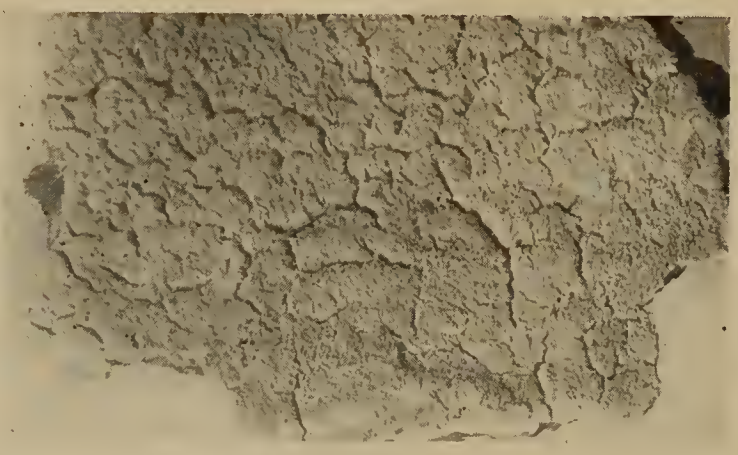


Fig. 3258. Grammothele mappa.

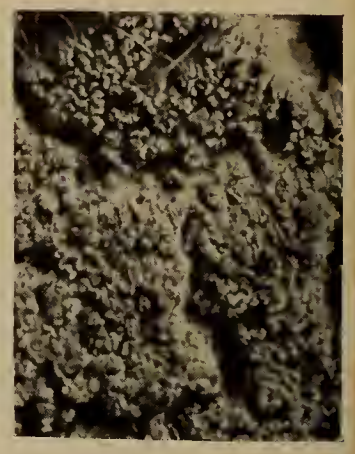


Fig. 3259. Grammothele mappa (enlarged).

Fig. 3260. Tremellodiscus mucidus (section magnified).

Fig. 3261. Guepinia pygmaea.

Fig. 3262. Guepinia pygmaea (enlarged).

Fig. 3263. Dacryomyces deliquescens (in English sense).

Fig. 3264. Nidula candida.

Fig. 3265. Thelephora multipartita.

Fig. 3266. Thelephora multipartita.