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F U N G U S S E S,

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No 3165

W I T H
F O R T Y - F O U R C O P P E R - P L A T E S ;
O N W H I C H A R E E N G R A V E D
F I F T Y - O N E S P E C I E S o f A G A R I C S :

Wherein their Varieties, and various Appearances in the different Stages of Growth, are faithfully exhibited
in more than

T W O H U N D R E D F I G U R E S,

Copied with great Care from the PLANTS, when newly gathered and in a State of Perfection.

With a particular DESCRIPTION of each SPECIES, in all its Stages,
From the first Appearance to the utter Decay of the Plant; with the Time when they were gathered; the Soil
and Situation in which they grew; their Duration; and the particular Places
mentioned, where all the New or Rare Species were found.

The Whole being a plain Recital of FACTS, the Result of more than Twenty Years Observation.

I N T H R E E V O L U M E S.

By J A M E S B O L T O N,
Member of the Nat. Hist. Society, at EDINBURGH.

V O L. I.

N A T U R A S E M P E R E A D E M.

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T O T H E
R I G H T H O N O U R A B L E
T H E
E A R L O F G A I N S B O R O U G H .

My Lord,

SCIENCE will flourish under the Patronage of Virtue, and Men of every Class will always approve and pursue those Studies, which are distinguished with the Regard and Approbation of their Superiors.

Not to enter into a Detail of the many excellent Qualities wherewith your Lordship's Name stands distinguished, I have an assured Right to address you, as a Generous Promoter of a Science the most rational and most pleasing, as well as the most essential to the Life of Man, I mean that of Botany.

But as no Science can be perfectly and thoroughly understood, till a Knowledge of its constituent Objects be attained, ---Therefore every proper Attempt to discriminate and ascertain its Species, must be useful, in a greater or lesser Degree, in Proportion to its Success.

English BOTANY has received many and great Improvements in the last and present Ages, and yet the most
b 2 extensive

D E D I C A T I O N.

extensive as well as the most entertaining Branch thereof, the CRYPTOGAMIA CLASS, has been too superficially regarded. That our Knowledge of the *Fungi*, the last Order of this Class, is very deficient, will evidently appear from this, that a greater Number of its Species have been actually gathered, in a Compass of Ground not exceeding eight or ten Miles round *Halifax*, than have yet been ascertained in our best and most correct Catalogue of the British Plants. The above Species are the Subject of the present Work; but as Original Drawings from Nature, of the whole Number, are now in your Lordship's Possession, it is not necessary to recapitulate them here.

I am happy, my Lord, to embrace this Opportunity of acknowledging, that it is to your LORDSHIP's Generous Encouragement, together with that of your late Noble Relative, the GOOD DUCHESS DOWAGER of PORTLAND, that the Work in a great Measure owes its Existence, and of professing that

I am,

With the highest Regard,

My Lord,

Your Lordship's,

Most obedient and most humble Servant,

HALIFAX,
January 1, 1788.

JAMES BOLTON.



I N T R O D U C T I O N .

AS this work may possibly fall into the hands of some who are not Botanists, and yet may have a natural desire to inform themselves of so much of the Theory, as may enable them, by the Practice, to divert the melancholy of an amusive walk, or to pass agreeably, a few hours of rural retirement; whose line of conversation, or whose situation in the country, may not afford them an opportunity of receiving such instructions as may tend to improve, or even awaken, a talent given them by Nature, for an amusement so rational, so pleasing, so conducive to the health of the body, and the recreation of the mind: To these it will not be unacceptable, to be so far informed of the Generic Characters of the Plants here treated of, as may enable them, at sight of a specimen, to determine, at once, to what Genus or Family it belongs.

The

The Figures which are on the engraved title, placed in the book by way of Frontispiece, though they are simple and mean, yet they are Natural, and so far represent the distinguishing Characteristics of the Genera, as may, with the assistance of a short explanation, render them plain to a moderate capacity.

An Explanation of the Frontispiece.

Fig. A. Genus 1. *Agaricus* (Mushroom).

A Fungus, having a pileus or hat, growing horizontally, and having gills on the under-side. There are two divisions of this Genus, first, having the hat supported on a pillar or stem; second, an hat without a pillar (*parasitic*), adhering by one of its sides to other plants. The little figure at A. represents the *Agaricus integer*.

Fig. B. Genus 2. *Boletus* (Trufflewood).

A Fungus, growing horizontally, having pores or holes on the under-side. There are two divisions of this Genus, first, those without a stem (*parasitic*) adhering laterally to other plants; second, having an upright central stem or pillar. The figure at B. represents the *Boletus luteus*.

Fig. C. Genus 3. *Hydnum*.

A Fungus, having an horizontal Pileus, with awl-shaped soft prickles growing underneath, the pileus supported on a pillar. The figures at C. represent the *Hydnum repandum*, and *Hydnum auriscalpium*.

Fig. D. Genus 4. *Phallus* (Morell)

A Fungus, consisting of an hat and a pillar, hat oval, smooth on the inside, honeycombed or cored on the outside. D. represents the *Phallus esculentus*, or common esculent Morell.

Fig.

Fig. E. Genus 5. *Clathrus*.

A Fungus, roundish or oblong, hollow within, netted, latticed or windowed, the latticing connected on every side, often resting on a smooth receptacle, which is supported on a stem or pillar. The figures at E. represent the *Clathrus nudus*, and *Clathrus fulvus*.

Fig. F. Genus 6. *Helvella*.

A Fungus, with a pileus or hat, smooth on both sides. There are two divisions of this Genus, first, with the hat supported on a stem or pillar; second, the hat sessile or without a pillar. The figures at F. represent the *Helvella mitra*, and the *Helvella inflata*; a curious new species, five inches high.

Fig. G. Genus 7. *Peziza*.

A Fungus, bell-shaped, cup-shaped, or fennel-shaped, generally smooth, and of equal substance throughout. The figures at G. represent the *Peziza lentifera*, and an elegant new British species, the *Peziza undulata*.

Fig. H. Genus 8. *Clavaria*.

A Fungus, growing perpendicularly, simple or branched, smooth, and of one uniform surface. The figures at H. represent the *Clavaria muscoides*, and *Ophioglossoides*.

Fig. I. Genus 9. *Lycoperdon* (*Puff-ball*).

A Fungus, roundish, consisting of a bark or rind, which breaks generally in the summit, and discharges an impalpable dust or *farina*, in form of smoke. There are three divisions of this Genus, first, those that are destitute of root, and subterraneous; second, with a root and parasitic; third, with a root, and growing on the ground. The figure at I. represents the *Lycoperdon bovista*.

Fig.

Fig. K. Genus 10. Sphæria.

A Fungus, having numerous spherical or oblong vesicles, regularly arranged under some part of its surface; which vesicles discharge a dust or powder. There are two divisions of this Genus, first, agaric-like, growing on the ground, of a soft filamentous substance, having a proper root, volva, stem, and pileus; second, parasitic, sessile, or supported on a pillar, and are generally of an hard, horny, or woody substance throughout. The little figures at K. represent the *Sphæria tuberculosa*, and the *Sphæria agariciformis*, a new species, four or five inches high, with a bulbous volvated root, a stem, and a pileus. This is a very curious plant, and a true non-descript, as will be seen in its proper place.

Fig. L. Genus 11. Mucor (Mould or Mouldiness).

A Fungus, consisting of a roundish vesicle, supported on a filament, and containing numerous seeds, affixed to an hair-like receptacle. The figure at L. represents the *Mucor mucedo*, as it grew on the stalk of a pear, which had a small part of the fruit adhering to it, in a putrid state.

These few characters being established in the memory, it will be easy, on sight of a specimen, to determine, properly and certainly, to which of the above families it belongs. But the first Genus—the Agarics—being very numerous, and a perplexing similarity obtaining between some of the species, it therefore becomes necessary to examine with care, the form, texture, number, and situation of the parts of the plant under review, before we can discover a certain discriminative, specific mark, peculiar to that species, and not to be found in any other;—and till such a mark be discovered, we cannot truly say, that the species is properly defined or ascertained. I would not here be understood to mean, that we are to discover a part in every species, which is not to be found in some other, this in a simple sense is impossible; but the distinguishing mark is to be discovered

covered by examining all the parts in a combined or complicated scene. And when a plant is discovered, concerning which we are doubtful whether it is a species of itself, or only a variety of species already known, we ought carefully to collate it with the original, from which we suppose it may possibly be derived; and if we find it to agree in the number, figure, and situation of its parts, and that the matter of which it is composed, agree in substance or texture, we may reasonably suppose, that the doubtful plant is a variety and not a species, though it may be much different, in respect to time, soil, magnitude, colour, &c.

On the contrary, though two plants may agree in colour, time, soil, situation, size, smell, taste, &c. yet if they disagree in any one essential mark, we are nevertheless certain of their specific distinction. For instance, suppose the *Agaricus fimitarius* has an upright white stem, growing from a bulbous root, which is destitute of volva; so has the *Agaricus annulatus*. Suppose it further, to have a large white pileus, brown at the apex, and covered here and there with soft brown scales; suppose it to have a white curtain, and gills of a pale flesh colour, while young, and changing their colour afterwards; the *Agaricus annulatus* exhibits all the above characters, as evidently as the other. Thus far, therefore, no certain specific mark is discoverable; but on examining them a little further we find, that the gills of the *fimitarius* are arranged in one series only, being all of equal length, and extended from the rim of the pileus to the top of the stem; but in the *annulatus* they are arranged in several series, unequal in length, which is a certain mark of distinction in the two species. This one diagnostic being found, we then support it by aids, drawn from habit, figure, soil, size, duration, smell, taste, colour, and dissolution; all which being properly attended to, will, with the assistance of application to the study, and actual observation made upon the plants in the different stages of growth, render the knowledge of their specific distinctions, both easy and certain.

To explain a little further what I mean, by aids to support the specific mark, in the above instance, The pileus in the *Agaricus fimitarius*, is of

an oval figure while young, conical when full grown, and in decay lacerates and dissolves; that of the *annulatus*, globular while young, when full grown bell-shaped, and withers in decay. The gills in the *fimitarius* turn from a red to a black colour, and melt into a black inky fluid; those of the *annulatus* change to a pale brown, and wither. In the *fimitarius*, the curtain vanishes as soon as it has performed its office; in the *annulatus*, it abides after its separation from the pileus, and remains upon the stem to the last.

As a previous knowledge of the parts of an Agaric, will be necessary to the making the above observations, it may not be judged improper to give a short and plain explanation of them referring to the figures in the plate, at the head of this introduction.

Explanation of the Plate.

FIG. A.

Represents a young plant of the *Agaricus muscarius*, cloven down-right, to shew the situation of the root, stem, and pileus, while the plant is yet surrounded by the volva; the curtain is removed to shew the situation of the gills. *Fig. 1.* the volva. *Fig. 4.* the gills.

FIG. B.

The same plant, represented as a little advanced in growth, to shew the manner in which the volva, *fig. 1.* is torn by the increase of the pileus and stem.

FIG. C.

Shews the curtain, *fig. 3.* extended from the stem to the rim of the pileus, unbroken, and performing its office. *Fig. 2.* the pileus or hat.

FIG.

F I G. D.

Shews the curtain lacerated, or torn in fragments, part remaining upon the stem, and part on the rim or margin of the pileus:—examples of which we have in the *Agaricus pompatus**, *villosus*, *castaneus*, &c.

F I G. E.

Represents the curtain separating from the pileus all round its margin, without being torn, as in the *Agaricus muscarius*†, *verrucosus*, &c.

F I G. F.

Shews the gills, *fig. 4*, branched, or divided and subdivided; the shorter being united at their base into the longer: as in the *Agaricus chanterellus*, *infundibuliformis*§, &c.

F I G. G.

Shews the gills arranged in three series, of unequal length; the first series extended from the top of the stem to the rim of the pileus; the second series extended but two thirds of the way, and the third series extends but one third of the way from the rim towards the centre: and this arrangement of the gills is the most common. It is however subject to irregularity; the same series sometimes varying in length, in respect to one another; sometimes the alternate order of their disposition is not regular; and the second and third series are sometimes deficient in their number.

F I G. H.

Shews the gills arranged in two series, as in the *Agaricus muscarius*‡, and *Agaricus politus*;—but of this arrangement we have but few examples in the English Agarics.

b 2

F I G.

* Tab. 5, 42, 10.—† Tab. 27.—§ Tab. 54.—‡ Tab. 27, 52.

FIG. I.

Shews the gills arranged in one series only, being all extended from the top of the stem to the rim of the pileus; as in the *Agaricus integer**, *luridus*, *fimitarius*, &c.

The gills furnish us with many other aids, which must necessarily be attended to, in order to the investigation of species. In some they are narrow^a and arched, so as to render the lower surface of the Agaric, as it were excavated or hollow; in others they are straight, making the lower surface nearly plain^b or flat; in others again they are broad and deep, so as to render it prominent or bellied^c. In some they are thin, numerous^d, and very closely arranged; in others they are gross and remote^e. In some the first series adheres by a broad base to the top of the stem^f, and grow narrower towards the extremity; in others they are broad, and lopped off at the base, either adhering to the stem by a small claws, or not all adhering thereto. In some they are broadest in the middle, growing narrower^b to each extremity; in others they are narrow and pointed at the base, and grow broader and broader to the extremity, where they are lopped off obtuselyⁱ.—The above circumstances regarding the gills being constant, ought by no means to be disregarded in the description of the species.

Much confusion has long prevailed in this genus of plants, chiefly owing to the brief, or obscure description which have been given of them; for their parts are so few, that every one of them ought to be regarded with the greatest care, with all that is singular, and peculiar to its circumstances.

In describing an Agaric, every part of the plant should be examined, in respect to the following particulars.

The

* Tab. 1, 25, 44.—^a Tab. 3, 31, 40.—^b Tab. 6, 36.—^c Tab. 23, 27, 38.—^d Tab. 25, 44.—^e Tab. 28, 43.—^f Tab. 3, 42.—^g Tab. 6.—^h Tab. 7, 28, 33.—ⁱ Tab. 38.

The Root, whether tapering, bulbous, compressed, or of what other figure; note the colour and consistence of the fibres, and to what they adhere; whether the root produces one single stem, or more than one; and if more how many: say in what situation it grows, and at what season. Note, whether it be furnished with a volva, and if there is a volva, say of what size, figure, texture, colour and duration; if it perishes and disappears before the other parts, say how, and at what age of the plant:—under this head, note also, the duration of the plant, whether it springs up and perishes in the space of a few hours, in one or two days, or whether it abides for weeks.

Of the Stem say, whether upright or leaning; if leaning, whether in a regular curve, or crooked in various directions; whether hard and firm on being pressed between the fingers; or freely yielding to a gentle pressure; whether solid, and of the same substance throughout, or *fistular*, hollow within; whether easily dividing in filaments, or of a brittle spongy substance, not divisible in filaments; say, how thick, how tall, of what colour both within and without.

If there be a Curtain, say, at what age of the plant it breaks, and how, of what colour and consistence it is, and whether it entirely vanishes, or leaves any vestiges.

Of the Gills, as before mentioned, say, if they are in one, two, or three series; whether broad or narrow, many or few; whether fine or coarse; whether adhering to the stem by a narrow claw, by a broad base, or not touching to the stem. Say of what colour from first to last. Note, whether they yield a milky fluid, on being wounded or broken; and if such a fluid, say of what colour, taste, and smell.

Of the Pileus, note, what figure it assumes, from first to last; what its diameter in a state of perfection, or at full growth; whether waved, undulated, or crumpled round the margin, or regular and even; whether
the

the surface be smooth and plain, or rugged with scales, or other inequalities; if rugged, say, whether the matter is of the same substance with, and growing from the pileus, or is of a different substance, adhering to the pileus by means of a glutin, or otherwise; and note the colour of these inequalities.—If the surface is smooth, note how it feels to the touch; whether clammy or dry; whether like cloth, silk, velvet, leather, vellum, or what else; note, whether it consists of much flesh or not, and of what substance and colour within; whether soft and fibrous, or hard and brittle; whether dissolving or withering in decay; and note, what mutations of colour take place on its surface, from the first appearance above ground to the utter decay of the plant.

The plants which now compose the Order *Fungi*, were formerly supposed to be of equivocal generation, the sport of Nature, the effect of Putrefaction, or the brood of Chance; but that they owe their original to the seeds of a parent plant, is now well known, having been proved by MICHELII, in a work entitled *Nova Plantarum Genera*, published at Florence, in 1729, in folio, with many excellent figures; by DILLENIUS, in his *Catalogus Plantarum circa Giffensis*, published at Frankfort, in 1719; by GLEDITSCH, in his *Methodus Fungorum*, published at Berlin, in 1753; by BATTARA, in his *Fungorum agrı ariminensis Historia*, printed in 4to, at Rimini, in 1755; but above all by the ingenious HERWIG, who in a work entitled, *Historia Generationes et Fruſtificationes Plantarum Cryptogamicarum*, printed in 4to. at Petropoli, in 1784, has by means of the Microscope proved beyond dispute the existence of stamin and stile, or of male and female organs in these; as perfect as regular, and effective in the production of proper seeds, as in any other vegetable, where they are more obvious to our sight; his observations are illustrated by figures, accurately engraved and coloured, from his own drawings. See his work, plate 34, 35, 36, 37, and from figure 195 to 214.

Some observations may be made in regard to constancy of place, in the plants of this order. The *Agaricus integer*, *cillofus*, *purpureus*, &c. the *Boletus luteus*, and *bovinus*; the *Clathrus nudus*, and *denudatus*, I have constantly observed

observed to make their appearance at their respective seasons, in one and the same place;—on the contrary, the *Agaricus elephantinus* grew abundantly in the *Shroggs*, and several other woods about *Halifax*, in October, 1786; this present year, 1787, I have not found more than one or two plants of it.

In the year 1785, the *Peziza cornucopoides* came up abundantly in one place, in the last-named wood, but has not since grown there.

In September, 1777, the *Helvella mitra*, grew plentifully in several woods, in hedges, under trees, and even in pastures and meadows, in this neighbourhood; and since then, in the space of ten years, though my researches have been regularly kept up, I have not met with more than three or four specimens of that rare plant.

These observations bring to my mind others of a like nature, which I have formerly made on the fugacity of some insects, viz. the *Painted Lady Butterfly*, (*Papilio Cardui*, of LINNÆUS) was so plentiful about *Halifax*, in 1780, that scarce a field was without them; in fields where flowering plants grew, particularly the *Scabiosa fucifida*, and *Trifolium pratense*, it was easy, with a common bag net, to catch ten or fifteen specimens in the space of an hour or two; but since that time, or for ten years before, that insect has been very rarely, or not at all seen in this part of *Yorkshire*. The like remarks hold good, in a lesser degree, in respect to the *Papilio atalanta*, *Phalena meticulosa*, &c. and to some Birds, viz. the *Lanius collurio*, *Loxia recurvirostra*, *Turdus turquatus*, &c.

Some species of *Fungi* are perennial and abiding, as the *Sphæria tuberculosa*; others, though they die and fall away annually, have an abiding or perennial root, as the *Sphæria lyoxylon*.

The *Phallus impudicus*, a rare plant here, I have observed to grow three successive years, in the same hand's breadth of ground, though I took up the
the

the plant, with its radical cord, both the first and second year. Its time is in October.

(To be continued in the second Volume)

The second Volume will contain the remainder of the *Agarics*, with the three succeeding Genera, *the Boletus*, *Hydnum*, and *Pballus*.

The third will contain the other seven, viz. the *Clathrus*, *Halvella*, *Peziza*, *Clavaria*, *Lycoperdon*, *Sphaeria*, and *Mucor*; many of which being small objects, will be engraved several on a plate,

To many of the plants, here figured and described, I have not been able to apply the Synonyma of Authors, because I had not an opportunity of perusing their works; therefore, any communications from Botanists, which may assist me in applying those Synonyma, particularly those of SCHOEFFER, (whose valuable work I never saw) will be thankfully acknowledged.

. The Reader is desired to observe, that the Description and the Drawing were not always taken from the same specimen—the perishable nature of the plant often not admitting it; and where the figure does not exactly coincide with the description, in regard to the precise hue of colour,—so much variation prevailed between the individual which was described, and the individual which was painted.

A N

HISTORY OF AGARICS,
GROWING about HALIFAX.

AGARICUS *stipitatus*, lamellis omnibus æqualibus, Sp: Pl: 1640.
Agaricus stipitatus, pileo convexiusculo viscido purpureo,
lamellis omnibus æqualibus albis. Hud: Angl: 610: 4. Bat-
tar, fung, tab. 15, fig. E.

I.
integer.

EQUAL GILL'D AGARIC.

T A B. I.

THE root is a little swollen and irregular, terminating the stem obtusely; it is firm and feels solid, is of a brittle substance, emits a few proper fibres, and sustains one plant only.

The stem round, upright, solid, of a spongy brittle substance, the thickness of one's thumb, and two or three inches high. The colour is a perfect white, both within and without; there is no curtain.

The gills in one series, regularly extended from the head of the stem to the rim of the pileus; sometimes, however, there are a few intermediate ones extending but half way. They are constantly of a pure white colour, while young of a tender substance, and greedily devoured by the snails.

The pileus smooth, while young of a globular figure, and covered with a glutin*. When in perfection horizontal, smooth, plain, sometimes white, often strongly tinged, especially towards the rim, with a fine crimson, a carnation, or a purple colour, which in decay changes to a dirty blue or green; diameter from two to four inches, abounds with flesh of a spongy brittle substance, and white colour; at last dissolves in a brown turged jelly.

Grows in all the woods about *Halifax*, in plenty, from August to November.

B

* A gummy or glutinous fluid, which is found, like a varnish, on the surface of many Agarics.

II. AGARICUS *stipitatus pileo convexo fusco, lamellis trifidis*
latissimis carneo pallidis.

BROAD AGARIC.

T A B. II.

THE root is a little swelled, or approaching to a bulbous figure; it is hard and firm if pressed between the fingers, of a white colour within, and of a dry brittle substance; covered on the outside with innumerable downy fibres, by means whereof it brings up a covering of the mould, amongst which it grows, when it is gathered. It produces one plant only, and has no volva.

The stem round, upright, firm, solid, and is easily divisible in fine, shining, silky filaments, is about the size of one's middle finger, and four inches high. The colour, a dusky white on the outside, and of a silver white within; it has no curtain.

The gills in three series, broad, deep, and large, *as expressed at A*; they are numerous, thin, and pliable: they are white, and faintly tinged with a kind of dusky flesh colour.

The pileus from four to seven inches diameter, of a smooth dry substance, feels like fine woollen cloth, and is of a kind of brownish mouse-colour. The substance of the flesh brittle and spongy, and of a fair white.—This plant differs from the *A. integer*, in that the gills are in three series, from the *A. muscarius*, and *A. annulatus*, in having neither volva or curtain.

Grows under old wood piles, and amongst rotten saw dust, in September and October.

AGARICUS *stipitatus*, pileo carneo lactescente, lamellis rufis, III.
stipite longo carneo, Sp: Pl: 1641. Hudson Angl: 614. *lactifluus*.
 Flo: Scot: 1012. Schaf: Fung: tab: 73. Bulliard, Pl:
 282.

MILKY AGARIC.

T A B. III.

THE root is swelled, hard, round, of a brown colour, and emits brownish short fibres from its sides; it produces one plant only, and is not surrounded by a volva.

The stem is round, hard, and firm, generally leaning, or curved; it is the thickness of one's little finger, and three inches high; the substance is white within, and the colour on the outside a pale reddish brown.—There is no curtain.

The gills in three series, narrow, arched, and adhering to the stem by a narrow claw; they are numerous, and of a brittle substance. While young they are white, afterwards changing to a pale brownish buff colour; when wounded or broken a white milky fluid, of a mild taste, issues out in round drops.

The pileus at first convex, afterwards becomes horizontal, and at last funnel shaped; but in all its stages, from first to last, the margin is deflected. The surface is dry, smooth, and feels like cloth; of a dark cinnamon brown colour, and from two to four inches diameter. The substance of the flesh dry and brittle.

Grows in woods about *Halifax* abundantly, from August to November.

IV. AGARICUS *stipitatus*, pileo hemisphaerico purescens lillo,
dentatus. lamellis margine dentatus, stipite fistuloso.

TOOTHED GILL'D AGARIC.

T A B. IV.

THE root is hard and oblique, of a brown colour, and covered with downy fibres; it is not surrounded by a volva.

The stem is the thickness of a goose-quill, hollow, the substance thin, pliable, and tough, easily splitting in thin silky filaments; the colour a very pale brownish hue, height two or three inches; it has no curtain.

The gills in three series, deep, and adhering to the stem by their base; they are remote, thin, pellucid, of a pale, livid, watery, purple colour, and are remarkable in being dented along the edges with visible rust coloured dents, *as is expressed at A.* These dents, according to the ingenious HEDWIG, are the male parts of fructification. See his *Theoria Cryptogamicarum*, P. 162. tab. 34, fig. 196, 197.

The pileus hemispherical, two inches diameter, a little deflected, and striated at the rim; of a dull livid purple, almost destitute of flesh, and of a watery substance; it dissolves in decay.

Grows in woods near *Halifax*, but not plentifully. The specimen here described, grew in *Stump-Wood*, in *Northwestern*, September 10, 1787.

V. AGARICUS *stipitatus*, pileo plano, lamellis bifidis stipite,
sternatus. lamellæ et pileo albo.

IVORY AGARIC.

T A B. IV. FIG. II.

THE whole plant is of a pure white colour, pellucid, and seems as if made of ivory.

Grows in meadows, amongst the grass, in September. The specimen here figured, I gathered amongst the grass under the elm trees near *Stannary-Lane*, September, 1787.

AGARICUS *stipitatus*, pileo rotundo coccineo, lamellis olivaceis
stipite inaequale.

VI.
pompofus.

POMPOUS AGARIC.

T A B. V.

THE root consists of an hard and pointed termination of the stem, covered with downy fibres, of a white grey colour; it has no volva.

The stem is three or four inches high, largest above, tapering towards the root, often bent irregularly, of a pale yellow above, brown near the root, and easily divides in yellow silky filaments.

The curtain a pale yellow colour, breaks like a fine and delicate spider's web, or the finest silky dawn. It quite vanishes before the decay of the plant.

The gills in three series, narrow, thin, numerous, and delicate; while young of a pale yellow, afterwards changing to a greenish olive colour. They adhere to the stem by a narrow claw.

The pileus two or three inches diameter, deflected round the margin, where it is of a yellow colour, gradually changing to a fine orange, as it approaches towards the centre, which is of a deep orange or scarlet colour. The flesh thick, brittle, and of a pale yellow.

Grows in woods about *Halifax*, frequent in September and October.

VII. AGARICUS *stipitatus, pileo repando semiplucido, lamellis trifidis*
repandus, carneo pallidis, stipite fistuloso albo.

SPREADING AGARIC.

T A B. VI.

THE root tapers to a point, from which it sends out a few hard crooked fibres, an inch or two in length; it has no volva.

The stem white, shining, with a silky gloss, largest near the bottom, gradually tapering upwards, sometimes a little twisted, and of an irregular surface. It is five inches high, fistular, and easily splits in small white shining filaments; there is no curtain.

The gills are in three series, deep and very remote, terminating in a broad base, but not adhering to the stem. See *figure A*. They are of a tender soft pliable substance, and tinged with a faint dusky flesh colour.

The pileus convex at first, when in perfection horizontal, spreading out at the rim; four or five inches diameter; of a dead white colour, a tender watery substance, and destitute of flesh.

Grows in the shady parts of woods in the neighbourhood of *Halifax*, in August and September.

AGARICUS *stipitatus, pileo lacerato plumoso, lamellis trifidis* VIII.
stipite fistuloso. *cristatus.*

CRESTED AGARIC.

T A B. VII.

THE root is round, hard, and brown; surrounded with soft
 dawning brown fibres, entangled amongst a grey mouldy
 matter; it has no volva.

The stem is round, hollow, and smooth; two inches high;
 the thickness of a duck's quill; of a pale brownish colour,
 easily dividing into silky filaments.

The curtain white, tender, breaks and vanishes while the
 plant is young.

The gills in three series, white, of a tender substance,
 broadest towards the base, but not adhering to the stem.

The pileus at first conical, afterwards becomes horizontal,
 and lacerated round the rim; two inches in diameter, and of a
 soft silky substance: the ground colour a pale milky white.—
 It is thickly covered with little tufts, of a brown red colour,
 which are not the fragments of a volva, but grow from the
 substance of the pileus.

It grows in gardens, but not common. This specimen
 grew in the garden of J. Cook, Esq; of *Warley*, Septem-
 ber 15, 1787.

IX. *AGARICUS stipitatus, pileo lobato, lamellis trifidis decurren-*
cornuco-
picides. tibus, stipite tortuoso.

CORNUCOPIA AGARIC.

T A B. VIII.

THE root is tough, irregular, much twisted, and surrounded with numerous woolly fibres, of a red brown colour; an inch or two from the bottom divides in several flat twisted furrowed stems, of a black brown colour, and a tough elastic leathery substance; upwards they enlarge, and become more visibly twisted, are strongly corded or nerved, which cords or nerves are a continuation of the decurrency of the gills. These stems grow four or five in number, from the same root, are four or five inches high, and of a dead brown colour.

The gills are in three or four series, they are remote, narrow, tough, and of a dead buff brown; they are remarkably decurrent, their bases running down the stem, even to the root.

The pileus three inches diameter, lobed in a singular and not inelegant manner. The lobes are four or five in number, waved and curled on the edges, thin, or almost destitute of flesh, of a tough elastic substance, and a dusky cinnamon colour.

Grows in shady woods about *Halifax*, but not plentifully. The plant here figured, I gathered in a little wood, near the farm called *Brakenbed*, in *Ovenden*, September 3, 1787.

AGARICUS *stipitatus*, pileo testaceo, succo lutescente, Sp: Pl: 1641. Hud: Ang: 613. Battar, jung, tab. 16, fig. II.

X.
deliciosus.

ORANGE AGARIC.

T A B. IX.

THE root is an obtuse termination of the stem; it is hard, and emits numerous downy brown fibres; gathering a portion of mould with it, when taken up: there is no visible volva.

The stem is hard, crooked, and brittle; the thickness of a swan's quill, and two inches high; the substance brittle, white within, and not divisible in fibres; when old becomes fistular. There is no curtain.

The gills thin, narrow, arranged in three series; the second and third series irregular in length; they are of a brittle substance, and a pale buff colour; when broken a milky fluid issues out in drops, of a yellow colour, and of a soft herby taste in general; but in some a little acrid, especially while young.

The pileus a little waved round the rim, and while young deflected; then becomes horizontal, and at last umbilicated in the centre; but the margin does not rise, so as to give it a funnel shape. The colour of both pileus and stem is a fine full bright orange. In decay it turns brown and dissolves.

Grows in *Ramden*, and many other woods about *Halifax*, in October.

It differs from the *A. lactifluus*, in being of a scarlet or orange colour, in bleeding a yellow milk, in being a smaller plant, and in that it never becomes funnel shaped.

XI. AGARICUS *stipitatus, pileo subconico castaneo, lamellis trifidis, stipite albo fistuloso, cortina alba.*
castaneus.

CHESTNUT AGARIC.

T A B. X.

THE root is a small, irregular, roundish bulb, of a firm substance, emitting a few hard brown fibres; it is not surrounded by a volva, and produces one plant only.

The stem is cylindrical, white, and the thickness of a goose-quill; it is fistular, with a small perforation; the substance firm, elastic, and easily divides in fine silky fibres. Its height is about three inches.

The curtain is thin and delicate, breaks from the centre, hangs for a little while to the rim of the pileus, and then vanishes, leaving no annulus on the stem; it is white.

The pileus at first conical, with an obtuse point, afterwards becomes hemispherical, and at last nearly flat. The surface is smooth, and of a bright beautiful chestnut brown.

The gills are in three series; the third series very short, and while the plant is young imperceptible; they are of a very pale buff colour, and of a thin and delicate texture.

This is a rare species; I have only seen it in two or three places, particularly in a little wood called *Bracken-Bed-Wood*, in *Oxenden*, where I gathered the specimen here figured and described, in October, 1786.

AGARICUS *stipitatus*, pileo hemisphærico membranecio albido, XII.
lamellis trifidis remotis pallidis, stipite albido fistuloso. *membranecius.*

MEMBRANEOUS AGARIC.

T A B. XI.

THE root consists of numerous downy fibres connected to a soft spongy termination of the stem below; there is no volva.

The stem white, fistular, and of a thin substance, easily dividing in fine filaments; It is about the thickness of a swan's quill, and two or three inches high: there is no curtain.

The gills white, thin, deep, and remote, soft, flexible, and very delicate; afterwards acquire a faint reddish brown tinge, and turns quite black in decay.

The pileus hemispherical, white, consisting of a thin transparent membrane, sometimes a little waved round the margin, and constantly more or less deflected.

Grows in the shady parts of woods, on the decaying roots of fallen oak trees, about *Halifax*, in several places.

The whole of this plant is of a light thin substance, dry, and looks and feels almost like fine tissue paper. It is a rare species.

XIII. AGARICUS *stipitatus*, pileo hemisphærico rugoso, lamellis
cœruleis, trifidis albidis, stipite albo.

BLUE AGARIC.

T A B. XII.

THE root consists of an irregularly compressed termination, or rather origin of the stem; it emits numerous fine dawny grey fibres: there is no volva.

The stem is upright, round, hard, and solid; the size of a swan's quill, and three inches high; it is of a dusky white colour, and has no curtain.

The gills in three series, white, gross, and brittle; they are narrow, and adhere to the stem by their base.

The pileus hemispherical, two or three inches diameter, of a greyish blue colour, and dry surface; feels like cloth made of coarse wool, is firm and hard, but yet very brittle. The substance of the flesh white and thick.

Gathered in the wood below *Wheatly*, August 16, 1786; and again in August, this present year 1787.

AGARICUS *stipitatus*, pileo fusco lobato undulato, lamellis
trifidis profundis carneo pallidis, stipite fistuloso griseo. XIV.
irregularis.

IRREGULAR AGARIC.

T A B. XIII.

THE root in this, as in most other Agarics, consists of an hard abrupt termination of the stem, emitting a multitude of fibres, of a grey colour, and a dawny, or mucor-like substance; in this species there is no volva.

The stem is round, smooth, fistular, and of a pale grey colour, easily divisible into small filaments.

The curtain is of a greyish white, thin, and of a very light and dawny texture; breaks and entirely vanishes soon after the plant appears above ground.

The gills in three series, deep, and remote; of a tough pliable substance, and a pale dusky flesh colour.

The pileus a fordid purple brown, covered with a glutinous matter, two inches in diameter, lobed, waved, and crupled in a very irregular manner; while young irregularly deflected round the margin, at all times a little beaked or elevated in the centre.

Grows in dry and barren pasture and meadow ground, about *Halifax*, in great plenty, in August and September.

XV. AGARICUS *stipitatus pileo globoso purpureo, lamellis croceis ferratis.*

AGARIC WITH SERRATED GILLS.

T A B. XIV.

THE root is an hard blunt termination of the stem; it is of a brittle substance, and seems to adhere to the ground by its base, without visible fibres: there is no volva.

The stem is round, upright, hard, and solid; it is the thickness of one's thumb, three inches long, and of a dusky gold colour; the substance within a pale yellow, brittle, and spongy; not divisible in filaments: there is no curtain.

The gills in three series, rather remote, strong, gross, and brittle, adhering to the stem by a narrow claw; their colour is a fine gold yellow, and they are remarkable, in being visibly serrated on the edges with a brownish colour.

The pileus globular, three inches in diameter, of a bloomy purple colour; it is soft, and feels to the touch like fine woollen cloth, yet there is no visible down. The flesh or substance is thick, brittle, and white. The whole plant dissolves in a brown loathsome jelly, about the third day from its first springing up.

Grows in woods, but is rare. The specimen here figured grew in the plantation at *Bramham*, near *Leeds*; it grew under the trees to the left hand, when you enter the park by a footway from *Keddow-Lane-Head*, August 28, 1786.

AGARICUS *stipitatus, pileo cumpanulato fusco viscido, lamellis trifidis albis, stipite fistuloso albo.* XVI.
concinus.

NEAT AGARIC.

T A B. XV.

THE root is a little swollen, frequently compressed, or of an irregular figure; it has a few proper fibres, and is not surrounded by a volva.

The stem is the thickness of a goose-quill, white, fistular, and of a tender delicate substance; it is two or three inches high, and has no curtain.

The gills are in three series, numerous, deep, of a thin pliable texture, closely and beautifully arranged; their colour, like that of the stem, is white.

The pileus of a dark mouse coloured brown, while young of a bell-shape, and covered with a viscid slippery fluid; afterwards becomes dry, and expands, but not so as to become horizontal: the flesh is thin and white, in decay it dissolves in a brown turgid jelly.

Grows in moist places in several woods about *Halifax*. The specimen here figured, I gathered in the *Birks*, or *Burks*, September 23, 1786.

- XVII. *AGARICUS bipitatus, pileo convexo ferrugineo, lamellis trifidis remotis rigidus, cortina clasica albida, stipite inaequale.*
elasticus.

ELASTIC AGARIC.

T A B. XVI.

THE root is hard and tuberous, emitting numerous brown fibres, by means whereof, it takes firm hold in the ground; it sustains several plants, and is destitute of volva.

The stem is unequal in thickness, being largest near the root, and gradually tapering upwards; it is solid, firm, and elastic; of a red brown or rust colour, white within, and easily divides into thin fibres, or filaments.

The curtain is of a dead white, of a tough substance, breaks round the verge of the pileus, and remains on the top of the stem, like a little thick ruffle, for several days.

The gills are in three series, gross, tough, and remote; of a dusky white colour, and adhere to the stem by a narrow claw.

The pileus is convex, an inch in diameter, of a brownish rust, or ferruginous colour, looks and feels like woollen cloth not of the best quality, being a little harsh to the touch. The flesh is white, of a spongy elastic substance, and has a taste not disagreeable. The whole plant is of a tough leathery substance, and in decay dries and withers.

Grows in dry and barren grounds, under oak trees, in October. This specimen grew under oak trees in the Park at *Fixby*, in October, 1786.

AGARICUS *stipitatus*, *pileo lamellis et stipite albido, tota planta coriacea.* XVIII. *umbilicatus.*

NAVEL AGARIC.

T A B. XVII.

THE root is a little hard tubercle, the size of a small pea, of a brownish colour, and furnished with a great number of fine short capillary greyish fibres: there is no volva.

The stem is round, cylindrical, the thickness of a duck's quill, three inches high, of a dead white colour, and of a solid, firm, tough, elastic substance; but easily splits from end to end, in white, springy, shining filaments: there is no curtain.

The gills are disposed in three series, rather broad than otherwise, remotely placed, white, and of a tough and pliable substance.

The pileus at first convex, afterwards becomes horizontal and depressed in the centre, with a cavity resembling a navel; it is from one to two inches diameter, of a white colour, a smooth surface, and a tough elastic substance. The plant is of a slow growth, and abides for weeks; in decay the colour changes from white to a yellowish brown, after which it melts in a brown liquor.

Grows in close plantations, particularly those of fir or larch, from July to October. It abounds in the plantations about *Fixby-Hall*, the seat of T. THORNHILL, Esq; The rich and extensive plantations around that rural and beautiful *Villa*, have afforded me several curious and undescribed species of British *Fungi*.

XIX. AGARICUS *stipitatus*, pileo conico albido acuminato, lamellis
confertis. *fusco pallidis, stipite numerofo albedo.*

WHITE CLUSTERED AGARIC.

T A B. XVIII.

THE root is an irregular lump of a tough hard substance, emitting numerous short grey dawny fibres, it is not surrounded by a volva, and supports numerous plants.

The stem white, dry, gently tapering from the root upwards, the thickness of a swallow's quill, two inches high, of a dry light silky substance, but not fistular. There is a white dawny curtain, visible only just when the pileus first peeps above the surface of the ground.

The gills are in one series, being all extended from the rim of the pileus to the top of the stem; they are closely arranged, and of a thin and delicate substance; their colour is white, with a faint tinge of pale brown.

The pileus is conical, terminating in an acute point, which point is tinged with a yellowish brown, the rest white, the surface smooth, the substance light and cottony. In large specimens it is about an inch in diameter; in decay it withers, and becomes like soft paper.

Grows amongst the Bark in hot-houses. The specimen here figured and described, grew in the Pine-Stove of J. CAYGILL, Esq; at *Halifax*, November, 1785.

AGARICUS *stipitatus*, pileo fulvo, angusto convexo, lamellis XX.
angustus crassis, stipite ramoso crasso spongioso fusco. Battara, *laricinus*.
 Tab. 11. B. C. F.

LARCH AGARIC.

T A B. XIX.

THE root consists of an irregular mishapen hard piece of matter, suited, in size and shape, to the cavities wherein it grows, as if it had been cast there in a mould; upwards it divides in several stems, which are the thickness of one's thumb, in the largest plants; the stems compress one another near the root, and are frequently united in their substance, growing out of each other, and are actually branched; the colour is a dead greyish brown, and the substance soft, spongy, and easily compressible: the root is destitute of volva.

The curtain is narrow, of a dead white colour, and a soft cottony substance.

The gills are in two series, of unequal length; they are few, narrow, gross, brittle, and white.

The pileus is fox-coloured, feels soft and clothly to the touch; its diameter is often not much more than that of the stem; it is constantly of a convex figure, and a dry, light, spongy substance; easily compressible between the fingers; and instantly, on removing the pressure, re-assumes its own form.

Grows on the bark of larch trees, when in a state of decay; it seems to take root between the wood and the bark, the latter of which it bursts to make itself way.

The specimen here figured, I gathered in a little plantation at *Lee-Bridge*, near *Halifax*; where I have seen the plant every Autumn, for several years past.

- XXI. *AGARICUS stipitatus, pileo campanulato plicato atro, stipite
pullatus.* *longo ventricoso albido. Fungus pileolo campanulato vertice
levi, &c. Mich: Gen: p. 189, t. 80, fig. 5.*

MOURNING AGARIC.

T A B. XX.

THE root consists of a few grey dawy fibres, surrounding the bottom of the stem, and extending themselves on the surface of the matter wherein it grows, for a small space, round about.

The stem is seven or eight inches high, of a silver white, fistular, and swelling towards the lower part, just like the feeding stem of an onion; it is of a very tender substance, and easily divides in white silky tender filaments.

The pileus and gills seem to be inseperable, or united in one substance; they are plaited like a fan. The substance tender, watery, pellucid, of a pale colour, but thickly covered with a black glutin, or moist powder, which dissolves on being touched. The weight of the pileus, and weakness of the stem, makes it very difficult to take up the plant without breaking the neck of the stem; as is expressed in one of the figures.

Grows in the space of a night, and falls and dissolves the following day. The specimen, from which I took the figure, dissolved in the time of drawing into a black viscid liquor, which, when dry, lay like a footy powder on the table, June 22, 1786.

Grows on dunghills, or in fat meadows. The pileus at its first appearance, is covered with a grey dawy volva, which soon vanishes.

AGARICUS *stipitatus*, pileo planiusculo lactescente margine
deflexo, lamellis ramosis pallidis. XXII.
piperatus.

WHITE PEPPER AGARIC.

T A B. XXI.

THE root consists of a few short fibres, adhering to the bottom of the stem, which terminates in an obtuse point: there is no volva.

The stem is white, smallest above and below, swollen in the middle, where it is an inch or more in diameter; the surface is smooth, and the substance firm, solid, hard, and very brittle: there is no curtain.

The gills are extremely numerous and irregular; their central extremity just touches, scarce adheres to, the top of the stem; they are narrow, and of brittle substance; of a very pale milk colour, and exhibit no proper arrangement, the shorter being united unto the longer, or issuing from them in a branched order; some are entire for their whole length, others are divided and subdivided in a dichotomous order, as in the *Agaricus chanterellus*.

The pileus is white, smooth, hard, and brittle; at first much deflected round the rim, afterwards becomes horizontal, and at last funnel-shaped. When either the pileus, gills, or stem are wounded, there issues out a milk, of an hot peppery taste, and leaves a disagreeable sensation on the tongue for some hours.

Grows in woods about *Halifax*.

This is the true Pepper Agaric, found by Dr. LISTER in *Morton* woods, under *Pinno-Moor, Craven*. See *Raii: Syn: p. 5*. There is another Agaric, with which this seems to have been confounded, as will appear in the course of this work.

XXIII. AGARICUS *stipitatus*, pileo sordide flavo, lamellis luteo rufis.
cinnamomeus. Sp: Pl: 1642.

Agaricus stipitatus, pileo convexo rufo lamellis flavescens, stipite
 longo flavo. Hudson, 615, 18.

BROWN AGARIC.

T A B. XXII.

THE root is hard, brown, compressed or flat; sometimes irregularly distorted, emits brown hard fibres, and takes firm hold in the ground: it is not surrounded by a volva.

The stem is smooth, smallest near the root, gradually increasing upwards; while young it is solid, but becomes fistular afterwards; the substance is tough, and easily divided into slender filaments; the colour is a yellowish brown; it is three or four inches high: there is no curtain.

The gills are in three series, deep, of a soft pliable substance, and of a pale yellowish cinnamon colour; comparatively they are few in number.

The pileus is at first convex and waved round the margin, afterwards it becomes horizontal, and more sensibly waved and undulated; and at last the rim becomes so much elevated, as to give the pileus a funnel shape, but with a gentle elevation in the centre. The surface is smooth, feels like vellum, and is of a cinnamon colour; the whole plant is of a tough pliable substance, and continues for several days.

Grows in woods about *Halifax* abundantly; greatly varying in size, according to soil and situation.

AGARICUS *stipitatus*, pileo campanulato subfusco squamato, lamellis albidis, stipite bulboso anulato. Lightfoot's Flora Scot: 1025. Agaricus (*procerus*). Hudson's Flo: Ang: 612, 10. XXIV. annulatus.

RUFFLED AGARIC.

T A B. XXIII.

THE root is bulb-shaped, of a soft and spongy substance, about the size of a pigeon's egg, and sends out numerous proper fibres: there is no volva.

The stem is upright, smooth, round, and gradually tapering from the root upwards; it is white, fistular, and has a fine dawn in the perforation; the substance soft, elastic, and easily divisible in soft silky filaments; the colour is white at first, but afterwards changes to a pale straw colour. It is five or six inches high.

The curtain is a little tough, white, separates from the rim of the pileus, abides on the stem like a ruffle, and is moveable upwards and downwards, by means of a central ring, to which it adheres, and in which it seems to originate.

The gills in two or three series, of various irregular lengths, numerous, thin, and deep; at first gently tinged with a light rose colour, as in the common mushroom, next they become white, and lastly of a pale brown.

The pileus is at first of a globular figure, afterwards becomes conical, or bell-shaped sometimes beaked at the vortex, with a little prominence, the size of a sleeve button; when full grown is wide expanded round the rim, and approaches to an horizontal position; changes from white to a pale brown, and is covered with soft brown scales, which are not the fragments of a volva, as in the *Agaricus muscarius*, but grow from the substance of the pileus.

Grows in the dry parts of woods about *Halifax*, in October, but not plentifully.

- XXV. *AGARICUS stipitatus, pileo campaniformi albido lacero, lamellis
extin. Terius. niveis, stipite subbulboſo ſubulato nudo. Linn: Flo: Succ:
1196. Sp: Pl: 1643. Hudſon Angl: 617, 29.*

EXTINGUISHER AGARIC.

T A B. XXIV.

THE root is a little ſwelled, hard, white, and emits brown fibres from the ſides; ſometimes it ſuſtains ſeveral plants, ſometimes only one: it is not ſurrounded by a volva.

The ſtem is cylindrical, ſmooth, white, fiſtular, with a ſmall perforation, wherein is a ſoft dawning matter like cotton; it is an inch in circumference, and five inches high: there is no curtain.

The gills are in one ſeries, extremely numerous, thin, deep, and delicate; of a pure white colour at firſt, afterwards turn to a pale brown, and in decay diſſolve in a dark brown liquor. Their great number makes the pileus heavy as in the *Agaricus familiaris, plicatus, luridus, &c.*

The pileus is ſhaped like an extinguiſher, terminating bluntly above, and ſpreading out at the rim, where it is a little waved and undulated; the ſurface is ſmooth while the plant is young, afterwards becomes ſtiated, and at laſt lacerates and diſſolves. The colour is white at firſt, except a gentle tinge of brown near the top, as it advances in age, the white changes to a very pale brown; and in ſome ſpecimens there are a few dawning ſcales or tufts of a pale brown, as in the *Agaricus familiaris*.

Grows amongſt ſand, in moiſt and ſhady ſituations about *Halifax*, but is rare there.

AGARICUS *stipitatus*, pileo conico griseo viscido, margine inaequale, lamellis integris profundis sordide caeruleis, stipite solida arcuata. XXVI. *luridus.*

FOUL AGARIC.

T A B. XXV.

THE root is hard and misshapen, of a dirty brown, emitting many fibres, sustaining one or more plants, and is destitute of volva.

The stem is hard, solid, crooked, or bent in various directions; it is about the thickness of one's little finger, of an ugly pale litter-colour, and four inches high: there is no curtain.

The gills are in one series, extended from the rim of the pileus to the centre, but do not adhere to, or even touch the stem; they are extremely numerous, and very closely arranged; they are deep and large, rendering the pileus heavy by their great number; they are of a disagreeable sordid greyish blue, and in decay dissolve in a brown stinking fluid.

The pileus irregularly cone-shaped, diameter of the base two inches and a half, height from the base to the top about the same measure; it is of a kind of dusky greyish hue, with a cast of dirty olive colour; is quite smooth, and covered with a thick slippery loathsome half-congealed fluid. The margin is lobed, and sinuated in an irregular manner; the lobes and hollows being very unequal and sometimes separated by deep gashes.

Grows on *Gibbet-Hill*, and in some other places near *Halifax*.—It differs from the *A. striatus*, as will be seen hereafter.

In this species we frequently find several young plants adhering to the root of a full grown one.

XXVII. *AGARICUS stipitatus, pileo conico, subfusco lacerato squamoso,*
domesticus. lamellis integris griseo-pallidis, stipite fistuloso albido.

DOMESTIC AGARIC.

T A B. XXVI.

THE root consists of a great number of dawning grey fibres, some of which insinuate themselves into the substance of the putrid wood, whereon it grows; the rest creep like mouldiness upon its surface. The plants most commonly grow in bundles from the same root.

The stem is white, and shines with a silky gloss; it is fistular, of a thin light substance, the thickness of a goose-quill, and three or four inches high; it easily divides in white glittering filaments, and often abides after the pileus is fallen.

The curtain is extremely delicate, and vanishes as soon as the rim of the pileus begins to separate from the stem.

The gills are in one series, numerous, broad, and deep; at first of a pale grey colour, but in decay dissolve in a black inky liquor.

The pileus is at first of an oval figure, and wrapped up in a volva which is peculiar to itself, and does not inwrap the root. The volva is of a cottony substance, and a very pale grey brown colour; as the pileus increases in bigness it bursts in fragments, and remains like warts on the surface. From an oval, the pileus changes to a conical figure; the margin undulated, next becomes bell-shaped, and at last lacerates and dissolves.

Grows on decaying pieces of moist wood, in cellars, cold kitchens. &c. in plenty.

AGARICUS *stipitatus*, lamellis dimidieatis solitariis, stipite
volvato, apice dilatato, base ovato. Sp: Pl: 1640, 4. XXVIII.
muscarius.

Agaricus caulescens pileo sanguineo verrucis, lamellisque albis,
stipite albo basi globoso. Flo: Lapp: 595. Hudson Angl:
 612. Lightfoot Fl: Scot: 1010, 3.

FLY AGARIC.

T A B. XXVII.

THE root is large, and bulb-shaped, of a soft spongy substance, and together with the young plant surrounded by a thick volva, when the stem begins to shoot, the volva breaks, and the pileus appears; as it advances in growth, the bulb at the root diminishes in size, and is often nearly exhausted in full grown plants

The stem is white, brown, or reddish; soft, spongy, and, while the plant is young, solid; afterwards becomes fistular, the thickness of one's thumb, and four or five inches high.

The curtain, after it has performed its office, is separated from the pileus all round the rim, without being torn, and remains for some time on the stem, like an elegant white ruffle.

The gills are in two series, most of them extended from the stem to the rim of the pileus, but are interspersed with others extending but half way; they are white.

The pileus, at its first eruption from the volva, is of a globular figure, smooth and shining, with a slippery glutin; when full grown becomes horizontal, and the surface nearly flat; it is of various colours, but generally tinged, more or less, with red. In dry seasons, or improper soils, the volva does not separate from the pileus, but remains in broken fragments, like warts, upon its surface.

Grows in dry woods about *Halifax*, from August to October.

XXIX. *AGARICUS stipitatus, pileo crasso hemispherico sabluteo viscido, elephantinus. lamellis trifidis crassis fragilibus subalbidis, stipite albo crasso spongioso.*

ELEPHANT AGARIC.

T A B. XXVIII.

THE root consists of a few fibers, which issue from the bottom of the stem: there is no volva.

The stem is upright, solid, large, and of a fair white colour; it is six inches in circumference; and about four inches high; the substance is soft, spongy, and easily compressible; the figure approaches to an oval, being broadest in the middle, and narrow above and below. When the plant grows old, the stem becomes cylindrical, hard, of a dark colour, and hollow within: it has no annulus or curtain.

The gills are arranged in three series, they are deep, remote, extremely gross, (being a line in thickness) brittle, and appear like wax of a very pale kind of whitish tallow colour.

The pileus, at its first appearance, is globular, and inwraps the whole of the plant, except the radical fibres: for its margin or rim surrounds and embraces the bottom of the stem, and by this means serves the same purpose as a volva in some other Agarics; afterwards it acquires an hemispherical figure, is covered with a viscid liquor, and is of a yellowish clay colour. In decay the pileus becomes irregularly horizontal, lacerates, becomes dry, changes to dark colours of various hues, and seems as if a considerable degree of fire had passed upon it.

Grows in the dry part of woods about *Halifax*, in October, and, if the season is dry, abides several weeks in the state represented in the upper figure, *plate 28*.

AGARICUS *stipitatus*, pileo convexo luteo, lamellis virescentibus, XXX.
stipite flavo. Hudson Angl: 615, 20. Fungus medicæ mag- fascicularis.
nitudinis pileolo superne rufo flavicante, lamellis subtis sordide
virantibus Raii: Syn: 10, 57.

BUNDLED AGARIC.

T A B. XXIX.

THE root is a mishapen piece of fungous matter, large in proportion to the number of plants it sustains, emits a few fibres, is of tough substance, destitute of volva, and sustains numerous plants, from three to fifteen.

The stem curved, growing at first horizontally, and then rising gradually upwards; it is about the thickness of a swan's-quill, fistular and three inches high; it is of a dusky yellow colour, with a tinge of green, and thinly covered with a dawy kind of filaments.

The curtain is of a pale yellow, slender and delicate as the finest spider's web: found only when the plant is just sprung up, breaks, and vanishes when the verge of the pileus begins to unfold.

The gills are extremely thin and numerous, they are narrow of a soft pliable substance, and greenish olive colour; they adhere lightly to the stem by a narrow claw.

The pileus from one to two inches diameter, smooth, of a pale yellow, near the margin, growing stronger near the top, where it is of an orange or scarlet colour; the top or central elevation, is not always in the middle, but bears to one side, which gives the pileus the figure of a nipple shell. In decay the whole changes to a dirty brown, and dissolves in the space of five or six days from its first springing up.

Grows on putrid wood, or on the ground amongst timber in wood-yards, or near the roots of trees, about *Halifax*, in August and September, plentifully.

XXXI. *AGARICUS stipitatus, pileo convexo viridi lamellis fuscis befidis, politus. cortina glauco griseo, stipite brevi.*

GREEN POLISHED AGARIC.

T A B. XXX.

THE root is hard, firm, obtuse, and covered with numerous grey downy fibres: there is no volva.

The stem is round, hard, firm, solid, and an inch and a half high; it is of a warm brown, or ferruginous colour, and rather diminishes in thickness from the bottom upwards.

The curtain is of a greyish pale blue green, on the outside, and seems covered with a glaucous dust; on the inside it is the same colour as the gills: it abides in fragments on the stem, and on the rim of the pileus, for a little while after its breaking.

The gills are in two series, not adhering to the stem; they are deep, and of a pretty ferruginous brown; they are numerous, and of a thin pliable substance.

The pileus is at first egg-shaped, then becomes hemispherical, afterwards spreads out at the verge, and lacerates; it is two or three inches diameter, and of a beautiful bright blueish green; at first it is covered with a glutin, or gummy fluid, which when dry acts like rich varnish, and gives an excellent shining glossy polish to the surface. In decay the colour fades, and the plant dissolves at the age of eight or ten days.

Grows under fir trees in the plantations about *Fixby-Hall*, and elsewhere. It takes root amongst the fallen leaves, just as the *Hydnum auriscalpum* does, on the decaying cones; I never met with it growing in any other kind of soil.

AGARICUS *stipitatus*, pileo campanulato striato pellucido, XXXII.
lamellis adscendentibus, stipite nudo. Sp: Pl: 1643. Hud-
son Angl: 618, 31. campanulatus.

BELL AGARIC.

T A B. XXXI.

THE root is a little brown bulb, emitting brown fibres from its bottom and sides.

The stem is cylindrical, fistular, transparent, of a whitish grey colour, the thickness of a swallow's quill, and five or six inches high.

The curtain is very delicate, vanishes when the plant is about an inch high, but leaves a black vestige on the stem, which abides for a little time, and then disappears.

The gills are in two series, narrow, thin, transparent, and of a grey colour, changing black in decay.

The pileus is at first conical, smooth, and brown, afterwards the rim begins to diverge, and to appear dimly striated, with fine tender lines; the next stage a black ciliation begins to appear round the rim, and as it advances in growth the pileus expands, and what before appeared to be stria, are now found to be actual plaits, the angles whereof are alternately brown and lead-coloured; the black ciliation is divided into little tufts, which adhere to the extremities of the brown angles, and give a pretty appearance to the rim of the pileus. It is about an inch and a half in diameter, of a tender watery substance, and semi-transparent; in decay it dissolves in a brown liquor. It grows up in one night, and perishes the next day.

Grows in meadows where the soil is rich, in September and October, about *Halifax* plentifully.

XXXIII. AGARICUS *stipitatus albus, pleo plicato membranaceo, stipite androsaceus. nigro.* Sp: Pl: 1644. Hudson Angl: 621, 44. Lightfoot Flo: Scot: 1027, 19.

BLACK STALKED AGARIC.

T A B. XXXII.

THE root consists of a few imperceptible fibres, which in-finate themselves into the substance of such decayed vegetable matter, as afford proper nourishment to the plant.

The stem is one or two inches high, hard, black, and shining; from the thickness of a horse's hair to that of a large hog's bristle, either of which, in substance and in touch, it not unaptly imitates. It often remains for a considerable time after the pileus is fallen.

The gills are few, narrow, and remote; they are of a pale dusky white, while the plant is young, but change to brown afterwards.

The pileus is at first conical, and white, afterwards spreads, becomes almost horizontal, and about half an inch in diameter; the colour changes to brown, pale near the margin, darker in the centre; it is sometimes striated and constantly of a thin, dry, membranous substance. In decay it withers and falls off.

Grows on putrid leaves, chiefly those of oak, in the shady moist parts of woods about *Halifax*; it also grows on moors, among rushes. I saw it in great abundance, in September, this year 1787, on the hill above *Caussey-Foot*, near *Halifax*; it grew upon the stalks of decayed rushes, in the place where the *Trientalis europæa*, and the *Ophrys cordata* grow.

AGARICUS *stipitatus*, pileo hemisphærico plumoso murino, XXXIV.
lamellis trifidis albidis stipite longo plumoso. plumosus.

FEATHERED AGARIC.

T A B. XXXIII.

THE root is round, hard, the size of a pea, of a brownish black colour, and emitting a few long hard fibres: it is not surrounded by a volva.

The stem is hard, solid, cylindrical, often bended or waved, the thickness of a duck's quill, and about four inches high; it is closely covered with small downy or feathery tufts, of a perfect mouse-colour: there is no curtain.

The gills are in three series, deep, and terminate in a claw at the base, which just touches the top of the stem; they are numerous, soft, flexible, white, and of a dry light substance.

The pileus is hemispherical, an inch and a half in diameter, of a perfect mouse-colour, and, like the stem, thickly covered with little tufts of a downy matter, which grow from its surface, and are of the same colour with it; there is a beautiful fringe, of the same down, all round its margin. The substance is thin, light, dry, and flexible: it withers in decay.

This curious and beautiful Agaric, I gathered in a little sleep wood, belonging to the farm called *Ramsden*, in the township of *Ovenden*, near *Halifax*, August, 1787; it grew in plenty there.

XXXV. AGARICUS *stipitatus*, pileo infundibulo murino, lamellis fissilis
infundibuli-
formis. *ramosus griseus.*

FUNNEL-SHAPED AGARIC.

T A B. XXXIV.

THE root is little thicker than the bottom of the stem; it is obtuse hard, tough, and emits many short fibres: there is no volva.

The stem is about two inches from the root to the gills; it is often flat, and more or less depressed in longitudinal hollows, with alternate ridges; it is fistular, or hollow, quite from the root, and runs insensibly into the pileus, as the tube of a *convolvulus* does into its limb—so that the upper surface of the plant is a continuation of matter, the same in substance and colour, from the verge of the pileus down to the root. The substance is thin, pliable, tough, and elastic; the surface a little glossy, feels to the touch like vellum, and is of a greyish mouse-colour. In some young specimens there is a kind of membrane, or a continuation of the surface extended over the opening of the top of the stem, which is represented in one of the half-figures, on the plate.

The gills are equal, and seem to be of the same substance as the plant: they are branched like nerves, as in the *Agaricus chantarellus*; and are of a kind of silvery grey colour.

This Agaric I found in *Lee-Bank-Sbroggs*, in October, 1786; it has been brought to me, from several other places, by my friends.

This plant seems to connect the *Agaricus chantarellus* with the *Peziza cornucopioides*, equally partaking of the one and of the other.

AGARICUS *stipitatus*, pileo conico, margine undulato striato, XXXVI.
lamellis trifidis aurnticarneis, stipite fissa longa minute striata. f. fus.

SPLIT-STALKED AGARIC.

T A B. XXXV.

THE root is a round, hard tubercle, of a brown colour, furnished with numerous short dawny fibres; and is not furrounded by a volva.

The stem is the thickness of a goose-quill, and four or five inches high; it is fistular, and most commonly flat or compressed. It appears to be of a pale grey colour, but on being closely examined, is found to be neatly striped with fine longitudinal stripes, alternately, of a mouse-colour and a silky white, and as fine almost as hairs. It is further remarkable in this, that when the plant is arrived to its perfect state, it frequently splits from top to bottom, the two halves rolling their edges together, and forming each an hollow tube; after which it abides for several days, and appears as if the pileus was supported upon two stems: there is no curtain.

The gills are arranged in three series, deep, numerous, thin, flexible; and of a colour between carnation and orange.

The pileus from one to two inches in diameter, striated near the margin, where it is of a dusky kind of olive colour, but brown at the apex.

Grows in the *Shroggs*, the *Burks*, the *North-Dean*, and several other woods about *Halifax*, as I have observed this year 1787.

XXXVI. AGARICUS *stipitatus, pileo convexo, lamellis trifidis profundis, rubens, stipite longa, tota planta ruberrimo.*

RED AGARIC.

T A B. XXXVI.

THE root consists of a great number of short dawning fibres, connected to the bottom of the stem; it is not surrounded by a volva.

The stem is hard, solid, generally curved or bent; it is swollen near the bottom, elsewhere equal, and about the thickness of a goose-quill; it is four or five inches high, and of a strong bright red, as are all the other parts of the plant: there is no curtain.

The gills are in three series, deep, regularly and beautifully arranged; they are thin, transparent, and, when seen between the eye and the light, are of a bright and glowing ruby colour.

The pileus is an inch and a half in diameter, opaque, and of a fine dark red; it feels cottony to the touch, but there is no perceptible dawn.

This Agaric I saw growing in several places in a little range of wood, belonging to *Sbibden-Hall*, near *Halifax*, October 29, 1786; where I gathered the five specimens which are exactly figured on *plate 36*.—I never met with it elsewhere.

AGARICUS *stipitatus*, pileo campanulato membranaceo, lamellis XXXVIII.
trifidis albidis pellucidis, stipite longissimo pellucido albido. tenuis.

S L E N D E R A G A R I C .

T A B. XXXVII.

THE root consists of numerous white dawny fibres, which insinuate themselves into the substance, or spread upon the surface, of decaying leaves, sticks, and other vegetable substances: there is no volva.

The stem is equal, smooth, white, pellucid, the thickness of a small pack-thread, and six inches high; it is extremely tender and brittle, breaks and dissolves on being touched: there is no curtain.

The gills are few, arranged in three series, very thin and delicate, white, and of a pellucid watery substance.

The pileus at first conical, afterwards bell-shaped, smooth, pellucid, and of a watery white, except the *apex*, which is tinged with a pale brownish mouse-colour; the surface is smooth and plain till the plant begins to decay; it then appears striated round the rim, and presently falls and dissolves.

Grows in the deep, moist, and shady parts of woods, where the air is still and calm; particularly, in a little wood above *Lee-Bridge*, near the *Brook*, below *Burks-Lane*, near *Halifax*. The specimen above described, was gathered there, in the beginning of September, 1783. I have seen it in *Woodhouse-Wood*, *North-Dean*, and several other like places.

XXXIX.
*trilobus.*AGARICUS *stipitatus*, pileo fulvo, margine, striato, lamellis
omnibus equalibus, stipite basi volvata.

TRILOBATE AGARIC.

T A B. XXXVIII. FIG. II.

THE root is swollen, and of a bulbous figure; is soft, and of a pale kind of orange colour: it is inclosed in an elegant volva, of the same colour, which is divided almost to the centre in three lobes or segments. It is of a soft dawny substance, the thickness of glove-leather, and feels between the fingers to be of a substance similar thereto. It is permanent, abiding till the decay of the plant.

The stem grows gradually smaller from the root upwards, while young it is solid, round, and smooth; when old becomes fistular, but with a dawny matter in the perforation; it is of a pale kind of cinnamon colour, and four inches high: there is no curtain.

The gills are in one series, rather remote, deep, not adhering to the stem, narrow at the base, increasing in breadth to the extremity, where they are broad, and terminate obtusely: they are of a pale cinnamon brown.

The pileus is smooth, striated near the margin, three inches diameter, and of a beautiful bright brown, inclining to an orange colour.

Grows in the dry parts of woods about *Halifax*. The specimens here figured, I gathered in *Ramsden*, August 31, 1787.

XL.
*lateo albus.*AGARICUS *stipitatus parvus*, pileo conico striato flavo, lamellis
trifidis albis, stipite filiformia.

YELLOW AND WHITE AGARIC.

T A B. XXXVIII. FIG. I.

THE root consists of a few fibres, by which it adheres to decayed plants; particularly mosses of various kinds,

The stem is the thickness of an hog's bristle, of a pale yellow, and an inch high.

The gills are white, deep, and arranged in three series.

The pileus of a pale yellow, conical, and striated.

Grows common in woods near *Halifax*.

AGARICUS *stipitatus*, pileo plicato membranaceo, lamellis basi latioribus. XLI.
Sp: Pl: 1643. Lightfoot, Scot: 1026, 18. Hudson, Angl: 261, 24. umbelliferus.

UMBRELLA AGARIC.

T A B. XXXIX. F I G. A.

THE Root consists of dawy fibres, adhering to decayed leaves, &c.
 —The stem an inch high, very feeble and delicate; of a pellucid watery substance.—The gills in one series, very delicate, broadest at the base, and white.—The pileus the size of an hemp-seed, white, and gently striated.—Grows in damp woods common about *Halifax*.

AGARICUS *stipitatus*, pileo luteo convexo striato, lamellis stipitaque XLII.
albis. Sp: Pl: 1644, Hudson Angl: 622, 45. Lightfoot, Scot: clavus.
 1027, 20.

P I N A G A R I C.

T A B. XXXIX. F I G. B.

IT grows in similar places with the last, and is about the same size, but of a firmer substance. The colour of the pileus is a brownish yellow, sometimes orange-coloured, or of a bright scarlet; of a dry opaque substance, and generally contracted round the rim; in decay it withers, and abides for some days in a dry state.

AGARICUS *stipitatus*, pileo hemisphærico, lamellis stipitaque albis. XLIII.
Hudson Ang: 620, 39. candidus.

W H I T E A G A R I C.

T A B. XXXIX. F I G. D.

THE root consists of dawy fibres, by which it adheres to the fallen and decaying stalks of plants.—The stem half an inch in length, soft flexible and of a dead white colour.—The gills white, dry, and flexible.—The pileus of a dead white, at first conical, afterward nearly horizontal, but inflected at the rim. It withers in decay, and abides for a long time.—They often grow many near together, on the same stick, but have separate roots.—Grows in *Wood-house-Wood*, but is rare there.

AGARICUS *stipitatus*, pileo radiato plicato, stipite pellucido filiformia. XLIV.

W H E E L A G A R I C.

T A B. XXXIX. F I G. C.

THE root white, dawy.—The stem an inch and a half high, watery, pellucid, extremely brittle and tender.—The pileus at its first appearance conical, and of a red brown colour; is in a state of perfection in the space of two or three hours, when it becomes of a blackish ash colour, and pellucid. It consists of two membranes, plaited together like a fan; the angles of the plaits a little subtend beyond the margin.—It appears like a small wheel, with spokes.—Grows on horse-dung, after rain, in the month of August.

radiatus.

XLV. *AGARICUS stipitatus, pileo pulvinato griseo, lamellis trifidis*
mollis, angustis albidis, stipite bulboso crasso spongioso.

S O F T A G A R I C.

T A B. XL.

THE root is bulbous, soft, and spongy; emitting short dawning, almost imperceptible, fibres, by which it adheres to dead and putrid vegetables, particularly oak leaves: there is no volva.

The stem is soft, light, spongy, and brittle; the thickness of one's thumb, of a dead white, round, and perfectly upright; it is about three inches high, and destitute of curtain.

The gills are narrow, arched, arranged in three series, numerous, thin, delicate, and of a dead white, inclining a little to a pale yellowish hue; they are of a soft, dry, light substance; the third series is very short, as expressed in the plate.

The pileus is at first of an oblong figure, when full grown becomes almost flat, but rising round the sides in form of a cushion, the rim is constantly inflected. The surface is of a clothly touch, smooth, and soft; it is of an invariable pale mouse-colour, from its first appearance to the utter decay of the plant; it is three inches in diameter. The flesh or substance of the pileus is dry, soft, brittle, and incapable of being divided into filaments; it cuts like cream-cheese, the colour and substance of which it not unaptly resembles.

Grows in the dry parts of woods, and in pasture grounds about *Halifax*, not unfrequently.

It differs from the *Agaricus piperatus*, in being destitute of milk, in its soft substance, and bulbous root, and in that the gills are in three regular and distinct series. The two last circumstances distinguish it from the *Agaricus integer* also.

AGARICUS *stipitatus, pileo palliido striato contorto, lamellis rugosis, stipite arcuata.* XLVI
cepit fus.

TURF AGARIC.

T A B. XLI. F I G. C.

THE root is round, hard, and black; emitting short fibres of the same colour: there is no volva.—The stem is an inch long, bended or bowed; it grows from the perpendicular sides of the pits where peat has been dug.—The gills are very remote, much distorted and crumpled.—The pileus an inch in diameter, striated, pellucid, much distorted, and of a yellowish clay colour.

AGARICUS *stipitatus, pileo fusco striato undulato, lamellis carneis, stipite brevi.* XLVII
terilis.

CRUMPLED AGARIC.

T A B. XLI. F I G. A.

THE root is small, black, and fibrous.—The stem a quarter of an inch high, of a dusky flesh colour; as are also the gills.—The pileus is of a dark reddish brown, marked with a few *stria*; it is convex at first, afterwards becomes horizontal, or funnel-shaped; the margin lobed, crumpled, and distorted in various directions.—Grows in rich garden-mould, about the roots of such plants and shrubs as afford much shade.

AGARICUS *stipitatus, pileo hemisphaerico purpureo, lamellis trifidis albis, stipite purpureo.* XLVIII
purpureus.

PURPLE AGARIC.

T A B. XLI. F I G. B.

THE root is a round, hard tubercle, furnished with brown short fibres.—The stem fistular, an inch high, and of a livid purple.—The gills deep, arranged in three series, and white.—The pileus more than half an inch in diameter; while young hemispherical, of a livid purple, and a little clammy; afterwards horizontal, and of a pale brown.—Grows under close plantations of fir, about *Halifax*, in July, plentifully.

- XLIX. *AGARICUS stipitatus, pileo villoso fulvo, lamellis trifidis
 villosis. leucophæus, cortina alba, stipite ascendente, an picromyces
 tunicatus. Battar: p. 47, Tab. 8, Fig. H. Sive, Agaricus
 mutabilis. Hudson Angl: 615, 22.*

SHAGGY AGARIC.

T A B. XLII.

THE root consists of a mouldy grey dawn, adhering to the bottom of the stem; it is not surrounded by a volva.

The stem is of an hard dry brittle substance, of a dusky white, inclining a little to a pale buff colour; it grows at first horizontally, and then curving upwards, is five or six inches long, and distinguished by a thick dawning *annulus*, which surrounds it near the top, and in which the curtain originates.

The curtain is wite, fine as a spider's web, lacerates, and hangs for some time, in white dawning fragments, round the rim of the pileus.

The gills are arranged in three series, they are arched numerous, narrow, and of a pale greyish ash colour.

The pileus is at first round or globular, afterwards becomes hemispherical, and three inches in diameter; it is covered with a pile or nap, of a dawning, or rather hairy matter, and of a fulvous brown, or fox-colour. The flesh of the pileus is white and brittle; in decay it lacerates and dissolves.

Grows under the roots of trees, in woods where the soil is dry. I saw it in great plenty, in October, 1786, in the dry and steep part of the wood called *Ramsden*, it grew, not only from under the roots of trees, but from the sides of breaks, and from under the rocks; the stem being hidden, and horizontal; and the pileus with only just the curved part of the stem appearing.

AGARICUS *stipitatus*, pileo fusco crasso margine undulato rimoso, lamellis bifidis crassis pallidis, stipite longo fusco inæquale. L. rigidus.

RIGID AGARIC.

T A B. XLIII.

THE root consists of a number of short brown fibres issuing from the bottom of the stem; there is no volva.

The stem is generally curved or bent, it is five or six inches in length, terminating in a kind of obtuse point below, or rather appears as if the point was bitten off; upwards it increases in thickness for about half its length, and decreases again to the top; it is an inch or more in diameter, in the thickest part; while the plant is young it is solid, afterwards becomes fistular, in both states is of a brown grey colour, and of an hard, dry, brittle substance: there is no curtain.

The gills are in two series, few, narrow, of a very pale yellow, rigid, brittle, and very much crumpled and undulated, by reason of the rolling in, or inflection of the pileus.

The pileus is at first round, afterwards becomes bluntly cone-shaped; while young the margin is much inflected round the rim, so as to embrace the stalk; in the next stage of growth it is much undulated or crumpled round the margin; at last it splits in several places, falls and dissolves. Its colour is a dusky reddish brown, from first to last; the substance of the flesh thick, brittle, dry, and white.

Grows in the plantations and wood grounds, about *Fixby-Hall*, in July and August, I have not seen it elsewhere.

- LI. *AGARICUS stipitatus, pileo campanulato lacero, lamellis lateraliter fissuris, stipite fibruloso.* Sp: Fl: 1643. Hudson Angl: 617, 28. Lightfoot Scot: 1021, 13.

E G G A G A R I C.

T A B. XLIV.

THE root is bulb-shaped, tapering to an obtuse point below ; it is white, emits a few dawny fibres, and is not inclosed in a volva.

The stem is cylindrical, fistular, with a small perforation ; it is white, a little dawny, and six or eight inches high.

The curtain is white and delicate ; breaks, and entirely vanishes, while the plant is young.

The gills are very numerous and close, broad, deep, and render the pileus heavy ; they are in one series, being all extended from the rim of the pileus almost to the centre, but do not adhere to, or even touch, the stem. They are at first white, afterwards change to a pale reddish colour, and at last dissolve, with the pileus, in a black inky liquor, which falls from the rim in round drops.

The pileus is conical, terminating bluntly above, while young of an oblong oval figure ; it is from four to six or eight inches high, and one or two diameter at the base ; it is of a brown or fuscous colour at the *apex*, which colour is lost in a dusky white, at a little distance below. The surface, in some specimens, is covered with a kind of brownish dawny scales, which are not the fragments of volva, but grow from its surface ; while the plant is young these scales do not appear, and sometimes it is at all ages destitute of them. In decay the pileus lacerates, and the whole dissolves.

Grows in sand besides grass-beds, and by-paths, near towns and villages, in September and October.

NOMINA TRIVIALIA.

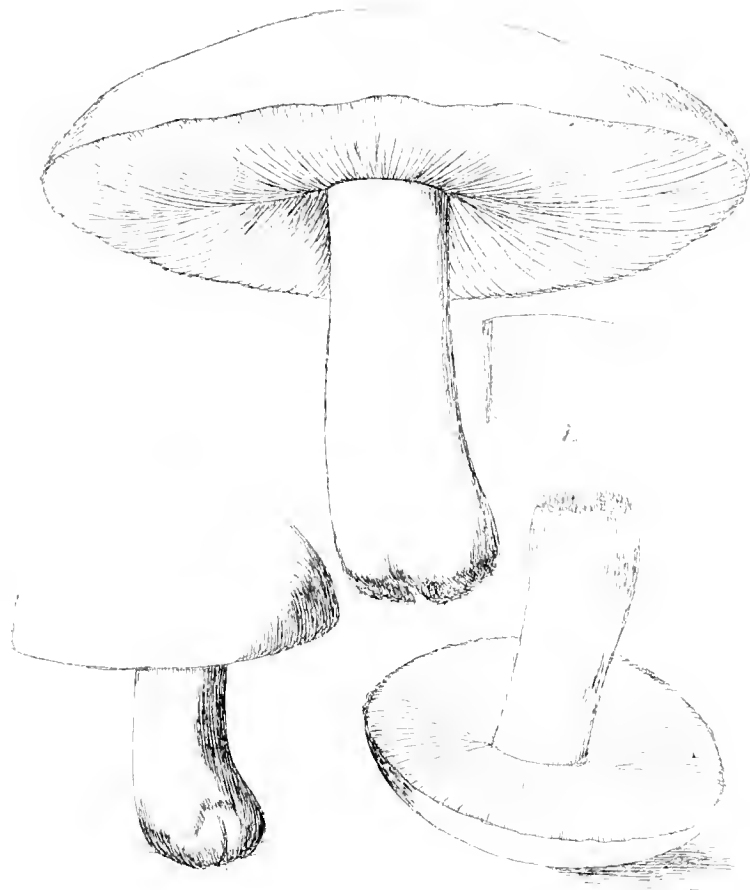
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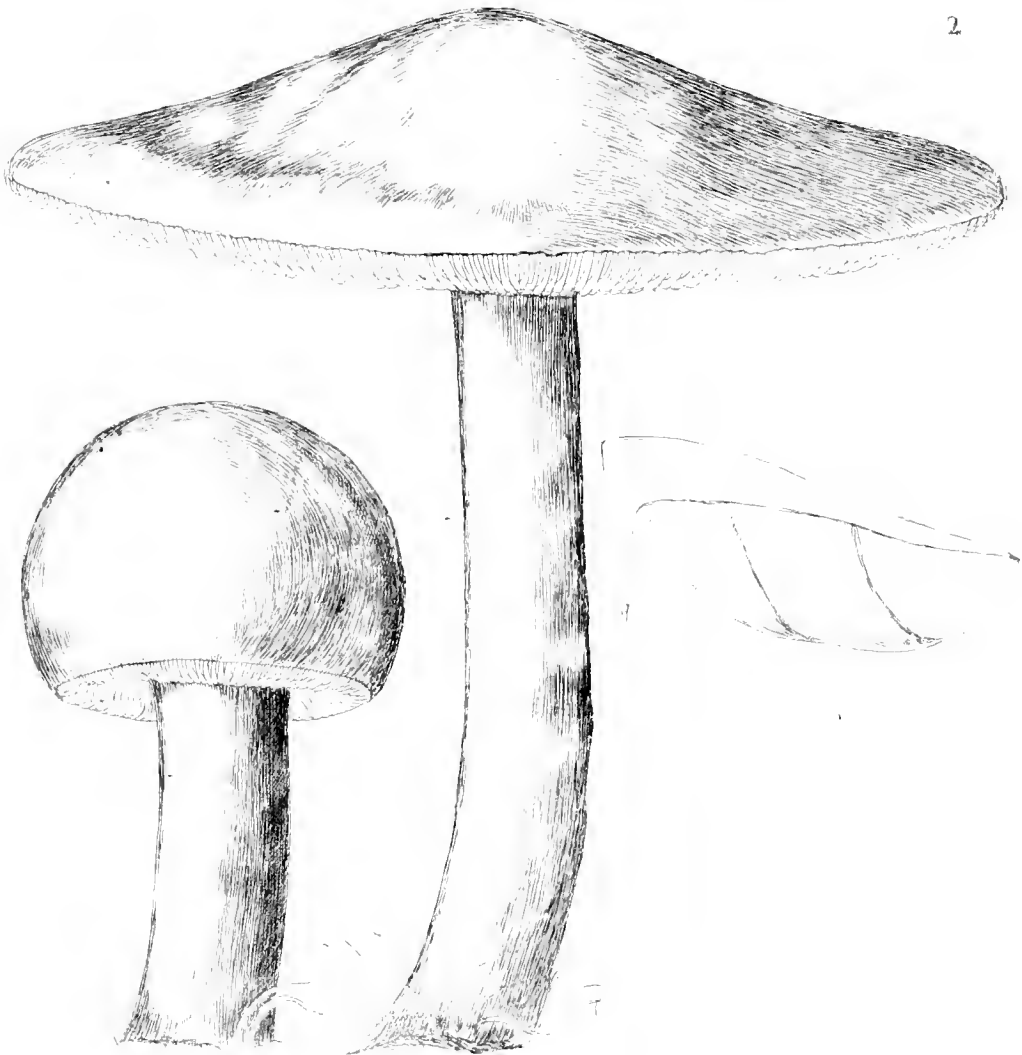
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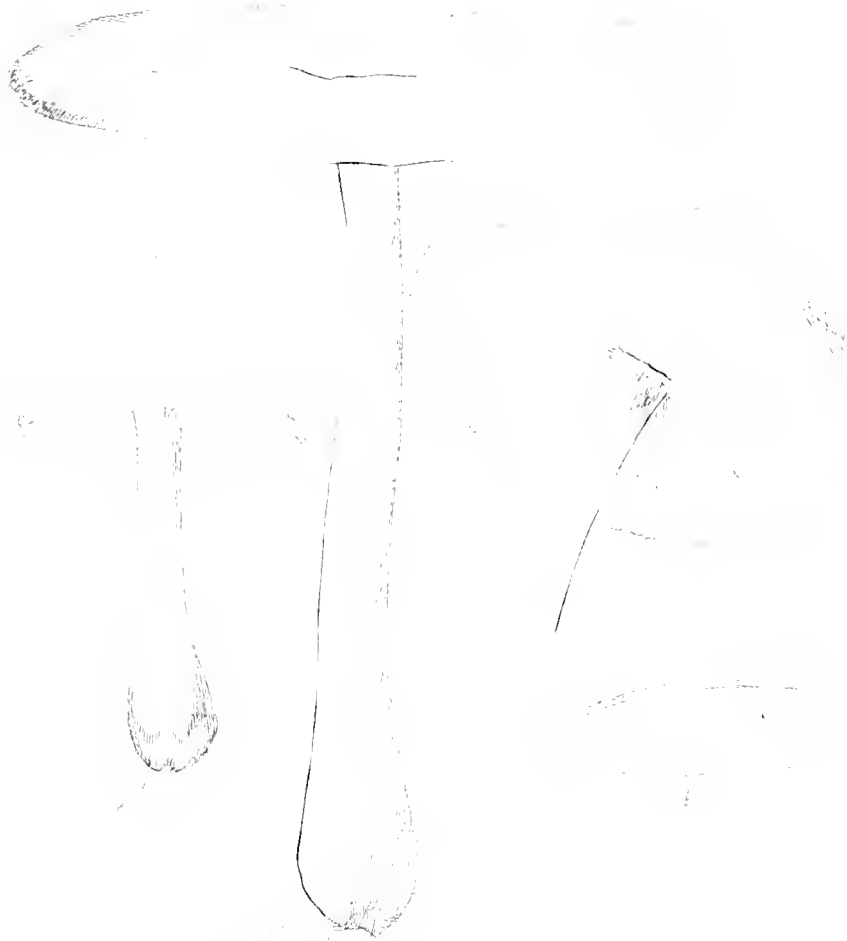










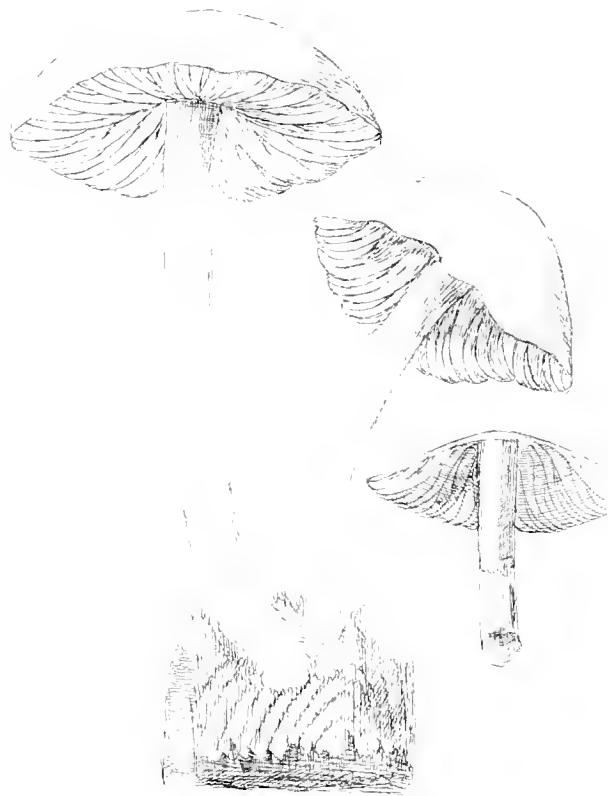






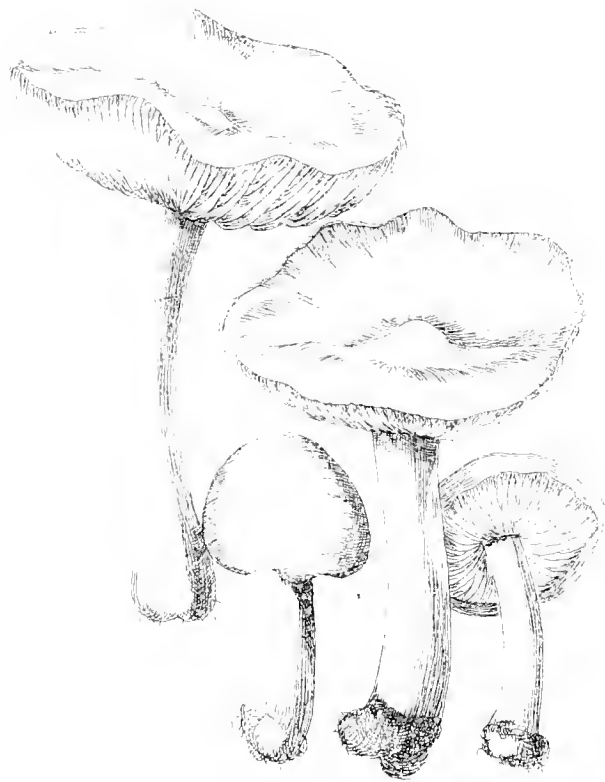


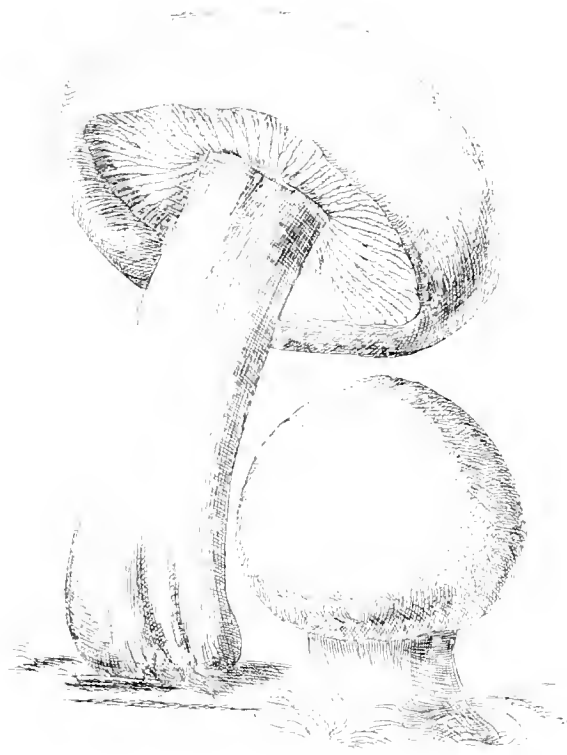






Agaricus campestris. Drawn & etched ~~from~~ from the Plant. by J. S.







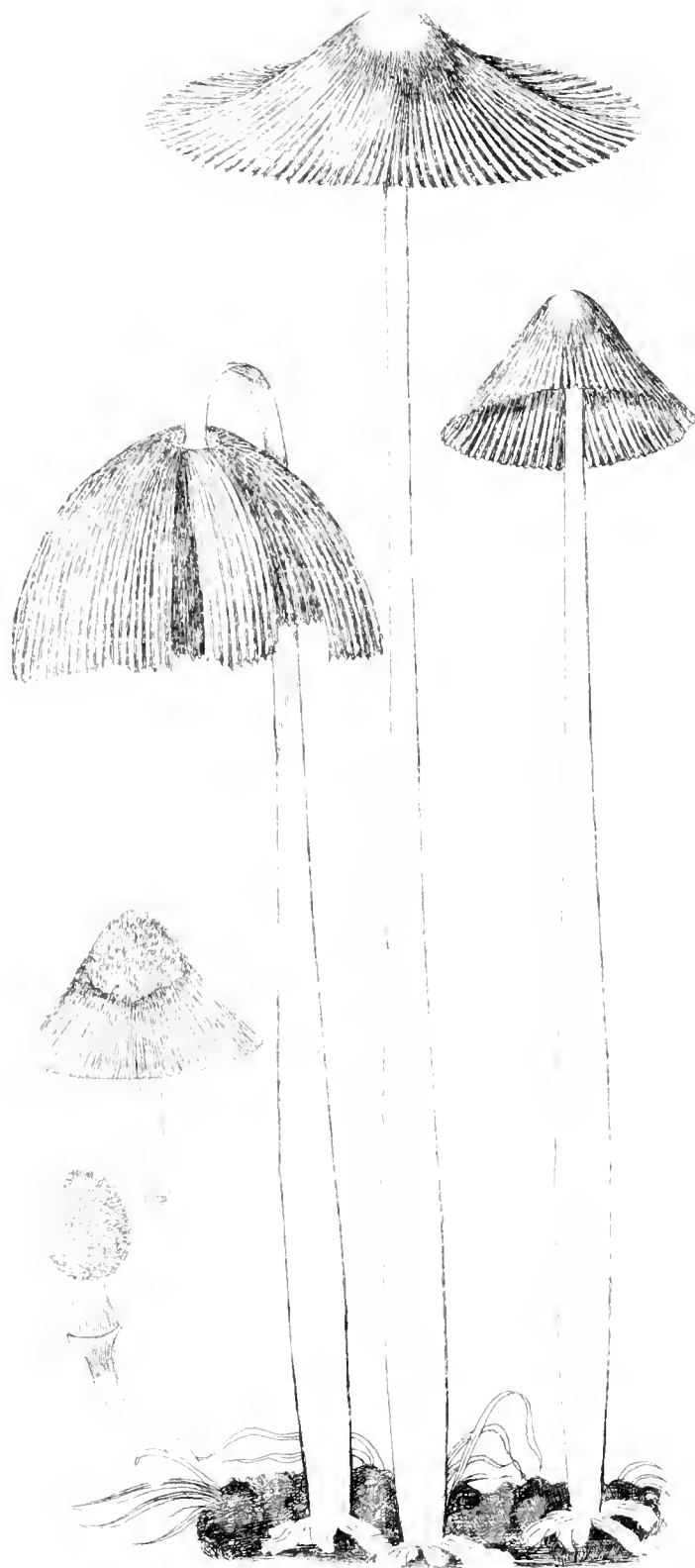
Agaricus concinnus. — an *Ag. cervinus* Schaf. tab 10² —



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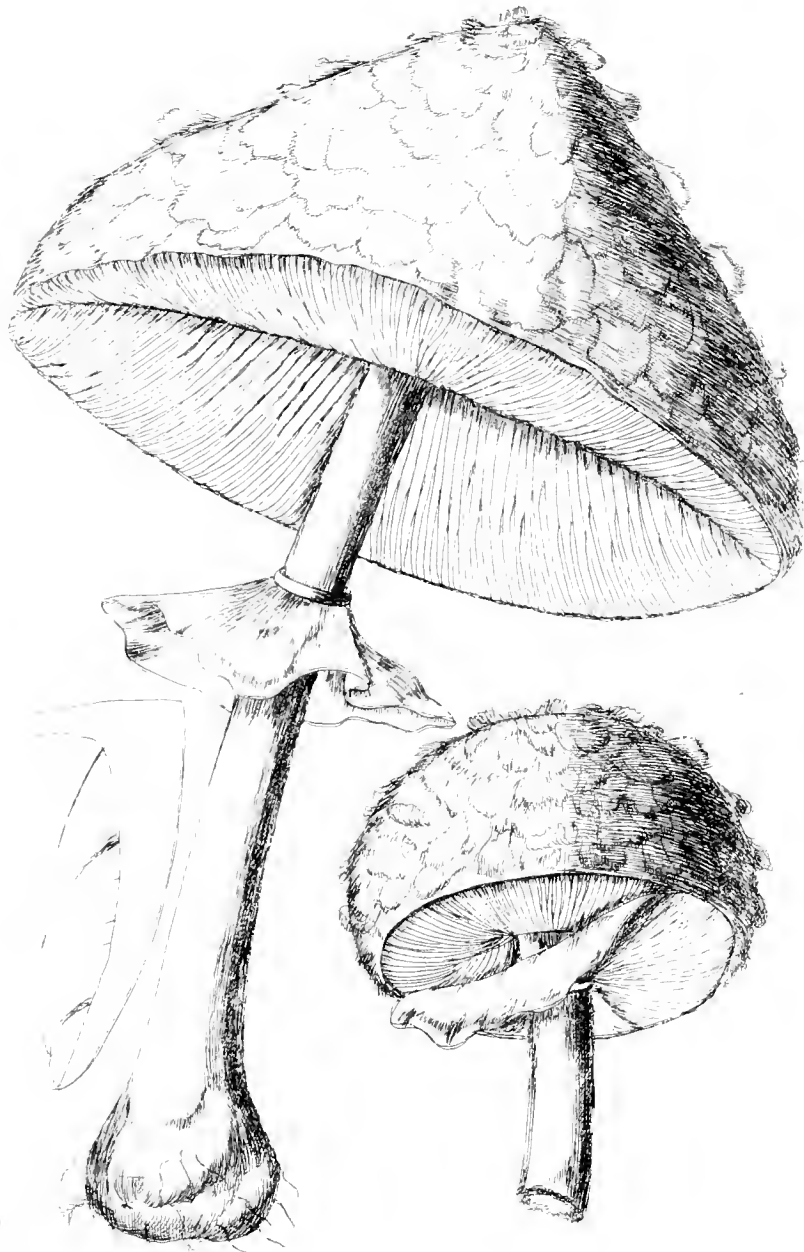


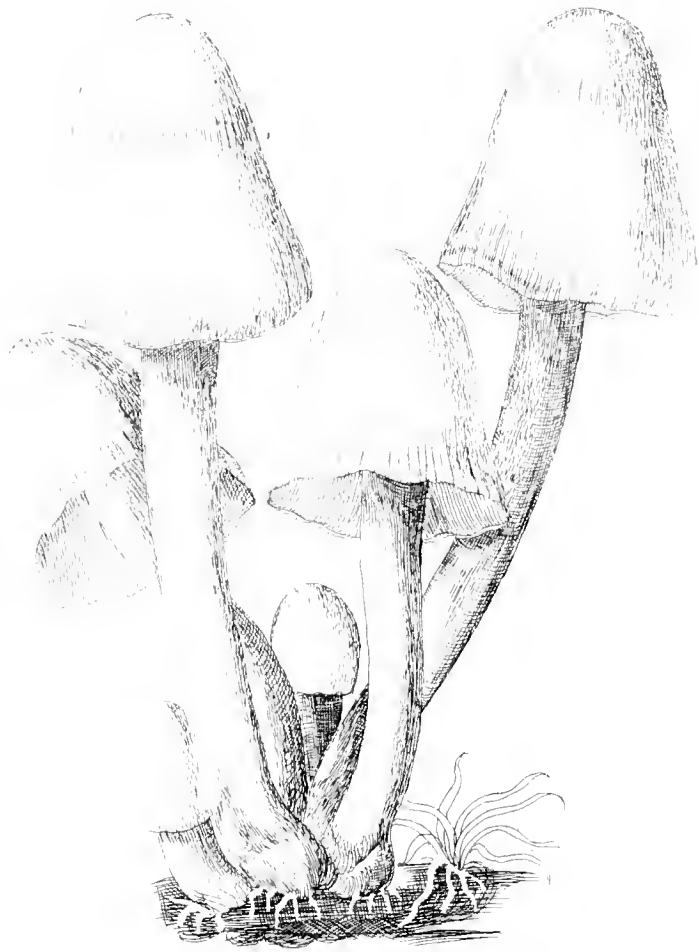






Agaricus sylvaticus (L.) Berk. 18







Agaricus muscarius Scop. 1787 at Ha.





Mrs. Bolton

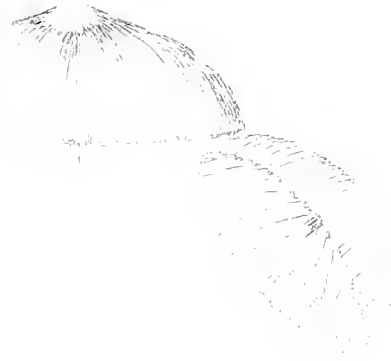
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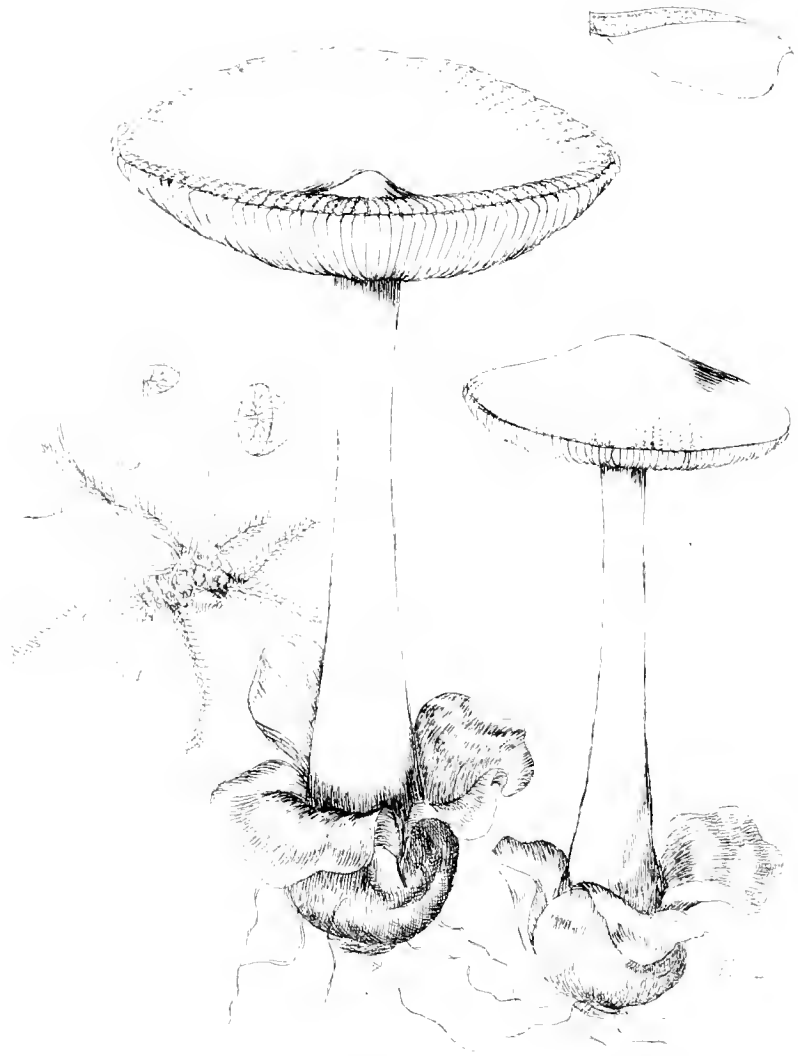


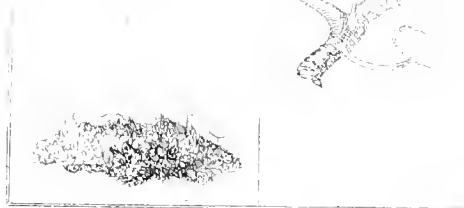














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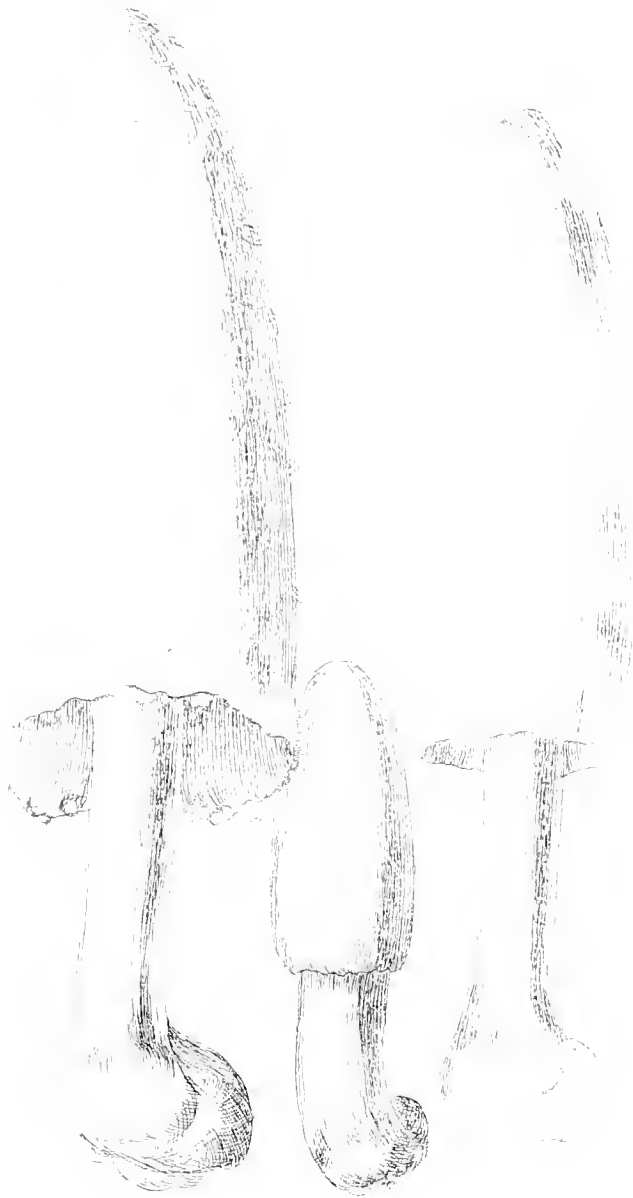
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A N
H I S T O R Y
O F
F U N G U S S E S,

G R O W I N G A B O U T
H A L I F A X.

W I T H
F O R T Y - E I G H T C O P P E R - P L A T E S ;
O N W H I C H A R E E N G R A V E D
F I F T Y - F O U R S P E C I E S o f F U N G U S S E S,

V I Z.

The Remainder of the AGARICS, with the Three succeeding GENERA,
BOLETUS, HYDNUM, and PHALLUS:

Wherein their various Appearances in the different Stages of Growth, are faithfully exhibited in
more than

T W O H U N D R E D F I G U R E S,

Copied with great Care from the PLANTS, when newly gathered and in a State of Perfection.

With a particular DESCRIPTION of each SPECIES, in all its Stages,
From the first Appearance to the utter Decay of the Plant; with the Time when they were gathered; the Soil
and Situation in which they grew; their Duration; and the particular Place
mentioned, where all the New or Rare Species were found.

The Whole being a plain Recital of FACTS, the Result of more than Twenty Years Observation.

By J A M E S B O L T O N,

Member of the Nat. Hist. Society, at EDINBURGH.

V O L. II.

N A T U R A S E M P E R E A D E M.

H U D D E R S F I E L D :

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M,DCC,LXXXVIII.

1788

I N T R O D U C T I O N

C O N T I N U E D.

THE *Halvella inflata* has, for several years past, grown plentifully in the plantations about *Fixby-Hall*, near *Huddersfield*; it makes its annual appearance in two or three particular places in those fertile woods, and I never met with the plant in any other place, though I have often sought it in similar soils and situations.

The *Hydnum imbricatum*^a, has at its season, for more than twenty years successively, grown in one part of *North-Dean*, near *Halifax*: though I have very rarely seen it elsewhere in this neighbourhood.

Some of the parasitic *Boleti* are perennial and abiding, growing and increasing from year to year, as the *Boletus igniarius*^b, (and amongst the Agarics the *A. quercinus*^c;) others which are of a more perishable nature, and serve as food to the numerous brood of various kinds of insects, I have found to grow annually from the same spot, as the *Boletus squamosus*^d, and the *Boletus hepaticus*^e.

The *Boletus elegans*^f, which was found in the hollow of an old elm tree root, in August, 1786, did not make its appearance there in 1787, but this present year 1788, on the 28th of July, another specimen grew in the self same spot; so that this species seems to be biennial in its nature.

Some species of *Fungi* are subject, from accidents, in soil, situation, and exposure, to vary much in point of size: I have seen specimens of the *Lycoperdon bovista*, varying from the size of a walnut to that of a child's head, when the small, as well as the large specimen, had arrived at its full extent of growth.

July 18, 1788, the *Agaricus latus*^g was brought me, in a state of uncommon luxuriance. The pileus measured twenty-seven inches in circumference, the surface was waved, and the margin undulated; a gill of the first series measured three inches and two lines in length, and something more than one inch in breadth; the stem was near seven inches high, and about four in circumference; the seeds were of a brown colour, and spherical.

In September, 1787, I gathered a specimen of the *Agaricus muscarius*, which weighed thirty-one ounces and upwards, though the lower part of the stem and the root were wanting. Happily however, this inequality of size is not very productive of error in the detection of species; for the substance, texture, constituent matter, and generally the colour too, are often exactly similar, and undergo the same mutations in the smaller, as in the larger specimen.

In regard to the stems of Agarics, the circumstances of solid and fistular, should be attended to with caution, before they can be properly applied as discriminative characters; because in many species the stem is solid in the first stages of growth, but becomes fistular, by degrees, when the plant arrives to its perfect state; and, in the progress of decay, becomes

comes more and more hollow, till its final dissolution. In describing the plants, in this work, I have carefully noted these changes: but all stems of this kind are to be considered as solid, when that circumstance is made use of, by way of specific character; and where it is said, that a stem is *solid*, it is meant, when the plant is in a state of growth and vigour; when it is said, that a stem is *fistular*, it is to be understood from its first appearance above ground.

I have endeavoured in all the figures, to give proper attention to the Roots of the Agarics; a part of them which seems to have been greatly neglected, though most of the species are furnished either with a proper, or a common root. It generally consists of a tuberous piece, of a proportionable size, and a tough hard substance; which is, as it were, incorporated into the base of the stem, and emits fibres into the ground or other matter, for the support of the plant. It is often, however, overlooked, for if the plant is not taken up with care, the base of the stem breaks, and the root, with its fibres, remains in the ground, and escapes our notice.

Figure, in the Pileus of Agarics, which has by many been considered as a character of specific distinction, has been a source of much perplexity; the truth of this assertion will be obvious, when we consider, that in many species the several *Terms*, globular, oval, convex, umbellicated, and funnel-shaped, may, with equal propriety, be applied to the same individual specimen, in the various stages of its growth. These mutations of figure are carefully noted throughout the work, both on the plates and in the descriptions; and where the figure of the pileus is brought in, as aiding to the specific character, it is meant, to denote its figure when in a state of perfect growth, or between the last excess of its increase, and the first approaches of its decay. Laceration or rents in the pileus, which are always a certain sign of its approaching decay, are the effect of contraction in its substance, and depend in some measure on the dryness or moisture of the air; for in rainy seasons, when the plant can imbibe

imbibe a sufficient supply of moisture, it often falls and dissolves without lacerating.

Colour, in Agarics, (especially in the perusal of such authors as have given descriptions without figures) has been another source of much perplexity; for though the colours in the respective species are not very inconstant, yet they are of such mixed and indeterminate hues, and those of one species so nearly verging upon those of another, that it is little less than impossible, to convey clear and distinct ideas of them, by words alone, either in our own or any other language. For this reason I have been particularly careful in mixing the colours, both in making the drawings and colouring the prints, to imitate the precise hue of the object, as near as I possibly could.

The part of an Agaric which is extended from the stem to the rim of the hat, and which authors distinguish by the term *velo*, I have named in English *curtain* rather than *veil*; because the latter has been already made use of, in our language, to denote an hood or covering on the fructification of most mosses, which is of a quite different figure from the curtain of an Agaric, and of which the word *veil* contains a more apt *idea*.—The use of this part, in one as well as the other, is to secure and conceal those hidden operations of nature, which are necessary to the production of perfect seeds; but in the mosses it is a close hood, in the Agarics it is an extended membrane.

The cover, which in some species furrounds the root, and inwraps the pileus in its infant state, is by *Battarra*, *Scopoly*, *Schoeffler*, *Hallar*, and others, termed *volva*. The excellent *Linnaeus*, it seems, did not consider the volva and curtain as distinct objects, for in the specific characters of the *Agaricus muscarius*, we find, *stipite volvato**; in the description of *Agaricus extinctorus*; *basi crassus nudus absque volva*†. The term *Volva*, is made use of in the present work, because no English word occurred to me, which I thought equally expressive, of the figure and use of that
furrounding

* Sp. Pl. 1640 —† Flora Suecica 1195.

surrounding cover. *Spatha*, a sheath, is now almost solely applied to the lily *narcissus*, and other plants of the same, or a similar structure; *gluma*, an husk, to the grasses, &c. *involuerum*, (*involuere*) to a cover of a particular structure, found on the top of the stems and branches of the *umbelliferous* plants, and serves as a defence to the umbells of flowers, whether universal, partial, or both.

In making choice of specimens, I have throughout the work avoided such as were uncommonly large, or small in their kinds; and have drawn and described such as were of a middling size, in respect to others of the same species. Often, when I have met with a plant in one state only, whether young, middling, or otherwise, I have made an exact drawing in that state; and finding the plant afterwards in a different state, I have taken another figure, perhaps on the same or on a separate paper, and have always accompanied these drawings with descriptive notes.—In the Drawing, I have all along endeavoured to give a faithful and accurate imitation of the object before me, and to represent Nature just as I saw her in herself, with her simplicity and accidents about her. From a selected choice of the above drawings, the figures on the plates were taken; and from those descriptive notes, the descriptions were selected: and there is not one figure, nor one description in the whole work, which was not originally drawn and written by my own hand, from an immediate inspection of the respective object, when in a recent state; and (except in a few instances) gathered, in the natural place of growth, by me.

The Etching of the plates, such as it is, is wholly my own performance; and when a specimen fell into my hands, at a time when I had an opportunity of etching it, I made the primary outline upon the copper without any previous drawing, I drew it on the waxed plate, with vermilion, in the point of a fine pencil; and when I copied drawings, I used the same method in laying the outline upon the plate; for besides that it was more readily done, and more agreeable to me, it prevented those injuries which the wax is liable to in back tracing; and preserved

an

an air of originality in the outline, which is not without great difficulty retained, under that hazardous and disagreeable operation.

The Essay towards a methodical arrangement of the Agarics contained in this work, how imperfect soever in its present infant state, may, I hope, be useful, in exciting the attention of such of my friends in particular, or of Botanists in general, as have made some progress in the study of this perplexing, and extensive branch of Natural History.

The primary divisions are founded in the disposition and arrangement of the gills; the secondary, in the presence or absence of either the volva, or curtain, or both; and the specific distinctions are drawn from the size, figure, colour, texture, &c. &c. of all the parts, both external and internal, combinedly. The necessity of this combination is the most perplexing part in the study of Agarics, and this perplexity must always remain:—for the parts are so simple and few, and the *Genus* so numerous, that it is impossible to affix single specific Diagnostics.—That a gradual and progressive arrangement or disposition may exist, between all the created species of this *Genus*, I deny not, but this connection (till all the created species are known) we can no more discover, than we can write a complete History in any Language, and be denied the use of perhaps three-fourth parts of the characters, which constitute the Alphabet of that Language. The chain can never be completed, while so many intermediate links are wanting.

In citing Authors, I have referred to such figures or *synonyma* as I thought most proper, but did not think it necessary to swell the Book, by transcribing those *synonyma*; many of them being already collected together, in Mr. *Hudson's* excellent *Flora*, and in most other similar publications, as well as in this work, at the head of the respective description of the plant, except in the new or undescribed species.

The

HISTORY OF AGARICS,

GROWING about HALIFAX.

AGARICUS *stipitatus*, pileo convexo squamato albido, lamellis
rufis. Linn. Sp. Pl. 1641. LII.
campestris.

ESCULENT AGARIC, Mushroom or Champignon.

T A B. XLV.

THE root is surrounded with numerous short downy fibres,
of a greyish colour.

The stem is solid, brittle, cylindrical, and white; while young a little swollen in the middle, and is large and thick in proportion to the pileus.

The curtain is white, of a downy or cottony substance, soon lacerates, falls off, and vanishes.

The gills in three series, pointed at the base, not adhering to the stem; at first of a pale rose colour, afterwards change to a brown hue, and turn black in decay.

The pileus while young is globular, generally smooth and white, sometimes tinged with a pale brown, and having an appearance of scales on its surface; as it advances in age the rim unfolds, till at last it becomes nearly horizontal, changes by way of buff colour to a dusky brown, and falls and withers in decay.

Grows in pasture grounds, after much rain, in *July* and *August*, not in plenty about *Halifax*.

This Agaric is in much request at table, having an excellent flavour, and being accounted safe. There are instances, however, on record, of its pernicious and fatal effects upon such as have eaten largely of it; but it may be asked, whether those bad effects were occasioned by a poisonous quality in the true mushroom, or by an error or oversight in the gatherer? For the *Agaricus annulatus*, which is esteemed poisonous, so nearly resembles the mushroom in some of its states, that I have seen it gathered, by mistake, for that species. The *Agaricus vernalis* also, sometimes, nearly resembles it.

LIII. *AGARICUS stipitatus, pileo hemisphærico amplo coccineo, cum
nobilis. fragmentis niveis eleganter ornato, volva dupla, radiale
lobata persistente, pileana lacerata.*

NOBLE AGARIC.

T A B. XLVI.

THE root approaches to a bulb-shape, is white, and of a substance similiar to that of the stem; it is surrounded with a thick white volva, which enwraps the whole plant in its infant state, and abides till the decay of the plant.

The stem is firm, solid, brittle, cylindrical, white, upright, and four inches high.

The curtain is white, pretty firm, and has some degree of elasticity; it separates from the pileus all round the margin, and abides for some time like a white ruffle round the stem.

The gills are arranged in three series, of a semi-oval shape, not adhering to the stem, of a pure white colour, and soft delicate substance.

The pileus is surrounded by a volva proper to itself, detached and separate from the radical volva; this is a thin, light, white dawning epidermis or covering, which enwraps the substance of the pileus, while it is yet enclosed in the radical volva, and, after its eruption, is by the increase of the pileus torn in fragments, which are as white as snow, and remaining on its surface, give an elegant and pleasing appearance to the plant.

The pileus is convex, the rim entire, the colour of its surface a fine, clear, bright, and glowing scarlet; is smooth, and feels like fine vellum; the substance of the flesh is white, thick, and brittle.

This plant differs from the *Agaricus muscarius*, in having a volva or covering proper to the pileus only, and in having the gills arranged in three series.

The specimen here figured and described, I gathered in a plantation at *Mills-Bridge*, near *Huddersfield*.

AGARICUS *stipitatus*, pileo convexo cinereo verrucoso, verrucis lamellisque albis, stipite basi bulbofo. Hudson Ang. 613, No. 11. LIV. verrucosus.

WARTY AGARIC.

T A B. XLVII.

THE root, as in the last species, is a little swelled, or approaching to a bulb-shape, especially while the plant is young; it is surrounded with a large, white, lobed, permanent volva, which emits a number of fibres from its base.

The stem is firm, solid, upright, cylindrical, of a brittle substance, and four or five inches high.

The curtain is white, tough, soft and dawning to the touch; it separates from the pileus all round the rim, without being torn, and remains on the stem.

The gills are arranged in three series, but variable in their respective lengths; they are deep or broad, white, soft, pliable, and numerous.

The pileus is globular at its first eruption from the volva, and closely covered with prominent warts, which are not the fragments of any volva, but of a substance similar to that of the pileus, and grow thereupon; they are hard, of a firm texture, and on being forced from the pileus will break its surface; they increase proportionably with the plant in the progress of its growth, and at its maturity are easily separable therefrom, leaving pale marks on the parts of the surface which they occupied.

The colour of the warts is a little paler than that of the surface of the pileus, both are of a brownish dusky mouse colour; the flesh is thick, white, and brittle.

Grows in woods, about the roots of trees, but is a rare species here. The specimen here represented, I gathered in the *Sbroggs*, opposite *Birks-Hall*.

It differs from the *A. nobilis* and *A. muscarius*, in that the inequalities on its surface are growing tubercles, and not loose fragments.

LV. *AGARICUS stipitatus totus albus, stipite bulboso volvato, pileo vernalis. hemisphærico splendente glutinoso, velo arencoso manente.*

BULBOUS VERNAL AGARIC.

T A B. XLVIII.

THE root is a large globular bulb, of a soft spongy substance, white, and surrounded by a soft, white, bilobate volva.

The stem is solid, smooth, upright, white, soft, spongy, brittle, and three or four inches high.

The curtain is white, very delicate, while it is extended over the gills it appears like a thin dawning spider's web; after it is disengaged from the rim it contracts, and abides on the stem for a short time.

The first series of gills lance shaped at both extremities, not adhering to the stem; they are intersected by a second and third series, irregularly; are white and of a thin and delicate substance.

The pileus is at first globular, at last hemispherical; the surface smooth as fine vellum, and covered with a slippery, shining glutin; the flesh or internal substance is soft, white, and dawning.

I have seen a large variety of this species wherein the curtain was wanting, and the stem covered from top to bottom with a kind of loose cottony dawn.

Grows in woods about *Halifax*, both in spring and autumn.

I have named it *vernalis* rather than *bulbosus*, because HUDSON has already given the latter name to a very different species. — *It is of a poisonous quality, and many have suffered by eating it. The most approved cure, according to BULLIARD, is first of all to take an Emetic, and afterwards ten or twelve drops of Vitriolic Æther in wine; if this should not succeed, bruise a clove of Garlic in milk, and give it to the patient.*

AGARICUS *stipitatus*, pileo pulvinato subviscido margine integro striato, lamellis minoris basi truncatis,—volva lata lobata permanere, velo nulla. LVI. *pulvinatus.*

CUSHION AGARIC.

T A B. XLIX.

THE root is bulbous, large, and surrounded with a large, thick, lobed, grey, downy volva, which remains till the decay of the plant; it emits fibres from its base.

The stem solid, upright, round, smooth, and of a dead dark grey colour; it is thick and gross at first, but decreases in thickness as it advances in height. There is no curtain.

The gills are arranged in three series, and are straight or even on the edges, making the under surface plain or flat; the first series terminate in a point at the base, and do not adhere to the stem; those of the second and third series are cut off at the base by a right line obliquely, by which peculiarity the species is at once distinguished.

The pileus at first globular, and glutinous, afterwards becomes cushion-shaped and dry; the margin even, and strongly striated; the surface is of a cloth-like touch, and a kind of mixed brownish mouse colour; the internal substance white and spongy.

This species is rare about *Halifax*; it grows in woods, in shady moist places. The specimen here described, I gathered in *Ramsden*, September 27, 1787; and have seen the plant in some other woods in this neighbourhood.

LVII. AGARICUS *totus luteus, stipite subbulbofo annulato, pileo obtuso luteus. conico piloso squamoso, velo araneofo, substantia ficca.*

YELLOW COTTONY AGARIC.

T A B. L.

THE root is a misshapen piece of fungous matter, covered with innumerable grey mouldy fibres, and produces numerous plants in succession.

The stem is swollen or bulbous at the base, diminishing gradually upwards.

The curtain is extremely delicate and tender, breaks and vanishes while the plant is young; it originates in a dawning annulus or ring, which furrounds the stem, and abides after its disappearance.

The gills arranged in one series, numerous, lance-shaped, not adhering to the stem, the substance light, tender, and delicate.

The pileus cone-shaped, blunt at top, in its infancy wrapped up in a dawning volva or epidermis, which is proper to itself, and which is broken by the increase of its growth, and remains in little, soft, cottony tufts on the surface; the margin is irregularly waved and undulated, and in the last stages of the plant becomes striated.

The whole plant is of a bright yellow colour, and of a dry, light, cottony substance.

The specimen here figured and described, grew amongst the bark in the pine-stove belonging to J. CAYGILL, Esq; at *Sba*, near *Halifax*, in August, 1785.

AGARICUS *stipitatus, pileo subconico sicco elastico, lamellis paucis trifidis, stipite prælongo gracili.* LVIII. *atro-rufus.*

LITTLE DARK - BROWN AGARIC.

T A B. LI. F I G. I.

THE root is a little round tubercle, the size of a rapeseed, emitting a few dawny fibres.

The stem is cylindrical, filiform, dry, elastic, and of a brown colour. There is no curtain.

The gills are in three series, few in number, tough, pliable, and of a reddish brown colour.

The pileus bluntly cone-shaped or convex, smooth, dry, and of a dark brown.

Grows in dry and barren pasture grounds, amongst various kinds of moss.

AGARICUS *stipitatus luteus, stipitis parte inferiore et pileo conico villosis, lamellis albis numerosis densis.* LIX. *croceus.*

SAFFRON - COLOURED AGARIC.

T A B. LI. F I G. II.

THE root consists of a multitude of dawny fibres, adhering to a misshapen piece of fungous matter, which sends up numerous plants in succession.

The stem is round, upright, solid, three inches high, and the greatest part thereof, as well as the whole surface of the pileus, is covered with a close nap or hairy dawny covering, of a pale saffron colour, which serves the purpose of a volva to the pileus and stem, but does not enwrap the root.

When the rim of the pileus begins to unfold, the volva breaks, and the stem afterwards increasing in length, is naked, and of a pale yellow above.

The gills are arranged in three series, they are white and numerous.

Grows in the *Burks*, and other woods about *Halifax*.

LX. *AGARICUS stipitatus, pileo rimoso: margine violaceo tomentoso, violaceus. stipite carulescente, lana ferruginea. Linn. Sp. Pl 1641.*

VIOLET COLOURED AGARIC.

T A B. LII.

THE root is swelled, and approaching to a bulb-shape; it is firm, hard, solid, and sends out many capillary fibres, of a pale brown colour.

The stem is of a pale purple colour, firm and solid, easily divisible in fine, pale, purple, silky filaments, and near the root is covered with a rust coloured down.

The curtain is like a fine and tender spider's web, soon breaks and vanishes, leaving no remainder; it is of a brownish rust colour.

The gills are arranged in three series, but irregularly, they are deep, membranaceous, and gently waved on the edges; the colour is a violet blue, turning brown in decay.

The pileus at first hemispherical, afterwards convex; the rim a little waved; the surface soft and clothly to the touch; while young of a full violet purple colour, but changes to a pale brown or rust colour; this change first takes place at the centre of the pileus, and gradually prevails till the purple is quite lost even to the margin; at last the pileus lacerates, and the whole dissolves in a turbid stinking jelly, of a sordid brown colour.

Grows in *Woodhouse-Wood*, and some other woods about *Halifax*, in August and September, but not plentifully.

AGARICUS *stipitatus*, pileo conico primo tecto pulvere niveo, LXI.
 postea glutinoso, margine ciliata, lamellis trifidis nigris, stipite ciliaris.
bulbofo.

EYELASHED AGARIC.

T A B. LIII.

THE root is swollen so as to approach to a bulb-shape, and emits numerous black fibres.

The stem is hard, cylindrical, solid near the base, but fistular, with a small perforation, near the top; it is round, smooth, firm, and five or six inches high; easily splits in fine slender filaments, is white, and sometimes covered with a grey powder.

The curtain breaks and vanishes while the plant is young, leaving a grey indistinct annulus on the stem.

The gills are of a sooty grey, arranged in three series, irregularly; they are narrow at the base, and broad towards the external extremity, of a soft and tender substance.

The pileus while young (if the season is dry) is covered with a snow white powder, the particles whereof glitter when viewed in the sun, just like those on the petals of a white lily, or a narcissus:—this powder soon dissolves, and covers the pileus with a slippery glutin; at full growth it is of a conical shape, blunt at top, of a pale kind of straw colour, and a smooth vellumy surface. It is singular, in that the margin is extended beyond the extremity of the gills, and terminates in a short black ciliation.

Grows most frequently on fresh dunghills; sometimes I have seen it in pasture grounds.

It differs from *A. plicatus*, *striatus*, *luridus*, et *fimetarius*, in that the gills are in several series, of unequal length; from the *A. clypeatus*, in magnitude, and in the blunt external termination of the gills; and from all others in the marginal fringe.

- LXII. *AGARICUS stipitatus, pileo campanulato fusco striato glabro, striatus. lamellis griseis margine crispis, stipite fistuloso. Hudson Angl. 617.*

STRIATED AGARIC.

T A B. LIV.

THE root consists of a few fibres issuing from the bottom of the stem. Authors mention a taper root, running underground, which I have not yet been able to discover.

The stem is upright, white, fistular, gently tapering from the root, and five or six inches high.

The curtain vanishes as soon as the rim of the pileus begins to expand, leaving an obscure black mark on the stem, which soon vanishes.

The gills are all of equal length, broadest in the middle, and gradually diminishing to each extremity, where they are pointed; they are grey in the first stages of the plant, turning black in decay. In large specimens, when just ready to fall, the seeds are sometimes visible to the naked eye, lying like a red powder, on the edges of the half-dissolved gills.

The pileus is of an oval-shape, with one end lopped off; the rim is lobed and much contracted; the surface strongly striated, from the verge to near the summit, where it is smooth; the colour is generally a reddish brown, sometimes it inclines to an ash colour; and in very damp places, I have seen the pileus in young plants covered with pellucid grains, which, when rubbed off, feel sharp between the fingers.

The plant varies greatly in various soils; sometimes it grows singly on the ground, is large, and of a red brown; sometimes in vast clusters upon wet decayed wood; and is of a pale brown, ash colour or grey;—the whole at last dissolves in a black liquor.

AGARICUS *stipitatus*, pileo convexo margine involuto, lamellis trifidis decurrentibus, stipite ascendente.

LXIII.
ascenden-
tibus.

CURVED AGARIC.

T A B. LV.

THE root is hard, of a dark brown, sends out many black, hard, short fibres, and sustains one plant only.

The stem is hard, solid, of a brownish snuff colour, and about three inches high; it grows on the perpendicular surface of the broken earth, besides deep lanes and pathways in woods; it grows at first horizontally, and then curves gradually upwards.

The gills are in three series; those of the first running down the stem, in a narrow pointed base; they are numerous, of a dry pliable substance, and a pale brown colour.

The pileus is convex from first to last, very much rolled in at the margin, where it is smooth and entire;—a little above the margin, on the most prominent part of the pileus, all round about, is a band or belt of a velvety surface; it is about one fourth of an inch in breadth, more or less, in proportion to the size of the specimen;—above this, on the top or upper part, the pileus is smooth, and shines as if it were glazed:—the substance of the whole is hard, dry, and brittle; the colour a reddish brown.

This plant agrees with the *A. lactifluus* in some particulars, but differs from it in having the stem constantly curved, in the velvety belt on the pileus, and in that the whole is of a dry substance, and yields no milk.

Grows in the *Burks*, and other woods about *Halifax*, in September and October.

LXIV. AGARICUS *stipitatus*, pileo convexo fulvo glabro, lamellis trifidis
fulvofus. remotis crassis decurrentibus, stipite solida basi acuminata.

F U L V O U S A G A R I C .

T A B. LXIV.

THE root consists of a few fibres, issuing from the pointed termination or origin of the stem; the part from which these fibres issue, in this as well as most other Agarics, is covered with a mucor-like downiness, which possibly may be the remains of a volva, which covered the plant when in a state of embryo, too minute for our observation.

The stem is round, upright, solid and firm; it is easily divided into fine slender filaments, of a shining white; it tapers near the root, where it terminates in an obtuse point; it is a pale kind of buff colour, nearly white.

The gills are in three series, gross, remote, arched, and adhering to the stem by a broad decurrent base; the colour is a pale, pleasant, fulvous brown.

The pileus is of a globular shape at first, in the progress becomes hemispherical, and lastly horizontal; sometimes the rim rolls back, so as to shew the points of the gills all round, on the upper-side; the colour is at first a bright fulvous brown, growing paler as it advances in age, and in decay changes to a pale dirty white; the surface is smooth and silky to the touch.

Grows in dry and barren pasture grounds about *Halifax*, in September and October.

AGARICUS *stipitatus*, pileo hemisphaerico viscido, acuminato, LXV.
lamellis albis, stipite longo cylindrico albo. Sp. Pl. 1642. clypeatus.
 No. 16.—Hudson Angl. 691.

SHIELD or BUCKLER AGARIC.

T A B. LVII.

THE root is a little, oblong, hard tubercle, emitting a few black fibres.

The stem is hard, slender, cylindrical, the thickness of a duck's quill, and five or six inches high; it is solid, and covered with a whitish grey powder at first, afterwards it becomes fistular, and changes to a dark brown or blackish colour; the surface is smooth, and the substance easily divides in filaments like hemp.

The curtain is white, vanishes and disappears while the plant is young.

The gills are arranged in three series; those of the third adhering to the stem by a broad base, the rest pointed at each extremity, and broad in the middle; they are numerous, and of a thin, pliable, and very delicate substance; the colour at first a greyish white, turning black in the progress.

The pileus is hemispherical, sometimes terminating in a short conical apex; it is smooth, and while young of a dead white, and covered with a slippery glutin; when old it becomes dry, and changes to a brownish mouse colour; in decay the rim lacerates, and the whole turns black and dissolves. In dry seasons, I have sometimes seen the rim roll upwards, without breaking, and shew the points of the gills all round, on the upper-side.

There is a variety of this very frequent in meadows in this neighbourhood, which is throughout of a yellowish brown or buff colour.

LXVI. *AGARICUS stipitatus, pileo hemispherico subpellucido, lamellis trifidis paucis angustis pellucidis, stipite parte superior glabro, inferior lanuginoso, basi arcuato.*
peronatus.

SPATTERDASHED AGARIC.

T A B. LXVIII.

THE root is flat, compressed, crooked or bowed, and adheres by numerous fibres to heaps of fallen decaying oak leaves, in moist and putrid places.

The stem is solid, firm, and tough; of a pale straw colour, and three inches high: the upper part is cylindrical and smooth, but from the middle downwards, it is surrounded with an erect cottony down or woolliness, of a bright yellow colour,—which not unaptly resembles the straw *spatterdash*, worn in time of snow by the mountaineers in *Yorkshire*.

The gills are in three series, few, thin, and narrow; those of the first series adhering to the stem by a narrow base; they are of a pale watery straw colour, and pellucid.

The pileus is hemispherical, acute at the rim, where it becomes waved when old; it is thin, semipellucid, and destitute of flesh; the surface feels clothly to the touch, and appears to the eye like a mixture of brown and white wool.

It is a rare species here; grows in the deep and moist parts of woods, amongst the fallen oak leaves. The specimens here figured and described, grew in a little wood, called *Trough of Bolland*, in *Northowram*, near *Halifax*, September 10, 1787.

AGARICUS *stipitatus*, pileo et lamellis livido fuscis, centro umbilicate margine deflexo, stipite basi crassiore. Dixon Crypt. LXVII.
sordidus.
 P. 16. T. 3. F. 1.

S O R D I D A G A R I C.

T A B. LIX.

THE root or base is a little thicker than the stem; it is hard, of a dark brown colour, and emits a few black fibres.

The stem is cylindrical while young, solid, and of a pale brown colour; afterwards becomes fistular, and changes to a dark sordid brown.

The gills are in three series, thin, narrow, and arched; those of the first series touching the top of the stem with a narrow base; they are pliable, tough, of a dusky brown, tinged with a fleshy hue.

The pileus is at first convex, a little waved round the rim; afterwards it becomes horizontal, next umbilicated in the centre, and lastly funnel-shaped; the surface is smooth, feels to the touch like vellum, shines a little, and is of a darkish mouse colour when at maturity; it is thin of flesh; the substance tough and leathern; it abides for a long time, and turns quite black in decay.

Grows in low meadows, where the grass is deep and the soil rich; it is a late species, being most plentiful in November and December.

To several drawings of this Agaric, which I have formerly made for my friends. I put the trivial *pezizoides*, but to avoid confusion, have here made use of *sordidus*, as given by my friend DICKSON.

- LXVIII. *AGARICUS stipitatus, pileo distorto mutante, fuscescente, acris. lactescente, lamellis trifidis, stipite compresso sulcata, basi angusto.*

GREY PEPPER AGARIC.

T A B. LX.

THE root consists of a few fibres issuing from the contracted base of the stem.

The stem is often crooked or leaning, it is compressed, sulcated, and uneven; largest at top, and diminishing downwards; it is firm and solid while the plant is young, when old it becomes fistular; it grows single or solitary, and is constantly of a pale greyish buff colour.

The gills are arranged in three distinct series; the first series about forty-five in number; they adhere to the stem by their base, are narrow, membranaceous, thin, and brittle; the colour is a pale buff, with a tinge of flesh.

The pileus is two or three inches diameter, very various in its shape; it is convex, horizontal, or umbilicated; the margin frequently lobed or waved, and sometimes deficient on one side; the colour is constant, being a kind of mixed grey, between mouse colour and buff; the substance of the flesh is white and brittle.

When the gills, pileus, or stem, are wounded, there issues a white milky fluid, of a hot acrid taste. This milk, when dried in drops, becomes a brownish gum, but retains little of its acrimony.

Grows in the shady parts of woods, but is rare in this neighbourhood. The specimen above-described, grew in *Woodhouse-Wood*, in August, 1787.

This is a species altogether different from the true *A. piperatus*. See Vol. 1. P. 21. T. 21.

AGARICUS *stipitatus*, pileo infundibuliforme margine elegantissime
crispato lobato fimbriato tenue albo semitransparente, lamellis LXIX.
trifidis longissimis angustissimis pellucidis, stipite gracile breve. *fimbriatus.*

FIMBRIATED AGARIC.

T A B. LXI.

THE root consists of a few fibres issuing from the bottom of the stem.

The stem is about an inch high, smooth, solid, tough, pellucid, and of a dusky watery white colour.

The gills are arranged in three series, distinct, very long, very narrow, very thin and delicate; the substance is pellucid, tender, turning to a watery gelly, on being pressed between the fingers; the colour a greyish watery white.

The pileus at its first appearance is convex, afterwards becomes horizontal, and when at maturity funnel-shaped; the margin at all times waved, lobed, curled, and undulated in the most elegant manner; the surface is smooth as vellum, shines a little, by means of a moisture which is not glutinous, and is of the same colour as the stem and gills; the substance is thin, tender, and semitransparent.

I have seen this plant in several shady moist woods about *Halifax*. The specimen here described, I gathered in *Stump-Wood*, in *Northowram*, in August, 1787.

The substance and figure of this plant, distinguish it at once from all its congeners.—I find no satisfactory account of it in any author, since STEERBECK, who in his *Theater of Fungusses*, P. 119, calls it *auricula leporis alba*, and has given two figures of it. *Plate 15, B. B.*

LXX. AGARICUS *stipitatus, lamellis ramosis decurrentibus,*
chantarelus. *Sp. Pl. 1639.*

CHANTARELLE AGARIC.

T A B. LXII.

THE root consists of numerous dark-coloured hard fibres, by means whereof the plant is fixed pretty firmly to the ground.

The stem is short, in proportion to the size of the plant; it is firm, solid, elastic, often compressed or fulcated, of a golden colour without, and a pale yellow within; it is fibrous, easily splitting in thin filaments.

The gills are like threads on the under surface of the pileus; they are divided and subdivided, like nerves in often repeated ramifications, shooting small lateral branches across the intervening spaces, especially near the margin; their substance seems to be the same with that of the pileus.

The pileus is of an irregular shape, lobed and curled in a rude and awkward manner, often deficient on one side, and variously distorted; the surface is smooth to the touch; the flesh tough, a little elastic, and tears in filaments of a pale shining yellow.

The whole plant is of a fine gold colour, but in decay it changes to a sordid brown, and at last dissolves. While young it is devoured by snails and other insects with great greediness.

It is in great esteem, as an esculent, in some countries, but is never admitted at table here, though it sometimes grows in sufficient plenty.

AGARICUS *stipitatus*, pileo subcampanulato levi, lamellis
stipitague violaccis. Hudson *Angl.* 612, 8. LXXI.
amethystinus

AMETHYST AGARIC.

T A B. LXIII.

THE root is brown, roundish, thicker than the stem, and furnished with a great number of grey dawy fibres, of a mould-like substance.

The stem is fistular, brittle, often crooked or bent in various directions, about the thickness of a goose quill, and is a little swelled just under the pileus; while the plant is young it is of a reddish purple, and covered with a bloomy dawn or powder, afterwards changes to a sordid brown, becomes twisted and sometimes wrent; the height is four or five inches, and frequently three or four roots are entangled together by their fibres.

The gills are in three series, irregularly waved on the edges, gross, brittle, and few; they are broadest at their base, where they terminate in a claw, which is inserted into the top of the stem, but in the last stages of the plant, when the rim of the pileus is elevated, the claw breaks, and the gills adhere to the pileus only; they are purple, and covered like the stem with a bloomy powder.

The pileus is destitute of flesh, from one to two inches diameter; at first convex, the rim contracted and waved, afterwards becomes irregularly horizontal, at last the margin turns up, becomes lacerated, changes from a purple to a brownish straw colour, and at last falls and dissolves in a brown turbid gelly.

Grows plentifully in moist, steep, rocky woods, about *Halifax*, and continues in succession from August to November.

LXXII. AGARICUS *stipitatus*, pileo convexiusculo carneo fusco, lamellis
farinaceus. *convexis distantibus incarnatis pulverulentis, stipite longo.*
Hudson Angl. 616, 26.

POWDERED AGARIC.

T A B. LXIV.

THE root is compressed, irregular, a little thicker than the stem; it is of a dark brown colour, hard, and firm, emitting mouldy grey fibres.

The stem is crooked, smallest in the middle, fistular, with a small perforation, easily splits in filaments, is of a sordid brownish flesh colour, and three or four inches high.

The gills in three series, few, gross, and brittle; the first series about twenty in number; they are crumpled or waved on the edges, of a brownish dusky flesh colour, and, together with the stem, are covered with a mealy powder, of a pale greyish flesh colour.

The pileus is convex, when full grown an inch and half in diameter, the rim gently waved; it is, like the other parts, of a brownish flesh colour, but not powdered; the surface is soft, and feels to the touch like fine woollen cloth wetted; the substance is thin, watery, and pellucid; the whole falls and rots, of a dirty brown colour.

It is not a common plant here. The specimen before me, I gathered in *Old-Lane-Wood*, near *Halifax*; I have also seen it in *Woodhouse-Wood*, and in the plantations about *Fixby-Hall*.

In number and figure this plant very much resembles the *A. amethystinus*; I can find no character of distinction between them, except *colour*, and am therefore inclined to think, that this is no more than a variety of it; but as several *authors* have considered it as a distinct species, I have taken the liberty to give it a place in this History.

AGARICUS *stipitatus*, pileo pallido, disco stellatini luteo, lamellis sulphureis. Sp. Pl. 1642, 13. LXXIII. equestris.

STARRY AGARIC.

T A B. LXV.

THE root is hard, brown, and globular; furnished with a multitude of brown capillary fibres; it sustains one plant only.

The stem is upright, smooth, cylindrical, fistular, and four inches high; the substance thin, delicate, and easily splits in slender shining fibres or filaments; there is a fibrous or dawy matter in the perforation; the colour is a pale dusky yellow.

The gills regularly arranged in three series, of a semioval shape, pointed at both extremities, and do not adhere to the stem; they are numerous, thin, pliable, delicate, and of a pale yellow with a tinge of green; sulphur coloured.

The pileus is at first of an oval shape, afterwards convex; sometimes the apex projecting in form of a blunt point; the colour is a pale kind of yellowish, with a cast of buff, the apex a little darker:—when the plant is young the pileus is slightly glutinous, afterwards becomes dry and is smooth; in decay the rim changes to a dusky hue, which hue gradually shoots towards the middle in concentric points, forming the appearance of a yellow star, of ten or twelve rays, in the centre; at last the whole becomes dusky, and falls and dissolves, in about the space of two days from its first appearance.

Grows in meadows and pasture grounds about *Halifax*, in July and August.

This plant seems nearly related to the *A. clypeatus*, and may possibly be a variety of it.

LXXIV. *AGARICUS stipitatus, pileo conico obtuso, colore vario cinorio varius. griseo sive nigro, lamellis trifidis stipite filiforme.*

VARIABLE AGARIC.

T A B. LXVI. F I G. I.

THE root consists of an hard tubercle, the size of a rape-seed; it is furnished with numerous short fibres.

The stem is cylindrical, fistular, the thickness of a swallow's quill, white, but dusky near the root, and three or four inches high.

The gills are arranged in three series, and run into a point at the base; the first series adhering to the top of the stem by a small claw.

The pileus is generally grey, but subject to great variety in its colours, being sometimes ash coloured, dusky pale brown, or of a full footy black.

Grows amongst the grass in pasture grounds, in October.

LXXV. *AGARICUS stipitatus, pileo conico acuto ruber-fusco, lamellis subfuscis basi angustis, stipite fistuloso. cuspidatus.*

POINTED AGARIC.

T A B. LXVI. F I G. II.

THE root is a round hard tubercle, furnished with numerous fibres.

The stem cylindrical, smooth, upright, hard, of a brownish hue, and four or five inches high; it is fistular, with a very small perforation, and easily splits in fine filaments.

The gills are in three series, of a pale dusky brown, a thin pliable substance, and pointed at the base.

The pileus is acutely cone-shaped, the rim even and entire, the surface smooth, and silky to the touch; of a pretty reddish brown, inclining to a cinnamon colour.

Grows in fallowed fields, where the weeds have been burnt, in woods, or places where charcoal has lately been made.

AGARICUS *stipitatus*, pileo convexo pallide luteo, lamellis trifidis numerosis profundis stipite solido fragile, velo fugaceo. LXXXVI. *durus.*

H A R D A G A R I C.

T A B. LXVII. F I G. I.

THE root consists of a number of fibres issuing from the hard compressed bottom of the stem.

The stem is round, solid, two inches high, and of a pale whitish buff colour.

The curtain is very delicate and tender; it is white, and breaks and vanishes in the infancy of the plant.

The gills are extremely numerous, deep, semioval, and regularly arranged in three series; they are thin, and of a pale greyish colour.

The pileus is convex, even, and smooth at the rim; the surface smooth, of a pale dusky yellow, and feels like vellum; the substance of the whole plant very hard and brittle.

AGARICUS *stipitatus*, pileo convexo viscido aurentio, lamellis luteis, stipite nudo. Lightfoot, Scot. 1025. LXXXVII. *aurentius.*

C H E R R Y A G A R I C.

T A B. LXVII. F I G. II.

THE root is hard, compressed, of a brownish colour, and furnished with a few fibres.

The stem often compressed and crooked; it is hollow, of a thin substance, easily splitting, of a pale yellow within, and a golden or orange colour on the outside.

The gills are in three series, remote, of a tender substance, terminating in a narrow point at the base, and varying in colour from a pale yellow to an high orange.

The pileus irregularly cone-shaped or convex, of a brittle substance, glutinous, and when young of a full bright cherry colour, turning pale as it advances in age.

Grows in dry and barren pastures, frequent, about *Halifax*.

LXXVIII. AGARICUS *stipitatus*, pileo subconico pallide-flavo margine laceratus. *lacerato*, lamellis trifidis latissimis basi angustis, stipite fistuloso contorto.

R E N T A G A R I C.

T A B. LXVIII.

THE root, as in most others, consists of a tuft of slender soft fibres, issuing from the bottom of the stem.

The stem is as thick as one's little finger, of a pale clay colour; the substance is thin, and readily splits in slender fibres; it is often compressed, sulcated, or twisted, and is three or four inches high.

The gills are irregularly arranged, sometimes there are three series, sometimes only two; they are extremely broad towards the external extremity, and run out into a narrow point at the base; they are a little waved at the edges, of a tender soft substance, and a pale, greenish, yellow hue, or primrose colour; pressed between the fingers they turn to a slippery gelly, of no unpleasant smell.

The pileus is obtusely cone-shaped; the surface a pale yellow, dry, smooth, silky, and shining; when at maturity it splits or lacerates, the rents reaching almost to the centre, the divisions rising up at the rim, and abiding for some days in an horizontal position; it is destitute of flesh, and dissolves in decay.

Grows on dry banks and in barren pastures about *Halifax*, but rarely.

Though this plant is sometimes deficient in the third series of gills, it will nevertheless arrange with those of three series, because it is found with three more frequently than with only two; every specimen having more or fewer of a third series in it, and sometimes all three complete.

AGARICUS *stipitatus*, pileo convexo acuminato griseo, lamellis convexis griseis crenatis stipite nudo. Sp. Pl. 1642, 15. LXXIX. *mammosus*.

BREAST AGARIC.

T A B. LXIX.

THE root consists of black hard fibres, issuing from the obtuse base of the stem; it is solitary, and sustains one plant only.

The stem is upright, round, hard, firm, and solid; of a grey brown above, paler near the root; half an inch in diameter, and four or five inches high; the substance within is white, and easily splits in fine slender filaments.

The gills are arranged in three series, very broad, of a pelucid substance, and a pale dusky grey, with a tinge of flesh colour: their figure approaches to a semicircle, the base not touching the stem; they are waved on the edges near the extremity; near the base they are crenated. In the specimen before me, there is one manifest dent or tooth towards the base, in those of the first series; in those of the second and third no dent or tooth, but only a gentle waving.

The Pileus is convex, terminating in a nipple-like beak or point at top; the colour is constantly of a dusky grey, with a tinge of reddish brown; and the surface looks and feels like fine woollen cloth: it is about three inches diameter in a full grown plant, and is destitute of flesh, except just under the beaked top where the stem is inserted; it dissolves in decay.

This specimen grew in *Bracken-Bed-Wood*, near *Halifax*, September 1, 1787.

LXXX. AGARICUS *stipitatus, pileo globoso castaneo, margine lobata incurvo, lamellis trifidis undulatis, stipite gracile albo fistuloso.*
nucis.

HASLE - NUT AGARIC.

T A B. LXX.

THE root is an hard tubercle, furnished with fibres of a mouldy grey colour.

The stem is upright, fistular, of a pale dead white, and about the thickness of a crow's quill near the root, growing gradually smaller upwards; the height is about four inches; the substance thin, tender, and easily splitting in small shining filaments.

The gills are arranged in three series; they are broad and thin, gently waved on the edges, and touch not the stem with their base; the substance is thin and delicate, and the colour a pale pretty brown.

The pileus the size and colour of a Spanish haffle-nut; the top umbilicated, the margin lobed and very much rolled in, so as to touch the stem, or even to pass by it; the opposite lobes pressing against, or lying over each other. It is destitute of flesh, of a dry pliable substance, and a smooth, dry, silky, shining surface.

This species came up in abundance, amongst the young fir trees in the new plantation near *Mount Pellon*, in October, 1787; I have seen it in other places, in dry and barren soils, amongst heath and furze bushes.

AGARICUS *stipitatus*, pileo campanulato obtuso fusco-flavifcente, lamellis atro-griseis, stipite fistuloso griseo villoso. Hudson Angl. 619, 36. LXXXI. *aqueosus.*

W A T E R Y A G A R I C.

T A B. LXXI. F I G. I.

THE whole plant, while young, is wrapped up in a soft dawy covering, which breaks and falls off, when the specimen has acquired about half its height; it first vanishes on the pileus, abiding longer on the stem, to which it gives a woolly appearance.

The stem is an inch high, fistular, and of a dusky white.

The gills are in three series, white at first, and turning brown in decay.

The pileus is glutinous, bell-shaped, of a pale dusky yellow, and smooth surface; the whole plant is of a tender, watery, pellucid, substance.

In 1784, specimens of this plant, in an advanced state, were brought me, growing on putrid wood, found under the sprinklings of the stream of *Elm-Cragg-Well*, at *Bell-Bank*, near *Bingley*; and I saw it in the same place, in all its states, in April, 1788.

Agarics, halved, not supported on a central stem.

AGARICUS *substipitatus*, pileo albido levi, lamellis subsimplicibus pallidis stipite laterali. Hudson Angl. 624, 51. LXXXII. *lateralis.*

L A T E R A L A G A R I C.

T A B. LXXI. F I G. II.

THIS plant adheres sometimes by the side of the pileus, sometimes by a short lateral foot-stalk to decaying branches and trunks of trees.

The pileus is convex, smooth, and of a pale dusky buff colour; the size is from one to two inches diameter; the substance tough and elastic.

The gills in young plants simple, in those of older growth bifid; they are numerous, tough, and of a pale brownish buff colour.

The figure on plate 71, is an exact representation of the plant, as it grew on the decaying stock of an elm tree, in August, 1779.

LXXXIII. *AGARICUS acaulis coriaceis villosus margine obtuso, lamellis ramosis anastomosantibus. Sp. Pl. 1645.*
betulinus.

BIRCH AGARIC.

T A B. LXXII. FIG. I.

THIS adheres to putrid wood, sometimes by one side of the pileus, but more frequently by a short lateral foot-stalk, which gradually expands into the substance of the pileus. It grows solitary, or in imbricated clusters.

The pileus circular, but deficient on the radical side; it is shaped just like a leaf of the *Soldonella alpina*; the surface covered with a buff-coloured cottony down; the margin blunt, and rolled in.

The gills very numerous, thin, and narrow; divided and subdivided, in numerous fine and almost imperceptible branches. In old specimens, the margin sometimes becomes lobed and gashed, and the colour changes to a dusky brown.

It is of a tough elastic substance, and abides the year round.—Grows in *Woodhouse-Wood*, &c.

LXXXIV. *AGARICUS acaulis parvis niveis, lamellis simplicibus.—Amanita sessilis, minimus albus. Hall. Hist. 2335.*
fabellatus.

WHITE FAN AGARIC.

T A B. LXXII. FIG. II.

THIS adheres by a claw, like the beak of a bevalve shell, to the stalks of withered plants, or the blades of grass in moist and putrid situations; the upper surface is convex at first, and when magnified appears dawning; when full grown becomes nearly flat and fan-shaped.

The gills are few, remote, and simple. The whole plant is white, and of a tender, watery, pellucid substance.

The specimens here described and figured, I gathered in *Kebroyd-Wood*, in *Soyland*, near the *Book*, in September, 1777; and have since seen it in several like places.

AGARICUS *acaulis erectus planus, lamellis trifidis lanceolatis.* LXXXV.
planus.

F L A T A G A R I C.

T A B. LXXII. F I G. III.

THIS is of a semicircular figure, the margin waved, the surface smooth, of a brownish mouse colour, and marked near the edge with three or four narrow concentric lines, of a darker colour.

The gills are arranged in three series; they are thin, pliable, lance-shaped, and the same colour as the pileus. The substance is soft and tender.

Of this plant I found many specimens, growing erect on the ground, in a steep field by the footway leading from *Elland* to *Mills-Bridge*, in October, 1787.

AGARICUS *acaulis, lamellis labyrinthiformibus.* Sp. Pl. 1648. LXXXVI.

O A K A G A R I C.

T A B. LXXIII.

THIS plant in the first stages of growth is of a circular figure, *a. b.* growing flat, with the gills upwards; the gills at this time are distinct and branched, their sides united by small lateral projections, which are hardly visible to the naked eye: as it advances in growth a part of the side which has adhered to the wood, and is hairy, *c.* gradually separates from it, and takes an horizontal position; after this the horizontal part continues to grow and increase, *d.* the other part serving it as a base: in process of time, the small lateral projections increase in growth, so as to be equal with the gills in height and substance, thereby filling up the interstices, and transforming the gills into oblong pores. It varies greatly in size, from three to ten or twelve inches diameter, is perennial, of a woody nature, and a brownish cork colour; when old the surface becomes smooth, *as at e.* and the concentric circles more eminent.

This plant makes the link by which the *Agarici* and *Boleti* are naturally united; and may with equal propriety be esteemed the last of the one, or the first of the other.

END OF THE AGARICS.

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| Acris | 65 | Elephantinus | 28 | Plumofus | 33 |
| Amethystinus | 63 | Extinctorius | 24 | Politus | 30 |
| Aurentius | 67 | Elasticus | 16 | Piperatus | 21 |
| Aquofus | 71 | F | | Pullatus | 20 |
| Androfaceous | 32 | Fascicularis | 29 | Pompatus | 5 |
| Annulatus | 23 | Fimetarius | 44 | Pulvinatus | 49 |
| B | | Fiffus | 35 | Peronatus | 53 |
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E N G L I S H N A M E S

T O T H E

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| Blue | — — | 12 | Hard | — — | 67 | Shaggy | — — | 42 |
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| Brown-Red | — — | 51 | | I | | Saffron | — — | 51 |
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| Birch | — — | 72 | Irregular | — — | 13 | Shield | — — | 57 |
| | C | | | L | | Spatterdashed | — — | 53 |
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| Cinnamon | — — | 22 | Lateral | — — | 71 | Starred | — — | 65 |
| Clutered | — — | 18 | | M | | | T | |
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A N

Effay towards a Methodical Arrangement

O F

A G A R I C S,

W I T H

References to the *Synonyma*, or Figures of Authors.

Such as are supported on a central stem (stipe), and have the gills (foldlets) branchy.

| Trivial Name. | Plate. | |
|----------------------------------|--------|---|
| <i>Chantarelle</i> - | 62. | G ILLS squat, decurrent ; stem solid, plant gold coloured. <i>Linn. Sp. Pl.</i> 1639. <i>Hudson Angl.</i> 609. |
| <i>Infundibu- liformis</i> } | 34. | Gills squat, grey ; stem trumpeted, plant mouse coloured. <i>Bulliard, P.</i> 208. <i>Ray</i> 19. <i>Schæf</i> 243, 212. |
| <i>Piperatus</i> - | 21. | Gills raised, stem swollen, pileus (hat) funneled, plant white, brittle, milky. <i>Sp. Pl.</i> 1641. <i>Hudson</i> 613, <i>Schæf.</i> 97. <i>Haller</i> 2339. <i>Battarra, T.</i> 17. <i>A.</i> |

Such as have the gills in a single series.

| | | |
|---------------------|-----|--|
| <i>Integer</i> - - | 1. | Plant white, or tinted with bright colours. <i>Sp. Pl.</i> 1640. <i>Hudson</i> 611. <i>Hall. Hist.</i> 2373. |
| <i>Trilobus</i> - - | 38. | Hat chesnut coloured, gills broad outwardly, radical volva large, abiding. |
| <i>Confertis</i> - | 18. | Small, conical, white, growing in numerous clusters. <i>Hall. Hist.</i> 2345. |
| <i>Pullatus</i> - - | 20. | Stem tall, white, fistular; hat at first grey, with a dawny covering, afterwards black, plaited, dissolving; root tapering. <i>Bulliard</i> 88. <i>Scop.</i> 1483. <i>Schæf. T.</i> 100. |

- | Trivial Name. | Plate. | |
|---------------------|--------|---|
| <i>Extinctorius</i> | 24. | Plant white, hat extinguisher-shaped, apex blunt, no curtain. <i>Sp. Pl.</i> 1643. <i>Hudson</i> 617. <i>Hallar</i> 2342. <i>Battarra</i> , <i>T.</i> 27. H. |
| <i>Luridus</i> - - | 25. | Hat smooth, glutinous; gills blue grey, stem solid. I find no apt synonyma. |
| <i>Domesticus</i> - | 26. | Stem white, fistular in bundles; pileus brown, at first having a dawning covering, which abides in fragments. <i>Schæf.</i> <i>T.</i> 17. |
| <i>Fimetarius</i> - | 44. | Hat pyramidal, white, with growing scales; root bulbous, curtain vanishing. |
| <i>Striatus</i> - - | 54. | Hat brown, oval, strongly striated; apex smooth, gills black, curtain vanishing. <i>Vaill. Paris</i> , <i>T.</i> 12. <i>F.</i> 10, 11. <i>Schæf. Fung.</i> <i>T.</i> 67, 68. <i>Hudson</i> , 617. |
| <i>Luteus</i> - - | 50. | Wholly yellow, stems bundled, tapering; curtain vanishing, annulus abiding, hat cottony, rim lobed. I find no agreeable synonyma. |
| <i>Radiatus</i> - - | 39. | Small size, hat first conical, brown, afterwards flat, black, wheel-shaped, with rays. <i>Hudson</i> , 621. I believe this plant to be what he intends by his <i>A. tenellus</i> ; but his synonyma from <i>Pluk. Pb.</i> and <i>Ray Syn.</i> do not belong to it, for they evidently describe a mucor. |
| <i>Clavus</i> - - | 39. | Small size, hard, opaque, pileus orange coloured. <i>Hudson</i> 622. |
| <i>Umbelliferus</i> | 39. | Small, brittle, glutinous, water coloured, base dawning. |

Such as have the gills disposed in two series.

- | | | |
|--------------------|-----|---|
| <i>Laricinus</i> - | 19. | Stems thick, white, united; pileus small, cushioned, annulus dawning, curtain tough. <i>Schæf.</i> <i>T.</i> 25, or <i>T.</i> 74. <i>Battarra Fung.</i> <i>T.</i> 11. B, C, E, F. <i>Hallar Hist.</i> 2445. |
| <i>Politus</i> - - | 30. | Pileus convex, glossy, green; curtain lacerating, gills rust coloured. <i>Curtis T.</i> 309. <i>Schæf.</i> <i>T.</i> 1. <i>Hall. Hist.</i> 2444. <i>Ray P.</i> 6. No. 30. <i>Steerbeck T.</i> 20. G. |
| <i>Rigidus</i> - - | 43. | Pileus dark brown, rim rolled in, wrent, gills gross, brittle, few; stem tall, middle swelling. <i>Schæf.</i> <i>T.</i> 87. <i>Campanulatus</i> |

| Trivial Name. | Plate. | |
|-----------------------|--------|--|
| <i>Campanulatus</i> } | 31. | Pileus belled, plaited, striped; margin tufted, stem tall, curtain vanishing. <i>Sp. Pl.</i> 1643. <i>Hudson</i> , 618. <i>Mich. Gen. T.</i> 75. <i>F.</i> 6. |
| <i>Androsaceus</i> | | |
| <i>Candidus</i> - - | 39. | Pileus convex, substance dry, tough, abiding, on rotten sticks, small size. <i>Hudson</i> , 620. <i>Ray Syn. T.</i> 1. <i>F.</i> 2. <i>Hall. Hist.</i> 3348. <i>Mich. Gen. T.</i> 74. <i>F.</i> 7. |
| <i>Eburneus</i> - | 4. | Small size, pileus flat, whole plant white, tender, pellucid, perishing on the ground. <i>Vaill. Paris, T.</i> 11. <i>F.</i> 22. |

Such as have the gills arranged in three series; having a volva on the root, and a curtain on the stem.

| | | |
|---------------------|-----|---|
| <i>Muscarius</i> - | 27. | Large size, stem tall, root surrounded by a lacerating perishing volva, stem by an abiding curtain; colour of the pileus variable. <i>Sp. Pl.</i> 1640. Though the gills in this species are frequently in two series only, yet as I have several times seen them irregularly interspersed with those of a third, it will more properly arrange with those of three series. |
| <i>Nobilis</i> - - | 46. | Pileus a bright full Scarlet, with a snow-white lacerating epidermis or volva, peculiar to itself, and distinct from that of the root. <i>Steerbeck</i> , 215, <i>T.</i> 22. <i>F. C.</i> |
| <i>Verrucosus</i> - | 47. | Pileus mouse coloured, with wart-like tubercles growing thereon. <i>Hudson</i> , 613. <i>Schæf. T.</i> 91. <i>Mich. Gen. T.</i> 78. <i>F.</i> 2. |
| <i>Vernalis</i> - - | 48. | Plant wholly white, pileus globular, glutinous, shining; root globular. <i>Bulliard, P.</i> 108. <i>Schæf.</i> 241. <i>Jed non viscosus. Hall. Hist.</i> 2353. |

Such as have a radical abiding volva, but no curtain.

| | | |
|---------------------|-----|--|
| <i>Pulvinatus</i> - | 49. | Pileus smooth, mouse grey; margin striated, second and third series of gills cut off at the base, by a right line obliquely. |
|---------------------|-----|--|

Such as are destitute of a radical volva, and furnished with a curtain on the stem.

- | Trivial Name. | Plate. | |
|---------------------|-----------|--|
| <i>Annulatus</i> | - 23. | Pileus bell'd, imbricated with growing scales; curtain abiding, root bulbed. <i>Hall. Hist.</i> 2371. <i>Steerbeck</i> , 77. <i>T.</i> 7. <i>F. A.</i> <i>Ray Syn.</i> 4. <i>Ag. procerus</i> , <i>Hudson</i> , 612. |
| <i>Cristatus</i> | - - 7. | Pileus brittle, lacerating, tufts on the surface, small, upright, growing, curtain vanishing. |
| <i>Villosus</i> | - - 42. | Pileus covered with an hard fox-coloured shag, stem naked, ascending; annulus thick, dawning, abiding; curtain vanishing. |
| <i>Pompeus</i> | - 5. | Orange coloured, root solitary, stem solid, increasing upwards; flesh thick, brittle; curtain lacerating.—I find no satisfactory account of this species. |
| <i>Castaneus</i> | - 10. | Stem white, fistular; pileus chestnut coloured, curtain white, lacerating.—I find no apt synonyma. |
| <i>Irregularis</i> | - 13. | Root solitary, pileus distorted, brown grey, centre beaked; gills broad, stem fistular, curtain grey, vanishing. <i>Bulliard</i> , <i>T.</i> 268. |
| <i>Elasticus</i> | - 16. | Grows in bundles, stem tapering upwards, curtain abiding, plant dry, elastic, snuff-coloured. <i>Ray Syn.</i> 5. <i>No.</i> 23. <i>Hall. Hist.</i> <i>No.</i> 2432. <i>Scopoli</i> , 1468. |
| <i>Durus</i> | - - - 67. | Pileus cushioned or convex, buff-grey; gills very numerous, broad, thin, and grey; stem solid, short, brittle. |
| <i>Fascicularis</i> | 29. | Grows in bundles, stem fistular, cylindrical; hat yellow, fleshless; curtain soon vanishing. <i>Flo. Dan.</i> <i>T.</i> 890. <i>Schæf.</i> <i>T.</i> 49. <i>F.</i> 1, 3. <i>Bulliard</i> , 178. <i>Hudson</i> , 615. <i>Ray</i> , <i>P.</i> 9. <i>No.</i> 50. <i>Steerbeck</i> , <i>T.</i> 25. <i>F.</i> |
| <i>Campestris</i> | - 45. | Pileus fleshy, convex, white, changing brown; gills first rose-coloured, changing brown-speckled; stem solid, curtain thick, white, dawning, vanishing. <i>Sp. Pl.</i> 1641. <i>Hudson</i> , 610. <i>Schæf.</i> <i>T.</i> 33. <i>Hall. Hist.</i> 2443. |
| <i>Violaceus</i> | - - 52. | Pileus with much flesh, violet-coloured, curtain rust-coloured, vanishing, a rust-coloured dawn near the root. <i>Sp. Pl.</i> 1641. <i>Hudson</i> , 611. <i>Hall. Hist.</i> 2455. |

Ciliaris

ARRANGEMENT OF AGARICS.

xxix

- | Trivial Name. | Plate. | |
|---|--------|--|
| <i>Ciliaris</i> - - | 53. | Pileus pale, semioval, rim extended, ciliated; gills grey, base pointed, third series sometimes wanting, stem white, fistular; base bulbed, curtain for a little while pendulous, soon vanishing. Is it the <i>A. Separatus</i> , of <i>Linnaeus</i> ? |
| <i>Glypeatus</i> - | 57. | Pileus convex, beaked, dark mouse colour; first gills broad at the base, and growing to the stem; stem tall, slender, mouse coloured; curtain soon vanishing. |
| <i>Such as have no volva on the root, or curtain on the stem.</i> | | |
| <i>Aquosus</i> - - | 71. | Small size, whole plant at first surrounded with a white dawy covering, afterwards gelatinous, pellucid, watery; gills not touching the stem. <i>Hudson</i> , 691. <i>Vaill. Paris</i> , T. 12. Fig. 56. |
| <i>Plumosus</i> - - | 33. | Pileus and stem wholly covered with little plummy, growing, mouse-coloured tufts. I find no account of this plant. |
| <i>Croceus</i> - - | 51. | Pileus, and lower part of the stem, covered with a close, yellow, dawy pile; upper part of the stem smooth, gills white. |
| <i>Latus</i> - - - | 2. | Pileus large, broad, fleshy, dark mouse colour; gills very broad, not touching the stem; stem solid. |
| <i>Lactifluus</i> - | 3. | Gills narrow, base broad, growing to the stem; substance hard, whole plant a cinnamon-grey, yields a white mild milk. <i>Hudson</i> , 614. No. 14. |
| <i>Denticulatus</i> | 4. | Pileus purple, pellucid; stem grey, gills thin, pliable, brown dents on the edges. I find no account of this plant. |
| <i>Repandus</i> - | 6. | Pileus flat, broad, pale; gills lanced, base lopped, stem fistular, twisted, white, splitting. |
| <i>Cornucopi-</i> | 8. | Stem hard, twisted, in bundles, most decurrent; pileus lobed, tough, red brown. |
| <i>oides</i> } | | |
| <i>Deliciosus</i> - | 9. | Scarlet or orange-coloured, pileus flat, rim inflected, yields a yellow milk, of a mild taste. <i>Hudson</i> , 613. No. 13. |
| <i>Membrana-</i> | 11. | Pileus convex, gills broad, stem fistular, whole plant white, dry, light, flexible, papery. |
| <i>ceus</i> } | | |



- | Trivial Name. | Plate. | |
|---------------------|--------|--|
| <i>Cæruleus</i> - - | 12. | Pileus cushioned, greenish blue, clothly; gills white, brittle; stem white, solid. <i>Viridis</i> , <i>Hudson</i> 614. <i>Hallar Hist.</i> 2444. <i>Sterbeeck</i> , T. 5. Fig. C. |
| <i>Serratis</i> - - | 14. | Pileus strong, full purple, fleshy, clothly, brittle; gills gold-coloured, ferrated; stem gold-coloured, solid, brittle large. I find no account of this species. |
| <i>Concineus</i> - | 15. | Pileus mouse-coloured, glutinous; gills numerous, broad, very white; stem fistular, white. <i>Schæf.</i> T. 14. <i>Hallar Hist.</i> 2381. |
| <i>Umbilicatus</i> | 17. | Whole plant tough, elastic, white; pileus umbilicated, gills few, narrow; stem small, solid. <i>Schæf.</i> T. 39. |
| <i>Cinnamoneus</i> | 22. | Pileus undulated, centre beaked, gills broad, stem increasing upwards, solid; whole of a cinnamon colour. <i>Hallar Hist.</i> 2416. |
| <i>Elephantinus</i> | 28. | Pileus convex, glutinous, pale; gills gross, wax-like, brittle; stem big, soft, spongy, snow white; whole plant in decay changes colour, becomes hard, dry, charcoal-like. I find no description or figure agreeing with this plant. |
| <i>Fissus</i> - - - | 35. | Pileus olive-coloured, dry; apex brown, rim striated, stem tall, striped, fistular, cleaving. I find no account of this species. |
| <i>Rubeus</i> - - | 36. | Whole plant dark red crimson, stem tall, hard; base thick, gills numerous, transparent, beautiful. No true description or figure of this species. |
| <i>Tenuis</i> - - | 37. | Dead white, pellucid, dissolving; stem brittle, dawning at base, very tall, very slender. <i>Bulliard</i> , T. |
| <i>Mollis</i> - - | 40. | Pileus convex, fleshy, pale; gills narrow, decurrent; stem soft, white, solid, bulbed; flesh soft, dry, spongy. |
| <i>Tortilis</i> - - | 41. | Very small, in clusters, brittle, hat red-brown, distorted; gills few, broad, flesh-coloured. <i>A. frigilis Hudson</i> , 620. <i>Schæf.</i> T. 230. |
| <i>Purpureus</i> - | 41. | Pileus and upper part of the stem violet-coloured, lower part and gills white; small size. No account of this. |
| <i>Cespitosus</i> - | 41. | Small, pellucid, horn-coloured, pileus distorted, rim dented, gills few, crumpled; in clusters. <i>Vaill. Paris</i> , T. 11. F. 11. |

Atro-

ARRANGEMENT OF AGARICS. xxxi

- | Trivial Name. | Plate. | |
|---------------------|--------|---|
| <i>Atrorufus</i> | 51. | Small size, dark brown, dry, tough, stem very slender, very tall. <i>Schæf.</i> 234. <i>Ray Syn.</i> P. 8. No. 41. <i>Gld. Fung.</i> P. 127. No. 25. <i>Var H.</i> |
| <i>Ascendens</i> | 55. | Stem ascending, plant dusky brown, hard, dry; gills decurrent, pileus convex, margin contracted, a velvety stripe round its lateral extremity. Is it a variety of <i>A. lactifluus</i> ? |
| <i>Fulvus</i> - - | 56. | Pileus fulvous-coloured, hard, fresh, brittle; stem solid, hard, brittle; base pointed. No account of this. |
| <i>Peronatus</i> - | 58. | Pileus thin, rim waved, lower part of the stem covered with a tall, yellow down. I find no account of this plant. |
| <i>Sordidus</i> - - | 59. | Pileus funneled, sordid brown; stem solid, gills distinct, whole substance tough, abiding. <i>Dickson Crypt.</i> P. 16. T. 3. F. 1. <i>Ray Syn.</i> P. 6. No. 27. |
| <i>Acris</i> - - - | 60. | Pileus grey-buff, shape variable; stem increasing upwards, grey; gills distinct, yields a white milk, of an hot acrid taste. |
| <i>Fimbratus</i> - | 61. | Pileus funnel-shaped, margin lobed, undulated, curled, crenated, elegant; gills narrow, distinct; stem short, whole plant pale, pellucid, thin, watery. <i>Sterbeeck,</i> T. 15. B. |
| <i>Mammosus</i> - | 62. | Pileus grey, brittle, highly beaked; gills waved and crenated; stem tall, grey, solid. <i>Sp. Pl.</i> 1642. <i>Hudson,</i> 619. |
| <i>Ametbystus</i> | 63. | Plant an amethyst purple, pileus, distorted, fleshless; stem tall, crooked; gills few, brittle, waved, distorted; these and stem, bloom powdered. <i>Hudson,</i> 612. |
| <i>Farinaceus</i> - | 64. | Pileus convex, distorted, pellucid; gills few, gross, waved; stem crooked, tall; whole substance pellucid, watery, of a pale brown carnation colour, powdered with a pale bloom. <i>Hudson,</i> 616. <i>Scopoly,</i> 1530. <i>Hall. Hist.</i> 2436. |
| <i>Equestris</i> - | 65. | Pileus convex, starred; rim acute, gills sulphur-coloured, stem thin, fistular, smooth, pale, yellow. <i>Hudson,</i> 616. <i>Sp. Pl.</i> 1643. |
| <i>Varius</i> - - | 66. | Pileus semioval, brown, grey, or black, varying; gills deep grey, stem fistular, filiform, tall, white. |

Cuspidatus

- | Trivial Name. | Plate. | |
|-------------------|---------|---|
| <i>Cuspidatus</i> | - 66. | Pileus acutely cone-shaped, red brown, smooth; stem smooth, tall, red-brown; gills pale, buff. |
| <i>Aurentius</i> | - 67. | Pileus cherry-coloured, glutinous; gills few, broad; base pointed, yellow; stem distorted, yellow; whole plant extremely fragile. <i>Lighthoot, Scot.</i> 1035. |
| <i>Laceratus</i> | - 68. | Whole plant pale yellow, very brittle; pileus lacerating, gills very few, very broad outwardly; base pointed, stem fistular, twisted, splitting. |
| <i>Nuceus</i> | - - 70. | Pileus globular, nut-brown, silky, top naveled; rim lobed, much rolled in; stem tall, white, fistular, tapering upwards. |

Such as are not supported on a central stem.

- | | | |
|--------------------|---------|---|
| <i>Lateralis</i> | - 71. | Pileus convex, smooth, dusky yellow; gills in two series, on rotten wood. <i>Hudson, 624. Ray Syn.</i> 25. <i>Hall. Hist.</i> 2337. |
| <i>Betulinus</i> | - 72. | Pileus dawning, margin rolled in, gills branched, substance elastic, grows in clusters or single, perennial. <i>Sp. Pl.</i> 1645. <i>Hudson</i> 623. <i>Ray Syn.</i> 24. <i>Hall. Hist.</i> 2331. |
| <i>Planus</i> | - - 72. | Flat, mouse-coloured, growing on the ground, surface smooth, gills in three series, distinct. <i>Hall. Hist.</i> 2334. |
| <i>Flabellatus</i> | - . | Small, white, fan-shaped; gills few, simple, on putrid plants. <i>Hall. Hist.</i> 2335. |
| <i>Quercinus</i> | - 73. | Hard, woody, large, brown, perennial, at first gill'd, at last pored, on the under side. <i>Bulliard, 352. Battersarra, T.</i> 38. G. |

A N
HISTORY OF FUNGUSSES,
GROWING about HALIFAX.

G E N U S II.
B O L E T U S.

M

- LXXXVII. BOLETUS *acaulis lignosus, poris obliquis rostratis inequalibus obliquus. basi adhaesius.*—*Agaricus acaulis coriaceus, lamellis simplicibus sinuatis.* Hudson, 623. *Agaricus coriaceus longissimus pectinatim inferne divisus.* Ray Syn. P. 25, No. 26. T. 1. F. 5.

O B L I Q U E B O L E T U S.

T A B. LXXIV.

THIS consists of a vast number of oblique unequal pores, which run together at their base, and form an hard, woody, or coriaceous crust, which strongly adheres, by its whole breadth, to the branches of trees, when fallen, or in a state of decay; it insinuates itself into the substance of the dead bark, so as to become inseparably united therewith, *as is seen in the upper figure at a.* sometimes when old it passes quite through the bark, incorporating it into its own substance, and even enters into the wood.

It grows in patches various in size and figure, sometimes round or oval, but more frequently of no determinate shape. The tubes round the margin are smaller, and of a darker colour; they are obliquely placed, and most commonly rent, broken, or deficient on one side; they generally increase in length, from the margin to the centre of the plant. The colour varies from white, by way of buff, to browns of various hues, and becomes almost black in decay. A small part of the plant, as it appeared when a little magnified, is seen at *c.*

Grows in many woods about *Halifax*, and is perennial and abiding.

BOLETUS *acaulis suberosus imbricatus flavus lævis, poris minutis teritibus.* Lightfoot Scot. P. 1031.—*Boletus acaulis coriaceus convexus lobatus flavus lævis, poris tenuissimis.* Hudson Angl. 625. Schoeffer Fung. 131. LXXXVIII. *tenax.*

TOUGH BOLETUS.

T A B. LXXV.

THIS grows horizontally, on the sides of trees, most commonly on living wood, in some cavity occasioned by the lopping of a branch, or some other accident; it first appears like a large unequal tumour, of mixed colours; as it advances in growth, it begins to unfold and display a number of thick tough lobes, which are imbricated, or rather folded one within another; for they are nearly of equal length, and adhere at the base, so as to be united into one substance.

The upper surface is convex, soft and smooth to the touch, and of a brownish gold colour; sometimes pale, sometimes of a redder hue: on the underside the lobes are convex near the base, but flat near the extremity. The substance is tough and coriaceous, while in a growing state; left on the tree, it dissolves in decay; dried, it becomes light, hard, and brittle.

The tubes are cylindrical, very numerous, and of a yellow colour.

It is a rare plant in this neighbourhood; the specimen here figured and described, grew in a little wood at *Sbibden-Hall*, near *Halifax*, in August, 1786.

LXXXIX. BOLETUS *acaulis lobatis coriaceis, lobis linguiformibus.*
elegans.

ELEGANT BOLETUS.

T A B. LXXVI.

THIS elegant plant grew in an upright direction; it consisted of ten or twelve principal lobes, which united near the root, and formed a kind of thick irregular stem, of a blackish colour, and an hard tough substance; these first or principal lobes increase in breadth, from the base to the extremity, where each is subdivided into three or four other lobes, of a roundish tongue-shape, blunt at the end, and a little waved on the edges.

Of the primary divisions or lobes, those in the centre are the shortest, those on the outside longest; so that the whole plant together forms a rude kind of funnel-shape. The upper surface appears to the eye to be a little scaly, but is smooth and velvety to the touch, and varies from a dusky brown to a kind of cinnamon colour.

The tubes, *at B.* are small and very numerous, the pores round and white; while young they appear as if covered with a fine white velvety dust, but on being touched immediately lose the white, and change to a dirty brown. The internal substance, *at A.* is thin, white, and extremely tough; it easily divides in fine filaments, from the top of the lobes quite down to the root; which filaments immediately after their division, on being irritated, seemed to exhibit motions just like those of a muscular fibre.

This plant grew amongst the fragments of a decayed elm root, in *Cross-Field*, at *Halifax*, in August, 1786, and again in the same place in July, 1788. I find no description or figure properly expressive of this species. *The figure in Battarra, T. 34. Fig. B. which Hudson cites for the Boletus coriaceus, somewhat resembles my plant. Hudson's B. coriaceus is the same with my B. tenax, but I think that my tenax and elegans are distinct species.*

BOLETUS *subacaulis planiusculus lacerato-squamosus flavescens*, XC.
poris tetragonis. Hudson Angl. 626.—Boletus juglandis. squamosus.
Schæf. Fung. T. 101, 102. Auricula flammea malchi. Ster.
Fung. P. 105. T. 13, 14. Fig. omn.

SCALY BOLETUS.

T A B. LXXVII.

THIS grows from the sides of trees, in a drooping direction, sometimes in vast imbricated clusters of various sizes, from six to twelve inches in diameter, and adhering to the tree by one side, without any visible footstalk; sometimes there is a visible root, as in the plant before me.

In this specimen there is a root, consisting of a roundish lump, the size of a cat's head; it is of a firm, compact, tough substance; white within, and a dusky brown on the outside: on being cut it yields in drops from the wound, a transparent fluid, acrid to the taste; from the root the stem contracts for about an hand's breadth, and then gradually spreads out into the substance of the plant.

The surface is of a pale yellowish brown colour, with numerous feather-like scales, which adhere to the surface, and are arranged in a kind of wild concentric circles. The root sustained one principal plant, and two others much smaller, issuing out of the neck or footstalk of the large one, as expressed in the figure. The large one measured from side to side, in the broadest part, twenty-two inches; from the base of the root to the extreme margin twenty-four inches; the internal substance is white, spongy, and greedily devoured by the *larvæ* of insects.

The pores are very large and angular, consisting of an unequal number of sides, the tubes short and shallow.

This specimen grew on an ash tree, in *Skircoat*, near *Halifax*, July 24, 1787.

- XCI. BOLETUS *acaulis pulvinatus lævis, poris oblongis.* Hudson
albus. 626.—*Boletus acaulis pulvinatus lævis, poris oblongis et ro-*
tundis. Lightfoot Scot. 1036.—*An poliporus sessilis convexo-*
planus farinosus. Hall. Hist. 2287?

W H I T E B O L E T U S .

T A B. LXXVIII.

THIS plant adhered by its base to the root of a poplar tree, which was in a decaying state.

It is convex on the upper side, and about an inch in thickness near the base, growing thinner to the margin;—the convex part near the root is of a reddish colour, the rest of a pure white, and appears to the eye as if it were rubbed with chalk. A portion of the surface, when magnified, appeared to be covered with a short velvety dawn, which glittered like silver;—when the white dawn or powder was rubbed off, the surface was of a pale dusky flesh colour. The margin is lobed, curled, and undulated, in a very pleasing manner. The substance of the plant, within, is of a pale dusky flesh colour, tough, and elastic.—One of the specimens before me, measures six inches from side to side, and near four from the base to the fore margin; another is little more than half that measure.

The tubes are about two lines in length, they adhere together by their sides, are of a tough coriaceous substance, and variable in size and figure. The pores very unequal; some round, others oblong or angular, some are long and waved, some large, others small; but all of equal height.

This specimen grew on the root of a fallen poplar, at *Copley-Hall*, near *Halifax*; it grew near the surface of the ground, and surrounded, with its substance, the grasses and weeds that grew in its way.

BOLETUS *acaulis lævis, carnosus sanguineus mollis obscure lobatus.* Lightfoot Scot. 1034. Hudson Angl. P. 625. *hepaticus*, No. 5.—*Poliporus sessilis sanguineus crassus mollis obscure lobatus.* Hall. Hist. 2315.—*Agaricus porosus rubeus carnosus hepatis facie.* Ray Syn. P. 23. No. 21. Mich. Gen. T. 60. Ord. 1. Battara, T. 34. Fig. A. XCII.

L I V E R B O L E T U S .

T A B. LXXIX.

IT grows horizontally, in the cavities of living oak trees, adhering by a narrow base, and spreading out on each side, assumes an almost circular figure. The margin gently waved. The surface is liver-coloured, very smooth, and cold to the touch: in some specimens there is a tinge of green mixed in the hue, especially in the larger plants. It is convex near the base, on the upper side, but flat towards the margin:—the under side is more flat towards the base, convex and projecting at the margin. The substance or flesh, within, is of a firm close texture, of a liver colour, with veins and spots of white.

The tubes are cylindrical, very numerous, about three lines in length, of a pale yellow colour; as are also the numerous pores.

This is said to be of the esculent kind; I have found it to taste almost like lamb's flesh, but how far it is to be trusted I know not.

The specimen now described, grew in an hollow cavity in the stock of a living oak tree, in the *Sbroggs*, in *Ovenden*, near *Halifax*, October 27, 1785.

- XCH. BOLETUS *acaulis pulvinatus lævis, poris tenuissimis.* Sp. Pl. igniarius. 1645. Hudson *Angl.* 625. *Poliporus convexo-planus durissimus cinnereus, infern albidus.* Hall. *Hist.* 2288. *Agaricus pedis equini facie,* Tourn *Inst.* P. 562. T. 330. Fig. A, B. Battarra, T. 37. E. *Agaricum igniarium, agarici officinalis facie.* Mich. *Gen.* P. 118. T. 61. Fig. 1. *Boletus unguulatus fulvus et variegatus.* Schæf. *Fung.* 137, 138. *Fungus durus igniarius.* Park, 1323.

TOUCHWOOD BOLETUS, Spunk.

T A B. LXXX.

THIS grows horizontally, from the sides of trees; its first appearance is in form of a convex tubercle, the size of a pea; it is then of a soft and yielding substance, and of a yellow colour: this globular or convex figure it retains, till it acquires the size of a small wilding apple or crab; it is now more firm, of a darker colour without, but still yellow within; and the tubes are not yet formed: as it advances in growth the base spreads laterally, a margin begins to project, and the tubes begin to grow on the under side; they are so very fine and close, that the pores cannot be discerned by the naked eye; while fresh they are of a yellowish colour. The upper surface is of various colours, sometimes disposed in concentric circles, grey, brown, dusky, &c. The circles a little elevated, and the margin very blunt.

When the plant is full grown, the tubes are near half an inch in length, of a reddish brown colour, and an hard, dry, woody substance, as is the whole plant; it is perennial, growing and increasing from year to year.

This specimen grew on the stock of a cherry tree, in *Southowram*, near *Halifax*.

BOLETUS *acaulis fasciis discoloribus poris albis*, Sp. Pl. 1645. XCV.
Hudson Angl. 626. *Schæf. Fung. T.* 136. *Poliporus fest-*
ilis cespitosus planus hirsutus anulis versicoloribus. Hall. *versicolor.*
Hist. 2282. *Fungus mesentericus.* *Sterb. T.* 27. K. *Fun-*
gus lignosus roseus variegatus. *Boccone, P.* 295. *T.* 8.
No. 5. Agaricus squamis iridiformibus. *Battarra, T.* 35. A.

STRIPED BOLETUS.

T A B. LXXXI.

THIS plant, like the last, when young, adheres by its whole breadth to decayed wood or bark, having the hairy side downwards and the pores upwards. I have specimens which grew in a moist situation, upon wet wood, which grew to their full size in this manner; they are two or three inches diameter, about half an inch thick, and of a milk white colour in every part; they have not the least appearance of hairiness or dawkiness on either side. In another specimen, the plant has formed itself into a firm solid lump, suited in shape to the cavity of an old beam, wherein I found it growing, and is nearly the size of a man's fist.

The most common manner of its growing, is like the *Boletus auriformis* and *Agaricus quercinus*; to separate from the wood except on one side, to become horizontal, and to grow and increase in that direction:—what is now become the upper side is covered with a close, short, velvety down, of various colours; amongst which, a purplish kind of lead colour generally prevails, or forms the ground-work; upon this are concentric stripes, of various browns, gold colour, green, or purple; the whole in decay changes to a dirty green, or greenish brown.

The pores are cream-coloured or white, sometimes round and very small, at other times angular and more large. The tubes very short.

Grows in woods about *Halifax*, plentifully.

XCVI.
auriformis.

BOLETUS *acaulis imbricatus tenuis coriaceis, superne villosus, inferne planus. Helvella acaulis. Hudson, 633. Helvella villosa. Relban, 463. Auricula reflexa. Bulliard, Pl 274. Agaricus villosus tenuis, inferno lævis. Ray Syn. P. 21. No. 4.*

E A R L I K E B O L E T U S.

T A B. LXXXII.

THIS plant at first grows flat, adhering by its whole breadth to the bark of the dead branches or stocks of trees; it is most frequently of a circular figure, the upper side quite smooth, and of a brownish yellow, afterwards the under side, which is very hairy, begins to rise, and separate itself from the bark; sometimes the whole margin rises, and the plant rests on a central base, *as at c.*—but more frequently it is raised on one side only, the adhering part serving as a base or root to the part which is separated, and which turns to an horizontal direction, grows, increases, sends out other specimens from its extremities, in a double or imbricated order, and continues from year to year, *as at e.*—the upper side (which, by the bye, was the under in the infancy of the plant) still continues covered with a short stiff coat or shag, which while the plant is young is generally of a yellowish buff, and is marked with concentric lines of other colours; but when old changes to an hoary grey, the circles a little darker: the under side changes to a dark chestnut brown. A small particle, *as at a.* is magnified at *b.* the shag consists of filaments, divided, subdivided, and very much entangled: I sought for seeds, but could discover none.

I have placed this plant amongst the *Boleti*, because it coincides in substance, manner of growth, and in the whole habit, with the first division of that genus.

A certain characteristic of an *Helvella* is this, that when of proper age, on being gently irritated, it will eject a fine powder, in form of smoke; a property which is wanting in this plant.—It possibly may, though very rarely, produce seeds like its congeners:—we see plants of the same class which grow in great plenty, and yet their fructifications are very rarely discovered, as the *Lichen physodes, furfuraceus, &c.*

BOLETUS *petiolatus lateralis*, pileo coriaceo pallide-luteo, margine acuto, poris tenuissimis. *Agaricus squamosus glaber. lateralis.* Battarra, P. 68. T. 34. A. XCVII.

L A T E R A L B O L E T U S .

T A B. LXXXIII.

THE root in this Boletus is black, hard, and of a woody substance. The stem gradually increases upwards, till it laterally spreads out into a pileus, of a circular figure, only deficient on the side where the stem loses itself in its substance; and in well grown specimens, the two opposite margins on the defective side increase, so as to touch each other.

The pileus from one to two inches diameter, flat, and quite smooth on the surface; the margin gently waved in some specimens, in others plain, in both very thin and acute; the colour on the upper side is exactly like the leaves of trembling poplar, when they turn yellow, and fall; the substance much resembles tanned neat's leather.

The pores are round, and very minute, so as not to be discerned by the naked eye in the largest specimens. The tubes are about a line in length; when magnified a little, I found them to be cylindrical, and their disposition very regular and beautiful. The colour of the pores is a little paler than that of the pileus.

Specimens of this, I gathered on the stump of a fallen willow tree, below *Woodhouse*, near the river *Calder*, in August, 1787. I have seen old specimens elsewhere, of a dark dusky brown colour, and of a substance as hard and firm almost as oaken wood.

Such as are supported on a central stem.

- XCVIII. BOLETUS *stipitatus*, pileo pulvinato subviscido, poris rotundalis convexis flavissimis, stipite albido. Sp. Pl. 1647. Hudson Angl. 627. Schæf. Fung. T. 103. Ceriomyces pileo fornicato. Battarra, T. 29. Fig. C. Boletus luteus. Dillen. C. Gifs. T. 10. No. 1. Fungus porosus autumnalis viscidus. Buxbaum, Cent. 5. T. 14. Fungus ranarum. Sterb. T. 17. I. M. Hedwig Crypt. T. 36. Fig. 210.

YELLOW BOLETUS.

T A B. LXXXIV.

THE root consists of a tuft of dawy fibres, issuing from the base of the stem, by means whereof the plant adheres firmly to the ground.

The stem is solid, spongy, generally largest near the root, and three or four inches high; the colour is variable, in some specimens of a pale, in others of a deep yellow; sometimes olive-coloured, or dusky; in full grown plants frequently strongly tinged with a fine bright crimson or blood colour, on the upper part, which is lost on the lower, where it becomes dusky or brown, olive, straw colour, or green.

The curtain is of an extremely tender and delicate texture, and vanishes almost as soon as the rim of the pileus separates from the stem; sometimes, however, I have seen it in plants of an advanced growth, as is expressed in the plate. The tubes are cylindrical, longest in the middle, where they adhere to the stem by their sides. The pores are round, and of a bright yellow, turning to a dirty green in decay.

The pileus is cushion-shaped, at first glutinous and yellow, changing in its progress to olive, dusky brown, and various other hues; the flesh is of a pale yellow, thick, brittle, and spongy.

Grows in woods about the roots of trees, in July and August; it is the most early of the autumnal *Fungi*.

BOLETUS *stipitatus*, pileo glabro pulvinateo marginato, poris XCIX.
compositis acutis porulis angulatis brevioribus. Sp. Pl. 1646. *bovinus.*
Hudson Angl. 627. *Scop. Corn.* 1586. *Schæf. T.* 103.
Hall. Hist. 2302. *Mich. Gen. P.* 127. *T.* 68. *F.* 1.
Ceromyces crassus. *Battarra Fung.* 62. *T.* 29. *Fig. A. B.*
Fungus porofus crassus. *Ray Syn. P.* 11. *No.* 2. *Caput*
Bufonis. *Sterb. P.* 181. *T.* 17. *Fig. G. G.*

BROWN BOLETUS.

T A B. LXXXV.

THE root consists of a tuft of black fibres, issuing from the base of the stem.

The stem is at first globular, hard, and solid; as it advances in growth it becomes oblong, and in some specimens nearly cylindrical, and about three inches high: it is often beautifully reticulated with capillary veins, of a dark red colour, especially towards the root; the colour is generally a red brown. I never could discover any curtain upon this plant.

The tubes are round, the thickness of an hog's bristle, very closely arranged; they are of a pale yellowish colour. The pores are round, much smaller than in the last species, and of a strong fulvous brown colour. In this species the tubes, *at B.* are longest in the middle, between the rim of the pileus and the stem, growing shorter both outward and inward, and do not, as in the Yellow Boletus, adhere to the stem, or even touch it.

The pileus is convex, the margin acute, the colour varies from dark brown to fulvous, fawn colour, or buff of various hues; the internal substance is a greenish white, but on being cut, or broken, instantly changes to a dark blue colour.

This is a more rare plant in this neighbourhood, and does not appear till September. I am sorry to find in a late English Author, that some of the characters which belong to this plant, are mistakenly applied to the Yellow Boletus.

c. BOLETUS *stipitatus, pileo parvo convexo glabro, poris tenuissimis
 procerus. numerosis albidis, stipite longo medio crasso.*

T A L L B O L E T U S.

T A B. LXXXVI.

THE root consists of numerous fibres, issuing from the base of the stem. The stem is obtusely pointed at the base, from whence the lower part greatly increases in thickness, for the space of an inch or two, and then gradually decreases again to the top. The colour is a pale dusky olive; the substance hard and brittle; the height five or six inches.

The pileus is at first globular, afterwards becomes semioval, or highly convex; the surface is smooth, dry, and to the touch feels like fine cloth; it is of a pale dusky olive colour; the flesh white and brittle. The tubes are cylindrical, very fine and white; the pores white, and so minute as not to be discerned by the naked eye. In decay the whole turns to a dirty brown, and dissolves in a turbid gelly.

This is a rare species; the specimens here figured, I gathered in *Woodhouse-Wood*, and I have seen the plant in several other places about *Halifax*.

I find no description or figure which agrees exactly with this plant. Is it a naked variety of the *Fungus cineræ formæ*, Artichoke mushroom, of PARKINSON, *P.* 1324. *No.* 25. which he says grows at *Ripton*, near *Ashford*, on *Bromley-Green*, &c. and which is well figured by my ingenious friend DICKSON, in his *Pl. Crypt. Fas.* 1. *T.* 2. *F.* 2?—I have sometimes observed a faint resemblance of scaliness on the stem of my plant, but the pileus is constantly smooth from first to last.

BOLETUS *stipitatus*, pileo flavo subtomentoso, poris subangulatis CI.
deformibus fulvis planis, stipite flavo. Sp. Pl. 1647. Poliporus carne secedente petiolatus, pileo villosa cervino poris subtomentosus.
albidis. Hall. Hist. 2311. Fungus porosus tenuis coriaceus.
Buxbaum Cent. 5. T. 15. Fig. 1.

WOOLLY BOLETUS.

T A B. LXXXVII.

THIS pretty Boletus has an hard compressed root, emitting numerous black fibres.

The stem is of a reddish brown, an inch or an inch and a half high, often compressed or sulcated, and of a tough, hard, dry, leathery substance.

The pores are small and angulated, but not of equal figure; their margins are jagged or laciniated, and of equal height, which gives an appearance of woolliness to the under side of the pileus: the colour is a bright fulvous brown. The tubes, *at B.* are about a line and half in length, and constitute almost the whole thickness of the pileus; they are tough, and firmly united together by their whole length. They are represented *at A.* as they appeared when a little magnified.

The pileus or coat, to which the tubes are affixed, is very thin, *as at B.* of a tough, hard, vellumy substance; of a fulvous brown on the upper side, and appears to the eye as if covered with short silky filaments closely combed down, from the centre to the margin; but which, in fact, are rather fine almost imperceptible *stria*, inseparable from the surface: the margin is ciliated with brown hairs, and the surface marked with four or five concentric stripes of a darker colour.

It is a rare plant here. The specimens from which this description and these figures are taken, grew in *Robin Hood's Scar*, in *Scutthorram*, near *Halifax*, in September, 1784.

A N

HISTORY OF FUNGUSSES,
GROWING about HALIFAX.

G E N U S III.

H Y D N U M.

- CII. *HYDNUM stipitatum, pileo convexo imbricato. Sp. Pl. 1647.*
imbricatum. *Hudson Angl. 628. Flora Danica, T. 176. Erinaceus*
esculentus albus crassus. Mich. Gen. P. 132. T. 72. Fig. 2.
Echinus petiolatus albicans superne squamosus. Hall. Hist.
2324.

IMBRICATED HYDNUM.

T A B. LXXXVIII.

THE root consists of a few fibres, issuing from the club-shaped base of the stem.

The stem is white, solid, gross, brittle, of a spongy substance, and three inches high;—in full grown plants the thickness of one's thumb, and sometimes a number of stems adhere together by their fibrous bases.

The under side of the pileus is thickly set with soft prickles, pointing downwards; these are white, and of various lengths, from one to three or four lines; they are of a tender, soft substance.

The pileus is at first smooth and globular, afterwards becomes convex, sometimes lobed, and gashed on the margin, the sides of the lobes lying over each other; but more frequently only waved or undulated at the margin. I have not found the surface to be much scaled or imbricated, though I have been long acquainted with the plant. The pileus thick and fleshy; and the whole plant is white, and of a brittle, spongy substance. The figures in *Vaill. Paris, T. 14. Fig. 6, 7, 8.* seem to have been taken from this plant.

Grows in a deep narrow lane, by which you ascend the wood at *North-Dean*, near *Halifax*, in September and October.

HYDNUM *stipitatum*, pileo convexo lævi flexuoso. *Sp. Pl.* 1647. CIII.
Hudson Angl. 628. *Echinus petiolatus subrufus*, petiolo *repandum.*
levi, *Hall. Hist.* 2325. *Erinaceus coloris pallide citrei.*
Dillen. C. Gifs. P. 188. *T.* 1. *Erinaceus esculentus albus*
crassus. Mich. Gen. P. 132. *T.* 72. *Fig.* 3. *Hedwig*
Cript. T. 37. *Fig.* 212, &c.

FLAT HYDNUM.

T A B. LXXXIX.

THE root is fibrous; the stem solid, brittle, crooked or bowed, nearly of equal thickness, of a pale cinnamon colour, four or five inches high, and often inserted into the pileus, towards one side, or not justly in the centre. The stems frequently rise in clusters of four or five, adhering by the bases, and sustaining plants of various sizes, which press upon each other, and thereby become much distorted.

The soft spines or prickles underneath, are almost always placed obliquely, so as to lay over one another in an imbricated order; sometimes they are simple, sometimes divided; constantly of a bright cinnamon colour, and a soft brittle substance.

The pileus is flat and smooth, feels to the touch like vellum; the rim rudely lobed, sinuated or laciniated, and constantly of a pleasant bright cinnamon colour; the fleshy or internal part, is white and brittle.

This plant grew in great abundance in *Lee-Bank-Shroggs*, in September, 1786; where I gathered the specimens here figured and described.

In one specimen, I observed a dawny matter adhering to the stem and spines; which looked like the fragments of a curtain, but I could not be certain that it was such.

- CIV. *auriscalpum.* HYDNUM *stipitatum pileo dimidiato.* Sp. Pl. 1648. Hudson
Angl. 629. *Echinus petiolo gracili laterali, pileolo plano*
obsuro. Hall. Hist. 2321. Ross Elem. T. 3. Fig. 2. b.
Buxbaum Cent. 1. T. 57. Fig. 1. Mich. Gen. P. 132.
 T. 78. Fig. 8. Schæf. Fung. T. 143. *Boletus pileo or-*
biculari, &c. Gleditsch, P. 74. No. 7.

E A R P I C K H Y D N U M.

T A B. X C.

THE stem is bulbous or swollen at the base, where it adheres to the decaying cones of fir, without any visible radical fibres; from the base the stem gradually diminishes in thickness, sometimes it is divided into two or three branches or divisions, each whereof sustains its own proper pileus; it is covered, from the base almost to the top of the stem, with upright, stiff, brown hairs, is of a dark fuscous brown colour, and a tough dry elastic substance; the height in a full grown plant about two inches.

The pileus is sometimes circular, but more frequently oblong, semicircular, or kidney-shaped. The stem often placed out of the centre, sometimes at one side; it is flat or convex, the centre sometimes elevated, sometimes depressed, always of a dark brown colour, and a dry tough substance; the under side a little paler; the spines are dry, tough, hard, unequal in length, and of a brown colour.

Grows under fir trees, in plantations about *Halifax*, in August and September.

In a natural arrangement, will not the *Hydni* and *Boleti* touch each other, between this plant and the *Boletus tomentosus*?

A N

HISTORY OF FUNGUSSES,
GROWING about HALIFAX.

G E N U S IV.

P H A L L U S.

PHALLUS *pileo ovato celluloso, stipite nudo rugoso. Sp. Pl. CV.*
1648. *Hudson Angl.* 629. *Boletus capite tereti reticulato. esculent.*
Hall. Hist. 2247. *Mich. Gen.* 203. *T.* 85. *Fig.* 1. 2.
Tourn Inst. P. 561. *T.* 329. *Fig. A.* *Battarra. P.* 24.
T. 2. *Fig. F.* *Sterb. Fung. P.* 92. *T.* 10 *Fig. omn.*
Fungus favigonosus. Ray Syn. 11. *No.* 7. *Park. Theat.*
Ger. Emp. 1583.

ESCULENT PHALLUS or MORELL.

T A B. XCI.

THE stem is hollow and wrinkled, contracted or purfed at the base, where it emits a few radical fibres; it is two or three inches high, of a smooth but unequal surface, being frequently distorted, and having many deep furrows and alternate ridges. The substance of the stem is extended all over the inside of the pileus, and makes the lining or inward surface of the whole cavity:—here it is white, wrinkled, and dusted over with a soft mealy powder.

The pileus is generally of an oval figure, sometimes globular or compressed, and varies greatly in size and colour, according to soil and situation; it is most commonly of a pale yellowish brown or buff, changing to a dark dusky colour in decay. The surface is cellular, wrinkled, and latticed; the cells exhibiting a great variety of unequal figures.

Grows in sandy meadows, about the river *Calder*, but rarely. It is greatly esteemed as an esculent.

- CVI. PHALLUS *volvatus stipitatus, pileo albo celluloso, apice pervio.*
impudicus. Hudson *Angl.* 629. *Phallus volvatus stipitatus pileo celluloso.*
Sp. Pl. 1648. *Sterb. Fung. T.* 30. *Fig. A, D, B, C.*
Mich. Gen. T. 83. *Hall. Hist.* 2248.

STINKING MORELL.

T A B. XCII.

THE root consists of one principal fibre, the size of a pack-thread, and about a span long; it is soft, flexible, white, and emits a few other capillary fibres from its sides.

When the plant first appears above ground, it is of the colour, shape, and size of an hen's egg, *as at a.* soon after, the outer skin or soft shell breaks at the summit, and begins gradually to slide down and discover a thick coat, of stiff, glewy, pale coloured, transparent jelly, *b.* in the space of an hour this jelly slides down to the root, in great wrinkles, and discovers another volva, *c.* which is divided, about half way down, into three thick white, obtuse lobes, which gradually give way to a conical pileus, that makes its appearance in the space of an hour.

The pileus, *d.* is at first thickly covered with a shining substance, of a blackish green colour, which rubbed between the fingers, looks like a moist soft powder, and which soon begins to melt, and fall off, in a thick, black, turbid, intolerably foetid gelly; by this time the stem, *g.* has acquired its proper height, four or five inches; it is hollow and smooth within, its substance cellular, light, and spongy. The pileus also, after the discharge of the gelly, becomes cellular and white; but these cells are much larger than those in the stem; the inside is smooth, and lightly adheres to the stem, at its apex: at last the stem becomes loose in its own proper socket, *b.* falls and becomes the food of insects.

In the cavity of the stem, adhering to the top, and appearing as if enclosed in a membrane, hangs a piece of pellucid gelly, of a stiff, but rather trembling substance, *as at i.*

I watched the progress of this plant on the 20th of September, 1776, when this description was written.

Grows in woods and hedges about *Halifax*, but rarely.

I N D E X,

O F T H E

T R I V I A L N A M E S after the A G A R I C S,
in this Volume.

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E N D O F V O L. II.

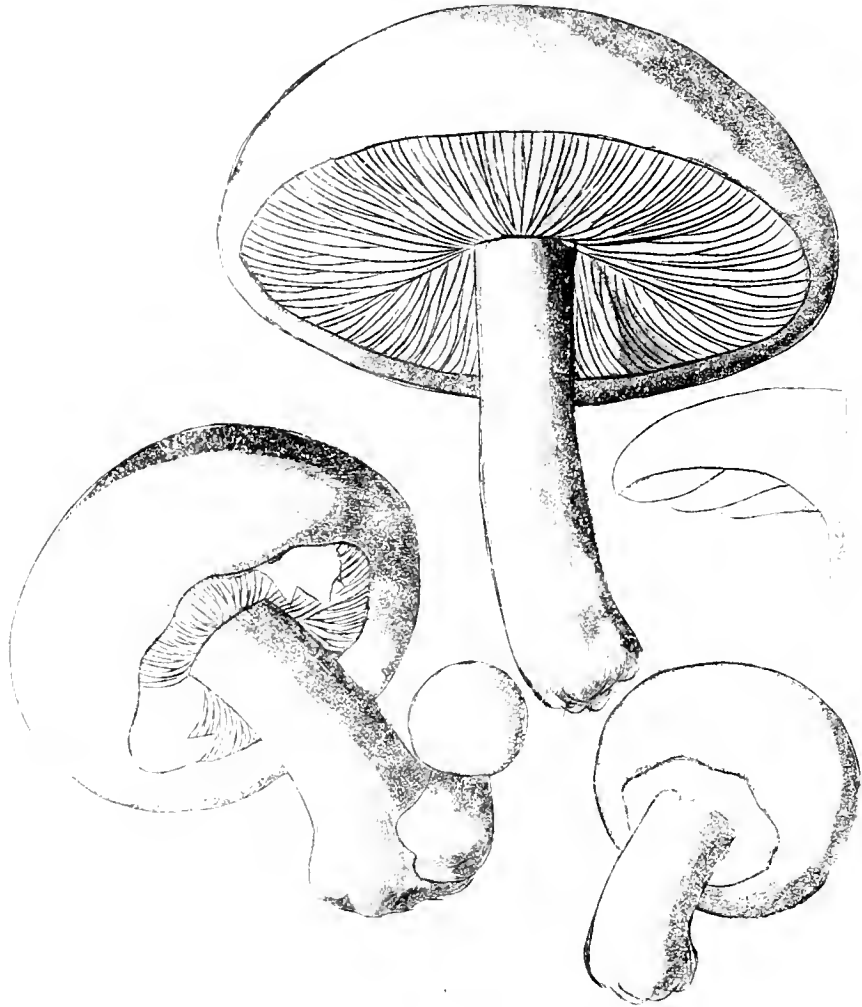
E R R A T A.

INTRODUCTION. Page 24. line 34. *rent.*—27. 11. a comma after *perishing.*—29. 13. for 56. 5, 6.—
30. 4. after *strong* erase *comma.*—32. 2. after *pale* erase *comma.*—IN THE BOOK. P. 55. in margin,
adscendens.—63. 13. *rent.*—68. 1. *flavo.*—84. 2. *rotundatis.*—IN VOL. I. INTRODUCTION. P. 16.
l. 10 read *synonyma of present Authors.*

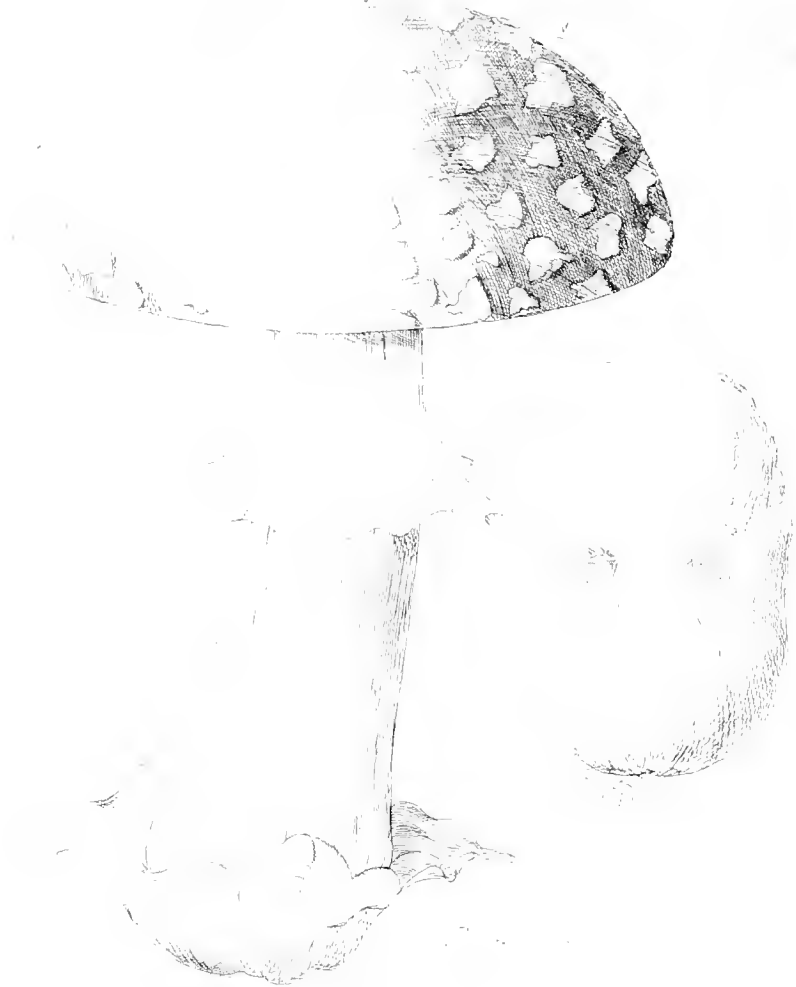
The plants of the order of *Fungi*, afford food to many species of insects; the gills of *Agarics*, and the tubes of the stalked *Boletusses*, are greedily devoured by snails; while the solid or fleshy parts afford both food and habitation to the *Larvæ* of numerous species of flies, both of the *Diptera* and *Coleoptera* classes. Some of these *Larvæ*, when sufficiently fed in the fleshy parts of the plant, make their way down the hollow of the stem into the ground, where they swathe themselves, and remain in the *Pupa* state, till the appointed time of their revival.

Throughout this work, I have endeavoured to clear the subject from those difficulties wherewith it has been long encumbered. In some species, indeed, it was very difficult to determine with precision; the plants are so very similar in figure; so very different in appearance, at different stages of their growth; so various in their colour, according to the weather or their age; and so confounded by authors, that a man might almost spend his whole life amongst them, in order, clearly and accurately, to ascertain their species. I have carefully observed, drawn, and described the plants of this order, when in season, for twenty-seven years past; having drawings in my possession which I made in 1761. I have made use of all the lights I could obtain from the works of *Linnaeus*, *Hudson*, *Scopoli*, *Haller*, *Vaillant*, *Micheli*, *Battarra*, *Sterbeck*, *Gleditsch*, *Dillenius*, *Ray*, &c. &c. and after all, I willingly submit my observations to the few, who have studied the subject as devoutly as myself, to alter, change, or totally *reject*, such as are wrong; and I hope that those few, knowing the difficulties that attend the undertaking, will candidly overlook and forgive such small mistakes as have escaped me.

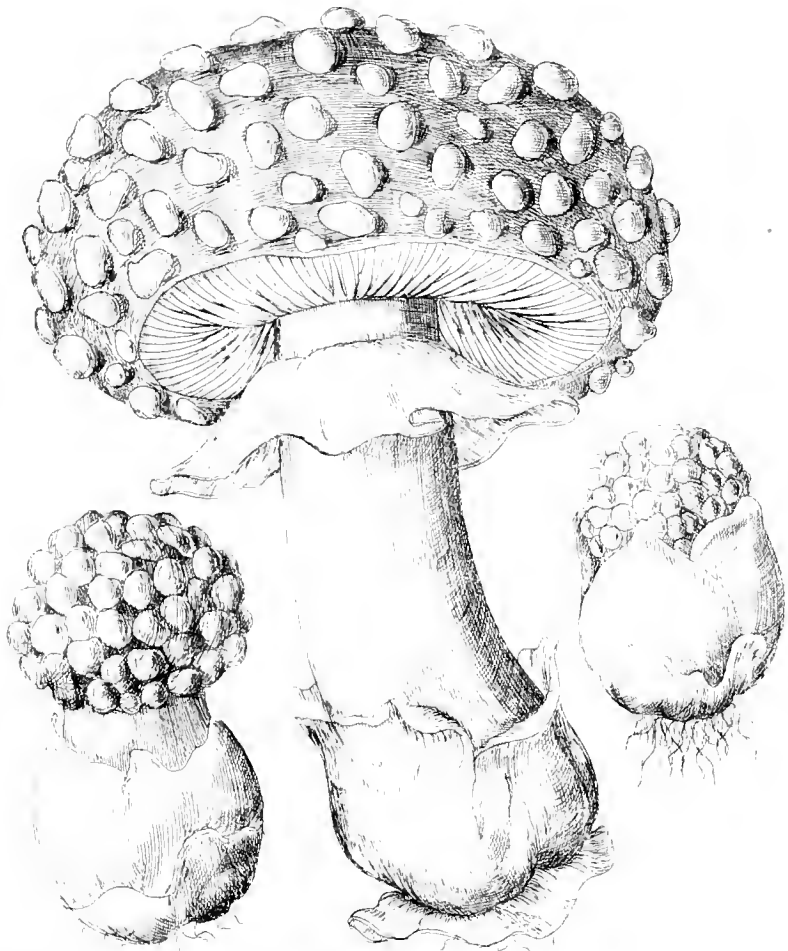
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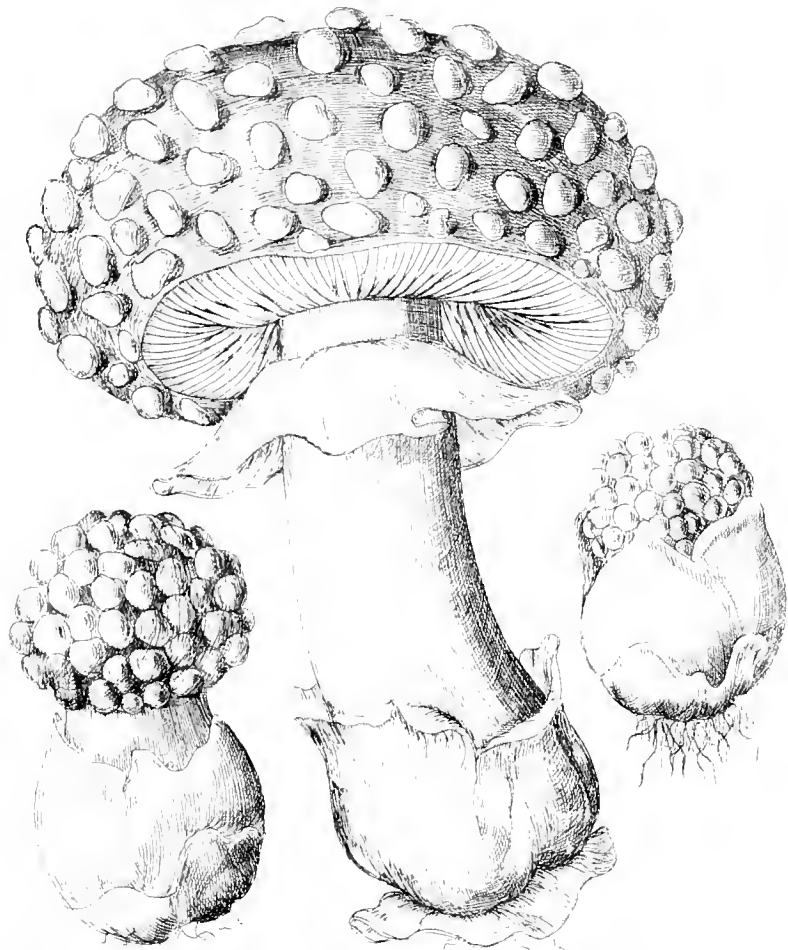
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Amanita muscaria L. *Boletus muscarius* Fr. *Boletus muscarius* Fr.

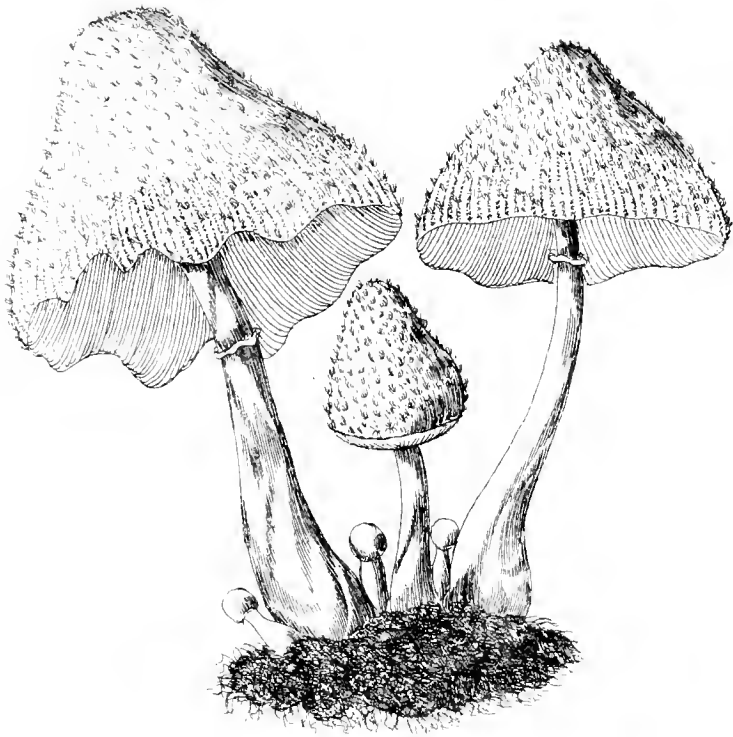


Agaricus tuberosus L. *Agaricus tuberosus* L. *Agaricus tuberosus* L.

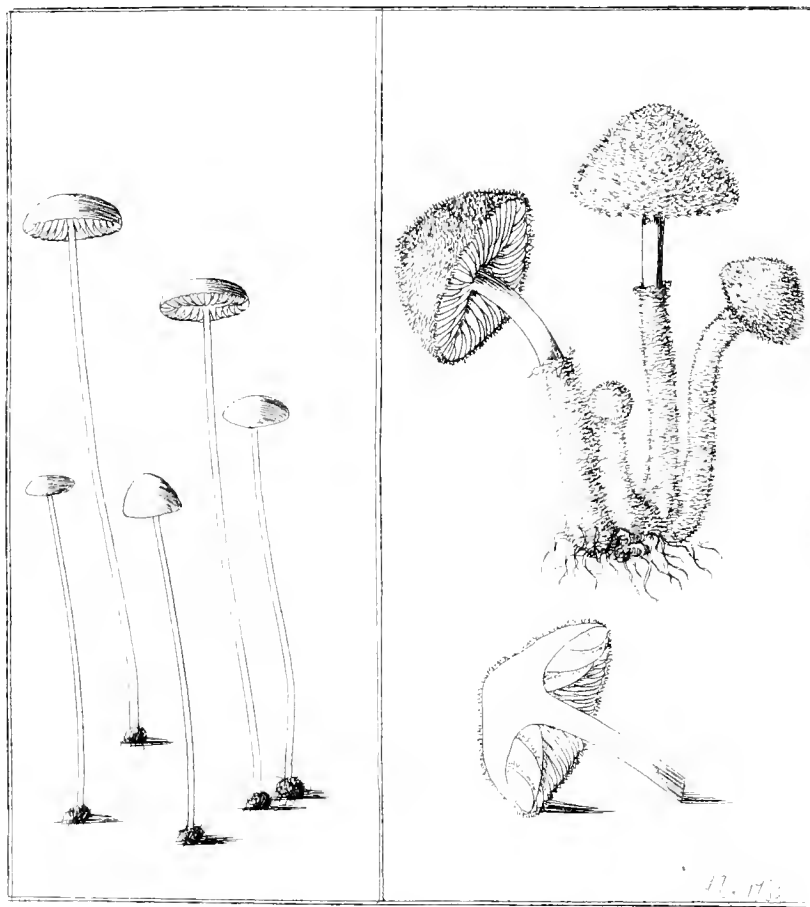


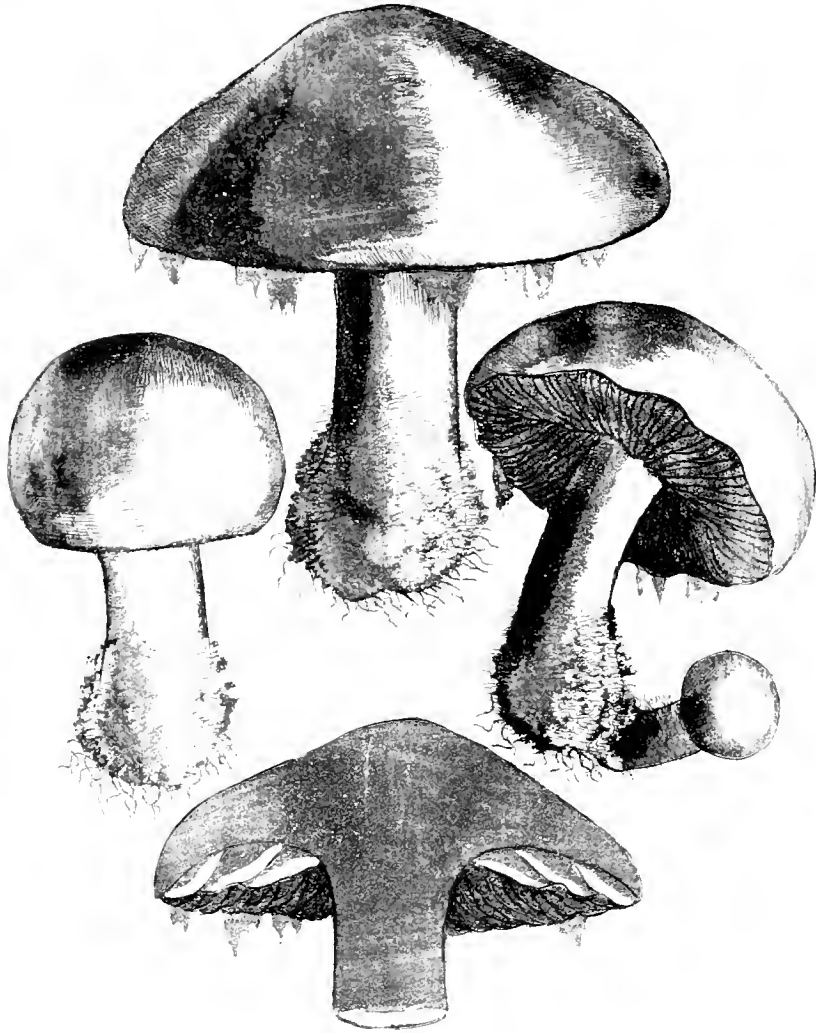
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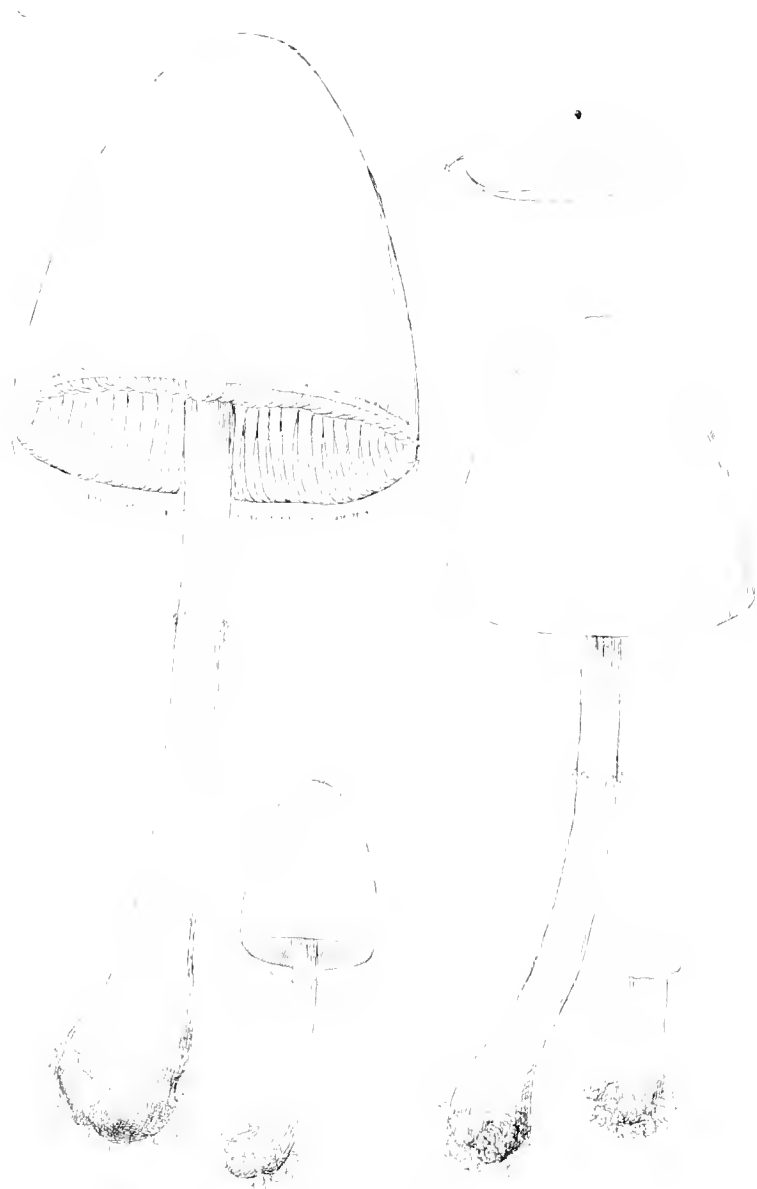




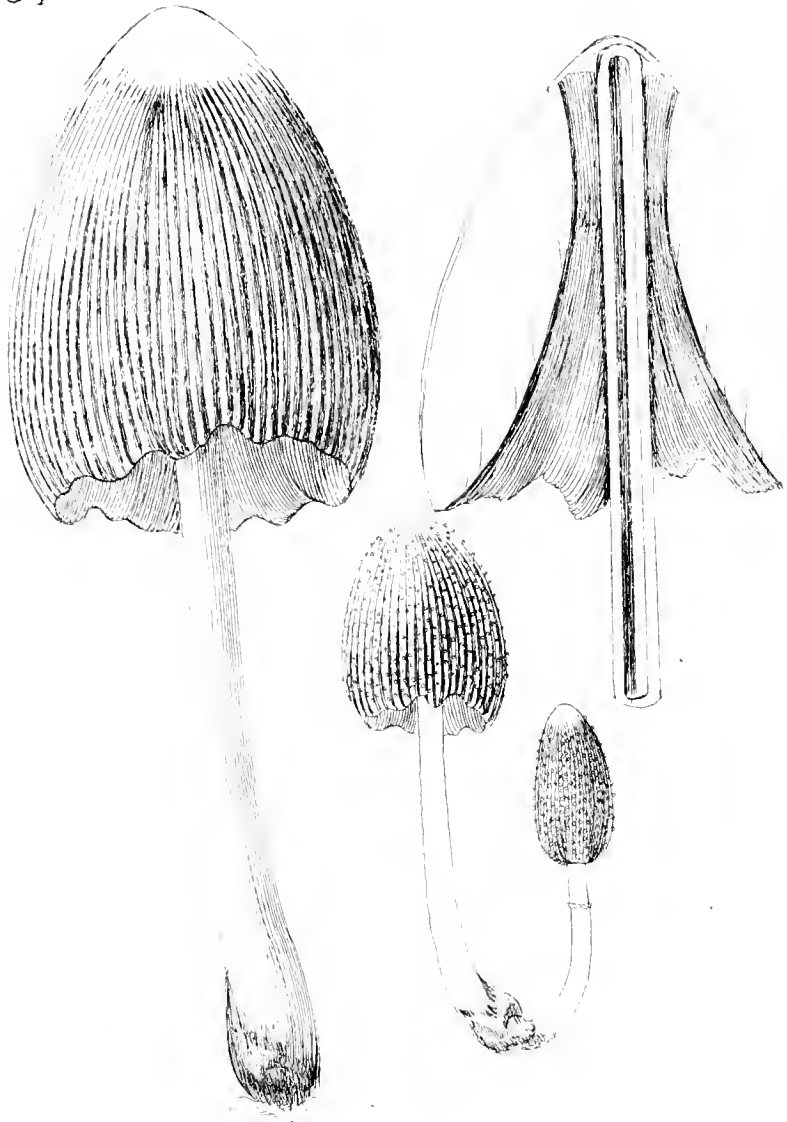
James Bolton, fecit at Sainnary near Halifax Nova Scotia.

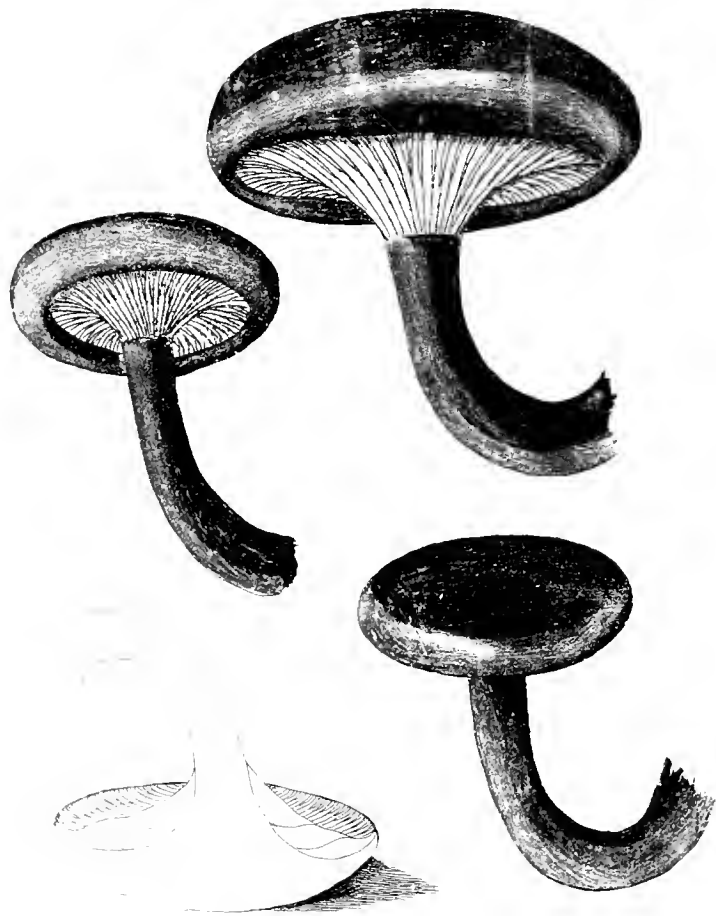






54





d. B.

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Cantharellus cibarius (Fr.) Berk. (Common Chanterelle)
Cantharellus cibarius (Fr.) Berk. (Common Chanterelle)

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30



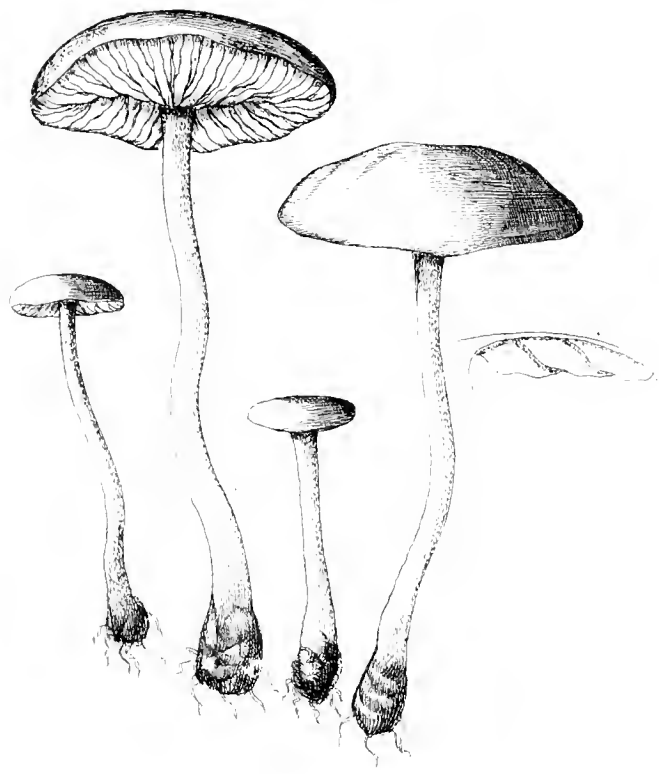


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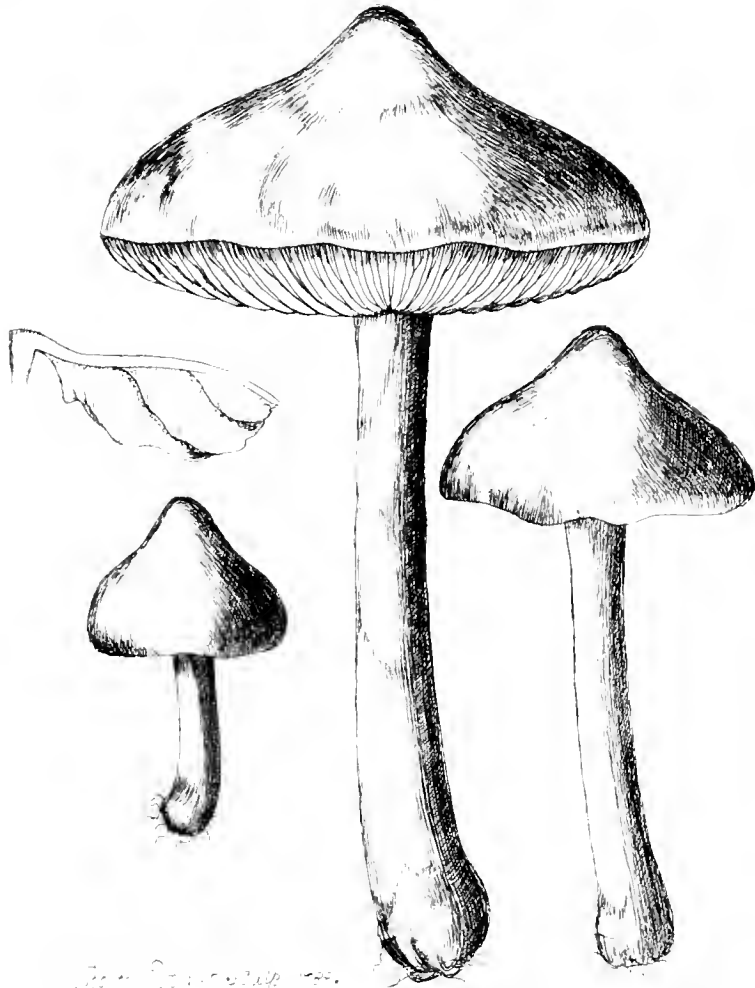
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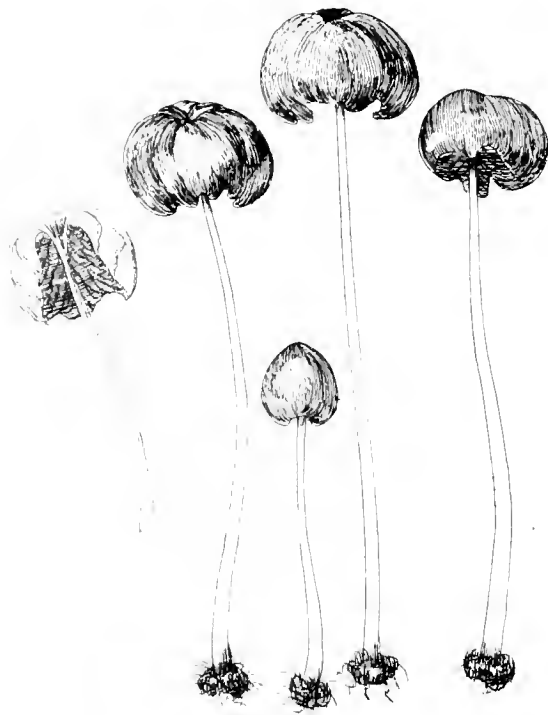
1892. 10. 10.

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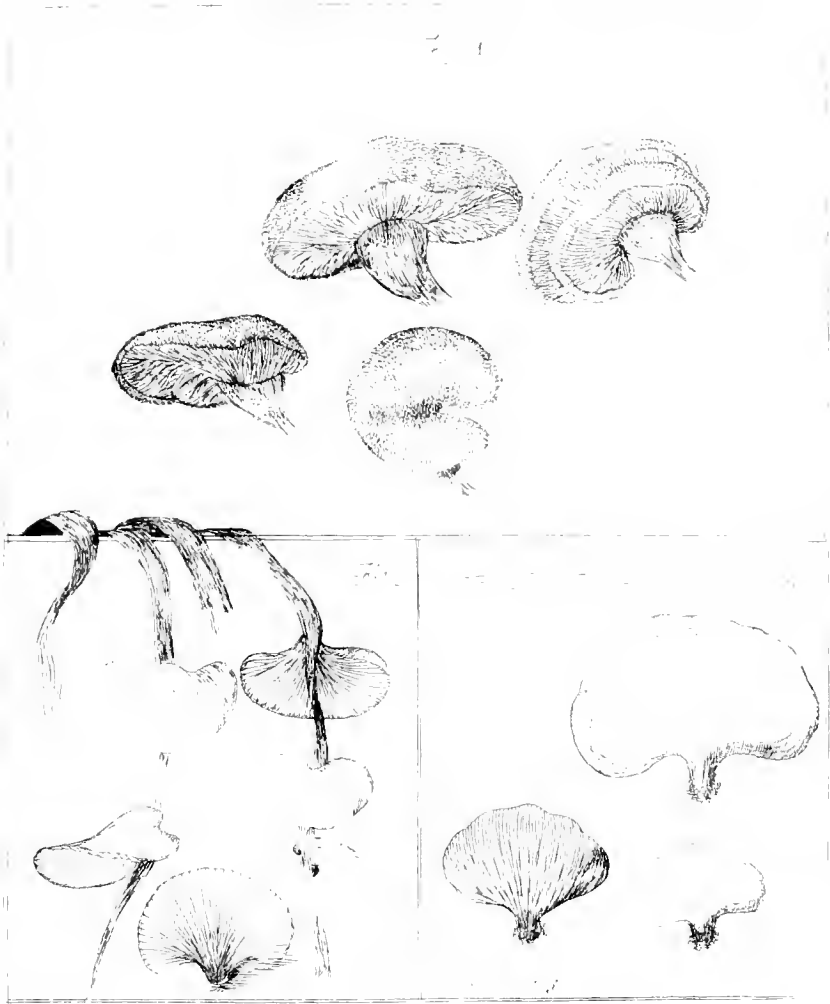
Agaricus campestris Fr.

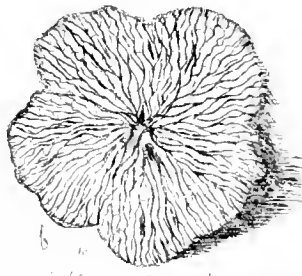
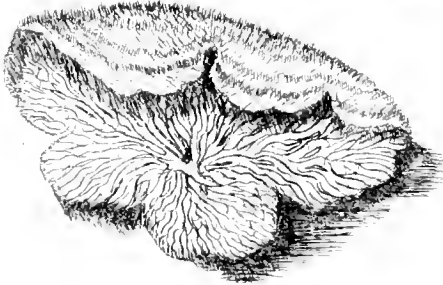
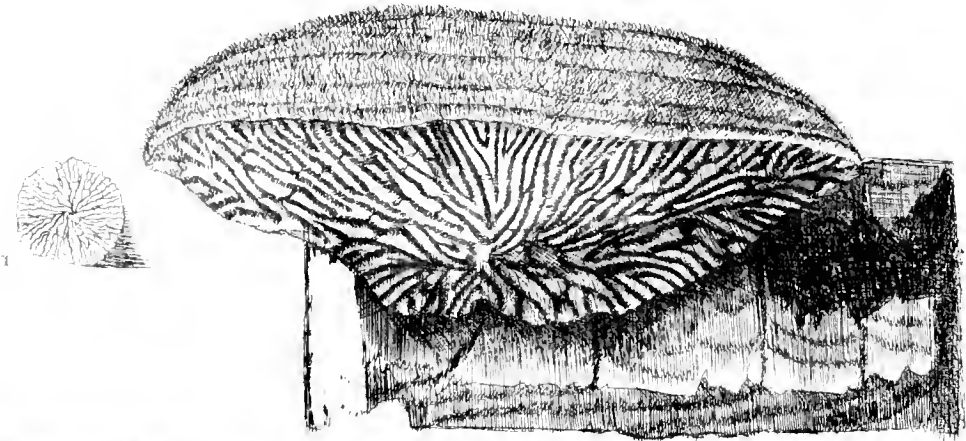
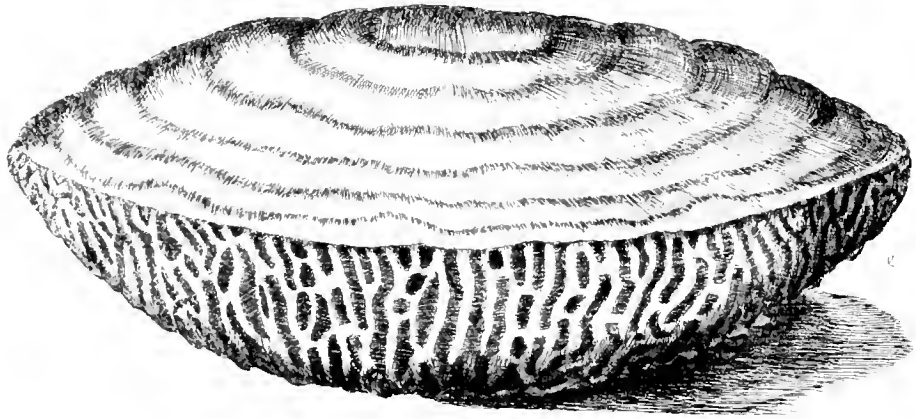
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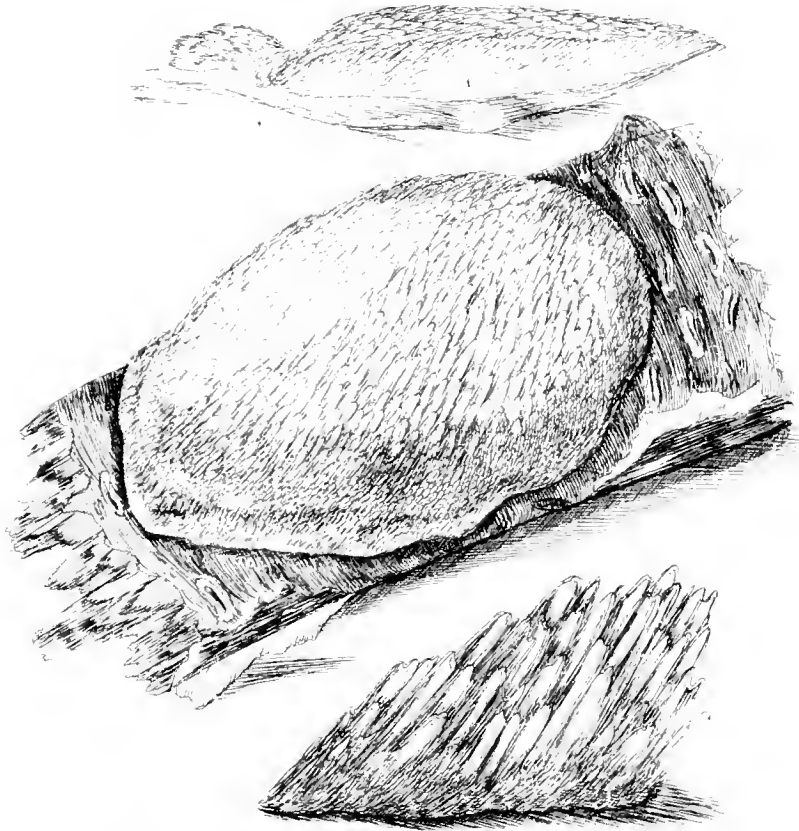






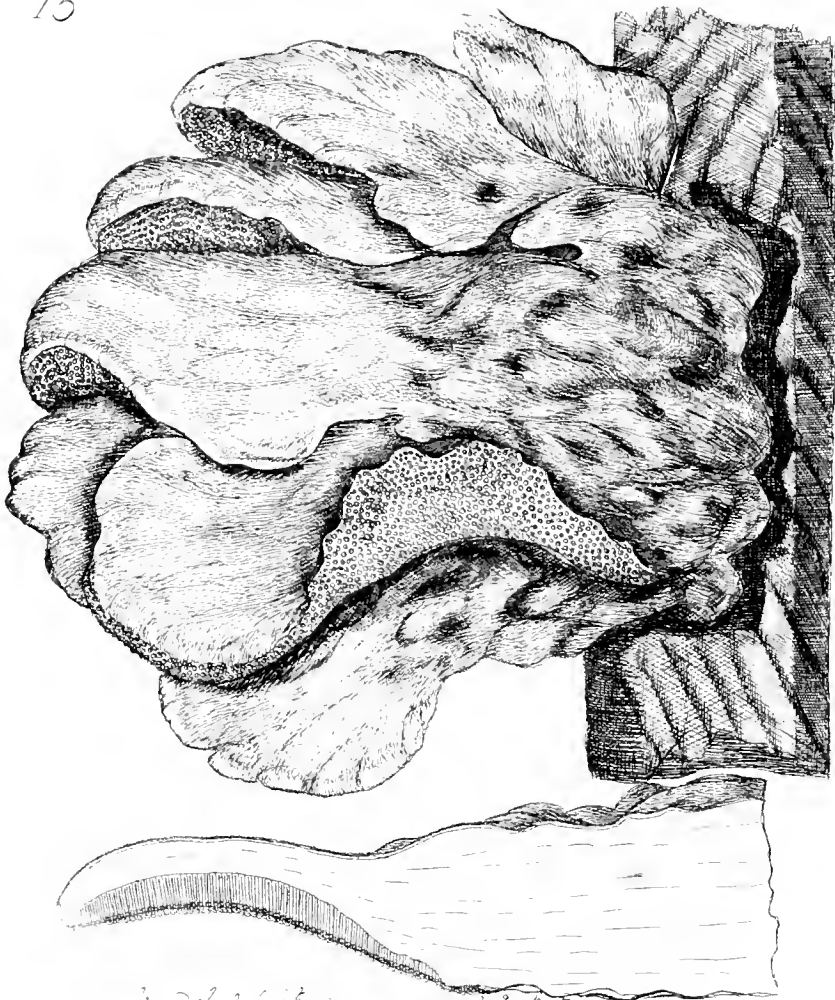
aperturæ & interioribus, etc.

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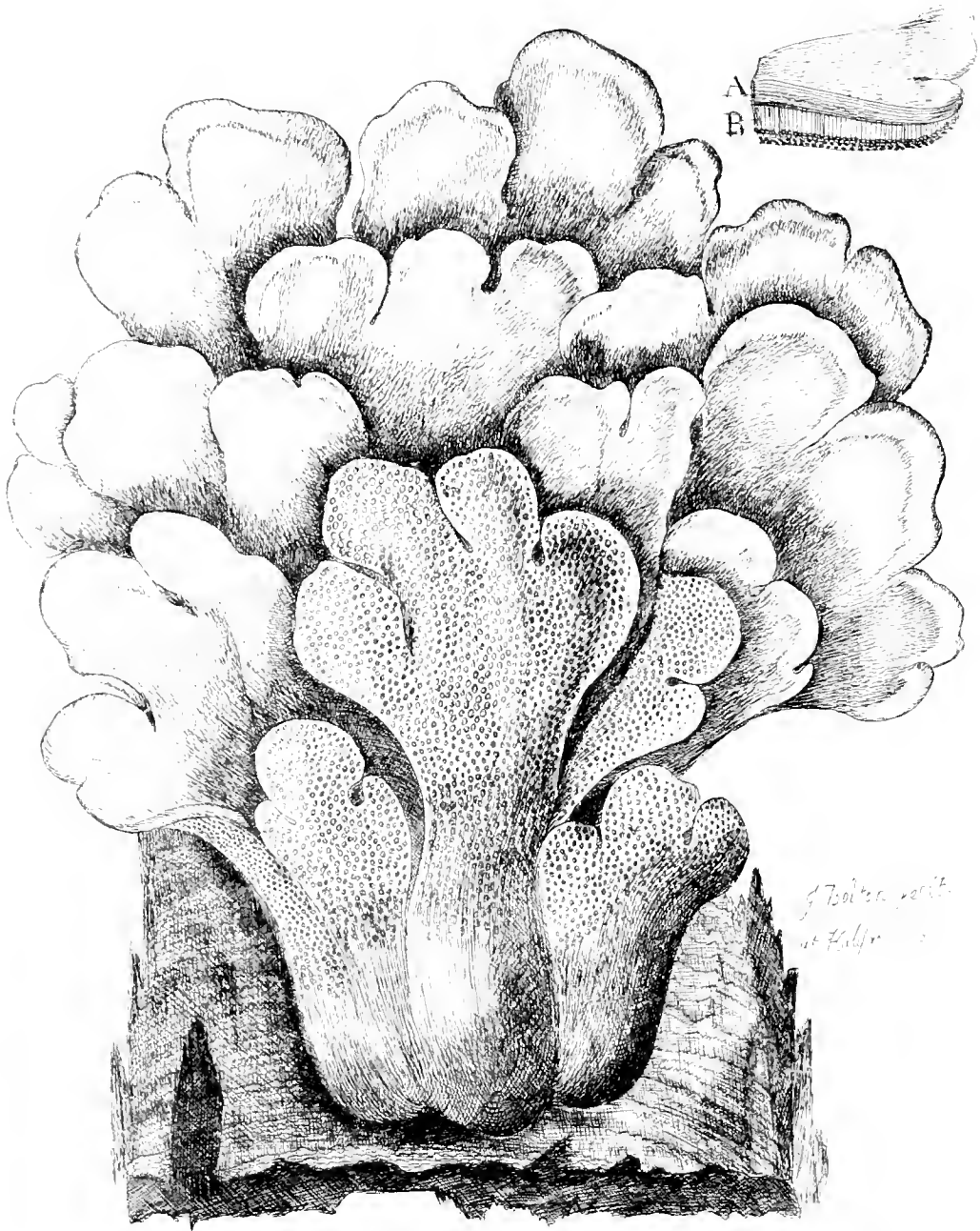


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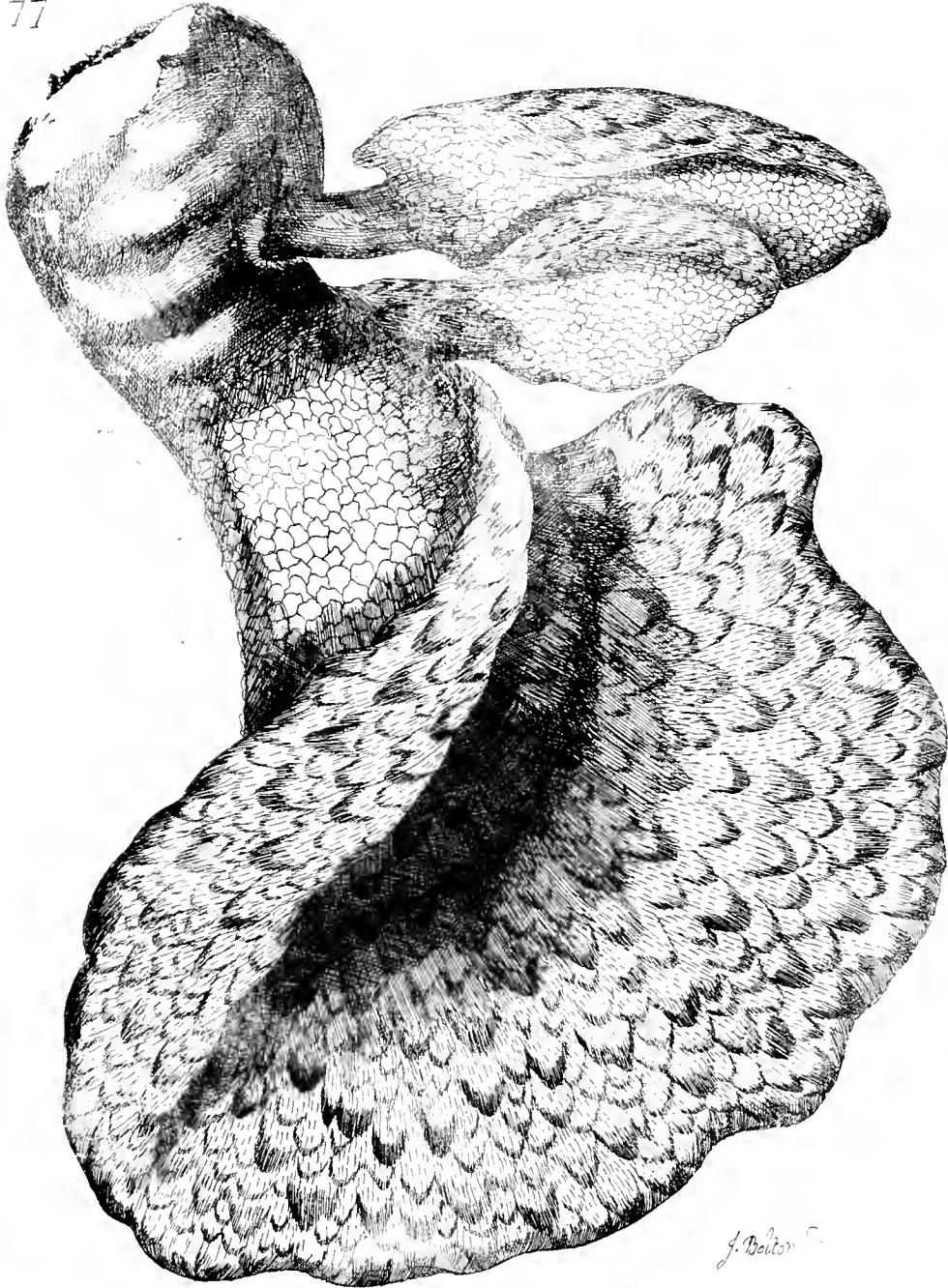


Del. et Sculp. à Stannay. March 2^e. 1758.

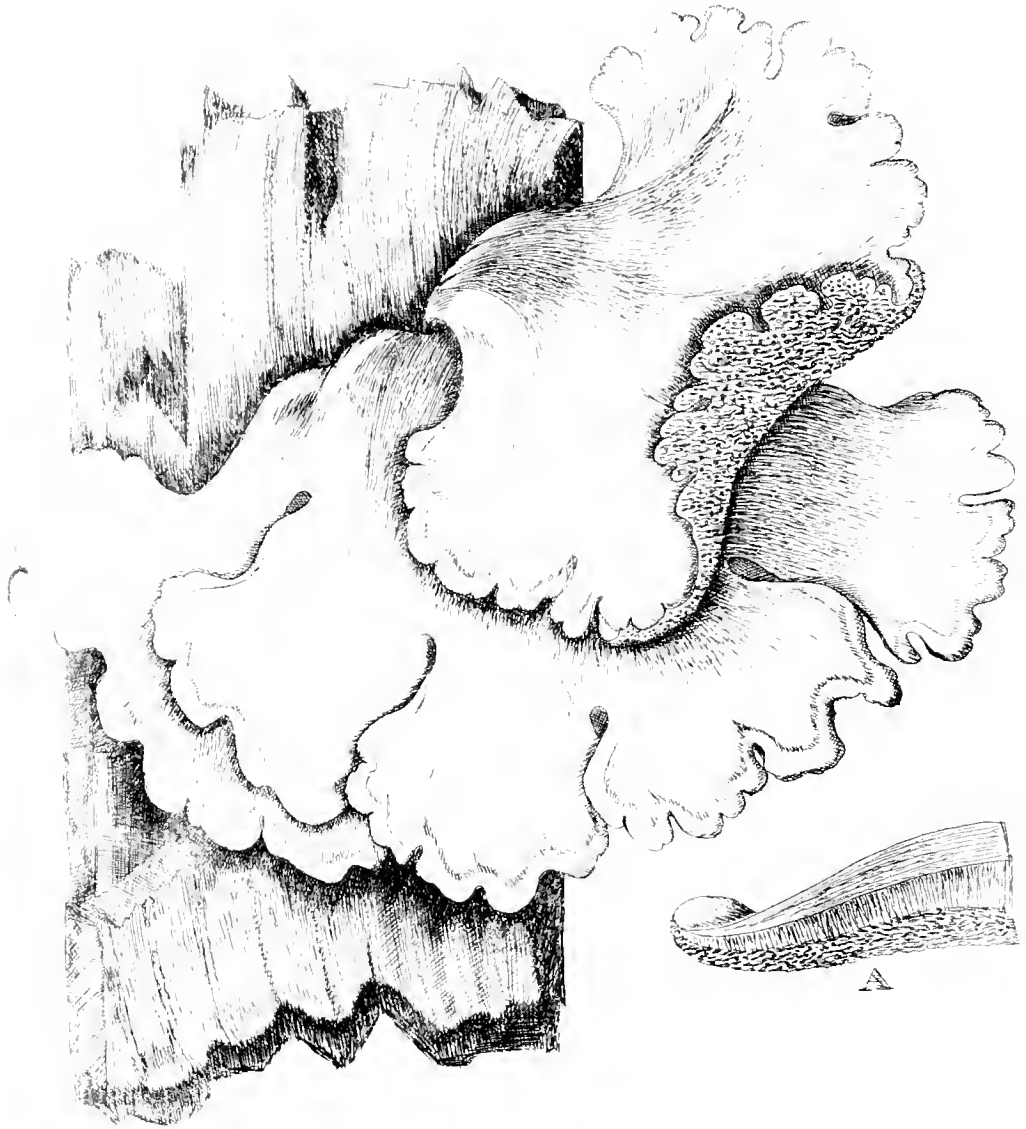


F. boletia var.
at Kelp

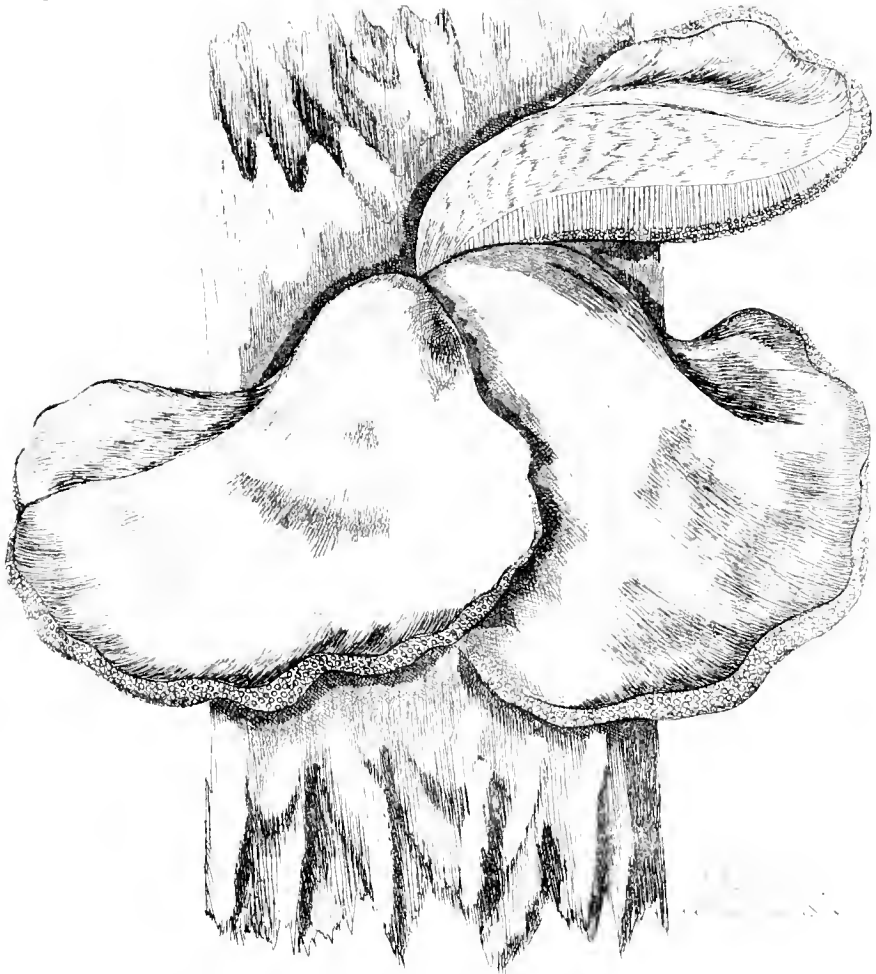
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J. Bolton

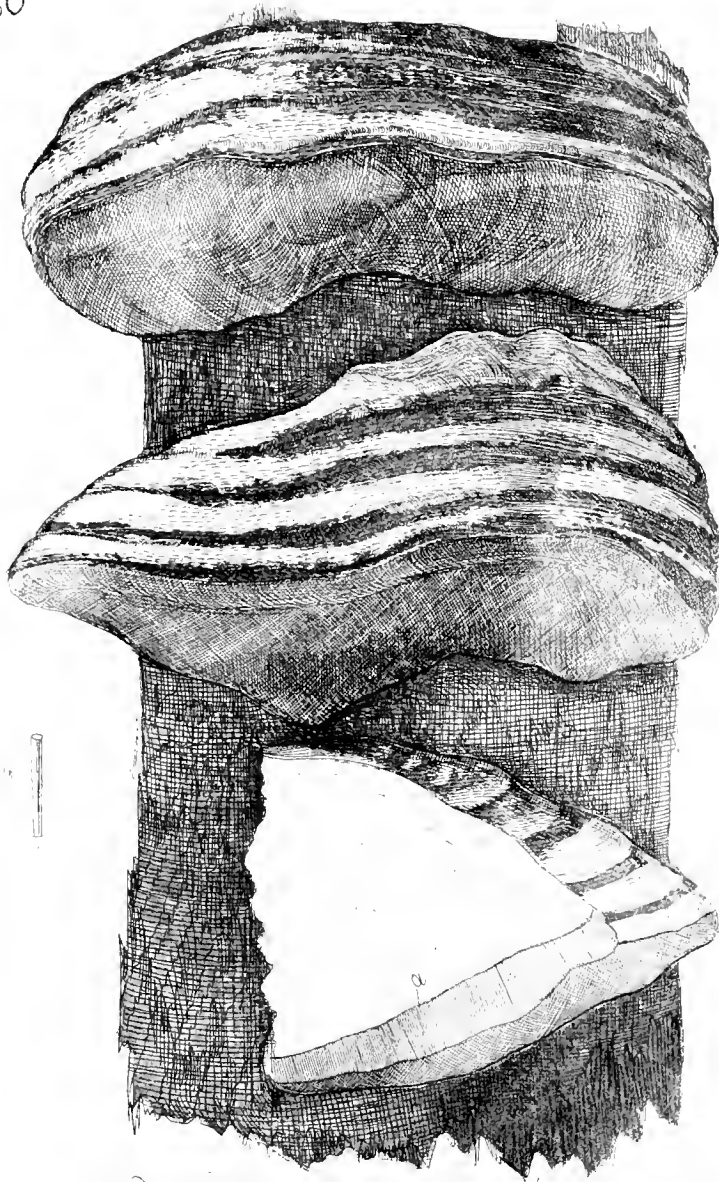


Cruciferae - from Nature by J. Bolton



Boletus hepaticus D-r. in a. *exsiccata* from Nature

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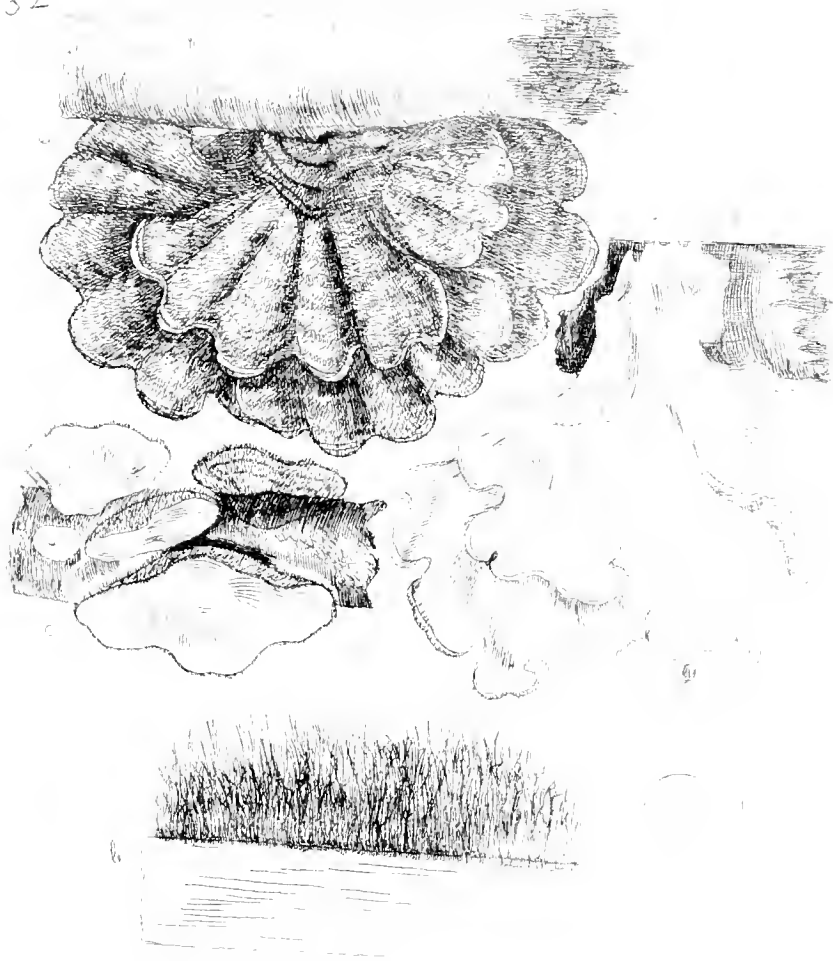


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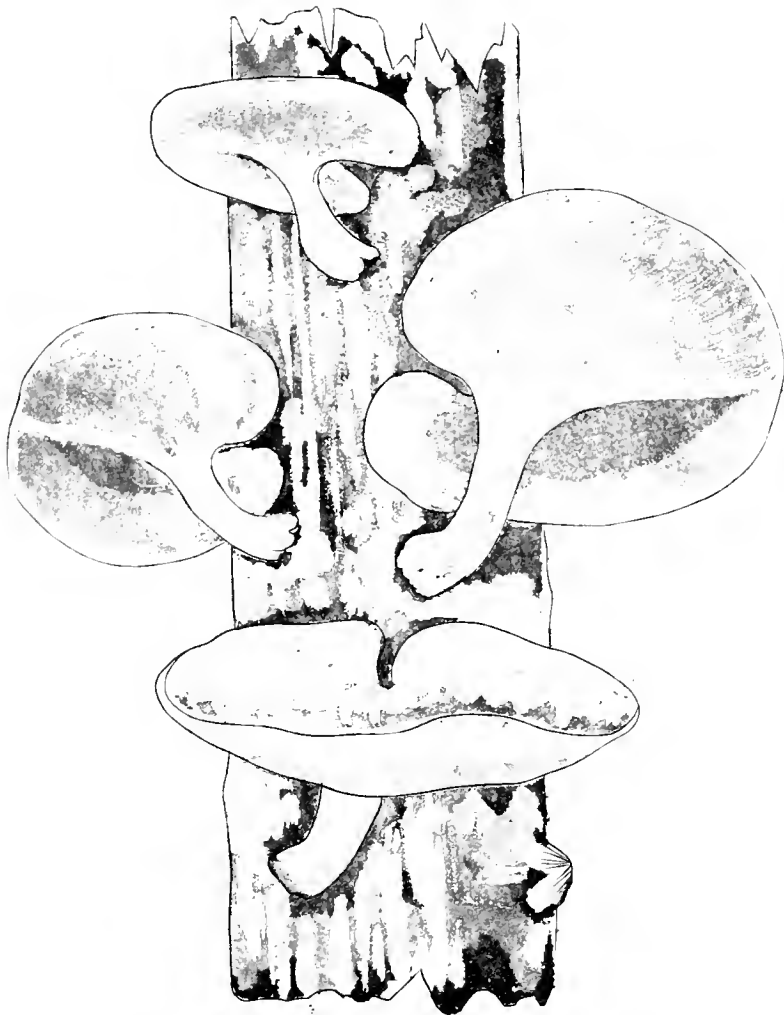
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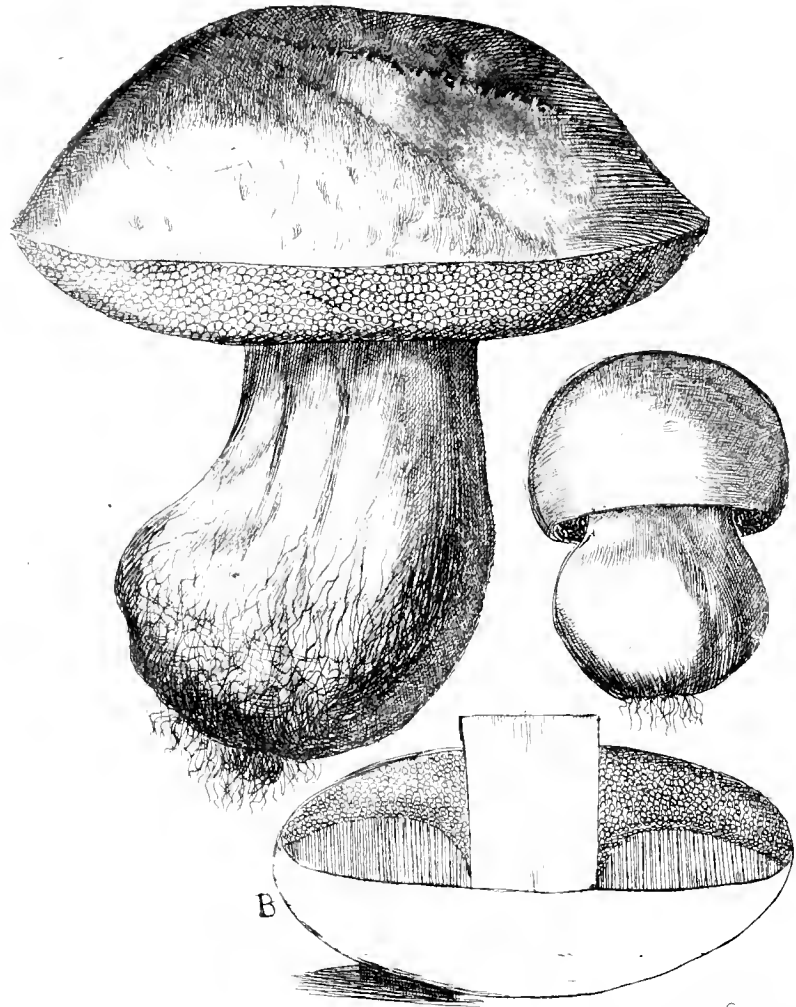
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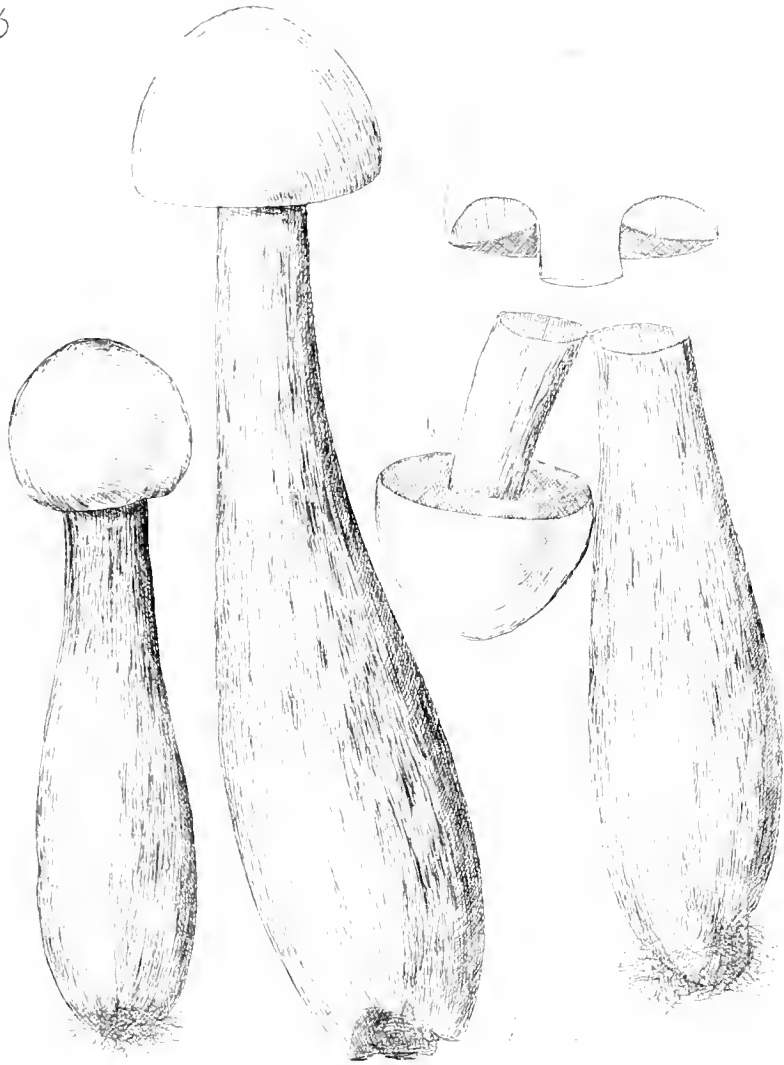


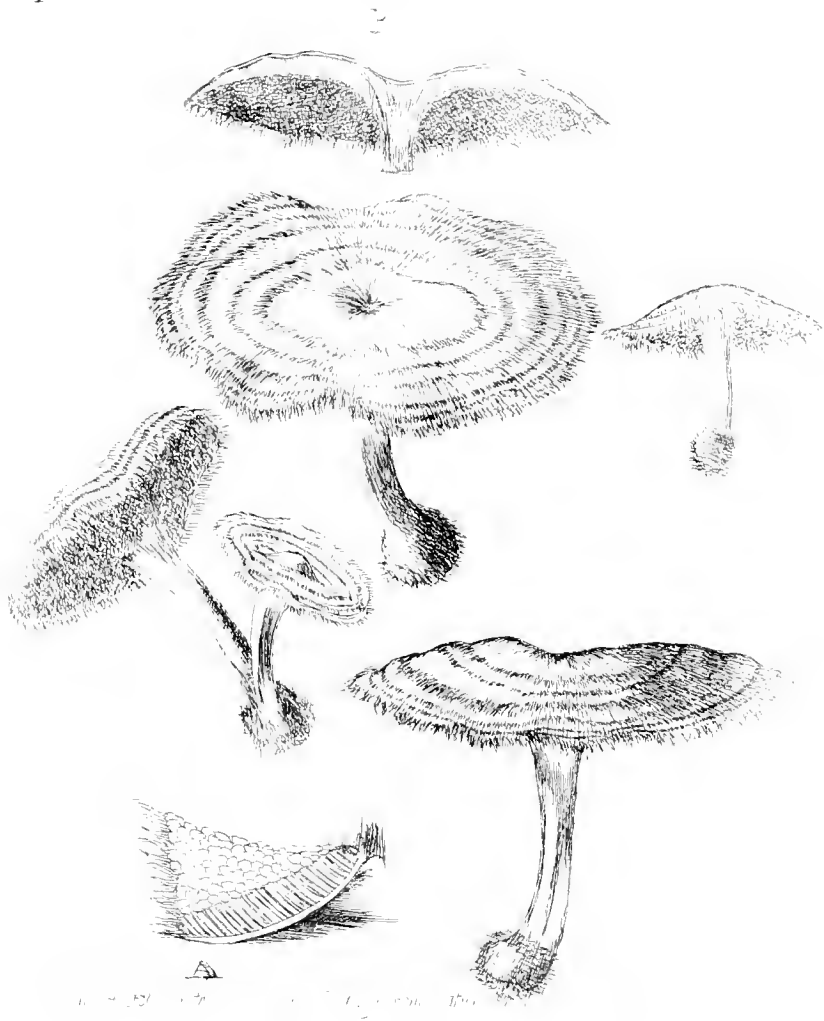
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James Bolton del.

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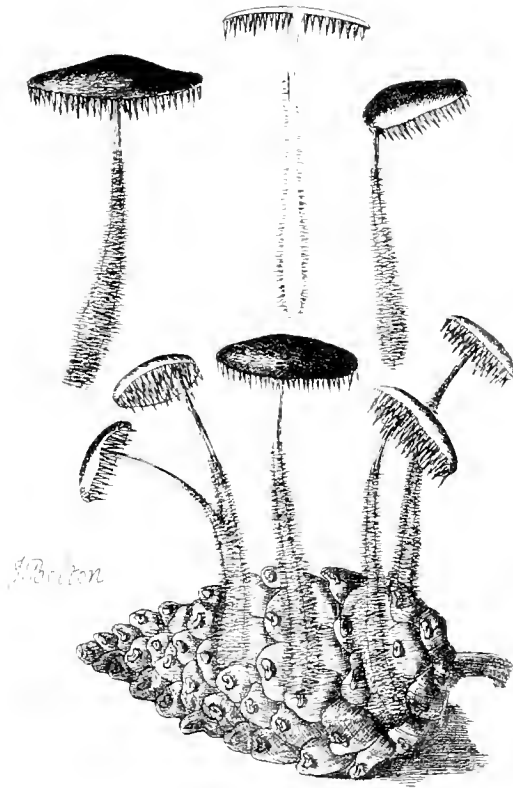


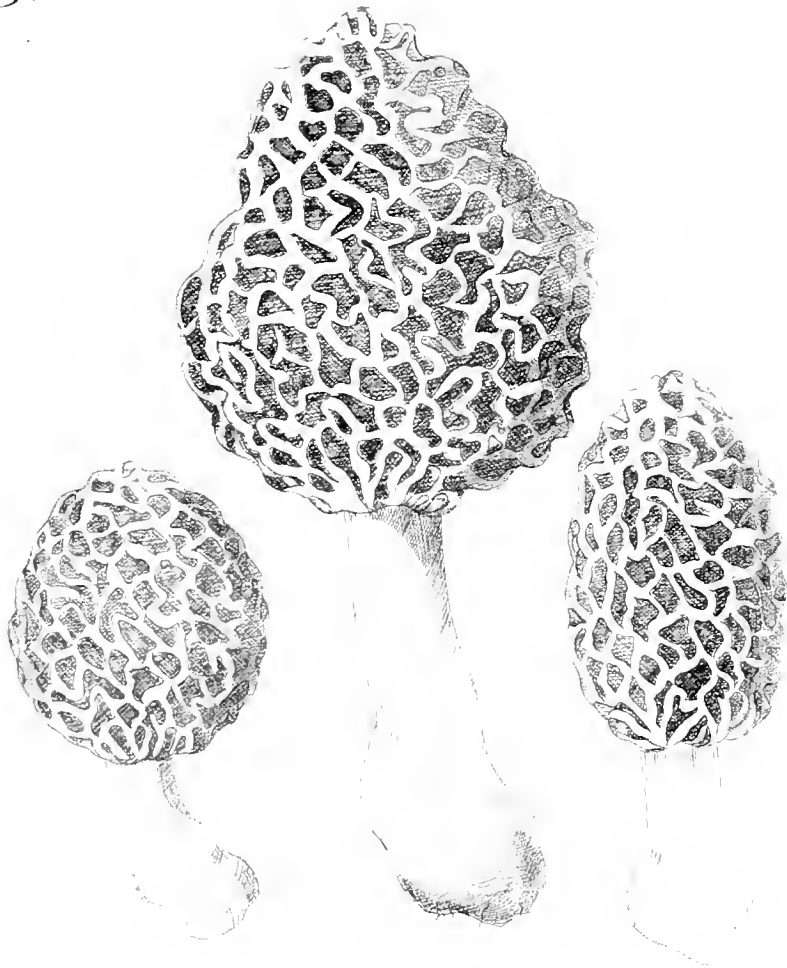
Agaricus muscarius L. (Agaricus muscarius)
Agaricus muscarius L. (Agaricus muscarius)

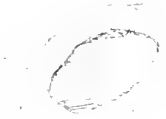
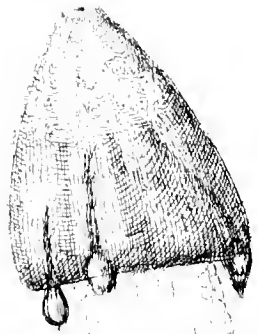
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