A PROVISIONAL KEY

TO THE GENERA OF

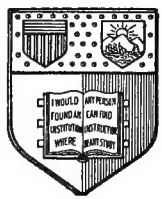
HYMENOMYCETES,

(MUSHROOMS, TOADSTOOLS, ETC.)

BY

GEO. F. ATKINSON AND BERTHA STONEMAN,

ITHACA, N. Y.



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NOTE—Genera found in North America are in capitals.
In the arrangement of the Leucosporae, Saccardo has been largely followed, but the remaining portion has been entirely recast.
The senior author will be pleased to receive corrections.

CLASS FUNGI.

Sub-class Basidiomycetes.

Plants of large or medium size ; fleshy, membranaceous, leathery, woody or gelatinous ; growing on the ground, on wood or decaying organic matter ; usually saprophytic, more rarely parasitic. Fruiting surface, or hymenium, formed of numerous crowded perpendicular basidia, the apex of the latter bearing two to six (usually four) basidiospores or the basidiospores borne laterally. In many cases cystidia intermingled with the basidia. Hymenium either free at the beginning, or enclosed either permanently or temporarily in a more or less perfect peridium or veil. Basidiospores continuous or rarely septate, globose, obovoid, ellipsoidal to oblong, smooth or roughened, hyaline or colored, borne singly at the apex of sterigmata.

Order GASTEROMYCETES. Plants membranaceous, leathery or fleshy, furnished with a peridium and gleba, the latter being sometimes supported on a receptacle. Hymenium on the surface of the gleba which is enclosed within the peridium up to the maturity of the spores or longer; spores continuous, sphæroid or ellipsoid, hyaline or colored. Puff balls, etc.

Order HYMENOMYCETES. Hymenium at the beginning, borne on the free outer surface of the compound sporophore or if at first enclosed by a pseudo-peridium or veil it soon becomes exposed before the maturity of the spores. Mushrooms, etc.

Hymenomycetes.

Analytical key of the families.

A) Plants not gelatinous ; basidia continuous.

B) Hymenium uneven, i. e., in the form of radiating plates, or folds ; or a honey-combed surface, or recticulate, warty, spiny, etc.

1. Agaricaceae : Hymenium usually on the under side, in the form of radiating plates, or strong folds. The genus Phlebia in the Hydnaceae has the hymenium on smooth, somewhat radiating veins which are interrupted and irregular. One exotic genus has the hymenium on numerous irregular obtuse lobes (Rhacophyllus).

2. Polyporaceae : Hymenium usually below (or on the outer surface when the plant is spread over the substratum), honey-combed, porous, tubulose, or reticulate ; in one genus with short, concentric plates.

3. Hydnaceae : Hymenium usually below (or on the outer surface when the plant is spread over the substratum), warted, tuberculate, or with stout spinous processes ; or with interrupted vein like folds in resupinate forms.

BB) Hymenium smooth (not as in B, though it may be convolute and irregular, or ribbed or veined.

4. Thelephoraceae: Plants somewhat corky or membranaceous, more or less expanded; hymenium on the under surface (upper surface sterile), or on the outer or exposed surface when the plant is spread over the substratum (margin may then sometimes be free, but upper surface, i. e., that toward the substratum, sterile). (Minute slender spines are sometimes intermingled with the elements of the hymenium, and should not be mistaken for the stouter spinous processes of the Hydnaceae).

5. Clavariaceae: Plants more or less fleshy, upright (never spread over the surface of the substratum), simple or branched. Hymenium covering both sides and the upper surface.

AA) Tremellineae: Plants gelatinous or subgelatinous; basidia forked or longitudinally or transversely divided; or if continuous then globose, or bearing numerous spores; or if the plant is leathery, membranous, or floccose then basidia as described. Hymenium covering the entire free surface or confined to one portion; smooth, gyrose, folded or lobed; or hymenium lamellate, porous, reticulate or toothed forms which are gelatinous and provided with continuous basidia may be sought here.

Fam. I, Agaricaceae.

Pileus more or less expanded, convex, bell-shaped; Stipe central or nearly so; or the point of attachment lateral, when the stipe may be short or the pileus sessile and shelving. Fruiting surface usually on the under side and exposed toward the earth, lamellate, or prominently folded or veined. Lamellae or gills radiating from the point of attachment of the pileus with the stipe or with the substratum in the sessile forms; lamellae simple or branched, rarely anastomosing behind, clothed externally on both surfaces with the basidia each of which bears four spores (rarely two), cystidia often present.

Key to the genera.

SECTION 1. LEUCOSPORAE Fr. Spores white or whitish, or faintly yellow or roseate. Plants soft or tough.

Series 1. Haplophyllae. Edge of gills entire, not split or grooved.

Subsection 1. Molles. Plants soft, fleshy or nearly so, usually soon decaying; dried plants do not revive well when moistened.

A) Gills acute on the edge, not pliciform or folded.

a) Trama of the pileus of interwoven threads, not vesiculose.

b) Gills thin (not broadened toward the pileus), substance of the pileus not passing into the trama of the gills unchanged.

c) Centrales. Stipe central or subcentral.

d) Stipe fleshy; hymenophore separate from the stipe; gills usually free.

AMANITA. Stipe with a distinct volva and annulus.

AMANITOPSIS. Volva present, annulus wanting.

LEPIOTA. Volva wanting, annulus present.

Schulzeria. Volva and annulus wanting.

dd) Stipe fleshy or fibrous and elastic; hymenophore confluent with the stipe and of the same texture.

ARMILLARIA. Annulus usually present (sometimes vague), volva wanting; gills attached to stipe.

TRICHOLOMA. Annulus and volva wanting; gills sinuate.

CLITOCYBE. Annulus and volva wanting; gills decurrent, not sinuate.

ddd) Stipe cartilaginous; hymenophore confluent with the stipe but of a different texture.

e) Gills not decurrent.

COLLYBIA. Margin of the pileus at first involute, pileus flat or nearly so, somewhat fleshy (some plants rather tough and tending toward the consistency of *Marasmius*.)

MYCENA. Margin of the pileus at first straight; pileus slightly bell-shaped, thin.

HIATULA. Gills usually free; pileus deeply plicate, so that the gills are split where they are attached to the pileus; pileus membranaceous, very tender but not diffluent.

ee) Gills decurrent.

OMPHALIA. Pileus umbilicate, somewhat fleshy and membranous.

cc) Excentricae. Stipe on one side of pileus or none (rarely some species with stipe subcentral).

PLEUROTUS. Stipe when present continuous with the hymenophore.

bb) Gills broadened toward the pileus, substance of the pileus passing unchanged into the trama of the gills, so that when the gills are pealed from the pileus ridges remain which are pulled out from the trama of the gills.

HYGROPHORUS. Gills waxy; plant fleshy.

aa) Trama of the pileus subvesiculose, plants rigid but fragile.

LACTARIUS. Gills where bruised exuding a milky or colored juice; spores globose, echinulate.

RUSSULA, gills not juicy; spores globose, echinulate.

AA) Edge of the gills obtuse, or gills fold-like or vein-like, but prominent.

CANTHERELLUS. Gills decurrent, dichotomous, somewhat waxy.

Arrhenia. Gills very delicate, veniform, simple, not decurrent (plants sometimes cup-shaped with veins on upper side, should not be confused with Phlebia in the Hydnaceae).

Rimbachia. Erect, pezizae-form, hymenium smooth, gills reticulate radiating from the center, situated on the upper surface of pileus, external layer sterile, continuous with the stipe. (Sacc. XI, 32).

Campanella. Related to Marasmius and Arrhenia, but hymenium subreticulate, with veins and ribs anastomosing below, spores pale, subglobose (Beiblatt zur Hedw. XXXV, 3).

NYCTALIS. Gills quite thick, obtuse, not decurrent.

Stylobates. Gills thin, gelatinous, entirely covering the clavate stipe.

Subsection 2. Plants tough, either fleshy or gelatinous, membranaceous, corky or woody, persistent, reviving when moistened.

A) Leathery, either fleshy, membranaceous, or gelatinous.

a) Stipe separate from the hymenophore.

MARASMIUS. Pileus tough and fleshy or membranaceous and leathery.

HELIOMYCES. Pileus gelatinous and leathery.

aa) Stipe continuous with the hymenophore.

b) Edge of the gills acute.

LENTINUS. Edge usually serrate.

PANUS. Edge entire.

bb) Edge of the gills obtuse.

XEROTUS. Gills dichotomous.

TROGIA. Plants sessile, gills fold-like, irregular, edge grooved or crisped except in our common species where they are entire.

AA) Plants corky or woody.

LENZITES. Gills distinct, radiating, sometimes anastomosing behind and resembling Daedalea in the Polyporaceae. (Daedalea confragosa has forms which are taken for Lenzites.)

Tilotus. Gills distinct tomentose, pileus also tomentose.

Hymenogramme Gills very thin, close, narrow, forked, parallel, flexous.

Series 2. Schizophyllae. Edge of the gills split, fissured, or appendiculate (Confer Trogia).

a) Plants leathery.

SCHIZOPHYLLUM. Gills split and revolute ; stipe lateral, pileus sessile.

aa) Plants very thin, membranaceous.

Rhacophyllus. Pileus striate or even, split at the margin; gills replaced by numberless. oblong, irregular, waved, obtuse lobes.

aaa) Plants fleshy.

Pterophyllus. Gills bearing smaller spathulate appendages on both sides, stipe lateral.

Oudemansiella. Margin of gills fissured, lips in the beginning connate with the adjacent ones ; stipe central.

SECTION 2. RHODOSPORAE, HYPORRHODIAE, Fr. Spores pink, flesh color, or salmon color. Plants soft, rarely tough.

A) Stipe central.

a) Hymenophore separate from the stipe ; gills free.

VOLVARIA. Stipe with a distinct volva, annulus wanting.

PLUTEUS. Volva and annulus wanting ; margin of pileus straight.

Annularia. Annulus present, volva wanting.

aa) Hymenophore separate from the stipe ; gills attached.

Metraria. Volva and annulus present ; pileus fleshy ; gills adnate (IX, 82).

Schinzinia. Characters similar to those of Pluteus, but plant tough, surface of pileus with short, irregularly branched hyphae (XI, 44),

aaa) Hymenophore confluent with the stipe and of the same texture; gills attached, in some becoming almost free in age.

b) Stipe fleshy to fibrous ; margin of pileus at first involute.

ENTOLOMA. Gills sinuate.

CLITOPILUS. Gills decurrent.

bb) Stipe cartilaginous.

c) Gills not decurrent (or if so only by a minute tooth) easily separating from the stipe.

LEPTONIA. Pileus slightly convex, margin at first incurved.

NOLANEA. Pileus bell shaped, margin straight, at first pressed close to the stipe.

cc) Gills decurrent.

ECCILIA, Pileus umbilicate.

AA) Stipe excentric or none, pileus lateral.

CLAUDOPUS. Growing on wood; stipe when present continuous with the hymenophore.

SECTION 3. OCHROSPORAE or DERMINAE Fr. Spores yellowish brown or rusty brown.

A) Gills not separating readily from the hymenophore.

a) Universal veil not arachnoid (i. e., not spider-web like.)

b) Stipe central.

c) With a volva or annulus.

PHOLIOTA. Stipe with an annulus.

Locellina. Stipe with a volva.

Pholiotella. Stipe separate from the hymenophore, annulus present.

cc) Volva and annulus wanting.

d) Gills free.

Pluteolus. Stipe subcartilaginous, separate from the hymenophore ; margin of pileus at first straight.

dd) Gills attached.

e) Gills not dissolving nor becoming powdery.

f) Stipe fleshy.

INOCYBE. Cuticle of the pileus silky or bearing fibrils ; gills somewhat sinuate.

HEBELOMA. Cuticle of the pileus smooth, viscid ; gills somewhat sinuate ; spores argillaceous.

FLAMMULA. Gills adnate or decurrent.

ff) Stipe cartilaginous or subcartilaginous.

TUBARIA. Gills decurrent, stipe cartilaginous.

NAUCORIA. Gills not decurrent, stipe cartilaginous ; margin pileus inflexed.

GALERA. Gills not decurrent, stipe subcartilaginous, continuous with the hymenophore ; margin of the pileus straight from the first.

ee) Gills dissolving into a gelatinous or powdery condition, not diffluent as in Coprinus.

BOLBITIUS. Pileus membranous.

bb) Stipe eccentric or none.

CREPIDOTUS. On wood; stipe when present continuous with the hymenophore.

aa) Universal veil arachnoid, distinct from the cuticle of pileus.

CORTINARIUS. Stipe fleshy, continuous with the hymenophore, gills soon covered with the yellowish-brown spore-dust.

AA) Gills easily separating from the hymenophore.

PAXILLUS. Stipe when present continuous with the hymenophore ; margin of the pileus constantly involute.

SECTION 4. MELANOSPORAE Gill. and Britz. (PRATELLAE and COPRINARIAE in broadest sense). Spores dark brown, purplish brown or black (all species except Anthracophyllum are soft, not tough.)

A) Gills attached to the underside of the pileus in the usual way.

a) Pileus fleshy or membranaceous.

b) Spores dark brown or purplish brown (Pratellae).

c) Hymenophore separate from the stipe ; gills usually free.

AGARICUS. (Psalliota Fr.). Volva wanting, annulus present.

CHITONIA. Stipe with a volva at the base.

PILOSACE. Volva and annulus wanting.

cc) Hymenophore continuous with the stipe ; gills attached.

d) Veil present.

STROPHARIA. Annulus present ; gills adnate.

HYPHOLOMA. Annulus wanting, veil remaining attached to margin of pileus.

dd) Veil wanting or obsolete.

DECONICA. Stipe tenaceous; margin of pileus at first incurved ; gills subtriangularly decurrent.

PSILOCYBE. Stipe tenaceous ; margin of pileus at first incurved ; gills not decurrent.

PSATHYRA. Stipe fragile ; margin of pileus straight ; gills not decurrent.

bb) Spores black.

e) Gills more or less diliquescing, or pileus thin, plicate and splitting down between the gills (Coprinariae).

COPRINUS. Pileus fleshy or membranaceous ; gills at first cohering, soon dissolving into an inky fluid (or in some smaller species gills splitting where attached to the pileus, so that the membranaceous pileus appears plicate).

ee) Gills not diliquescing, etc.

f) Spores globose, ovoid.

PANAEOLUS. Pileus somewhat fleshy, not striate, projecting beyond the gills at the margin ; annulus wanting though veil often present ; gills variegated in color from the groups of dark spores on the surface.

ANNELARIA. Annulus presesnt ; otherwise as in Panaeolus.

PSATHYRELLA. Pileus somewhat fleshy ; margin striate ; gills not variegated.

ff) Spores elongate, fusiform.

GOMPHIDIUS. Gills rather mucilaginous, decurrent.

AA) Gills not attached to a hymenophore (i. e., pileus absent).

MONTAGNITES. Stipe dilated at the apex into a disk; gills radiating from the edge of the disk free.

Fam. II, Polyporaceae.

Key to the genera of the Polyporaceae.

A) Hymenium all exposed (i. e., a portion of the hymenium not in permanently closed chambers.

B) Plants fleshy, not becoming tough in age, soon decaying.

a) Stipe central or nearly so.

BOLETUS. Stratum of tubes easily separable from the pileus, tubes rather long, mouths circular or angular.

BOLETINUS. Stratum of tubes not easily separable from the pileus, tubes as in Boletus but usually shorter, mouths larger and radiating in rows from the stipe.

STROBILOMYCES. Stratum of tubes not easily separable from the pileus, tubes as in Boletus; outer surface of pileus tough, and torn into scales.

Gyrodon. Stratum of tubes not easily separating from the pileus, tubes as in Boletus but very short, and mouths sinuous, gyrose-plicate.

aa) Stipe, or attachment, lateral.

FISTULINA. Tubes separate from each other, though crowded.

Bresadola. Tubes spurios, formed by the gills turned both horizontally and vertically (possibly not a good genus).

BB) Plants tough (sometimes fleshy when young), leathery, fibrous, membranaceous, woody, or corky.

a) Tubes at the mouth rounded, angular, sinuous or labyrinthiform, not in radiating rows (except in forms of Daedalea confragosa).

b) Tubes in stratum unlike that of the hymenophore, but not separable, evenly inserted in the pileus (or if unevenly, then substance of pileus not passing between the tubes unchanged.

POLYPORUS. Tubes formed evenly, crowded, not stratose, plants tough (sometimes fleshy or soft when young, but becoming tough in age); stipitate or sessile, or lateral, sometimes resupinate, but then pileus thick (i. e., substance between tubes and substratum).

FOMES. Tubes formed as in Polyporus, but often stratose; plants woody from the first, sessile, dimidiate, or in some, lateral.

POLYSTICTUS. Tubes not stratose, frequently maturing centrifugally, at first superficial, punctiform; plants coriaceous, membranaceous; pileus thin and as compared with Polyporus. (Some species like P. pergamenus have the tubes split into teeth thus resembling Irpex).

PORIA. Plants entirely resupinate, indefinitely spreading; pileus very thin or none (i. e., tubes seated on a thin layer of mycelium), waxy, leathery, or membranaceous. (Do not confuse with resupinate forms of Polyporus).

MUCRONOPORUS. Tubes studded with reddish brown spines interminwith the basidia, otherwise as in Polystictus (and also as in Polyporus and Fomes). An unnecessary genus.

By some all placed in Polyporus.

Laccocephalum. Pileus woody, stipe central; tubes cylindrical, crowded, not separable from the hymenophore.

bb) Tubes deeply and unequally sunk in the substance of the pileus; substance between the tubes like that of the pileus.

TRAMETES. Tubes subcylindrical, not stratose; plant corky, sessile.

DEADALIA. Tubes sinuous, labyrinthiform; plants corky, sessile (should not be confused with certain species of Lenzites and Irpex, where forms of Daedalea confragosa and D. unicolor may be sought.

HEXAGONIA. Tubes from the first dilated in hexagonal channels, not stratose; plants corky, sessile.

Sclerodepis. Like Trametes, but margin of pileus acute, and dissepiments of the tubes often dentate.

aa) Tubes lamellar, i. e., arranged in distinct radiating, or concentric rows.

LENZITES. Tubes near point of attachment, elongate, radiating, formed by the anastomosing of lamellae which are free at margin. See Lenzites of the Agaricaceae. Daedalia confragosa possesses forms which have been described as Lenzites.

FAVOLUS. Tubes large at first, radiating from a central stipe, or from a lateral attachment in sessile or dimidiate forms; plants tough and fleshy.

CYCLOMYCES. Lamellae or tubes in concentric circles, stipe central or subcentral, or none.

aaa) Tubes separate, clustered or scattered, cylindrical or funnnel form.

SOLENIA. Tubes at first clothed in a subiculum (often crowded in the subiculum like Cyphella, suggesting a relationship with the Thelephoraceae, where Massee places it).

aaaa) Tubes in the summit of small papillae, distinct.

POROTHELIUM. Plants resupinate, membranaceous. (Should it go in the Hydnaceae? See Massee).

aaaaa) Tubes bearing papillae at the center.

Theleporus. Tubes regular, continuous, palillae equal to the tubes; plants membranaceous.

BBB) Plants with a leathery fibrous pileus and a tremelloid hymenium.

GLOEOPORUS. Tubes as in Polyporus.

BBBB) Plants waxy, gelatinous or tremella like.

MERULIUS. Tubes formed of shallow, irregular, reticulate folds or wrinkles.

Laschia. Tubes as in Polyporus; pileus gelatinous, sessile or with a central stipe.

Campbellia. Pileus gelatinous, drying horny, stipitate; tubes large, angular, edge frequently serrate or dentate; like Boletus but tremelloid.

Mycodendron. Plants dendroid; stipe dilated below, bearing above several pilei in acropetal succession; pilei gelatinous; hymenium tubercular or with irregular folds.

AA) Plants bearing the hymenium in numerous irregular closed chambers, as well as in exposed pores.

a) Plants resupinate.

Myriadoporus. Hymenium cellular, porous; pores of the surface open, others enclosed in the pileus, variously directed, short; plant fleshy (possibly an abnormal form of Polyporus).

Poroptyche. Pores in the margin, foveolate, soon becoming larger and irregularly lobed, often closed.

aa) Plants not resupinate.

Ceriomyces. Plants subglobose; hymenium on surface of closed locelli, rarely tubes superficial (often found in connection with Polyporus and Daedalia of which it is possibly an abnormal form).

LENTODIUM. Like Lentinus but with radiating irregular pores (some closed) instead of lamellae (possibly an abnormal form of Lentinus tigrinus).

Henningsia. At first like Thelephora, finally like Polyporus. (Beib. zur Hedwig., Feb. 96, p. 9).

Fam. III, Hydnaceae.

Key to the genera of the Hydnaceae.

A) Hymenophore or at least a subiculum present.

B) Hymenium not possessing sterile outgrowths in the form of hairs or spines.

a) Teeth awl-shaped, well formed, more or less cylindrical projections, plain or with a few indentations at the ends, these not forming pores. (See Porothelium in Polyporaceae).

b) Plants gelatinous.

TREMELLODON. Teeth beneath.

bb) Plants not gelatinous.

HYDNUM. Plants pileate, central stemmed or lateral, or resupinate and spreading; fleshy or corky.

Hericium. Plants clavate, teeth borne on the apex ; fleshy.

ODONTIA. Plants resupinate, subiculum of interwoven fibres bearing crested warts and spines.

CALDSIELLA. Plants composed of a membranaceous fibrillose subiculum (not a true pileus) ; teeth conic ; spores brown, muricate.

aa) Teeth lamellate, i. e., on the edge of short lamellae, or folds, or tubes.

SISTOTREMA. Plants fleshy, hymenium below.

IRPEX. Plants leathery or woody (teeth concrete with pileus).

Lopharia. Plants resupinate, hymenium of crest-like veins or wrinkles margined with crested Incisions.

aaa) "Teeth" forming irregular, shallow folds or wrinkles.

PHLEBIA. Plants resupinate, shallow folds or wrinkles sometimes radiating, but more or less irregular and interrupted.

Thwaitsella. Plants resupinate, thin, folds radiate from the center, and anastomose more or less ; margin smooth (do not confound with Merulius).

aaaa) "Teeth" forming obtuse, short, tubercles, or granules.

RADULUM. Plants resupinate, hymenium of irregular, subcylindrical, obtuse tubercles.

GRANDINIA. Plants resupinate ; hymenium of globose or hemispherical granules, obtuse or indented.

Grammothele. Plants resupinate, hymenium porose, pores reticulate and granular.

BB) Hymenium with sterile outgrowths in the form of cystidia or spines.

Asterodon. Plants resupinate, spreading, membranaceous, teeth awl-shaped, hymenium beset with stellate brown cystidia.

KNEIFFIA. Sterile hair-like outgrowths in clusters; fertile hymenium like Corticium.

Hydnellum. Like Kneiffia but basidiospores echinulate (based on Kneiffia subtilis, Hedw. XXXV, 163, 1896. Karsten.

Hydnochaete. Resupinate, corky-subcoriaceus; hymenium with brown simple cystidia which give plants a chestnut color. Near Asterodon but cystidia not stellate. (Bresadola, Hedw. XXXV, 287, 1896).

AA) Hymenophore or subiculum absent.

MUCRONELLA. Teeth arising directly from the substratum, awl-shaped.

Fam. IV, Thelephoraceae.

Key to the genera of the Thelephoraceae.

1. Eu-Thelephoraceae: pileus devoid of green gonidia (old plants sometimes have green gonidia growing on them).

A) Plants not gelatinous or subgelatinous, forming a prominent hymenophore which stands out from the substratum, or if effuse or resupinate then leathery, papery, or woody and hymenium arising from a distinct pileus which is separated from the substratum by floccose or strigose layer. In the pileated forms no mucus bearing cystidia on the upper sterile surface.

B) Plants compact; hymenium well formed.

C) Basidia forming the hymenium continuous, i. e., non-septate.

D) Hymenium smooth, i. e., not bristling with minute spines or hairs.

a) Hymenium ribbed or rugulose.

b) Ribs of the hymenium smooth.

CRATERELLUS. Plants fleshy or membranaceous, erect, often infundibuliform; hymenium ribbed or sometimes rugulose.

THELEPHORA. Plants leathery, erect and stiptate and lateral, or effuse-reflexed, or resupinate; hymenium slightly ribbed; spores spherical, colored, minutely warted or echinulate.

b) Ribs of the hymenium covered with warty projections.

Cladoderris. Pileus leathery-woody; hymenium woody; ribs of the hymenium branched radiating, finally covered with warts or spines. (Related to Thelephora but woody).

Beccariella. Like Cladoderris but ribs fan-shaped and covered with small verrucose or crested projections.

aa) Hymenium even, i. e., not ribbed or rugulose.

Hypolyssus. Plants leathery, somewhat urn-shaped; pileus hard, stuffed. (Related to Craterellus but pileus not infundibuliform, etc).

STEREUM. Plants leathery or woody ; pileate ; central stemmed or lateral, or effuse-reflexed, or entirely resupinate : free portion of pileus more or less hairy or strigose ; hymenium arising from a compact layer which is separated from the substratum by a floccose or strigose layer of mycelium.

CONIOPHORA. Plants membranaceous, resupinate ; hymenium fleshy but at maturity dusted with the smooth, colored spores.

Skepperia. Lateral stipe abruptly expanding into a flattened, convolute or mitriform pileus (Cystidia in the hymenium and perhaps should go in the following section).

DD) Hymenium provided with minute spines or hairs intermingled with the basidia.

HYMENOCHAETE. Like Stereum, but hymenium velvety from smooth colored bristles.

Hymenochaetella.

PENIOPHORA. Plants entirely resupinate; cystidia colorless, minutely verrucose at the apex.

Bonia. Resupinate, leathery, papery, hymenium with numerous, short multiseptate bristles.

CC) Plants with the hymenium formed of basidia at first globose and simple but becoming cylindrical and transversely septate.

SEPTOBASIDIUM. Pileus effuse, resupinate, leathery (resembles Thelephora but the basidia are like those of the Auriculariaceae).

BB) Plants floccose, erect, hymenium not well formed.

TOMENTELLA. (Synonymous with certain species of Thelephora where species should be sought ; separated because no well defined hymenium).

Matruchotia. Plants dendroid, branching, formed of fasciculate hyphae, basidia clavate, bearing two sterigmata (XI, 118).

A^2) Plants subgelatinous when fresh, encrusting various substances.

Soppittiella. Hymenium even ; spores warted or echinulate, colored. (Genus based on certain species of the old Thelephora where they should be sought; see Massee, I, 106).

Aldridgea. Resupinate, effused, drying cartilaginous or rigid and collapsing ; spores continuous, colored, smooth. (See Massee I, 106).

A^3) Plants with the hymenium arising from a thin layer of mycelium which is not separated from the substratum by a strigose or floccose layer ; plants resupinate, or margin reflexed.

a) Spores continuous.

b) Hymenium beset with cystidia or spines.

PENIOPHORA. Plants entirely resupinate; cystidia colorless, minutely verruculose at the apex. (Certain species should be sought in Corticium).

bb) Hymenium smooth, i. e., no spines or cystidia.

c) Basidia rotund.

TULASNEA. Like Corticium but basidia globose. (See Corticium for species).

cc) Basidia not rotund, but clavate, or cylindrical.

CONIOPHORA. Plants membranaceous, resupinate; hymenium fleshy or waxy, but at maturity dusted with the smooth colored spores.

CORTICIUM. Resupinate, or with the margin reflexed ; hymenium soft, somewhat waxy, often cracking when dried. On wood, etc.

ASTEROSTROMA. Resupinate, effused; hymenium on a dry fibrillose subiculum which is intermixed with stellate brown hyphae. (Certain species should be sought in Corticium and Hymenochaete. See Massee, Mon Thel).

aa) Spores septate.

HETEROBASIDIUM. Resupinate effused, on a dry compact subiculum ; basidia one or two-spored ; spores slightly colored. (Intermediate between Hyphomycetes and Basidiomycetes).

A[4]) Plants small, somewhat cup or bell shaped, or placentiform, or concave, sessile, erect or pendulous, but membranaceous and thin ; sometimes lateral, and stalked.

MICHNERA. Placentiform, resupinate, cup-shaped (sometimes closed at first) hymenium waxy ; spores large, pedicellate.

MATULA. (See foot note Sacc. Syll. VI, 653).

CYPHELLA. Very thin, cup shaped, rarely flat, often pendulose, bell-shaped or lateral (typically concave hymenium).

Friesula. Waxy or leathery, nearly orbicular, flattened; stipe lateral; hymenium beneath.

A[5]) Plants forming a thin layer of interwoven hyphae ; basidia not forming a definite compact hymenium.

Aureobasidium. Very thin, formed of intricately woven branched hyphae; basidia bearing several-many sterigmata ; spores cylindrical.

Urobasidium. Arachnoid, thin; hyphae creeping, branched, occasionally bearing basidia; basidia obpyriform, curved-rostrate, bearing two lateral sterigmata.

HYPOCHNUS. Resupinate, floccose, collapsing or mould like, basidia four-spored on long lax hyphae. (Approaches Zygodesmus among the Hyphomycetes).

A[6]) Plants parasitic on leaves and stems (also flowers); mycelium in the tissues; hymenium well formed by basidia which emerge.

EXOBASIDIUM. Affected portions of host covered with a bloom formed by the numerous basidia and septate spores.

A[7]) Plants with the upper sterile surface possessing mucus bearing cystidia.

Gloiocephala. Plants small, pileus disk form, stipitate ; hymenium beneath ; basidia one-spored. (Massee Grev. XXI, p. 33).

2. Hymenolichenes Mattirola : Pileus bearing gonida.

Cora. Plants leathery, membranaceous ; hymenium beneath, somewhat waxy, furnished with sarciniform gonidia.

Rhipodonema. Plants leathery, membranaceous, hymenium below, subgelatinous, bearing gonidia in chains.

Fam. V, Clavariaceae.

Key to the genera of the Clavariaceae.

A[1]) Plants fleshy, or fleshy-fibrous, not very small.

SPARASSIS. Plants branched, branches foliaceous, much flattened.

ACURTIS. Plants fibrous-fleshy, divided into fibrous clavate branches, spores mealy. (This genus is now regarded by some as an abnormal form of Lentinus tigrinus. XI, 139).

CLAVARIA. Plants fleshy, branched or simple, branches typically terete, some simple forms clavate.

Ramaria Holmsk. Branched, branches above attenuate. . (Sacc. 692).
Syncoryne Fr. Subsimple, cespitose or fasiculate at base. (Sacc. 717).
Holecoryne Fr. Subsimple, at the base distinct. (Sacc. 722).

A[2]) Plants gelatinous-cartilaginous.

CALOCERA. Viscid when moist, drying horny, simple or branched, hymenium tremelloid. (Placed by Massee in the Dacryomycetaceae, because of the forked basidia).

A[3]) Plants leathery or nearly so.

a) Hymenium setulose, tomentose, or hairy.

LACHNOCLADIUM. Branched, with sterile setae or a sterile tomentum.

HIRSUTELLA. Plants clavariaeform, simple or branched, straight, rigid ; hairy from the very long sterigmata on the basidia. (Here belongs according to Sacc., XI, 140, Pterula setosa Pk).

aa) Hymenium smooth, i. e., not setulose, etc.

PTERULA. Plants leathery, cartilaginous, dry, terete or compressed, single or branched.

A[4]) Plants waxy or somewhat waxy ; usually quite small.

a) Clavula or head solid or stuffed.

TYPHULA. Simple or clavate with filiform stipe; often arising from a sclerotium.

PISTILLARIA. Sessile or attenuated into a stem-like base, becoming horny and rigid when dry, linear, subclavate or subcapitate, rarely arising from a. sclerotium.

Eu-Pistillaria. Clavula ovate-oblong or very terete, everywhere fertile (Sacc. 752).
Ceratella Pat. Clavula elongate, apex acute, sterile. (Sacc. 758).
Pistillina Quel. Clavula hemispherical, lenticular or subglobose. (Sacc.759)

aa) Clavula hollow or vesiculose.

PHYSALACRIA. Somewhat rigid, stem slender, distinct.

Tremellineae.

Dacryomycetaceae : Basidia bifurcate, each long sterigma bearing a single basidiospore ; or basidia long, slender and one-spored.

Tremellaceae : Basidia globose or subglobose. longitudinally divided usually into four cells, sometimes simple ; basidia in one genus in chains. Gelatinous plants with lamellate, porous, reticulate, or toothed hymenium, and continuous basidia may be sought here.

Auriculariaceae : Basidia elongate or fusoid, transversely septate or bearing numerous spores.

Fam. VI, Auriculariaceae.

Key to the genera of the Auriculariaceae.

A[1]) Plants compact, various in form, standing out from the substratum irregularly ; or effused or reflexed.

a) Hymenium reticulate or ribbed.

AURICULARIA. Plants coriaceous, stereoid, effused, reflexed, with a gelatinous hymenium.

aa) Hymenium even or verruciform, not reticulate or ribbed.

b) Entirely effused, spreading over the substratum.

PLATYGLOEA. Verruciform, effused, thin, erumpent or superficial, gelatinous, homogeneous.

Helicogloea. Effuse, homogeneous ; basidia flexuous, incurved, bearing many sterigmata on the convex part. (XI, 145).

bb) Plants standing out from the substratum, often cup-shaped or earshaped.

HIRNEOLA. Gelatinous, cartilaginous, drying coriaceous-horny ; often cup-shaped or earshaped ; hymenium smooth or plicate.

Mylittopsis. Plants tuberculiform; composed of radiating fibres; basidia intermingled with paraphyses.

A[2]) Plants of loosely interwoven threads, effused.

Stypinella. Floccose, collapsing, mould-like (like Hypochnus but basidia transversely septate), Hedw. Beib. XI, 1896.

Saccoblastia. Like Stypinella (or Hypochnus) but basidia bearing numerous spores.

A[3]) Plants pileate, pileus campanulate.

Auriculariella. Hymenium deeply plicate-alveolate.

Fam. VII, Tremellaceae.

Key to the genera of the Tremellaceae.

A[1]) Plants of various form; hymenium not lamellate, porous, reticulate or toothed.

B) Plants compact, not floccose, nor very thin when effuse.

C) Hymenium not setose.

a) Basidia not in chains.

b) Basidiospores several celled, or becoming so on germination.

EXIDIA. Plants cup-shaped, truncate, or effused, often papillose; basidiospores two four-celled on germinations, bearing allantoid, curved sporidiola.

ULOCOLLA. Plants pulvinate, gyrose; basidiospores two-celled on germination bearing narrow straight sporidiola.

Delortia. Plants tuberculiform; basidia ovate continuous, one-spored; basidiospores curved, three-celled.

bb) Basidiospores continuous, not becoming septate on germination.

c) Plants monomorphic, i. e., not of two forms.

d) Plants tremelloid or disciform, not strictly spathulate or columnar.

TREMELLA. Plants pulvinate or effuses, cerebriform, homogeneous; basidiospore, sporidiola, and conidia when present globose or ovoid.

Nematella. Like Tremella but with a solid, fleshy mucleus.

Femsjonia. Plants cup-shaped, compact, gelatinous, basidia globose.

SEBACINA. Plants effused, slightly gelatinous, like Thelephora but basidia globose; species should be sought in Thelephora.

dd) Plants strictly spathulate or columnar.

Gyrocephalus. Plants spathulate, spores ovate, pyriform.

Hyaloria. Plants vertical, columnar, cespitose. (Hedw. XII, 1896, vol. 35).

cc) Plants dimorphic.

Craterocolla. Plants globose, or with spreading lobes; basidiospores on the termelloid form, conida in cup-shaped forms.

aa) Basidia in chains.

Sirobasidium. Plants gelatinous, pulvinate; basidia in chains, longitudinally septate, the terminal ones the older; basidiospores on any part of the basidium.

CC) Hymenium setose.

Heterochaete. Plants effused, membranous-floccose or leathery, gelatinous, covered with setae.

BB) Plants floccose like Hypochnus, or very thin and encrusting.

Stypella. Floccose, collapsing, mould like, basidia globose.

Exidiopsis. Plants very thin, encrusting, basidia globose; conidia present and appendiculate.

A^2) Plants with hymenium lamellate, porous, reticulate or toothed; basidia may be elongate and continuous.

B) Hymenium lamellate.

HELIOMYCES. Like Marasmius but substance subgelatinous tremelloid.

Stylobates, plants subgelatinous, clavate-capitate, hymenium in lamellae below but converging over the apex where it is venose.

BB) Hymenium porous or reticulate.

Protomerulius. Like Merulius but basidia globose, longitudinally divided into four cells each giving rise to a basidiospore.

MERULIUS. Plants waxy, tremellaceous, effuse then reflexed, context mucose-fibrous; hymenium reticulate from anastomosing veins.

GLOEOPORUS Like Polyporus but with a gelatinous hymenium.

LASCHIA. Plants gelatinous-tremellaceous, drying membranaceous, faintly foveolate-reticulate. Alveoli thin, flaccid, homogeneous with the pileus.

Campbellia. Pileus stipitate, gelatinous, drying horny ; tubes large, angular, edge frequently serrate or dentate ; like Boletus but tremelloid.

BBB) Hymenium on awl-shaped projections.

Protohydnum. Plants resupinate, tremellaceous, otherwise as in Hydnum. (Hedw. vol. 35, p. XII, 1896).

TREMELLODON. Plants standing out from substratum, pileate, hymenium below.

Mycodendron. Plants dendroid; stipe dilated below, bearing above several pilei in acropetal succession ; pilei gelatinous ; hymenium tubercular or with irregular folds.

Fam. VIII. Dacryomycetaceae.

Key to the genera of the Dacryomycetaceae.

A[1]) Plants of various form, but not inflated and constantly hollow ; basidiospores not in chains.

B) Plants small, cushion form, globose, or cup-shaped, sessile, surface gyrose.

DACRYOMYCES. Plants cushion form, surface gyrose ; basidiospores septate at maturity or upon germination ; conidia when present in chains.

Seismosarca. Plants subglobose, or lobed, gyrose, sessile ; basidiospores continuous, colored.

BB) Plants more or less erect stipitate or spathulate ; context firm.

a) Cylindrical, terete, simple or branched.

CALOCERA. Gelatinous, drying horny.

aa) More or less expanded.

b) Spathulate or cup-shaped, or more or less compressed and inequilateral.

GUEPINIA. As above, spores curved.

bb) Capitate.

Dacryopsis. Capitate on short stalk; hymenium bearing conidia on short lateral branches among the basidia ; basidiospores continuous or septate.

Dacryomytra. Clavula ovate-conic ; basidiospores three-septate, lunate, basidia one-spored.

Collyria. Clavula inflated, filled with gelatinous substance, stipe hollow.

Ditiola. Clavula disk-form ; basidiospores one-septate.

BBB) Plants very thin, effuse, or if stipitate, then context floccose from loose threads.

CERACEA. Effused, agglutinated, very thin, waxy, basidiospores globose.

Arrhotidia, effused or sub-spathulate, hymenium somewhat waxy, smooth, not wrinkled ; basidiospores oblong.

A[2]) Plants subglobose, hollow ; basidiospores not in chains.

Apyrenium. Plants sessile, basidiospores continuous.

Collyria. Stipitate, stipe hollow ; capitulum globose, inflated, filled with a gelatinous substance. (See under section above).

A[3]) Basidiospores in chains ; plants subgelatinous.

HORMOMYCES. Plants globose-pulvinate ; gyrose-plicate ; hyphae radiating, forked or branching, bearing at the apex spores in chains.

(Hormomyces, Apyrenium, and Ditiola are doubtful genera.)