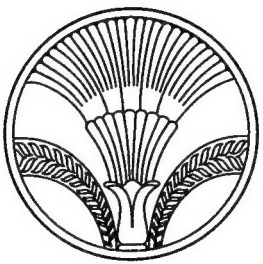

THE

GENERA OF FUNGI

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PREFACE.

The present book is an outgrowth of a translation of the keys in the original eight volumes of Saccardo's "Sylloge Fungorum." This translation was mimeographed and bound for the use of classes in mycology. It immediately proved so convenient and usable that the preparation of a complete guide to the fungi was begun the same year. Many things have occurred during the past two years to delay the completion of the guide until this time. In its present form, the book is based upon Saccardo's great work, though in certain groups other authors have been followed, and in some cases, the discomycetes and lichens, the treatment amounts almost to a revision. The arrangement of the orders and families is different in a large measure, and in the distribution of the lichens is original. No attempt has been made to revise the genera, except where the treatment had lagged behind current practice, as is particularly true of the lichens. In some cases, genera have been included in others, but this is done only for the sake of the beginner, when the descriptions reveal no differences, and is by no means intended as a revision.

Questions of nomenclature have necessarily been left largely to one side, but no hesitation has been felt in making certain corrections. These have dealt mostly with mistaken or neglected transliteration, and with faulty composition. A considerable number of sesquipedalian words have been shortened, and the greater number of hybrid names have been corrected. These corrections have been made in such a way as to retain as much of the original name as possible. Corrections are indicated by the sign † with the original form in parenthesis below. New genera are designated by an asterisk, and are listed with their types on a later page.

The genera described in volumes 9-18 of the "Sylloge" have been included in the proper family keys. Genera placed under "incertae sedis" are excluded as a rule, since it is impossible to locate them definitely. A few genera occur more than once when they show the characters of two families, or when superficial and developmental features indicate different positions. An endeavor has been made to make the keys as consistent as possible, and as simple as is profitable. The mycologist must have a fair equipment of technical terms, as well as a Latin vocabulary, and the sooner these are acquired the better. In many cases, definiteness will seem to be lost by the use of such terms as "typically," "usually," etc., but the beginner must quickly learn that the line between families is rarely clear-cut, but often on the contrary most devious. The tyro must constantly be warned that some species belong as naturally in one family as in another, and must consequently be sought in more than one place. The color of a spore, the position of a perithecium, or the texture of a cup does not always

conform with a definite term, and the beginner must be governed accordingly.

While the writer is particularly indebted to Saccardo's "Sylloge Fungorum," he is also indebted to Thaxter's "Monograph of the Laboulbeniaceae," and his "Preliminary Diagnoses of New Species of Laboulbeniaceae," II-VI, for the material for the key to this group. The treatment of the Pezizales is largely that of Rehm's "Discomyceten," modified by the inclusion of the lichens. From Engler and Prantl's "Pflanzenfamilien," material has been drawn in the monographs of the bacteria by Migula, of phycomycetes and other groups by Schröter and Lindau, and especially of the lichens by Zahlbruckner. The writer is also under heavy obligation to Dr. Edith Clements, for the preparation of the Glossary, and for much other work of preparation and of publication. His thanks are also due to Professor Raymond J. Pool for assistance in the original mimeograph copies.

FREDERIC EDWARD CLEMENTS.

The University of Minnesota,
June 1, 1909.

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II. Filaments septate, typically saprophytic or epibiotic; conidia borne on conidiophores; sex-cells usually absent

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Phycomycetes

I. True mycelium lacking or rudimentary

1. Threads simple, globose to filamentous, often motile; propagating by fission or by conidia also
   a. Cells single or in colonies, never forming plasmodium-like masses — **Bacteriales** 7
      (1) Cells filamentous, not spirally twisted
         (a) Filaments motile, sheathless — **Beggiatoaceae** 7
         (b) Filaments non-motile, sheathed — **Chlamydobacteriaceae** 7
      (2) Cells cylindric to globose, spirally twisted when filamentous
         (a) Cells more or less spirally twisted — **Spirillaceae** 7
         (b) Cells not spirally twisted or curved
            x. Cells oblong to cylindric — **Bacteriaceae** 8
            y. Cells globose or cuboid — **Coccaceae** 8
   b. Cells secreting a gelatinous matrix and forming pseudoplasmodia, passing into cysts or spore-masses which are often stalked — **Myxobactrales** 8
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1. Aerial fungi propagating by conidia
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a. Perithecia one to many on a receptacle; sex-organs present; typically on insects — **Laboulbeniales** 18
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(b) Subicle dark or black; appendages mostly lacking; asci usually numerous, more or less cylindric
x. Perithecia more or less globose — **Perisporiaceae** 22
y. Perithecia clavate to cylindric, often branched — **Capnodiaceae** 25
(2) Subicle usually absent; ostiole and paraphyses typically present
(a) Perithecia fleshy or waxy, bright colored — **Hypocreaceae** 42
(b) Perithecia hard, membranous to carbonous, typically brown to black
x. Perithecia distinct, not reduced to cavities or locules
(x) Perithecia normally globose, single, clustered or in a stroma
m. Mycelium not forming a thallus with algae — **Sphaeriaceae** 25
n. Mycelium forming a thallus — **Verrucariaceae** 38
(y) Perithecia flattened, dimidiate and radiate — **Microthyriaceae** 51
(z) Perithecia with a broad and compressed or a funnelform ostiole
m. Ostiole broad and compressed, cleft; perithecia mostly carbonous — **Lophiostomataceae** 53
n. Ostiole elongate, then expanded and

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y. Perithecia reduced to locules in a stroma		
(x) Thallus absent		
m. Stromata mostly carbonous or membranous, not attached by a stipe-like point	Dothideaceae	48
n. Stromata subcarnose, attached by a stipe-like point	Coccoideaceae	50
(y) Thallus present	Mycoporaceae	50
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b. Hysterothecium more or less elongate and rimose, or rounded and stellately cleft		
(1) Hysterothecium elongate, rimose, rarely vertical		
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(1) Thallus lacking		
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x. Apothecia opening by stellate or irregular lobes or by a cleft		
(x) Apothecia dark, brown or black		
m. Apothecia mostly carbonous or leathery; hypothecium thin	Phacidiaceae	61
n. Apothecia mostly membranous or horny; hypothecium thick	Tryblidiaceae	65
(y) Apothecia white or bright colored, typically waxy	Stictidaceae	62
y. Apothecia usually opening circularly, mostly leathery or horny, brown or black	Dermateaceae	65
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(2) Thallus present
(a) Asci disappearing early; disk with a mazaedium — **Caliciaceae** 70
(b) Asci persistent; mazaedium absent
x. Thallus cottony, cobwebby or spongy; algae yellow-green — **Chrysotrichaceae** 72
y. Thallus more or less distinctly gelatious; algae blue-green — **Collemataceae** 72
z. Thallus firm, layered, neither gelatinous nor cottony
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(y) Thallus of one sort only, horizontal or erect
m. Spores typically 2-celled, with a thickened cross-wall, usually traversed by a narrow canal — **Physciaceae** 83
n. Spores without thickened cross-wall and intersecting canal
(m) Apothecia sunken, or grown together with the thallus on the whole underside — **Peltophoraceae** 75
(n) Apothecia typically superficial when mature, not attached broadly

Basidiomycetes

Key to the Genera

Class 1. SCHIZOMYCETES

Typically one-celled fungi, dividing by fission in 1, 2 or 3 planes, sometimes forming true filaments, but then motile or sheathed, and without true branches; resting cells often developed; sexual reproduction lacking.

Order 1. BACTERIALES

Globose, rod-like or filamentous, single or in colonies, sometimes grouped into a loose mass (zoogloea), but never forming pseudoplasmodia or sporangium-like masses.

Family 1. BEGGIATOACEAE

MIGULA 40

Filaments simple, free, motile, continuous or septate, sheathless, usually filled with shining or yellowish sulphur granules.

A single genus — **Beggiatoa 8: 935**

Family 2. CHLAMYDOBACTERIACEAE

MIGULA 35

Filaments simple or false-branched, typically attached, non-motile, septate, with a more or less conspicuous sheath; propagation by ciliate, creeping or non-motile conidia.

I. Cells without sulphur granules
  1. Filaments simple
    a. Fission always in one plane — **Nocardia 8: 927**
    b. Fission in 3 planes during conidia formation
      (1) Filaments marine, sheath very thin — **Phragmidiothrix 8: 935**
      (2) Filaments fresh-water, sheath distinct — **Crenothrix 8: 925**
  2. Filaments false-branched — **Cladothrix 8: 927**

II. Cells with sulphur granules — **Thiothrix 8: 934**

Family 3. SPIRILLACEAE

MIGULA 30

One-celled, more or less spirally twisted, rod-like or short-filamentous, usually motile by means of one to many flagella.

I. Cells stiff or rigid

1. Flagella lacking — **Spirosoma M. 31**
2. Flagella present
   a. Flagellum 1, rarely 2-3, polar — **Microspira M. 31**
   b. Flagella clustered, polar — **Spirillum 8: 1006**

II. Cells flexible — **Spirochaete 8: 1006**

Family 4. BACTERIACEAE

MIGULA 20

One-celled, cells oblong to cylindric, straight or at least never spirally curved, flagella often present.

I. Flagella lacking — **Bacterium 8: 1020**

II. Flagella present
1. Flagella peripheral — **Bacillus 8: 943**
2. Flagella polar — **Pseudomonas M. 29**

Family 5. COCCACEAE

MIGULA 15

One-celled, cells globose, usually flattened when grouped in rows or masses, flagella usually absent.

I. Flagella lacking
1. Fission in one plane, cells in rows — **Streptococcus 8: 1054**
2. Fission in two planes, cells in plates — **Micrococcus 8: 1076**
3. Fission in three planes, cells in bundles — **Sarcina 8: 1044**

II. Flagella present
1. Fission in two planes — **Planococcus M. 19**
2. Fission in three planes — **Planosarcina M. 20**

Order 2. MYXOBACTRALES

Cells rod-like, motile, fission in one plane; cells secreting a gelatinous base and forming pseudoplasmodia, then passing into cysts, or spore-masses which are often stalked (cystophore).

Family 6. MYXOBACTERIACEAE

11: 460, T. 389

Characters of the order.

I. Cells always rod-like, distinct cysts present
1. Cysts free, usually on a cystophore — **Chondromyces 14: 842**
2. Cysts one or more in a gelatinous matrix — **Myxobacter 14: 844** **(Polyangium 7: 47)**

II. Cells finally forming rows of globose spores, no definite cysts — **Myxococcus 14: 843**

Class 2. CHLOROPHYCEAE

Typically one-celled or filamentous plants, for the most part chlorophyllous but

each order containing at least one fungous family; propagation by fission and zoogonids; sexual reproduction present in most.

Order 3. PROTOCOCCALES

Typically one-celled algae, usually dividing by fission and producing zoogonids; sexual reproduction often lacking; one fungous family.

Family 7. CHYTRIDIACEAE

7: 286, SCHROETER 65

Mycelium lacking or in the form of delicate protoplasmic threads, rarely of hyphae, one-celled; sporangiophore lacking or but slightly developed; sporangia producing zoogonids, thin-walled and ripening quickly, or thick-walled and resting for a time (resting sporangia); sexual reproduction present in a few forms, the sex organs scarcely distinguishable.

Key to the Subfamilies

I. Resting sporangium asexual, rarely formed by the union of two zoogonids
  1. Mycelium completely lacking
    a. Sporangia separate, one formed from each fruit-mass **Olpidiae**
    b. Sporangia in sori, formed by division of fruit-mass **Synchytriae**
  2. Mycelium present
    a. Mycelium of delicate transient strands
      (1) Mycelium limited to one terminal sporangium **Rhizidiae**
      (2) Mycelium extended, sporangia intercalary and terminal **Cladochytriae**
    b. Mycelium consisting of permanent hyphae **Hyphochytriae**

II. Sexual resting spores formed by union of two sporangia and passing of contents of one into the other **Oochytriae**

III. Sexual spores formed by conjugation **Zygochytriae**

Subfamily Olpidiae

SCHROETER 67

Mycelium lacking; fruit-mass endobiotic, globose, elliptic, rarely subclavate, undivided, finally forming a simple zoosporangium or resting sporangium, in which zoospores are formed after a period of rest.

I. Fruit-body amoeboid before maturity **Reessia 7: 304, S. 67**

II. Fruit-body without movement
  1. Sporangia free in the host-cell
    a. Membrane delicate, dissolving to free zoospores **Sphaerita 7: 314, S. 67**
    b. Membrane firm, with a definite opening
      (1) Sporangia globose or elliptic
        (a) Sporangia with 1, rarely 2, openings

x. Zoospores 1-ciliate; resting sporangium smooth
Olpidium 7: 310, S. 67

y. Zoospores 2-ciliate; resting sporangium spiny or warted
Olpidiopsis 7: 299, S. 69

(b) Zoosporangia with many openings
Pleotrachelus 7: 315, S. 69

(2) Sporangia elongate or clavate **Ectrogella 7: 315, S. 70**

2. Wall of sporangium fused with wall of host-cell
Pleolpidium S. 70

Subfamily Synchytriae

SCHROETER 71

Mycelium lacking; fruit-body endobiotic, when mature dividing simultaneously to form zoosporangia grouped in rows or in a sorus; resting sporangia arising directly from the fruit-body or by the division of it.

I. Zoosporangia arising through direct division of entire plasm of fruit-body, not surrounded by a common membrane

1. Sporangia filling host-cell completely, wall fused with that of host-cell
Rozella 7: 300, S. 71

2. Sporangia free, aggregated **Woronina 7: 301, S. 71**

II. Zoosporangia arising through division of the full-grown fruit-body, surrounded by the common membrane of the mother cell

1. Sporangia formed directly from the full-grown fruit-body
Synchytrium 7: 288, S. 72

2. Sporangia formed from the division of a thin-walled mother-cell which escapes from the fruit body **Pycnochytrium S. 73**

Subfamily Rhizidiae

SCHROETER 75

Fruit-body endophytic, epiphytic, or living free between the nutrient media, at base with a slender (in epiphytic forms sometimes scarcely perceptible) often branched mycelium, distinct for each fruit-body and imbedded in the matrix; zoosporangia globose or oblong, simple, often with a sterile swollen cell at base; zoospores globose, 1-ciliate; resting sporangia formed asexually, usually like the zoosporangia.

I. Zoosporangia breaking out with an irregular or tube-like mouth, like the resting sporangia, which arise at the same place; mycelium delicate

1. Sporangia without basal cell, arising directly from mycelium

a. Sporangia endophytic **Entophlyctis 14: 443, S. 75**

b. Sporangia epiphytic or free

(1) Sporangia epiphytic, seated thickly on host-cell
Rhizophidium 7: 298, S. 76

(2) Sporangia free, mycelium only penetrating nutrient medium

(a) Zoospores escaping singly **Rhizophlyctis 14: 445, S. 77**

(b) Zoospores escaping as a ball **Nowakowskia 7: 313, S. 77**

2. Sporangia with stalk-like or swollen basal cell

a. Sporangia with a stalk-like cell

(1) Epiphytic; stalk separated by wall from sporangium

(a) Sporangium straight, rounded above — **Podochytrium S. 77**

(b) Sporangium curved, pointed above — **Harpochytrium 11: 249, S. 77**

(2) Saprophytic; stalk not separated from sporangium — **Obelidium 7: 299, S. 77**

b. Sporangia with swollen basal cell

(1) Sporangium and basal cell endophytic — **Diplophlyctis S. 78**

(2) Sporangium epiphytic or free

(a) Sporangium epiphytic

x. Zoospores escaping singly — **Phlyctochytrium S. 78**

y. Zoospores escaping in a ball — **Rhizidiomyces 7: 316, S. 79**

(b) Sporangia saprophytic, free — **Rhizidium 7: 296, S. 79**

II. Zoosporangia opening by a lid, epiphytic; resting sporangia endophytic, mycelium tubular or saccate — **Chytridium 7: 304, S. 80**

Subfamily Cladochytriae

SCHROETER 80

Mycelium diffuse, repeatedly branched, saprophytic, intercellular or intracellular, forming many sporangia, delicate, disappearing by the maturity of the spores; sporangia intercalary or terminal, zoospores 1-ciliate; resting sporangia produced asexually.

I. Resting sporangia alone present — **Physoderma 7: 317, S. 81**

II. Zoosporangia alone present

1. Endophytic, intracellular — **Cladochytrium 7: 295, S. 81**

2. Free, in algal slime

a. Sporangia opening by a hole — **Amoebochytrium 7: 315, S. 82**

b. Sporangia opening by a lid — **Nowakowskiella 17: 514, S. 82**

Subfamily Harpochytriae

SCHROETER 83

Mycelium strongly developed, cylindric, persistent; sporangia alone known, formed asexually.

I. Mycelium and sporangia in the host-cell — **Catenaria 9: 360, S. 83**

II. Sporangia in part at least free

1. Parasitic

a. Mycelium endophytic — **Harpochytrium 11: 249, S. 84**

b. Mycelium endozoic — **Polyrrhina 7: 314, S. 84**

2. Saprophytic — **Tetrachytrium 7: 295, S. 84**

Subfamily Oochytriae

SCHROETER 84

Mycelium lacking or variously developed; resting sporangium formed by the union of two young fruit-bodies, in which the plasm of one passes into the other which develops as an oogone; zoosporangia present, spherical to elongate.

I. Mycelium entirely lacking — **Diplophysa 7: 302, S. 85**

II. Mycelium present

1. Mycelium producing a single fruit-body **Polyphagus 7: 302, S. 85**
2. Mycelium producing several fruit-bodies **Urophlyctis 7: 303, S. 86**

Subfamily Zygochytriae

SCHROETER 87

Mycelium one-celled, upright, branched, producing zoospores and zygospores; zoosporangia single on ends of the branches, opening by a lid, zoospores one-ciliate; zygospores produced by the fusion of the end-cells of conjugating tubes, growing into a filament upon germination; intermediate between Chytridiaceae and Mucoraceae.

A single genus **Zygochytrium 7: 294, S. 87**

Order 4. SPIROGYRALES

Typically one-celled or simple filamentous algae, without zoospores; sexual reproduction by the conjugation of similar gametes; two fungous families.

Family 8. MUCORACEAE

SCHROETER 119, 7: 182, 9: 335, 11: 239, 14: 432, 16: 383, 17: 494

Saprophytes, rarely parasites, with a well-developed branching mycelium in which cross-walls are absent; propagation by spores (conidia) arising within sporangia, the latter apparently reduced to chains of conidia in one family; reproduction by the union of the end-cells or gametes of conjugating tubes.

Key to the Subfamilies

I. Sporangia always present, conidia sometimes present
  1. Columella present; zygospore naked or with a few appendages
    a. Wall of the sporangium homogeneous, not cuticularized, diffluent **Mucorae**
    b. Wall cuticularized and persistent above, thin and diffluent below **Pilobolae**
  2. Columella absent; zygospore enveloped in a dense covering **Mortierellae**

II. Sporangia rarely present, conidia always present
  1. Conidia solitary; zygospore arising directly from the gametes
    a. Sporangia present **Choanophorae**
    b. Sporangia lacking **Chaetocladiae**
  2. Conidia in chains; zygospore arising from outgrowths of gametes **Syncephalidae**

Subfamily Mucorae

7: 184, S. 123

Mycelium similar throughout or consisting of aerial and nutritive parts; sporangia alike or of two sorts, primary and accessory, the former with columella, the latter mostly without one; zygospore naked or with separate appendages arising from the suspensors.

I. Sporangia similar
1. Sporangiophore simple or branched, but not repeatedly dichotomous
a. Suspensors without appendages at maturity
(1) Aerial mycelium lacking
(a) Sporangia single, terminal **Mucor 7: 190, S. 124**
(b) Sporangia clustered, lateral
x. Sporangia globose **Circinella 7: 215, S. 125**
y. Sporangia long pear-shaped **Pirella 7: 216, S. 125**
(2) Aerial mycelium present
(a) Aerial mycelium stoloniferous
Rhizopus 7: 212, S. 125
(b) Aerial mycelium with many short thorn-like branches
Spinellus 7: 205, S. 125
b. Suspensors with thorny appendages at maturity
(1) Appendages spreading **Phycomyces 7: 204, S. 126**
(2) Appendages loosely enclosing the zygospore
Absidia 7: 214, S. 126
2. Sporangiophore repeatedly dichotomous
Sporodinia 7: 206, S. 127

II. Sporangia of two sorts, primary and secondary
1. Primary sporangia with, secondary without columella
Thamnidium 7: 211, S. 127
2. Both kinds of sporangia with columella
Dicranophora 11: 240, S. 128

Subfamily Pilobolae

7: 184, S. 123

Mycelium similar throughout; sporangia alike, with columella, sporangial wall cuticularized and persistent above; zygospores naked.

I. Sporangiophore equal, sporangium not thrown off
Pilaira 7: 188, S. 129

II. Sporangiophore swollen above, sporangium thrown off
Pilobolus 7: 184, S. 129

Subfamily Mortierellae

7: 184, S. 130

Sporangia similar, terminal, without columella; conidia single, spherical on short lateral branches of the aerial mycelium; zygospore enclosed in a dense mass of hyphae arising from the suspensors.

I. Sporangiophores erect, branches attenuate toward tip
Mortierella 7: 220, S. 130

II. Sporangiophores creeping, branches equal
Herpocladiella 7: 225, S. 130

Subfamily Choanophorae

9: 339, S. 131

Mycelium parasitic on plant parts; sporangia and conidia both present; conidio-

phores simple or branched, bearing one-celled conidia; sporangiophores simple, sporangia with a small columella.

A single genus — **Choanophora 9: 339, S. 131**

Subfamily Chaetocladiae

7: 220, S. 131

Mycelium parasitic on species of Mucor; propagation by conidia, sporangia lacking, conidia arising on short side branches; zygospore arising directly from the fused gametes.

A single genus — **Chaetocladium 7: 220, S. 131**

Subfamily Syncephalidae

7: 225, S. 132

Conidia in chains on short basidia borne on the end of the sporophores; zygospores arising as an outgrowth from the tips of the suspensors after conjugation.

I. Sporophores not swollen at tip — **Piptocephalis 7: 225, S. 132**

II. Sporophores swollen into a head at tip
1. Sporophore simple — **Syncephalis 7: 227, S. 132**
2. Sporophore branched — **Syncephalastrum 7: 232, S. 134**

Family 9. ENTOMOPHTHORACEAE

SCHROETER 134, 7: 280, 9: 349, 14: 437, 16: 388, 17: 510

Mycelium usually well-developed, tubular or filamentous, mostly parasitic or endozoic, rarely saprophytic, at first one-celled, then septate; propagation by one-celled conidia terminal on one-celled clavate conidiophores; zygospores globose.

I. Mycelium endozoic (in insects)
1. Conidia always present
a. Conidiophore simple, zygospores unknown, azygospores present
(1) Cystidia and holdfasts lacking; azygospores lateral — **Empusa 7: 281, S. 138**
(2) Cystidia and holdfasts present; azygospores terminal — **Lamia S. 139**
b. Conidiophore repeatedly branched, zygospores and azygospores present — **Entomophthora 7: 282, S. 139**
2. Azygospores alone present — **Tarichium 7: 284, S. 140**

II. Mycelium endophytic or saprophytic
1. Mycelium little developed, intracellular — **Completoria 7: 286, S. 140**
2. Mycelium well-developed, not intracellular
a. Parasitic on fungi — **Conidiobolus 7: 285, S. 141**
b. Saprophytic — **Basidiobolus 7: 285, S. 141**

Order 5. VAUCHERIALES

Unicellular, multinucleate, saccate or filamentous algae and fungi; propagation by zoospores or conidia; sexual reproduction in the three fungous families by unlike gametes, produced in antherids and oogones.

Family 10. SAPROLEGNIACEAE

SCHROETER 93, 7 : 264, 9 : 345, 11 : 244, 14 : 450, 16 : 395, 17 : 519

Mycelium strongly developed, broadly filamentous, more or less branched; propagation by zoosporangia, producing ciliate, rarely non-motile, zoospores; sexual reproduction by antherids and oogones, their contents fusing by means of a connecting tube.

Key to the Subfamilies

I. Vegetative mycelium broad, tubular, aquatic; zoosporangia cylindric, of the same width as the mycelium
  1. Filaments uniform, not constricted **Saprolegniae**
  2. Filaments constricted regularly **Leptomitae**

II. Vegetative mycelium thin, mostly saprophytic on plant tissues; zoosporangia several times broader than the filaments **Pythiae**

Subfamily Saprolegniae

SCHROETER 96

Nutritive mycelium sunken in the substratum, finely branched, water mycelium tubular, repeatedly branched, cylindric; zoosporangia narrowly cylindric; oogones mostly terminal, globose, 1- to many-spored, antheridia clavate, the tube penetrating the oogone.

I. Zoospores escaping before germination
  1. Zoosporangia cylindric-clavate, zoospores several-rowed
    a. Zoospores escaping together through a terminal pore
      (1) Zoospores scattering upon escape
        (a) Zoosporangia ovate **Pythiopsis S. 97**
        (b) Zoosporangia cylindric **Saprolegnia 7: 268, S. 97**
      (2) Zoospores remaining massed about the pore **Achlya 7: 274, S. 99**
    b. Zoospores not escaping through a common opening
      (1) Each zoospore escaping singly through its own lateral pore **Dictyuchus 7: 273, S. 99**
      (2) Zoospores freed by the falling apart of the whole sporangium **Thraustotheca S. 100**
  2. Zoosporangia linear, zoospores 1-rowed
    a. Zoospores scattering upon escape **Leptolegnia S. 100**
    b. Zoospores remaining in a ball at the pore **Aphanomyces 7: 276, S. 100**

II. Zoospores germinating in the sporangium **Aplanes S. 101**

Subfamily Leptomitae

SCHROETER 101

Filaments thin, branched, divided by regular constrictions; zoosporangia cylindric, pear-shaped or elliptic; oogones 1-spored.

I. Branches similar to the main stem

1. Zoospores escaping singly from the pore
Leptomitus 7: 265, S. 101
2. Zoospores remaining in a hollow ball about the pore before swimming
Apodachlya S. 102

II. Branches different from the main stem
1. Branches whorled **Naegeliella S. 163**
2. Branches repeatedly umbellate-ramose **Araeospora 14: 454**
3. Branches springing from the swollen tip of the main stem
Rhipidium 7: 268, S. 103

Subfamily Pythiae

SCHROETER 104

Vegetative mycelium very narrow, uniform, much-branched; sporangiophores not distinct from mycelium; zoosporangium filamentous, cylindric, ellipsoid or globose, contents escaping in a globose vesicle in which the zoospores arise, zoospores 2-ciliate; oogones globose, terminal, rarely intercalary, 1-spored.

I. Zoosporangia filamentous **Nematosporangium S. 104**

II. Zoosporangia globose or lemon-shaped **Pythium 7: 270, S. 104**

Family 11. ANCYLISTACEAE

SCHROETER 89, 7: 278, 9: 348, 14: 450, 16: 395, 17: 516

Mycelium mostly poorly developed and scarcely distinct from the fruit-body, the latter tubular, when mature divided into vegetative cells, sporangia or oogones and antherids; entire contents of antherid passing into oogone, oospore lying free; sporangia always producing zoospores.

Key to the Subfamilies

I. Filament or fruit-body producing wholly sporangia or sex cells, mycelium entirely lacking **Lagenidiae**

II. Filament producing vegetative cells also, the latter germinating to form threads
Ancylistae

Subfamily Lagenidiae

Fruit-body filamentous, tubular, simple or branched, dividing into cells which develop into sporangia or sex cells; antherids on the same or on different fruit bodies; sporangia and oospores always giving rise to zoospores.

I. In fresh-water algae, rarely in animals
1. Filament simple
a. Zoospores escaping singly from the sporangium
Achlyogeton 7: 277, S. 89
b. Sporangial plasm poured out into a vesicle in which the zoospores are formed
Myzocytium 7: 279, S. 90
2. Filament with short side-branches **Lagenidium 7: 278, S. 90**

II. In the root-hairs of plants **Rhizomyxa 7: 278, S. 91**

Subfamily Ancylistae

Fruit-body tubular, mycelium-like, unbranched or with few short side-branches, when mature dividing into a number of chain-like cells, which develop into vegetative

cells, sporangia or sex cells; sporangia producing zoospores; vegetative cells producing a long tube, which penetrates new host-cells; oospores globose or elliptic.

I. Sporangia lacking, vegetative and sex cells alone formed **Ancylistes 7: 280, S. 92**

II. Sporangia also present **Resticularia 9: 348, S. 92**

Family 12. PERONOSPORACEAE

SCHROETER 110, 7: 233, 9: 340, 11: 242, 14: 457, 16: 396, 17: 519

Mycelium abundant, filamentous, much branched, one-celled, endophytic; propagation by conidia borne on the ends of conidiophores, conidia producing zoospores or a germinating tube; sexual reproduction by means of endophytic antherids and oogones, borne on the ends of lateral branches; oospores single, globose, producing zoospores or a germinating tube.

Key to the Subfamilies

I. Conidia in chains, conidiophores club-shaped **Albuginae**

II. Conidia single, conidiophores branched **Peronosporae**

Subfamily Albuginae

Mycelium intercellular, haustoria globose; conidiophores densely grouped into a conidial layer beneath the epidermis; conidia globose, ellipsoid or subcylindric, in chains on the ends of the conidiophores, usually producing zoospores, rarely a germinating tube; oospores globose, producing zoospores.

A single genus **Albugo 7: 233, S. 110**

Subfamily Peronosporae

Mycelium intercellular, rarely intracellular, haustoria of various form; conidiophores thread-like, above the epidermis, branched, without cross-walls; conidia single on the tips of the branchlets, producing zoospores or a germinating tube; oospores globose, with a well-developed outer wall, germinating by means of a tube.

I. Conidiophores slender, with long and slender branches

1. Conidiophore growing after the formation of the first conidia, producing new joints **Phytophthora 7: 237, S. 113**
2. Conidiophore not growing and making new extensions
   a. Conidia papillate at the tip
      (1) Conidia on stalks arising from irregular disks **Bremia 7: 243, S. 116**
      (2) Conidia on stalks arising directly from the unchanged ends of the conidiophores **Plasmopara 7: 239**
   b. Conidia not papillate at the tip **Peronospora 7: 244, S. 117**

II. Conidiophores stout, swollen at the tip, or with short thick branches

1. Conidiophore simple up to the enlarged tip, which bears the conidia on slender stalks **Basidiophora S. 114**
2. Conidiophore with short thick branches bearing the conidia on flask-like stalks **Sclerospora 7: 238, S. 114**

Order 6. CONFERVALES

Typically multicellular filamentous algae, propagating by zoospores, and reproducing by the union of isogametes, or by heterogametes borne in antherids and oogones; one fungous family.

Family 13. MONOBLEPHARIDACEAE

SCHROETER 106, 7: 277, 14: 452, 16: 394

Mycelium filamentous, one-celled or septate, producing zoospores and sex cells; zoospores 1-ciliate arising in terminal sporangia; antherids cylindric producing ciliate antherozoids; oogones globose, terminal, opening by a pore, 1-spored.

I. Zoospores 1-ciliate
  1. Mycelial threads equal throughout — **Monoblepharis 7: 277, S. 107**
  2. Mycelial threads constricted, necklace-like — **Gonapodya 14: 452, S. 107**

II. Zoospores two or more ciliate
  1. Zoospores 2-ciliate — **Diblepharis 16: 395**
  2. Zoospores many-ciliate — **Myrioblepharis 14: 455**

Class 4. ASCOMYCETES

Fungi usually destitute of a conspicuous mycelium, reproducing by means of a spore-fruit containing asci (perithecium or apothecium), the spore-fruit occasionally reduced to a group of naked asci.

Order 7. LABOULBENIALES

THAXTER 197, LINDAU 491

Family 14. LABOULBENIACEAE

8: 909, 9: 1130, 11: 446, 14: 725, 16: 674, 17: 915

Receptacle consisting of two to many cells in a row, or parenchyma-like, regularly producing from the cells one or more appendages bearing antherids as a rule; antherozoids normally endogenous, borne within flask-like, simple or compound antherids, rarely produced like conidia, i. e., naked or exogenous; perithecia one to many, stalked or sessile, terminal or lateral on the receptacle, resulting from fertilization by means of a trichogyne; asci seriate, mostly 4-spored, spores usually 2-celled.

I. Antherozoids endogenous, i. e., in closed antherids
  1. Antheridial cells forming a compound antherid
    a. Dioecious
      (1) Perithecia and appendages in pairs to the right and left — **Dimorphomyces T. 264, L. 497**
      (2) Perithecia and appendages in a row — **Dimeromyces T. 267, L. 497**
    b. Monoecious
      (1) Antherids arising on an appendage
        (a) Antherids lateral
          x. On a subbasal cell of the appendage — **Cantharomyces T. 271, L. 497**

y. On short opposite branchlets of the appendage
Stichomyces T. 4: 37

(b) Antherids terminal

x. Antherid with a short spine at the tip
Haplomyces T. 269, L. 497

y. Antherid without a spine but with a neck-like canal cell

(x) Ascogenic cells at least 36 **Polyascomyces T. 2: 414**

(y) Ascogenic cells few

m. Stalk of antherid a single cell

(m) Antheridial cells obliquely in vertical rows

r. Subbasal cell of receptacle with a sterile appendage
Eumonoecomyces T. 4: 21

s. Subbasal cell of receptacle without sterile appendage
Eucantharomyces T. 273, L. 497

(n) Antherid parenchyma-like, many-celled

r. Antheridial cells with three marginal cells
Euhaplomyces T. 4: 25

s. Antherial cells without marginal cells
Camptomyces T. 274, L. 498

(o) Antherid of several superposed cells bearing single simple antherids directly

r. Simple antherids two **Acallomyces T. 5: 23**

s. Simple antherids several
Acompsomyces T. 4: 37

n. Stalk of two cells placed side by side
Monoecomyces T. 2: 412, 4: 23

(2) Antherids arising on the receptacle

(a) Perithecia free

x. Receptacle of a single row of several to many superposed cells
Enarthromyces T. 276, L. 498

y. Receptacle of one or two superposed cells followed by two or three oblique or transverse rows

(x) Receptacle with one basal cell

m. Basal cell followed by two tiers of cells
Limnaeomyces T. 2: 428

n. Basal cell followed by three symmetrical series
Dichomyces T. 282, L. 499

(y) Receptacle with two superposed basal cells
Peyritschiella T. 278, L. 499

(b) Perithecia grown together with distal portion of receptacle

x. Base of receptacle of two superposed cells
Chitonomyces T. 285, L. 499

y. Base of three superposed cells **Hydraeomyces T. 293, L. 500**

2. Antheridial cells distinct, discharging independently

a. Dioecious

(1) Perithecium borne by the basal or subbasal cell of receptacle

(a) Perithecium on the single basal cell, spores continuous
Amorphomyces T. 295, L. 501

(b) Perithecium lateral on the subbasal cell, spores obliquely 1-septate
Dioecomyces T. 4: 33

(2) Two-celled normal receptacle producing secondary receptacles on which the perithecia are borne **Herpomyces T. 5: 11**

b. Monoecious

(1) Antherids in definite series on the appendages

(a) Arising directly from cells of the appendages

x. Appendage one

(x) Antherids in 4 vertical series
Helminthophana T. 297, L. 501

(y) Antherids in a single vertical series
Stigmatomyces T. 298, L. 501

y. Appendages numerous, antherids in 3 vertical series
Idiomyces T. 302, L. 501

(b) Borne on branches of the appendages

x. Appendage one

(x) Appendage with sterile terminal branchlets, antherids in short series near its base **Rhadinomyces T. 305, L. 501**

(y) Appendage with fertile terminal branchlets bearing antherids laterally
Eucorethromyces T. 2: 433

y. Appendages forming a tuft, antherids on lateral branchlets
Corethromyces T. 303, L. 501

(2) Antherids not in definite series on the appendages

(a) Receptacle 2-celled

x. Basal cell with rhizoids

(x) A single receptacle from each rhizoid base
Rhizomyces T. 307, L. 502

(y) Several receptacles from a common rhizoid base
Moschomyces T. 368, L. 504

y. Basal cell not from a rhizoid

(x) Appendage single

m. Receptacle of 2 superposed cells

(m) Basal cell spheric, penetrating by a long filament
Ceraiomyces T. 3: 410

(n) Basal cell elongate **Sphaleromyces T. 365, L. 504**

n. Receptacle of a series of superposed cells
Ectinomyces T. 5: 26

(y) Appendages several to many

m. Appendages and perithecium in a whorl
Compsomyces T. 366, L. 504

n. Appendages in a row **Clematomyces T. 2: 439**

(b) Receptacle more than 2-celled

x. Receptacle of seriate, regularly superposed cells

(x) Plant bilaterally symmetrical
Diplomyces T. 357, L. 503

(y) Plant asymmetrical

m. Receptacle of two contiguous and united rows

(m) A single basal cell **Rhachomyces T. 358, L. 504**

(n) Basal and subbasal cell present
Distichomyces T. 6: 308

n. Receptacle of a single row **Chaetomyces T. 364, L. 504**

y. Receptacle more or less parenchyma-like, at most only part of the cells superposed in series

(x) Appendages all on one side **Laboulbenia T. 308, L. 502**

(y) Appendages on two sides **Rickia 16: 689**

(z) Appendages completely surrounding the perithecium
Teratomyces T. 354 L. 502

II. Antherozoids exogenous, i. e., produced terminally or laterally on the appendages as naked cells

1. Receptacle large, very many-celled, parenchyma-like

a. Perithecium with six wall cells in each row

(1) Base of trichogyne persistent as a one-celled appendage
Caenomyces T. 4: 44

(2) Base of trichogyne not persistent as an appendage
Zodiomyces T. 371, L. 504

b. Perithecium with 9-10 wall cells in each row
Euzodiomyces T. 2: 449

2. Receptacle of a series of superposed cells

a. Appendage single **Ceratomyces T. 372, L. 505**

b. Appendages several **Coreomyces T. 5: 56**

The genus Misgomyces T. 2: 443 has not been included in the key owing to the fact that its antherids are unknown; it is very closely related, apparently, to Laboulbenia.

Order 8. SPHAERIALES

Mycelium sometimes superficial and abundant, often forming a thallus with algae, but usually scanty and imbedded in the matrix, the threads branched and septate; propagation by means of conidia borne on branches of the mycelium, or by means of pycnidia; reproduction resulting in a globose, flask-shaped or flattened perithecium, with a round mouth or ostiole except in the simpler forms, in which appendages are also often found; asci usually 8-spored and with paraphyses; spores hyaline, yellowish or brown, one to many-celled.

Family 15. ERYSIBACEAE

1: 1, 9: 364, 11: 253, 14: 404, 17: 526

Mycelium white, cobwebby, superficial, penetrating the epiderm by means of haustoria; propagation by chains of conidia cut off from upright simple branches; perithecium without mouth, membranous, regularly with simple or modified appendages, often imbedded in the mycelium; ascus one to several, globose to ovoid, 2-8-spored, without paraphyses; spores usually 1-celled, hyaline.

Hyalosporae

Spores 1-celled, hyaline

I. Perithecium with one ascus

1. Appendages simple **Sphaerotheca 1: 3**

2. Appendages dichotomously branched **Podosphaera 1: 2**

II. Perithecium with several asci
1. Appendages present
a. Appendages simple, thread-like **Erysibe 1: 15**
b. Appendages branched or otherwise modified
(1) Appendages dichotomously branched
Microsphaera 1: 10
(2) Appendages modified but not branched
(a) Appendages stiff and bristle-like
x. Appendages numerous, not swollen at base
Pleochaete 1: 9
y. Appendages few, swollen at base
Phyllactinia 1: 5
(b) Appendages coiled at tip **Uncinula 1: 6**
2. Appendages absent; perithecium surrounded by the mycelium
Erysibella 1: 23

Dictyosporae

Spores usually hyaline, muriform

A single genus **Saccardia 1: 24**

Family 16. PERISPORIACEAE

1: 24, 9: 371, 11: 253, 14: 462, 16: 398, 17: 524

Mycelium superficial, dark, filamentous, sometimes lacking, rarely forming a firm stroma; conidia or pycnidia rarely present; perithecium without a mouth, or opening irregularly, usually globose, membranous or coriaceous, rarely carbonous, appendages usually lacking; asci mostly numerous, clustered, more or less cylindric, mostly 8-spored, paraphyses regularly lacking; spores various.

Hyalosporae

Spores 1-celled, hyaline or yellowish

I. Perithecia bright-colored, yellow or reddish, rarely white
1. Asci 8-spored
a. Perithecia with setae, or hairs
(1) With long rigid setae **Chaetothece 11: 254**
(2) With many hairs, immersed in a dense subicle
Cryptothecium 14: 465
b. Perithecia glabrous
(1) Spores with an unequal samariform appendage
Samarospora 11: 254
(2) Spores not appendaged
(a) Spores verrucose **Anixiopsis 14: 464**
(b) Spores smooth
x. Conidiophores branched **Allescheria 14: 464**
y. Conidiophores simple, swollen at tip
Eurotium 1: 25
(Kickxella 9: 372)
2. Asci many-spored **Pisomyxa 1: 29**
II. Perithecia dark or black, spores hyaline
1. Asci 2-8-spored

a. Ascus single — **Cystotheca 16: 407**
b. Asci several or many
(1) Perithecia numerous in setose stroma-like cups — **Lasiobotrys 1: 29**
(2) Perithecia not in cups
(a) Perithecia globose — **Meliolopsis 1: 68**
(b) Perithecia applanate — **Asterula 1: 47**
2. Asci many-spored
a. Asci many — **Apiosporium 1: 30**
b. Ascus single — **Monascus 9: 373**

III. Perithecia brown, then black, spores yellow — **Anixia 1: 34**

Phaeosporae

Spores 1-celled, dark

I. Asci capitate on tips of branched hyphae — **Cephalothece 1: 36**
II. Asci sessile or on simple stalks
1. Perithecia with appendages
a. Spores globose, conglobate
(1) Appendages closely spiral, convolute — **Pleurascus 16: 1123**
(2) Appendages flexuose-tortuose — **Arachnomyces 17: 532**
b. Spores ellipsoid
(1) Appendages several times branched — **Ascotricha 1: 37**
(2) Appendages circinate at apex — **Magnusia 1: 38**
2. Perithecia without appendages
a. Perithecia hairy or setose — **Chaetomidum 1: 39**
b. Perithecia glabrous
(1) Perithecia innate upon a radiate subicle — **Asteronia 1: 47**
(2) Perithecia not on a radiate subicle
(a) Spores at first conglobate — **Laaseomyces 16: 405**
(b) Spores free from the first
x. Growing on lichen thalli — **Orbicula 1: 38**
y. Growing on roots — **Thielavia 1: 39**

Hyalodidymae

Spores 2-celled, (1-septate), hyaline

I. Asci 8-spored
1. Cells of spore separating easily — **Neorehmia 17: 536**
2. Cells of spore not separating
a. Perithecia on a radiate subicle — **Asterella 1: 42**
b. Perithecia on a uniform subicle — **Dimerosporium 1: 51**
II. Asci many-spored — **Pampolysporium 16: 411**

Phaeodidymae

Spores 1-septate, dark when mature, rarely yellowish

I. Perithecia on a subicle
1. Subicle radiate: perithecia lenticular — **Asterina 1: 39**
2. Subicle uniform, dematium-like; perithecia globose

a. Perithecia without basal setae
(1) Asci several or many — **Dimerium** 1: 51, 17: 537
(2) Ascus one, rarely two — **Balladyna** 16: 411
b. Perithecia with basal setae — **Kusanobotrys** 17: 881

II. Perithecia not seated on a subicle
1. Perithecia gelatinous when wet, honey-yellow — **Englerula** 17: 529
2. Perithecia membranous or carbonous, usually dark
a. Spores apiculate-appendaged, very large — **Zopfia** 1: 54
b. Spores not appendaged, small or medium
(1) Spores smooth
(a) Spores elongate-oblong, very large — **Richonia** 9: 379
(b) Spores subtrapeziform, small — **Argynna** 14: 470
(c) Spores ellipitic, medium — **Parodiella** 1: 717, 9: 409
(2) Spores spiny or roughened
(a) Perithecium irregularly dehiscent; asci not long-stalked — **Marchaliella** 11: 257
(b) Perithecia regularly areolate-dehiscent; asci long-stalked — **Testudina** 9: 378

Hyalophragmiae

Spores with 2 or more cross walls, hyaline

I. Perithecia on a radiate subicle — **Asteridium** 1: 49

II. Perithecia on a uniform subicle
1. Subicle effuse, dematium-like; perithecium closed — **Zukalia** 9: 431
2. Subicle fibrous, subcrustose; perithecium perforate — **Perisporiopsis** 17: 544

Phaeophragmiae

Spores 2-several-septate, dark

I. Perithecia on a radiate subicle — **Meliola** 1: 60 (**Limacinia** 14: 474)

II. Subicle uniform or absent
1. Spores separating at the joints
a. Paraphyses lacking — **Perisporium** 1: 55
b. Paraphyses present — **Schenckiella** 11: 268
2. Spores not separating — **Perisporina** 17: 545

Hyalodictyae

Spores muriform, hyaline

I Perithecia on a subicle, closed — **Zukaliopsis** 17: 554

Phaeodictyae

Spores muriform, dark

I. Perithecia globose
1. Spores with an appendage at each end — **Ceratocarpia** 14: 474
2. Spores without appendages

a. Subicle radiate — **Pleomeliola 1: 70, 17: 554**
b. Subicle lacking — **Cleistothece 11: 270**

II. Perithecia applanate — **Cookella 1: 71**

Scolecosporae

Spores filiform, septate or continuous, hyaline or subhyaline

I. Perithecium opening by a small pore — **Saccardomyces 17: 530**

II. Perithecium without a pore
1. Subicle radiate, paraphyses present — **Ophiomeliola 16: 416**
2. Subicle uniform, paraphyses absent — **Hyaloderma 9: 437**

Family 17. CAPNODIACEAE

1: 73, 9: 438, 11: 270, 14: 476, 17: 555

Perithecia vertically elongate, clavate or cylindric, obtuse or acute, simple or branched, usually laciniate-dehiscent at the apex, on a thick black mycelium, which is rarely absent.

I. Subicle crustose
1. Spores 1-celled, globose — **Capnodiella 1: 74**
2. Spores 3-4-septate, dark — **Capnodaria 1: 74**
3. Spores muriform, dark — **Capnodium 1: 73, 80**

II. Subicle very thick, spongy — **Scorias 1: 83**

III. Subicle sparse or lacking
1. Spores 1-celled, hyaline — **Capnodiopsis 17: 555**
2. Spores 2-celled, hyaline; perithecium gelatinous — **Seuratia 17: 558**

Family 18. SPHAERIACEAE

1: 88, 2: 1, 9: 4, 11: 271, 14: 478, 16: 417, 17: 560

Mycelium scanty and immersed, or often producing a stroma, rarely a subicle; perithecia typically globoid, often drawn out into a beak, membranous, coriaceous, or carbonous, brown or black, dehiscing by a round pore or ostiole, single, cespitose or composite in a stroma; in the latter case each perithecium is distinct, not merely a locule in the stroma; asci usually numerous, elongate, usually paraphysate; spores various.

Allantosporae

Spores 1-celled, obtuse, curved-oblong, hyaline or olivascent

I. Perithecia sparse or cespitose
1. Ostiole central, very short
a. Asci 8-spored
(1) Perithecia covered
(a) Perithecia minute, glabrous — **Massalongiella 1: 89**
(b) Perithecia largish, strigose-pilose — **Enchnoa 1: 89**
(2) Perithecia subsuperficial
(a) Perithecia globose, never collapsing — **Bizzozera A: 24, 9: 445**

(b) Perithecia collapsing, becoming cup-shaped
x. Perithecia gregarious **Coelosphaeria 1: 91**
y. Perithecia cespitose **Nitschkea 11: 272**
b. Asci many-spored **Fracchiaea 1: 93**
2. Ostiole central, papillate **Neoarcangelia 16: 419**
3. Ostiole lateral, conic **Pleurostoma 1: 95**

II. Perithecia composite, typically in a stroma
1. True stroma lacking; perithecia heaped together between bark and wood
a. Asci 8-spored; ostiole short or long **Calosphaeria 1: 95 (16: 419, 421)**
b. Asci many-spored; ostiole very short **Coronophora 1: 103**
2. True stroma present; perithecia immersed in bark or wood
a. Stroma formed by the changed matrix
(1) Stroma valsous, i. e., perithecia in a circle
(a) Asci 4-8-spored
x. Perithecia usually 4, never more than 6, in each stroma **Quaternaria 1: 106**
y. Perithecia many, 8-30, in most stromata at least
(x) Perithecia circinate or monostichous, ostiole entire; asci subsessile. **Valsa 1: 108**
(y) Perithecia monostichous or polystichous, ostiole not entire; asci stipitate **Eutypella 1: 145, 17: 569**
(b) Asci many-spored **Valsella 1: 158**
(2) Stroma eutypeous, i. e., broadly and indefinitely effuse
(a) Asci 8-spored
x. Stroma conspicuous, cortical or woody **Eutypa 1: 162, 17: 569**
y. Stroma more or less obsolete
(x) Stroma woody; ostiole largish; spores subfuscous **Endoxyla 1: 181**
(y) Stroma cortical; ostiole small; spores subhyaline **Cryptosphaeria 1: 182**
(b) Asci many-spored
x. Stroma manifest, cortical or woody **Cryptovalsa 1: 187**
y. Stroma obsolete, cortical **Cryptosphaerella 1: 186**
b. Stroma different from the substance of the matrix
(1) Asci 8-spored; stroma effuse or disciform **Diatrype 1: 191, 9: 480**
(2) Asci many-spored; stroma verruciform **Diatrypella 1: 200**

Hyalosporae

1: 407, A 58, 9: 577, 11: 289, 14: 515, 16: 452, 17: 573

Spores 1-celled, hyaline or nearly hyaline, ovoid, oblong or fusoid, rarely irregular or stellate, not allantoid.

I. Perithecia single or separate
1. Perithecia beaked or with a stellate ostiole
a. Perithecia subcarbonous

(1) Spores normal, i. e., not modified
(a) Perithecia superficial, glabrous or dark hairy
Ceratostomella 1: 408
(b) Perithecia innate-erumpent, yellow-hairy
Camptosphaeria 1: 413
(2) Spores with a ring-like appendage **Rostrella 17: 609**
b. Perithecia submembranous, usually phyllogenous
(1) Ostiole black, not stellate **Gnomoniella 1: 413**
(2) Ostiole white, stellate with black wartlike appendages
Rinia 17: 591

2. Perithecia not beaked
a. Perithecia covered
(1) Asci 1-2- or 4-8-spored
(a) Paraphyses present **Physalospora 1: 433**
(incl. Stigmatula 1: 543)
(b) Paraphyses lacking
x. Spores long-caudate
(x) Spores caudate at one end only
Urcspora 1: 448
(y) Spores caudate at both ends **Urosporella 14: 523**
y. Spores not caudate
(x) Asci 1-2-spored
m. Perithecia perforate **†Diplosporis 11: 292**
(Geminispora)
n. Perithecia closed, then splitting irregularly at apex
Spolverinia 17: 577
(y) Asci 4-8-spored
m. Perithecia lenticular, perforate
Laestadia 1: 420
n. Perithecia globose, papillate
Phomatospora 1: 432
(2) Asci many-spored
(a) Perithecia glabrous **Ditopella 1: 450**
(b) Perithecia strigose-pilose **Polytrichia 1: 451**
b. Perithecia superficial
(1) Perithecia smooth, i. e., glabrous
(a) Spores stellate **Inzengaea 9: 610**
(b) Spores not stellate
x. Perithecia on a dark crustose subicle
Pilgeriella 16: 464
y. Perithecia not on a subicle
(x) Perithecia surrounded by dark hyphae at base
Guignardiella 16: 465
(y) Perithecia without dark hyphae at base
Wallrothiella 1: 455
(incl. Zignoina 2: 219)
(2) Perithecia hairy
(a) Asci 8-spored **Trichosphaeria 1: 452**
(b) Asci 16-spored **Trichosphaerella 9: 604**

II. Perithecia upon or within a stroma or subicle
1. Perithecia beaked — **Glomerella 16: 452, 17: 573**
2. Perithecia not beaked
a. Perithecia immersed in a subicle — **Scortechinia A 68, 9: 604**
b. Perithecia in or upon a stroma
(1) Stroma radiate, phyllogenous — **Trabutia 1: 449**
(2) Stroma not radiate, usually caulicole
(a) Necks of perithecia wanting, stroma disk-like — **Botryosphaeria 1: 456 (incl. Gibellia A 406, 9: 608 and Coutinia 17: 589)**
(b) Necks of perithecia present, stroma valsiform — **Cryptosporella 1: 466 (incl. Diaporthopsis 9: 610)**

Phaeosporae

1: 214, 9: 481, 11: 278, 14: 489, 16: 427, 17: 593

Spores 1-celled, colored, usually yellowish or brown, ovoid, oblong or fusoid

I. Perithecia separate, at least without a stroma
1. Covered, often erumpent
a. Asci 1-spored — **Haplosporium A 40, 9: 495**
b. Asci 4-8-spored
(1) Perithecia covered by the blackened adhering epiderm — **Anthostomella 1: 278**
(2) Perithecia erumpent with a stellate volva — **Astrocystis 1: 293**
c. Asci many-spored
(1) Spores smooth — **Müllerella A 40, 9: 495**
(2) Spores verrucose — **Mesnieria 16: 440**
2. Superficial or subsuperficial
a. Perithecia long-beaked
(1) Spores lunulate; fimicole — **Micrascus A 37, 9: 483**
(2) Spores globose to elliptic; not fimicole — **Ceratostoma 1: 215**
b. Perithecia not beaked
(1) Perithecia submembranous
(a) Spores with a mucous sheath or tail; usually fimicole
x. Asci 4-8-spored
(x) Spores with a hyaline tail or cauda — **Sordaria 1: 230**
(y) Spores with a mucous sheath
m. Perithecia sparse — **Hypocopra 1: 240**
n. Perithecia densely aggregate, almost stroma-like — **Coprolepa 1: 248**
y. Asci many-spored, spores usually caudate — **Philocopra 1: 249**
(b) Spores without mucous sheath or tail
x. Perithecia with simple setae, asci persistent — **Helminthosphaeria 1: 230**

y. Perithecia with branched, hooked or spiral setae; asci diffluent
(x) Spores subglobose to elliptic
Chaetomium 1: 220
(y) Spores triangular **Bommerella A** 38, 9: 486
(2) Perithecia typically carbonous **Rosellinia** 1: 252
(incl. Pleosporopsis 14: 501 **and Tympanopsis** 11: 283
(3) Perithecia coriaceous, firm, ascending-elongate
Bombardia 1: 277

II. Perithecia in a stroma
1. Stroma immersed, somewhat woody; perithecia membranous
Anthostoma 1: 293
2. Stroma superficial, carbonous or leathery; perithecia carbonous
a. Stroma terete, fruticose or filiform
(1) Stroma fimicole **†Pedisordaria** 14: 494
(Podosordaria)
(2) Stroma not fimicole
(a) Stroma with a single perithecium at apex
Capnodiella 17: 621
(b) Stroma containing many perithecia
x. Perithecia immersed laterally
(x) Stroma fruticose, clavate or filiform
Xylaria 1: 309
(incl. Kretschmaria 9: 565)
(y) Stroma disk-like or cupulate above
Xylariodiscus 16: 449
y. Perithecia immersed vertically
(x) Perithecia immersed annulately about the truncate apex
Camillea 1: 346
(y) Perithecia crowded beneath an operculate disk
Henningsinia 16: 450
b. Stroma effuse, globose or cupulate, adnate or substipitate
(1) Conidia superficial on the young stroma
(a) Stroma usually fimicole **Poronia** 1: 348
(b) Stroma not fimicole
x. Stroma concentrically zonate **Daldinia** 1: 393
y. Stroma not concentrically zonate
(x) Stroma repand-pulvinate, somewhat hollow
Ustilina 1: 351
(y) Stroma solid
m. Stroma subglobose, hemispheric or obpiriform
(m) Stroma not modified with squarrose papery membranes
Penzigia 9: 567
(n) Stroma modified by squarrose papery membranes
Squamotubera 17: 620
n. Stroma effuse
(m) Perithecia immersed, necks rather long
Bolinia 1: 352

(n) Perithecia innate-prominent, necks lacking **Hypoxylum 1: 352**

(2) Conidia arising beneath the upper layer of the disk-like or cupulate stroma

(a) Perithecia flask-shaped **Nummularia 1: 395**

(b) Perithecia long-cylindric **Solenoplea 17: 619**

Hyalodidymae

1: 475, 9: 611, 11: 295, 14: 525, 16: 468, 17: 635

Spores 1-septate (2-celled), hyaline or subhyaline, ovoid, oblong or fusoid

I. Perithecia separate

1. Perithecia covered or nearly so

a. Perithecia beaked, submembranous

(1) Asci 8-spored **Gnomonia 1: 561**

(2) Asci many-spored **Rehmiella 9: 676**

b. Perithecia not beaked

(1) Asci 8-spored

(a) Perithecia in a phyllogenous pseudostroma **Hypospilina 2: 190**

(b) Perithecia not in a phyllogenous pseudostroma

x. Paraphyses lacking **Sphaerella 1: 476 (incl. Lizoniella 17: 661)**

y. Paraphyses present

(x) Spores surrounded with mucus **Massarinula 14: 536**

(y) Spores not surrounded with mucus

m. Spores septate near the base **Apiospora 1: 539 (incl. Stigmatea 1: 541)**

n. Spores septate near the middle

(m) Perithecia smooth **Didymella 1: 545 (incl. Stigmatea 1: 545)**

(n) Perithecia long-hairy **Arcangelia 9: 696**

(2) Asci 16-24-spored

(a) Asci 16-spored **Mycosphaerella 9: 659**

(b) Asci 24-spored **Hariotia 9: 672**

2. Perithecia superficial or nearly so

a. Perithecia beaked

(1) Spores expelled in a mucous mass **Spumatoria 16: 1134**

(2) Spores not expelled in a mucous mass **Lentomita 1: 584**

b. Perithecia not beaked

(1) Perithecia smooth

(a) Asci 8-spored

x. Paraphyses lacking

(x) Perithecia borne in lichen thalli **Pharcidia 9: 676, 17: 635 (incl. Epicymatia 1: 570)**

(y) Perithecia not in lichen thalli **Bertia 1: 581**

y. Paraphyses present
(x) Spores with a mucous layer produced into a spathulate ring **Pteridiospora 14: 539**
(y) Spores without a mucous layer
m. Spores ellipsoid to fusoid **Melanopsamma 1: 575**
n. Spores botuliform **Thaxteria 9: 687**
(b) Asci 16-spored **Pseudolizonia 9: 682**
(2) Perithecia with hairs or bristles
(a) Paraphyses lacking
x. Perithecia lichenicole **Echinothecium 16: 484**
y. Perithecia typically on leaves, rarely on stems **Venturia 1: 586**
(b) Paraphyses present **Eriosphaeria 1: 597**

II. Perithecia cespitose **Othiella 1: 739, 17: 662**

III. Perithecia in, or rarely upon, a stroma
1. Stroma scanty
a. Perithecia smooth **Gibbera 1: 599**
b. Perithecia setose **Cacosphaeria 9: 699**
2. Stroma well-developed
a. Stroma white or colored
(1) Stroma white and soft **Melchiora 14: 538**
(2) Stroma bright yellow **Endothia 1: 601**
b. Stroma black, rarely yellowish
(1) Perithecia botryose, erumpent, superficial **Myrmaecium 1: 600**
(2) Perithecia immersed
(a) Spores septate near the base **Aplacodina 16: 485**
(b) Spores septate near the middle
x. Stroma valsa-like
(x) Conidial stage Melanconium **Melanconis 1: 602**
(y) Pycnidial stage Rabenhorstia **Hercospora 1: 605**
(z) Pycnidial stage Phoma **Diaporthe 1: 606**
y. Stroma eutype-like or diatrype-like **Euporthe 1: 631, 1: 662**

Phaeodidymae

1: 701, 9: 723, 11: 312, 14: 551, 16: 498, 17: 675

Spores 1-septate, dark, fuliginous to brown, ovoid, oblong or fusoid

I. Perithecia separate
1. Perithecia covered
a. Paraphyses lacking **Phaeosphaerella 9: 723 (incl. Lizonia 1: 574)**
b. Paraphyses present
(1) Asci 8-spored
(a) Spores surrounded by a hyaline sheath **Massariella 1: 716**

(b) Spores without a sheath — **Didymosphaeria** 1: 701
(2) Asci many-spored — **Tichothecium** 17: 676, 9: 723

2. Perithecia superficial or immersed at the base
a. Subicle present
(1) Perithecia beaked
(a) Paraphyses lacking — **Rhynchomeliola A.** 127, 9: 751
(b) Paraphyses present — **Gibellina A:** 413, 9: 740, 11: 317
(2) Perithecia not beaked
(a) Perithecia glabrous — **Neopeckia A:** 26, 9: 749
(b) Perithecia setose — †**Dimerosporis** 17: 686 (**Dimerosporiopsis**)

b. Subicle lacking
(1) Perithecia beaked
(a) Asci paraphysate — **Rhynchostoma** 1: 730
(b) Asci not paraphysate — †**Dysrhynchis** 17: 689 (**Henningsomyces**)

(2) Perithecia not beaked
(a) Perithecia glabrous
x. Perithecia carbonous — **Amphisphaeria** 1: 718
y. Perithecia membranous or submembranous
(x) Asci 8-spored
m. Perithecia globose, fimicole — **Delitschia** 1: 732
n. Perithecia cupulate, not fimicole — **Gaillardiella** 14: 559
(y) Asci many-spored — **Delitschiella** 17: 688
(b) Perithecia setose — **Protoventuria A:** 113, 9: 741

II. Perithecia cespitose or forming a crust, not stromate
1. Perithecia forming an effuse crust — **Parodiella** 1: 717
2. Perithecia in groups
a. Perithecia foliicole — **Pseudotthia** 16: 507
b. Perithecia lichenicole — **Sorothelia A:** 122, 9: 728
c. Perithecia ramicole — **Otthia** 1: 735

III. Perithecia in a stroma
1. Spore with a mucous covering — **Massariovalsa** 9: 755
2. Spore without a mucous covering
a. Stroma erect, subterete — **Xylobotryum** 11: 319, 14: 20 (**Trachyxylaria** 16: 510, **Xyloceras** 17: 690)
b. Stroma flat, round or cushion-like, immersed or emerging
(1) Paraphyses lacking
(a) Stroma bearing conidia of Melanconium — **Melanconiella** 1: 740
(b) Stroma without conidia — **Camarops** 1: 753
(2) Paraphyses present
(a) Stroma phyllogenous; perithecia superficial — **Licopolia** 16: 508

(b) Stroma not phyllogenous
x. Perithecia valsoid **Valsaria 1: 741**
y. Perithecia eutypoid **Endoxylina 11: 318**

Hyalophragmiae

2: 152, 9: 824, 11: 332, 14: 581, 16: 528, 17: 692

Spores 2-several-septate, hyaline, oblong to cylindric

I. Perithecia separate
1. Perithecia covered or erumpent
a. Perithecia beaked
(1) Perithecia xylogenous, carbonous **Ceratosphaeria 2: 227**
(2) Perithecia phyllogenous, submembranous
(a) Spores separating into halves **Cryptoderis 2: 229**
(b) Spores not separating into halves **Gnomoniopsis 17: 716**
b. Perithecia not beaked
(1) Spores with a mucous covering **Massarina 2: 153**
(2) Spores without a mucous covering
(a) Perithecia submembranous, pseudostroma lacking
x. Paraphyses lacking **Sphaerulina 2: 186**
y. Paraphyses present
(x) Spores muticate **Metasphaeria 2: 156 (incl. Charrinia 14: 585)**
(y) Spores with a seta or cusp at either end **Ceriosporella 2: 184, 14: 19**
(b) Perithecia membranous, in a leafy pseudostroma **Hypospila 2: 189**
(c) Perithecia subcarbonous, pseudostroma lacking, spores 20-30-septate **Saccardoella 2: 190**
2. Perithecia superficial or subsuperficial
a. Perithecia glabrous
(1) Perithecia stalked, covered with a bright powder **Bombardiastrum 11: 338**
(2) Perithecia not stalked, powdery covering lacking
(a) Spores 2-septate **Melomastia 2: 213**
(b) Spores typically 3 or more-septate
x. Perithecia carbonous, black **Zignoella 2: 214 (incl. Bertiella 17: 708)**
y. Perithecia softish, greenish or reddish **Winterina 14: 589**
b. Perithecia hairy or byssisede
(1) Perithecia of one color
(a) Spores chain-like, separating into globose joints **Hormosperma 14: 591**
(b) Spores not separating into joints
x. Perithecia carbonous, large
(x) Spores cylindric, elongate **Lasiosphaeria 2: 191**

(y) Spores fusoid, somewhat short
Enchnosphaeria 2: 205

y. Perithecia submembranous, small
Acanthostigma 2: 207

z. Perithecia fleshy-coriaceous, hairs fascicled on a central disk
Actiniopsis 16: 543

(2) Perithecia of two colors, usually reddish at vertex
Herpotrichia 2: 211

II. Perithecia cespitose, erumpent, superficial, membranous
Baumiella 17: 708

III. Perithecia in a stroma or on a subicle

1. Perithecia on a subicle; asci many-spored, paraphyses lacking
Sydowia 11: 341

2. Perithecia in a stroma

a. Stroma lichenicole, white, lanose **Dichosporium 16: 542**

b. Stroma not lichenicole, black

(1) Stroma immersed **Calospora 2: 231**

(2) Stroma superficial

(a) Stroma lentiform, adnate to the pycnidium
Melanops 2: 231

(b) Stroma pulvinate or hemispheric
Holstiella 14: 593

Phaeophragmiae

2: 1, 9: 759, 11: 319, 14: 561, 16: 510, 17: 718

Spores 2-several-septate, olive, melleous or fuliginous, oblong to cylindric

I. Perithecia separate

1. Perithecia covered or erumpent

a. Spores with a mucous covering **Massaria 2: 2**

b. Spores without a mucous covering

(1) Perithecia depressed beneath a black cortical clypeus
Clypeosphaeria 2: 90

(2) Perithecia without a stromatic clypeus

(a) Spores muticate

x. Paraphyses lacking **Phaeospora 16: 519**

y. Paraphyses present

(x) Cells of spore concolorous

m. Perithecia glabrous

(m) Perithecia rostrate **Rhynchosphaeria 16: 524**

(n) Perithecia not beaked

r. Spores cylindric, connected in pairs in the ascus
Leptosphaeropsis 9: 770, 11: 321

s. Spores separate **Leptosphaeria 2: 13**
(incl. Cladosphaeria 11: 321, Chitonospora 9: 797)

n. Perithecia setose or hairy **Pocosphaeria 11: 325**

(y) Cells of spore discolorous **Heptameria 2: 88**
(incl. Passeriniella 11: 326)

(b) Spores caudate or cuspidate

x. Spores caudate at base **Rebentischia 2: 12**

y. Spores cuspidate at both ends **Ceriospora 14: 19, 2: 184**

2. Perithecia superficial or subsuperficial
   a. Perithecia glabrous
      (1) Phytophilous
         (a) Spores finally separating into joints
            x. Joints 1-celled — **Ohleriella 17: 736**
            y. Joints 2-celled — **Ohleria 2: 96**
         (b) Spores not separating into joints
            x. Perithecia smooth or nearly so
               (x) Spores biconic with a mucous covering — **Caryospora 2: 122**
               (y) Spores medium, no mucous covering
                  m. Ostiole narrow — **Melanomma 2: 98**
                  n. Ostiole widely open — **Trematosphaeria 2: 115**
            y. Perithecia verrucose — **Stuartella 2: 123**
      (2) Fimicole — **Sporormia 2: 123**
   b. Perithecia pilose or byssisede
      (1) Perithecia concolorous
         (a) Spores cylindric, elongate — ***Lasiosphaeris 2: 194**
         (b) Spores fusoid, somewhat short — **Chaetosphaeria 2: 92**
      (2) Perithecia discolorous at the vertex — ***Herpothrix 2: 211**

II. Perithecia cespitose, erumpent — **Gibberidea 2: 132**

III. Perithecia in a stroma
   1. Stroma lichenicole — **†Trematosphaeris 17: 735 (Trematosphaeriopsis)**
   2. Stroma not lichenicole
      a. Asci 1-spored — **Titania 9: 823**
      b. Asci 4-8-spored
         (1) Stroma valsa-like, innate
            (a) Asci 4-spored — **Aglaospora 2: 133**
            (b) Asci 6-8-spored
               x. Acervuli covered with a reddish or yellowish bran — **Thyridaria 2: 140**
               y. Acervuli not covered with a bran — **Pseudovalsa 2: 135**
         (2) Stroma eutype-like, i. e., woody, effuse
            (a) Paraphyses lacking — **Cryptosphaerina 16: 521**
            (b) Paraphyses present — **Kalmusia 2: 142**
         (3) Stroma pulvinate, emerging — **Melogramma 2: 144**

Hyalodictyae

2: 238, 11: 349, 9: 872, 14: 611, 16: 554, 17: 743

Spores transversally and longitudinally septate, usually muriform, hyaline, oblong to fusoid.

I. Perithecia separate
   1. Perithecia covered or erumpent
      a. Asci 8-spored
         (1) Paraphyses lacking

(a) Spores separate **Pleosphaerulina 11: 350**
(b) Spores in a common mucus **Diplotheca 16: 555**
(2) Paraphyses present
(a) Perithecia covered by a stromatic clypeus **Peltosphaeria 9: 898**
(b) Perithecia without a clypeus **Catharinea 11: 350**
b. Asci 16-spored; perithecia setose **Capronia 2: 288**
2. Perithecia superficial
a. Perithecia glabrous
(1) Perithecia softish, greenish or reddish **Winteria 14: 589**
(2) Perithecia hard, black
(a) Perithecia beaked **Rhamphoria 2: 307**
(b) Perithecia not beaked **Tichosporella 11: 351**
b. Perithecia setose or hairy
(1) Perithecia globose, setose and byssisede **Boerlagella 14: 612**
(2) Perithecia turbinate, disk with fascicled hairs **Ophiodictyum 16: 555**

II. Perithecia in a stroma
1. Perithecia projecting, setose **Berlesiella 9: 914**
2. Perithecia immersed
a. Stroma effuse, eutypeous **Thyridella 11: 351**
b. Stroma circular, valsous **Clethridium 11: 350, 2: 332**

Phaeodictyae

2: 238, 9: 872, 11: 341, 14: 594, 16: 544, 17: 746.

Spores muriform, yellow to brown, oblong to fusoid.

I. Perithecia separate
1. Perithecia covered or erumpent
a. Spores with a mucous layer **Pleomassaria 2: 239**
b. Spores without a mucous layer
(1) Perithecia without a phyllogenous pseudostroma
(a) Asci 1-2-spored **Julella 2: 289**
(b) Asci 8-spored
x. Paraphyses lacking **Leptosphaerulina 17: 746**
y. Paraphyses present
(x) Perithecia covered by a black stromatic clypeus **Phaeopeltosphaeria 11: 344**
(y) Perithecia not covered by a black stromatic clypeus
m. Perithecia glabrous
(m) Spores muticate
r. Perithecia coriaceous **Karstenula 2: 240**
s. Perithecia membranous
(r) Spores rounded or terete
h. Wall of perithecium single **Pleospora 2: 241**

i. Wall of perithecium double
Scleroplea 16: 548
(s) Spores compressed, flattened
h. Perithecia smooth **Clathrospora 9: 894**
i. Perithecia hairy ***Comoclathris**
(n) Spores appendaged at both ends
Delacourea 2: 288
n. Perithecia setose, especially about ostiole
Pyrenophora 2: 277
(2) Perithecia in a phyllogenous pseudostroma
Isothea 2: 290

2. Perithecia superficial
a. Phytogenous
(1) Perithecia soft, light colored **Winteria 14: 589**
(2) Perithecia carbonous, black
(a) Perithecia corrugate-tuberculate
Crotonocarpia 2: 306
(b) Perithecia not corrugate
x. Perithecia glabrous **Tichospora 2: 290**
y. Perithecia hairy **Pleosphaeria 2: 304**
b. Fimicole; each spore of 3 10-celled chains
Pleophragmia 2: 307

II. Perithecia cespitose **Cucurbitaria 2: 307**

III. Perithecia in a stroma
1. Spores with a mucous layer **Montagnula 14: 603**
2. Spores without a mucous layer
a. Stroma effuse, eutypeous **Thyridium 2: 323**
b. Stroma valsous **Fenestella 2: 325**

Scolecosporae

2: 337, 9: 923, 11: 351, 14: 613, 16: 557, 17: 767

Spores linear or filiform, continuous or septate, hyaline or yellowish.

I. Perithecia separate
1. Perithecia covered or erumpent
a. Perithecia covered by a phyllogenous clypeus
Linospora 2: 354
b. Perithecia not covered by a clypeus
(1) Perithecia beaked **Ophiognomonia 17: 776**
(2) Perithecia not beaked
(a) Perithecia glabrous
x. Spores muticate
(x) Spores in a hyaline sheath **Ophiomassaria 11: 353**
(y) Spores not in a hyaline sheath
m. Perithecia globose to conoid
Ophiobolus 2: 337
n. Perithecia cylindric, truncate
Cylindrina A: 421, 9: 937
y. Spores awned at each end

(x) Perithecia very large, disk-form, corticole
Therrya 2: 358

(y) Perithecia small, globose, on grasses and palms
Dilophia 2: 357

(b) Perithecia hairy **Ophiochaete 11: 353**

2. Perithecia superficial or immersed at base
a. Perithecia beaked **Ophiochaete 11: 352**
b. Perithecia not beaked
(1) Perithecia fimicole **Bovilla 2: 360**
(2) Perithecia not fimicole
(a) Perithecia glabrous
x. Perithecia globose
(x) Perithecia immersed at base
Acerbia 11: 353, 14: 619

(y) Perithecia wholly superficial
Leptosporella 14: 619

y. Perithecia elongate cylindric; ostiole sulcate
Bactrosphaeria 14: 617

(b) Perithecia hairy **Acerbiella 17: 768**

II. Perithecia in a stroma
1. Stroma superficial
a. Perithecia in an effuse definite stroma **Maurya 14: 620**
b. Perithecia densely heaped in a thin vanishing stroma
Pseudomeliola 9: 938

2. Stroma immersed or erumpent
a. Stroma erumpent, yellow within **Sillia 1: 361**
b. Stroma immersed, valsous
(1) Necks of perithecia short, scarcely converging
Vialaea 14: 619

(2) Necks long, converging into a disk
Cryptospora 2: 361

Family 19. VERRUCARIACEAE

ZAHLBRUCKNER 51

Mycelium parasitic on bluegreen or yellow green algae, and forming a more or less distinct crustose, foliose or fruticose thallus, the latter usually superficial but sometimes below the surface; perithecia distinct, single or cespitose or united in a stroma, usually globose and ostiolate, membranous, coriaceous or carbonous; asci 1-many-spored; spores various.

I. Perithecia separate, at least not in a stroma (Cfr. Lichinae, page 74.)
1. Algae bluegreen, Nostoc, Scytonema, Sirosiphon, or Calothrix
Subfamily Pyrenidiae 76

a. Asci 4-8-spored
(1) Asci 4-spored; spores 3-septate **Pyrenidium 77**
(2) Asci 6-8-spored
(a) Spores spheric, 1-celled: algae Calothrix
Calothricopsis 165

(b) Spores fusiform, 1-septate

x. Algae Sirosiphon or Scytonema
Eolichen 76
y. Algae Nostoc **Pyrenocollema 169**
(c) Spores filiform, continuous **Hassea 76**
b. Asci many-spored; spores 1-celled **Placothelium 77**

2. Algae yellow green, Pleurococcus, Palmella, Chroolepus, etc.
a. Thallus crustose or gelatinous
(1) Thallus gelatinous, hyphae loose **Epigloea 53**
(2) Thallus crustose, not gelatinous, hyphae compact
(a) Algae Cystococcus, in sheathed colonies
Subfamily Moriolae 52
x. Thallus without pseudoparenchyma
Moriola 52
y. Thallus with pseudoparenchyma
(x) Asci 8-spored
m. Spores dark, 1-septate ***Dimerisma 52**
n. Spores dark, 4-8-septate ***Phaeomeris 52**
o. Spores hyaline, 2-4-septate **Spheconisca 52**
(y) Asci many-spored; spores hyaline, 1-celled
***Pleophalis 52**
(b) Algae Pleurococcus or Palmella
Subfamily Verrucariae 53
x. Paraphyses lacking, or soon disappearing
(x) Asci 1-8-spored
m. Algae present within the perithecium; spores muriform
(m) Spores hyaline ***Phalostauris 57**
(n) Spores dark **Staurothele 56**
n. Algae lacking in perithecium
(m) Spores 1-celled
r. Spores globose to elliptic
(r) Perithecia more or less superficial
h. Spores hyaline **Verrucaria 54**
i. Spores dark ***Phaeosporis 55**
(s) Perithecia immersed
***Lithoecis 55**
s. Spores vermiform, clavate at each end
Saccopyrenia 54
(n) Spores 2-4-celled, hyaline
r. Spores 2-celled **Thelidium 56**
s. Spores 4-celled ***Phragmothele 56**
(o) Spores muriform **Polyblastia 56**
(y) Asci many-spored **Trimmatothele 56**
y. Paraphyses persistent
(x) Algae present in the perithecium
Thelenidia 57
(y) Hymenial algae lacking
m. Perithecia with normal ostiole

(m) Spores 1-celled
r. Spores hyaline **Thrombium 57**
s. Spores dark ***Phaeothrombis 57**
(n) Spores septate
r. Spores elliptic, 3-few-septate
Geisleria 57
s. Spores muriform
(r) Spores hyaline **Microglaena 57**
(s) Spores dark ***Phaeoglaena 57**
t. Spores needle-shaped, many-celled
Gongylia 57
n. Ostiole margined by a broad disk
(m) Spores transeptate **Aspidopyrenium 58**
(n) Spores muriform **Aspidothelium 58**

(c) Algae Chroolepus
x. Perithecia upright, with vertical ostiole
Subfamily Pyrenulae 62

(x) Paraphyses free, simple
m. Perithecia smooth
(m) Spores 1-celled, colorless
Coccotrema 66
(n) Spores septate
r. Asci 4-8-spored
(r) Asci persistent
h. Spores transeptate
(h) Spores hyaline
+. Spores 1-septate
(+) Spore cells separating
***Dichoporis 66**
(—) Spore cells not separating
***Diporina 66**
—. Spores 2-many-septate
Porina 66
(i) Spores dark
\+ Spores 1-septate
***Dipyrenis 68**
—. Spores several-septate
Pyrenula 67
(incl. Blastodesmia 67)
i. Spores muriform
(h) Spores hyaline **Clathroporina 67**
(i) Spores brown **Anthracothecium 68**
(s) Asci evanescent; spores acicular, clear
Belonia 67
s. Asci many-spored; spores septate, clear
(r) Spores 1-celled ***Holothelis 67**
(s) Spores septate
h. Spores 1-septate ***Dithelopsis 67**

i. Spores 2-many-septate
Thelopsis 67

n. Perithecia with stiff fascicled hairs
Stereochlamys 68

(y) Paraphyses lacking, or branched and united
m. Ostiole round or dot-like
(m) Spores hyaline
r. Spores 1-septate ***Pyrenyllium 64**
s. Spores 2-many-septate
(r) Spores oval to oblong
Arthropyrenia 64
(incl. Pseudopyrenula 65)
(s) Spores acicular to filiform
Leptorhaphis 65
t. Spores muriform **Polyblastiopsis 65**
(n) Spores brown
r. Spores 1-septate **Microthelia 62**
s. Spores 2-several-septate ***Polythelis 64**
n. Ostiole radiate, torn or lobed
Asteroporum 62

y. Perithecia oblique or horizontal with oblique or lateral ostiole
Subfamily Paratheliae 71

(x) Spores transeptate
m. Spores hyaline
(m) Spores 1-septate ***Ditremis 71**
(n) Spores several-septate, oblong
Pleurotrema 71
(incl. Plagiotrema 72)
(o) Spores filiform, many-celled
***Trichotrema 71**
n. Spores brown **Parathelium 72**
(y) Spores muriform
m. Spores hyaline **Campylothelium 72**
n. Spores brown **Pleurothelium 72**

(d) Algae Phyllactidium or Cephaleurus
Subfamily Strigulae 74

x. Perithecia smooth
(x) Paraphyses simple, free
m. Spores transeptate
(m) Spores 1-septate ***Phylloporis 75**
(n) Spores several-septate
r. Thallus uniform **Phylloporina 75**
s. Thallus orbicular, lobed at edge
Strigula 76
n. Spores muriform **Phyllobathelium 75**
(y) Paraphyses branched and united
m. Spores 1-celled, dark **Haplopyrenula 74**
n. Spores 2-4-celled, brown **Microtheliopsis 75**

y. Perithecia with fascicled nearly horizontal hairs at apex
Trichothelium 75

b. Thallus foliose or scaly **Subfamily Dermatocarpae 58**

(1) Algae Palmella

(a) Hymenial algae lacking

x. Paraphyses lacking, or fused into a mass

(x) Paraphyses lacking; thallus without cortex
Normandina 59

(y) Paraphyses fused; thallus corticate

m. Spores 1-celled, colorless **Dermatocarpum 60**

n. Spores septate

(m) Spores colorless **Placidiopsis 60**

(n) Spores brown **Heterocarpum 60**

y. Paraphyses persistent

(x) Spores 1-celled, brown **Anapyrenium 59**

(y) Spores muriform, colorless **Psoroglaena 59**

(b) Hymenial algae present **Endocarpum 61**

(2) Algae Chroolepus; spores colorless, 1-celled
Lepolichen 69

(3) Algae Prasiola **Mastodia 241**

c. Thallus fruticose, branched, with Pleurococcus; spores muriform, brown
Pyrenothamnia 61

II. Perithecia in a stroma (Cfr. Pertusariae, page 79.)

1. Perithecia upright, with individual pores
Subfamily Trypetheliae 69

a. Spores colorless

(1) Spores transeptate

(a) Spores oval to fusiform **Trypethelium 70**

(b) Spores filiform **Tomasiella 69**

(2) Spores muriform **Laurera 71**

b. Spores brown

(1) Spores transeptate **Melanotheca 70**

(2) Spores muriform **Bottaria 71**

2. Perithecia oblique or horizontal, with a common canal or pore
Subfamily Astrotheliae 72

a. Spores transeptate

(1) Spores colorless **Astrothelium 73**
(incl. Lithothelium 73)

(2) Spores brown **Pyrenastrum 73**

b. Spores muriform

(1) Spores colorless **Heufleria 74**

(2) Spores brown **Parmenteria 74**

III. Perithecia sunken in stroma-like warts; horizontal thallus lacking; asci many-spored; spores 1-celled, clear **Thelocarpum 150**

Family 20. HYPOCREACEAE

2: 447, 9: 941, 11: 354, 14: 621, 16: 559, 17: 777.

Mycelium scanty and immersed or producing a subicle or a stroma; perithecia

globoid, sometimes beaked, fleshy, waxy or waxy-membranous, bright colored, usually reddish, more rarely blue, yellow or whitish, never carbonous, opening by a round pore or ostiole, single, cespitose or composite in a stroma; asci and spores as in Sphaeriaceae.

Allantosporae

17: 778

Spores 1-celled, obtuse, curved-oblong, hyaline or olivascent

One genus — **Allantonectria 17: 778**

Hyalosporae

2: 447, 9: 941, 11: 354, 14: 621, 16: 559, 17: 778

Spores 1-celled, hyaline

I. Perithecia separate
  1. Perithecia covered
    a. Asci 8-spored — **Hyponectria 2: 455**
    b. Asci many-spored — **Thelocarpum 9: 946**
  2. Perithecia superficial or nearly so
    a. Perithecia beaked; spores ciliate — **Eleutheromyces 2: 455**
    b. Perithecia not beaked
      (1) Spores smooth — **Nectriella 2: 448**
      (2) Spores ciliate or spiny
        (a) Spores 1-ciliate at each end — **Heteronectria 14: 624**
        (b) Spores spiny, hemispheric — **Cleistosoma A: 195, 9: 943**

II. Perithecia cespitose
  1. Asci 8-spored — **Lisiella 9: 945**
  2. Asci many-spored — **Chilonectria 2: 453**

III. Perithecia in a subicle or stroma
  1. Perithecia in a subicle, i. e., a cobwebby or cottony stroma
    a. Paraphyses lacking, fungicole — **Peckiella 9: 944**
    b. Paraphyses numerous, not fungicole — **Byssonectria 2: 456**
  2. Perithecia in a definite stroma
    a. Stroma effuse, globose, verruciform or linear
      (1) Asci 8-spored
        (a) Perithecia circinate, valsiform — **Balzania 16: 561**
        (b) Perithecia not circinate, mostly irregular
          x. Spores globose — **Battarina 2: 533**
          y. Spores ovate to oblong
            (x) Stroma globose or verruciform
              m. Stroma globose, smooth, dark — **Pseudotrype 16: 561**
              n. Stroma verruciform, hairy, red — **Selinia 2: 457**
            (y) Stroma lirelliform, clear — **Monographus 2: 457**
            (z) Stroma effuse, phyllogenous — **Polystigma 2: 458**
      (2) Asci many-spored; phyllogenous — **Moelleriella 14: 626**
    b. Stroma elongate, erect

(1) Asci 8-spored
(a) Stroma capitate, spores smooth
Sphaerostilbella 17: 778
(b) Stroma clavaria-like; spores asperate
Penicilliopsis 9: 945
(2) Asci 16-spored; stroma clavate; on insects
Podostroma 11: 355

Phaeosporae

2: 459, 9: 949, 11: 355, 14: 626, 16: 562, 17: 781

Spores 1-celled, dark

I. Perithecia separate
1. Perithecia more or less covered — **Baculospora 9: 952**
2. Perithecia superficial
a. Perithecia not beaked
(1) Perithecia smooth
(a) Spores globose, verruculose — **Neocosmospora 16: 562**
(b) Spores oval to elliptic, smooth — ***Sphaerodes 2: 460**
(2) Perithecia hairy — **Erythrocarpum 9: 950**
b. Perithecia beaked
(1) Asci 8-spored — **Melanospora 2: 461**
(2) Asci many-spored — **Scopinella 9: 953**

II. Perithecia in a subicle or a stroma
1. Perithecia immersed in a subicle
a. Perithecia beaked — ***Rhynchomelas 2: 461**
b. Perithecia not beaked — **Sphaeroderma 2: 459**
2. Perithecia in a stroma
a. Spores spheric — **Thuemenella 14: 628**
b. Spores ovoid
(1) Stroma clavate, pendulous — **Xylocrea 16: 451**
(2) Stroma more or less globose
(a) Perithecia in one layer — **Entonaema 16: 450**
(b) Perithecia in several layers — **†Stromne 16: 452 (Engleromyces)**

Hyalodidymae

2: 465, 9: 953, 11: 356, 14: 628, 16: 565, 17: 782.

Spores 2-celled, hyaline

I. Perithecia separate or cespitose
1. Perithecia immersed; in leaves — **Charonectria 2: 466**
2. Perithecia superficial
a. Perithecia red, yellow or white
(1) Asci of one kind, 8-spored
(a) Perithecia beaked — **Rhynchonectria 17: 798**
(b) Perithecia not beaked
x. Spore cells separating — **Bresadolella 17: 797**
y. Spore cells not separating
(x) Perithecia smooth

m. Perithecia often on a tubercularoid base
Nectria 2: 479

n. Perithecia on or with a stilboid base
Sphaerostilbe 2: 511

(y) Perithecia hairy ***Dasyphthora 2: 505**

(2) Asci of two kinds, 8-spored and many-spored
Aponectria 2: 516

(3) Asci many-spored **Metanectria 2: 517**

b. Perithecia blue or violet

(1) Asci 8-spored **Lisea 2: 517**

(2) Asci many-spored **Cyanocephalum 11: 360**

II. Perithecia in a subicle or stroma

1. Perithecia in a subicle

a. Perithecia globose-conic, fungicole **Hypomyces 2: 466**

b. Perithecia scutate-dimidiate, phyllogenous
Puiggariella 2: 478

2. Perithecia in a stroma

a. Perithecia adnate to a fruticose stroma
Corallomyces 2: 519

b. Perithecia immersed in a clavate, globose, pulvinate or effuse stroma

(1) Perithecia long-beaked **Treleasia 14: 640**

(2) Perithecia not long-beaked

(a) Spore divided near base **Lambro 16: 589**

(b) Spore divided near middle

x. Spore cells separating

(x) Stroma vertically elongate **Podocrea 17: 799**

(y) Stroma globose to effuse

m. Conidiophore (Stilbum) arising from stroma
Stilbocrea 16: 588

n. Conidiophore lacking or not Stilbum
Hypocrea 2: 520
(incl. Cryphonectria 17: 783, Mycocitrus 16: 589)

y. Spore cells not separating **Hypocreopsis 9: 980**
(incl. Clintoniella 16: 588)

Phaeodidymae

2: 537, 9: 981, 14: 646, 16: 591, 17: 808.

Spores 2-celled, dark

I. Perithecia separate or cespitose

1. Perithecia immersed

a. Perithecia white, ostiole cylindric; on black fungi
Passerinula 2: 537

b. Perithecia darkish, ostiole broad, bright; in bark
Spegazzinula 2: 537

2. Perithecia superficial

a. Spore cells separating **Neoskofitzia 9: 981**

b. Spore cells not separating

(1) Perithecia on or with a stilbum-like base
Calostilbe 16: 591

(2) Perithecia without stilbum-like base, often with Helminthosporium
Letendraea 2: 538
(incl. Phaeonectria 11: 359)

II. Perithecia in a stroma **Phaeocreopsis 16: 591**

Hyalophragmiae

2: 539, 9: 982, 11: 363, 14: 647, 16: 592, 17: 808

Spores 2-several-septate, hyaline

I. Perithecia separate or cespitose
1. Perithecia immersed, spores falcate **Cesatiella 2: 557**
2. Perithecia superficial
a. Perithecia red, yellow or white
(1) Perithecia on or with a stilbum base
Stilbonectria 9: 986
(2) Perithecia without a stilbum base
(a) Perithecia astomous **Malmeomyces 16: 592**
(b) Perithecia ostiolate
x. Spores ciliate at each end **Paranectria 2: 552**
(incl. Debaryella 17: 809)
y. Spores muticate **Calonectria 2: 540**
b. Perithecia blue, violet or greenish
(1) Spores muticate **Gibberella 2: 552**
(2) Spores appendiculate each way **Lecithium 11: 364**

II. Perithecia in a subicle or in a stroma
1. Perithecia in a subicle **Berkelella 9: 989**
2. Perithecia in a pulvinate or discoid stroma
Broomella 2: 557

Phaeophragmiae

2: 539, 9: 982, 11: 363, 16: 599

Spores 2-several-septate, dark

I. Perithecia in a large tuberiform stroma **Peloronectria 16: 599**

Hyalodictyae

2: 558, 9: 990, 11: 364, 14: 650, 16: 599, 17: 814

Spores muriform, hyaline

I. Perithecia separate or cespitose, superficial
1. Perithecia red or yellow to whitish
a. Perithecia with a stilbum base **Megalonectria 2: 560**
b. Perithecia without a stilbum base **Pleonectria 2: 559**
2. Perithecia blue or violet **Pleogibberella 9: 992**

II. Perithecia in a valsoid stroma **Thyronectria 2: 561**

Phaeodictyae

2: 558, 9: 990, 11: 364, 16: 600, 17: 815

Spores muriform, dark

I. Perithecia separate or cespitose
  1. Perithecia beaked, asci 8-spored — **Bivonella 9: 989**
  2. Perithecia not beaked, asci many-spored — **Feracia 17: 815**

II. Perithecia in a stroma
  1. Asci paraphysate
    a. Stroma conoid, snow-white — **Leucocrea 16: 601**
    b. Stroma tuberiform, rimose — **Shiraia 16: 600**
  2. Asci not paraphysate
    a. Stroma pulvinate, disk greenish — **Mattirolia 9: 993**
    b. Stroma subcrustose — **Uleomyces 11: 364**

Scolecosporae

2: 562, 9: 993, 11: 365, 14: 651, 17: 815, 16: 601

Hyaloscoleciae

Spores needle-shaped or filiform, hyaline or nearly so

I Perithecia separate or cespitose
  1. Perithecia enclosed in a sack — **Oomyces 2: 564**
  2. Perithecia not in a sack
    a. Perithecia immersed or erumpent
      (1) Perithecia many-perforate above — **Coscinaria 9: 1003**
      (2) Perithecia with a single ostiole — **Micronectria 9: 996**
    b. Perithecia superficial
      (1) Perithecia globose-conic, papillate, reddish — **Ophionectria 2: 563**
      (2) Perithecia vertically oblong, not papillate, white — **Tubeufia 14: 652**

II. Perithecia in a subicle or in a stroma
  1. Perithecia in a subicle or byssoid stroma — **Torrubiella 9: 994** (**Helminthascus 16: 616**)
  2. Perithecia in a stroma
    a. Stroma vertical
      (1) Stroma from a sclerotium or a blackened matrix — **Claviceps 2: 564** (**incl. Balansia 9: 997, Balansiella 17: 822**)
      (2) Stroma without sclerotium; on insects or fungi — **Cordyceps 2: 566**
    b. Stroma effuse or pulvinate — **Dussiella 9: 1004**
      (1) Stroma on a white subicle
      (2) Stroma without a subicle
        (a) Stroma effuse, encircling culms — **Epichloe 2: 578**
        (b) Stroma pulvinate to globose
          x. Spore cells separating
            (x) Perithecia in a definite peripheral zone — **Mycomalus 16: 604**

(y) Perithecia not arranged in a zone
m. Stroma hard and black **Fleischera 17:819**
n. Stroma fleshy and soft
(m) Stroma fertile over entire surface
Hypocrella 2:579
(n) Stroma fertile above, sterile below
Ascopolyporus 16:605
y. Spore cells not separating **Echinodothis 17:819**

Phaeoscoleciae

Spores filiform, dark

I. Stroma black, perithecia immersed; spores dilabent, brown
Konradia 16:605

Family 21. DOTHIDEACEAE

Mycelium typically producing a stroma, in which the perithecia are more or less completely sunken and reduced to locules; otherwise as in Sphaeriaceae.

Hyalosporae

2:588, A:222, 9:1004, 11:368, 14:663; 16:616, 17:827

Spores 1-celled, hyaline or nearly hyaline, ovoid, oblong or fusoid, rarely globose

I. Asci 8-spored
1. Stroma globose, pulvinate or cup-shaped
a. Stroma cupulate-discoid, attached at center
Schweinitziella 9:1005
b. Stroma pulvinate or subclypeate
(1) Stroma pulvinate
(a) Stroma subcoriaceous **Bagnisiella 2:589**
(b) Stroma corneous **Kullhemia 2:591**
(2) Stroma subclypeate, often oval to oblong
Mazzantia 2:591
(incl. Diachora 11:374)
2. Stroma oblong, linear or effuse
a. Stroma superficial, on flowers **Hyalodothis 11:374**
b. Stroma erumpent or superficial
(1) Stroma waxy or fleshy
a. Stroma more or less waxy within, linear, black
Scirrhiella 9:1030
b. Stroma fleshy, white **Monographus 2:457**
(2) Stroma more or less carbonous, round to effuse
(a) Asci usually shorter than 30 μ **Euryachora 2:625**
(b) Asci usually longer than 50 μ **Phyllachora 2:594**

II. Asci 3-spored; stroma subglobose, subcorneous
Zimmermanniella 17:827

Phaeosporae

2:626, 9:1031, 11:374, 14:675, 16:625, 17:841

Spores 1-celled, colored, usually yellowish or brown, ovoid, oblong or fusoid

I. Stroma subhemispheric to effuse; asci 8-spored
Auerswaldia 2: 626

Hyalodidymae

2: 627, 9: 1034, 11: 375, 14: 676, 16: 625, 17: 844

Spores 1-septate (2-celled), hyaline or subhyaline, ovoid, oblong or fusoid

I. Stroma pulvinate or disciform
  1. Stroma pulvinate, erumpent, usually ramicole
    a. Asci 4-8-spored — **Plowrightia 2: 635**
    b. Asci many-spored — ***Pleodothis 11: 376**
  2. Stroma disciform, superficial, foliicole — **Microcyclus 17: 844**

II. Stroma oblong to linear or effuse
  1. Stroma linear — **Scirrhia 2: 634**
  2. Stroma oblong to effuse, sometimes orbicular
    a. Cells of spore very unequal — **Munkiella 9: 1034**
    b. Cells of spore equal
      (1) Locules immersed in stroma — **Dothidella 2: 627**
      (2) Locules completely exserted from stroma — **Rosenscheldia 9: 1036**

Phaeodidymae

2: 639, 9: 1043, 11: 377, 14: 680, 16: 628, 17: 852

Spores 1-septate, dark, fuliginous to brown, ovoid, oblong or fusoid

I. Stroma superficial, disciform — **Maurodothis 17: 856**

II. Stroma erumpent, pulvinate to effuse
  1. Stroma usually effuse — **Phaeodothis 17: 854**
  2. Stroma pulvinate
    a. Stroma subcarbonous — **Russoella 9: 1044**
    b. Stroma subcoriaceous — **Dothidea 2: 639**
      (incl. Hypoxylopsis 17: 855)

Hyalophragmiae

2: 646, 9: 1045, 11: 377, 14: 682, 16: 629, 17: 856

Spores 2-several-septate, hyaline, oblong to cylindric

I. Perithecia or locules exserted from the stroma; spores sometimes colored
Montagnella 2: 646

II. Perithecia immersed
  1. Stroma fleshy or waxy — **Dangardiella 14: 683**
  2. Stroma carbonous
    a. Perithecia disposed in radiate lines — **Telimena 16: 631**
    b. Perithecia not radiate — **Darwiniella 9: 1048**

Phaeophragmiae

2: 646, 9: 1045, 11: 377, 14: 682, 16: 629, 17: 857

Spores 2-several-septate, colored, yellowish to brown, oblong to cylindric

I. Stroma elongate or linear — **Rhopographus 2: 647**

II. Stroma subhemispheric — **Homostegia 2: 649**

Hyalodictyae

8:847

Spores muriform, hyaline, ovate to oblong

I. Stroma with a round black receptacle stuffed with locules — **Pyrenotheca 8:847**

II. Stroma disciform or hemispheric — ***Discostroma 11:379**

Phaeodictyae

2:651, 9:1051, 11:378, 14:684, 16:632, 17:858

Spores muriform, dark, ovate to oblong

I. Stroma disciform or hemispheric — **Curreya 2:651**

Scolecosporae

2:652, 9:1051, 14:685, 16:632, 17:859

Spores filiform, hyaline, continuous, guttate or septate

I. Asci 8-spored
   1. Spores narrowly filiform, 1-2 μ wide — **Ophiodothis 2:652**
   2. Spores broadly filiform, 5-8 μ wide — **Oxydothis 14:674**

II. Asci many-spored — **Myriogenospora 14:685**

Family 22. MYCOPORACEAE

ZAHLBRUCKNER 77

Mycelium parasitic on Palmella or Chroolepus, forming a uniform thallus without a cortex; perithecia reduced to locules in a stroma as in Dothideaceae, to which family the genera might well be referred.

I. Spores transeptate; algae Chroolepus
   1. Spores 1-septate
      a. Spores colorless — ***Chlorodothis 78**
      b. Spores brown — ***Sciodothis 78**
   2. Spores several-septate
      a. Spores colorless — ***Nothostroma 78**
      b. Spores brown — ***Mycoporis 78**
   3. Spores needle-shaped — **Mycoporellum 78**

II. Spores muriform; algae Palmella — **Mycoporum 78**

Family 23. COCCOIDEACEAE

17:860 (16:624)

Stromata with immersed locules, affixed to the matrix by a central stipitiform point, subcarnose when fresh, subcorneous when dry; locules without distinct proper walls.

Hyalosporae

16:624

Spores 1-celled, hyaline, ellipsoid

I. Stroma superficial, disciform-pulvinate, subcarbonous — **Coccoidea 16:624**

II. Stroma superficial, cupulate-discoid — **Schweinitziella 9:1005**

Phaeosporae

17 : 860

Spores 1-celled, dark, ovoid

I. Stroma subcarnose, discoid — **Coccodiscus 17 : 860**

Hyalodidymae

17 : 860

Spores 1-septate, hyaline, fusoid

I. Stroma subcarnose or corneous, disciform-pulvinate — **Yoshinagaia 17 : 860**

Family 24. MICROTHYRIACEAE

2 : 658, 9 : 1053, 11 : 379, 14 : 686, 16 : 633, 17 : 861

Perithecia separate, or rarely in a stroma, dimidiate, applanate, context usually beautifully radiate, subsuperficial, black, membranous or carbonous, perforate or astomous; asci 4-8-spored, usually short.

Subfamily Microthyriae

Perithecia typically not seated on a subicle

Hyalosporae

2 : 659, 9 : 1053, 11 : 379, 14 : 686, 16 : 633, 17 : 861

Spores 1-celled, hyaline, ovoid to oblong or fusiform

I. Spores oblong, curved — **Piptostoma 9 : 1054**

II. Spores elliptic to fusiform, straight

1. Spores elliptic, short — **Myiocoprum 2 : 659**
2. Spores fusiform, long, sometimes 1-septate — **Pemphidium 2 : 670**

Phaeosporae

2 : 662, 9 : 1054, 16 : 634, 17 : 861

Spores 1-celled, dark, globose to oblong

I. Spores globose; perithecia on a hyaline subicle — **Blasdalea 16 : 634**

II. Spores oblong; subicle lacking — **Vizella 2 : 662**

Hyalodidymae

2 : 662, 9 : 1055, 11 : 379, 14 : 687, 16 : 635, 17 : 862

Spores 1-septate, hyaline, oblong to fusoid

I. Asci with paraphyses

1. Perithecia with several ostioles — **Polystomella 9 : 1063**
2. Perithecia astomous — **Clypeolum 2 : 667**

II. Asci without paraphyses

1. Perithecia smooth
   a. Perithecia more or less mytiliform and confluent — **Brefeldiella 9 : 1063**

b. Perithecia not mytiliform or confluent
Microthyrium 2: 662

2. Perithecia setulose **Chaetothyrium 9: 1061**

Phaeodidymae

2: 668, 9: 1064, 11: 381, 14: 689, 16: 639, 17: 865

Spores 1-septate, dark, oblong to fusoid

I. Perithecia superficial, carbonous, perforate
Seynesia 2: 668

Hyalophragmiae

2: 668, 9: 1068, 11: 381, 14: 690, 16: 642, 17: 868

Spores 2-several-septate, hyaline, fusoid to cylindric

I. Perithecia separate
1. Perithecia on a fibrous mycelium **Trichopeltis 9: 1068**
2. Perithecia without a mycelium
a. Perithecia smooth **Micropeltis 2: 669**
b. Perithecia margined with rigid appendages
Actiniopsis 17: 871

II. Perithecia in a dimidiate many-perforate stroma
Gilletiella 14: 691

Phaeophragmiae

2: 668, 9: 1068, 11: 381, 14: 690, 16: 642, 17: 872

Spores 2-several-septate, dark, fusoid, to cylindric

I. Perithecia membranous, subfibrous; spores conglobate
Phaeoscutella 17: 872

II. Perithecia carbonous or coriaceous **Scutellum 2: 668**

Hyalodictyae

A: 253, 9: 1071, 14: 692, 16: 645

Spores muriform, hyaline, oblong to elliptic

I. Perithecia membranous, ostiolate **Saccardinula 9: 1071**

Phaeodictyae

17: 873

Spores muriform, dark, oblong to elliptic

I. Perithecia superficial, phyllogenous, subradiate
†Phaeopeltis 17: 873
(Phaeosaccardinula)

Scolecosporae

9: 1072, 16: 646, 17: 873

Spores acicular, hyaline or colored, continuous or septate

I. Spores separating into cells **Scolecopeltis 9: 1072**

II. Spores not separating **Ophiopeltis 17: 873**

Subfamily Asterinae

14: 692, 16: 646, 17: 875

Perithecia typically seated upon an effuse radiate black subicle

Hyalosporae

14: 692, 16: 646

I. Spores hyaline, one-celled — **Asterula 1: 47, 14: 692**

Phaeosporae

14: 693

I. Spores dark, one celled — **Asteronia 1: 47, 14: 693**

Hyalodidymae

14: 693, 16: 646, 17: 882

I. Spores hyaline, 1-septate — **Asterella 1: 42, 14: 698**

Phaeodidymae

14: 693, 16: 646, 17: 875

I. Spores dark, 1-septate — **Asterina 1: 39, 14: 693 (incl. Trichothyrium 9: 1062)**

Hyalophragmiae

14: 699, 16: 650, 17: 884

I. Spores hyaline, several-septate — **Asteridium 1: 49, 14: 699**

Phaeophragmiae

14: 699, 17: 885

I. Spores dark, several-septate — **Asteridiella 14: 701**

Family 25. LOPHIOSTOMATACEAE

2: 672, 9: 1074, 11: 382, 14: 702, 16: 650, 17: 886

Perithecia simple, separate, at first covered, then subsuperficial or insculptate, carbonous, rarely submembranous, black, with a very narrowly rimose, broad and compressed ostiole; asci paraphysate, usually 8-spored; matrix often blackened giving the appearance of a stroma.

Hyalosporae

(Not represented)

Phaeosporae

2: 673, 17: 886

I. Spores 1-celled, dark — **Lophiella 2: 673**

Hyalodidymae

2: 675, 9: 1075, 11: 383, 14: 702, 17: 886

Spores 1-septate, hyaline, oblong to fusoid

I. Perithecia smooth — **Lophiosphaera 2: 675**

II. Perithecia hairy, with wool at base — **Lophiotricha 9: 1082**

Phaeodidymae

2: 673, 9: 1074, 11: 382, 14: 702, 16: 650, 17: 887

I. Spores 1-septate, dark — **Schizostoma 2: 673**

Hyalophragmiae

2:678, 9:1076, 14:703, 16:651, 17:887

I. Spores hyaline, several-septate **Lophiotrema 2:678**

Phaeophragmiae

2:689, 9:1083, 11:383, 14:704, 16:651, 17:887

Spores dark, several-septate

I. Spores caudate **Brigantiella 17:889**

II. Spores not caudate **Lophiostoma 2:689**

Hyalodictyae

9:1093

I. Spores hyaline or nearly so, muriform **Lophidiopsis 9:1093**

Phaeodictyae

2:710, 9:1091, 11:384, 14:706, 16:653, 17:889

I. Spores dark, muriform **Platystomum 17:889 (Lophidium 2:710)**

Scolecosporae

2:717, 9:1094

I. Spores filiform, hyaline or dilutely colored **Lophionema 2:717**

Family 26. CORYNELIACEAE

9:1073, 11:385, 16:650

Perithecia separate or in a stroma, coriaceous, black, lageniform, with an elongated ostiole, perforate at the apex and then broadly expanded and infundibuliform.

Phaeosporae

9:1073, 16:650

I. Spores dark, 1-celled, spherical **Corynelia 9:1073**

Phaeophragmiae

11:385

I Spores dark, 3-several-septate **Coryneliella 11:385**

Phaeodictyae

9:1073

I Spores black, stellate, cells radiating **Tripospora 9:1073**

Order 9. HYSTERIALES

Perithecia oblong to linear, rarely round, carbonous or membranous, rarely coriaceous, ostiole a cleft or slit; mycelium often forming a thallus with algae.

Family 27. HEMIHYSTERIACEAE

9:1094, 11:385, 14:707, 16:653, 17:892

Perithecia simple or aggregated into a stroma, dimidiate-scutate, subicle lacking,

or more or less developed, ostiole hysterium-like; asci 8-spored, spores usually 2-celled, dark.

Phaeosporae

14: 707

I. Spores dark, 1-celled; subicle lacking — **Cyclostomella** 14: 707

Phaeodidymae

9: 1094, 11: 385, 14: 708, 16: 653, 17: 892

Spores dark, 1-septate, elliptic to fusoid

I. Perithecia on a subicle; stroma lacking — **Morenoella** 9: 1094

II. Perithecia in a stroma

1. Asci with paraphyses — **Parmularia** 14: 708 (**Schneepia** 9: 1097)
2. Asci without paraphyses — **Hysterostomella** 9: 1098

Hyalophragmiae

17: 892

I. Spores hyaline, 3-several-septate — **Parmulariella** 17: 892

Family 28. HYSTERIACEAE

2: 721, 9: 1100, 11: 385, 14: 710, 16: 657, 17: 893

Perithecia simple or very rarely in a stroma, erumpent-superficial, horizontally, rarely vertically oblong or linear, membranous, coriaceous or carbonous, rarely carnosule at first, usually black, opening along the whole surface by a somewhat narrow cleft; asci usually paraphysate, 4-8-spored, rarely many-spored.

Hyalosporae

2: 723, 9: 1100, 11: 385, 14: 710, 16: 657, 17: 893

Spores 1-celled, hyaline, globose to fusoid

I. Asci 4-spored; spores covered with mucus — **Hypodermella** 11: 385

II. Asci 8-spored

1. Perithecia single or at least not coalescing — **Schizothyrium** 2: 723 (**Henriquesia** 2: 726)
2. Perithecia coalescing in stellate groups of 4-6 — **Delpinoella** 16: 658

Phaeosporae

2: 727, 9: 1100, 14: 710

Spores 1-celled, dark, globose to ovoid

I. Asci 8-spored

1. Perithecia separate; asci paraphysate — **Farlowiella** 2: 727, 9: 1100
2. Perithecia stromatic at base; asci aparaphysate — **Erikssonia** 14: 710

II. Asci 10-12-spored — **Lembosiella** 9: 1101

Hyalodidymae

2: 727, 9: 1101, 11: 386, 14: 711, 16: 659, 17: 895

Spores 1-septate, hyaline, ovoid to fusoid

I. Perithecia membranous
  1. Perithecia separate, minute — **Aulographum 2: 727**
  2. Perithecia in a dimidiate stroma — **Cycloschizum 17: 896**

II. Perithecia carbonous
  1. Perithecia separate
    a. Perithecia simple or scarcely branched
      (1) Asci 8-spored — **Glonium 2: 731**
      (2) Asci many-spored — ***Pleoglonis 9: 1103**
    b. Perithecia radiately branched, or stellate — **Actidium 2: 738**
  2. Perithecia connected in orbicular sori — **Synglonium 14: 711**

III. Perithecia at first somewhat fleshy, reddish or yellow — **Angelinia 2: 739**

Phaeodidymae

2: 740, 9: 1103, 11: 387, 14: 711, 16: 659, 17: 897

Spores 1-septate, dark, ovoid to oblong

I. Perithecia on a fibrillose-radiate subicle — **Lembosia 2: 741**

II. Perithecia without a subicle
  1. Perithecia coriaceous — **Tryblidium 2: 740**
  2. Perithecia carbonous
    a. Perithecia linear; cleft very narrow, straight — **Bulliardiella 17: 902**
    b. Perithecia scutellate; cleft subcircular — **Dielsiella 17: 902**

Hyalophragmiae

2: 765, 9: 1112, 11: 388, 14: 715, 16: 664, 17: 903

Spores several-septate, hyaline, oblong to cylindric

I. Perithecia saprogenous
  1. Perithecia carbonous, cleft narrow — **Gloniella 2: 765**
  2. Perithecia subcoriaceous, cleft wide — **Pseudographis 2: 769**

II. Perithecia biogenous, gregarious in spots
  1. Perithecia corticole — **Dichaena 2: 771**
  2. Perithecia foliicole
    a. Perithecia merely gregarious — **Phragmographium 17: 906**
    b. Perithecia radiately disposed — **Aldona 16: 667**

Phaeophragmiae

2: 743, 9: 1108, 11: 387, 14: 715, 16: 664, 17: 907

Spores several-septate, dark, oblong to cylindric

I. Edges of cleft somewhat obtuse, then more or less distant
  1. Asci 4-8-spored
    a. Perithecia transversely densely and coarsely sulcate — **Rhytidhysterium 2: 759**

b. Perithecia smooth
(1) Perithecia covered by the epidermis
Hypodermopsis 17: 908
(2) Perithecia erumpent or superficial
(a) Perithecia carbonous **Hysterium 2: 743**
(b) Perithecia coriaceous **Tryblidiella 2: 757**
2. Asci many-spored, perithecia subcoriaceous
Baggea 2: 760

II. Edges of cleft very thin, closely connivent
1. Asci 4-spored; perithecia subcarbonous, striate
Ostreium 2: 765
2. Asci 8-spored; perithecia somewhat membranous, fragile
Mytilidium 2: 760

Hyalodictyae

2: 772, 9: 1116, 11: 389, 14: 717, 16: 668, 17: 909

Spores muriform, hyaline, ovoid to oblong

I. Perithecia separate
1. Perithecia carbonous, erumpent; spores without mucus
Gloniopsis 2: 772
2. Perithecia membranous, innate; spores with mucus sheath
Hysteropsis 9: 1118

II. Perithecia in a lenticular, radiate stroma **Mendogia 16: 669**

Phaeodictyae

2: 776, 9: 1119, 11: 389, 14: 717, 16: 668, 17: 912

Spores muriform, dark, ovoid to oblong

I. Perithecia carbonous or corneo-carbonous, firm
Hysterographium 2: 776

II. Perithecia membranous, thin **Graphyllium 16: 1145, 17: 913**

Scolecosporae

2: 784, 9: 1123, 11: 389, 14: 719, 16: 669, 17: 913

Spores bacillar to filiform, hyaline or dark

I. Spores 2-5 times shorter than the asci; perithecia membranous
Hypoderma 2: 784

II. Spores filiform, nearly as long as the asci
1. Perithecia horizontally elongate, rarely ampulliform
a. Perithecia elongate
(1) Perithecia membranous, applanate **Lophodermium 2: 791**
(2) Perithecia subcarbonous, conchiform
Lophium 2: 799
(3) Perithecia subcoriaceous, depressed
(a) Perithecia subcorneous **Sporomega 2: 801**
(b) Perithecia subcarnose **Colpoma 2: 803**
b. Perithecia subspheroid or ampulliform
(1) Perithecia depressed spheroid, cleft longitudinal
Ostropa 2: 804

(2) Perithecia horizontally ampulliform, ostiole roundish **Robergea 2: 806**

2. Perithecia vertically elongate, cylindric; cleft obsolete
   a. Spores breaking apart into cells **Microstelium 16: 672**
   b. Spores not breaking apart **Acrospermum 2: 807**
      (Schizacrospermum 16: 672)

Family 29. GRAPHIDACEAE

ZAHLBRUCKNER 87

Mycelium parasitic on yellow green algae, forming a crustose, foliose or fruticose thallus, the latter often immersed, or thallus lacking, and parasitic on lichens or on bark; perithecia single or cespitose or united in a stroma, typically oblong to elongate with a cleft-like opening, more rarely disk-shaped and with an irregular often stellate opening, more or less carbonous.

I. Perithecia separate

1. Thallus lacking, parasitic on lichens or on bark **Subfamily Arthoniae 89, R. 414**
   a. Parasitic on lichens
      1. Spores 1-celled **Phacopsis R. 419**
      2. Spores 2-celled **Conida R. 420**
      3. Spores 4-6-celled **Celidium R. 425**
   b. On bark
      1. Spores 2-celled **Lecideopsis R. 432**
      2. Spores 2-several-septate **Arthonia R. 435**
      3. Spores muriform **Arthothelium R. 438**

2. Thallus present, crustose, or uniform
   a. Perithecia without an exciple, i. e., not margined **Subfamily Arthoniae 89**
      (1) Algae Palmella or Protococcus; spores colorless
         (a) Spores 1-septate **Allarthonia 91**
         (b) Spores several-septate ***Plearthonis 91**
         (c) Spores muriform **Allarthothelium 241**
      (2) Algae Chroolepus
         (a) Spores transeptate
            x. Spores colorless
               (x) Spores 1-septate ***Diarthonis 91**
               (y) Spores 2-several-septate **Arthonia 89**
            y. Spores brown **Gymnographa 94**
         (b) Spores muriform **Arthothelium 91**
      (3) Algae Phyllactidium
         (a) Spores 1-septate ***Merarthonis 91**
         (b) Spores 2-several-septate **Arthoniopsis 91**
   b. Perithecia margined with a distinct proper exciple **Subfamily Graphidae 92**
      (1) Thallus without cortex
         (a) Algae Palmella
            x. Perithecia with a single hymenium
               (x) Spores colorless
                  m. Spores 1-celled

(m) Hypothecium clear or brownish
Xylographa 93
(n) Hypothecium black, carbonous
Lithographa 93
n. Spores transeptate **Aulaxina 94**
(y) Spores dark
m. Spores transeptate **Encephalographa 94**
n. Spores finally muriform **Xyloschistes 94**
y. Perithecia with 2-4 parallel hymenia
(x) Spores 1-celled **Ptychographa 94**
(y) Spores transeptate **Diplogramma 94**
(b) Algae Chroolepus
x. Asci many-spored; spores filiform
Spirographa 96
y. Asci 1-8-spored
(x) Spores clear
m. Spores transeptate
(m) Paraphyses simple and not united
r. Ends of paraphyses little thickened, smooth
(r) Spores 1-septate ***Digraphis 98**
(s) Spores 2-several-septate
Graphis 96
s. Ends clavate and warted or spiny
***Psorographis 102**
(n) Paraphyses branched and united
Opegrapha 94
n. Spores muriform
(m) Paraphyses simple and not united
r. Ends of paraphyses not thickened, smooth
Graphina 99
s. Ends of paraphyses clavate, warted or spiny
†Acanthothecis 101
(not Acanthothecium Speg.)
(n) Paraphyses branched and united
Helminthocarpum 102
(incl. Dictyographa 96)
(y) Spores dark
m. Spores 1-septate **Melaspilea 96**
n. Spores 2-several-septate **Phaeographis 99**
o. Spores muriform **Phaeographina 100**
(c) Algae Phyllactidium: spores transeptate
x. Spores clear; paraphyses branched and united
Opegraphella 102
y. Spores dark; paraphyses simple and free
Micrographa 102
(2) Thallus with a cortex: algae Chroolepus
Subfamily Dirinae 105
(a) Spores elliptic to fusoid, 4-8-celled, clear
Dirina 106

(b) Spores similar but brown **Dirinastrum 106**

3. Thallus present, fruticose, erect **Subfamily Roccellae 106**

a. Hyphae of cortex parallel with thallus surface

(1) Perithecia elongate, furrowed; spores clear, 8-9-celled **Ingaderia 107**

(2) Perithecia round

(a) Hypothecium black; spores clear

x. Exciple with algae **Dendrographa 107**

y. Exciple without algae **Roccellaria 107**

(b) Hypothecium clear; spores brown, spiny **Darbishirella 108**

b. Hyphae perpendicular to surface

(1) Perithecia elongate, furrowed

(a) Perithecia immersed; hypothecium clear **Roccellographa 108**

(b) Perithecia superficial; hypothecium black **Reinkella 108**

(2) Perithecia round

(a) Spores clear; perithecia entire

x. Hypothecium black

(x) Thallus mostly crustose, slightly fruticose **Roccellina 108**

(y) Thallus distinctly fruticose **Roccella 109**

y. Hypothecium clear

(x) Algae present below the hypothecium **Pentagenella 110**

(y) No algae below the hypothecium **Combea 109**

(b) Spores brown or brownish; perithecia deeply lobed

x. Medulla clear throughout **Schizopelte 110**

y. Inner medullary layer black **Simonyella 110**

II. Perithecia in a stroma, mostly immersed **Subfamily Chiodectae 102**

1. Algae Chroolepus

a. Paraphyses simple and free

(1) Spores transeptate

(a) Spores clear **Glyphis 103**

(b) Spores brown **Sarcographa 103**

(2) Spores muriform

(a) Spores clear **Enterodictyum 104**

(b) Spores brown **Sarcographina 103**

b. Paraphyses branched and reticulately united

(1) Spores transeptate

(a) Spores colorless **Chiodectum 104**

(b) Spores brown or dark

x. Perithecia margined **Sclerophytum 105**

y. Perithecia marginless **Synarthonia 91**

(2) Spores muriform

(a) Spores clear **Minksia 241**

(b) Spores brown **Enterostigma 105**

2. Algae Phyllactidium

a. Spores 2-celled; paraphyses simple and free **Pycnographa 105**

b. Spores many-celled; paraphyses branched and united **Mazosia 105**

Order 10. PEZIZALES

Mycelium various, but typically inconspicuous or invisible; propagaton by conidia, but usually not in evidence; reproductive body or apothecium at first closed and more or less globose, rarely elongate, then opening more or less completely into a cup, saucer or disk, waxy or fleshy, more rarely carbonous, leathery or gelatinous; asci typically 8-spored and paraphysate; spores various.

Family 30. PHACIDIACEAE

REHM 60

Apothecia sunken, more or less erumpent, disk-like or elongate, single or grouped, leathery or carbonous, black, firm, opening by lobes or by a rift; hypothecium poorlv developed as a rule.

Hyalosporae

8:705, 11:431, 10:48, 14:813, 16:783, 18:155

Spores hyaline, 1-celled, globose to oblong

I. Apothecia concrete above with the epiderm

1. Apothecia and epiderm splitting radiately **Phacidium 8:709**

2. Apothecia and epiderm splitting circumscissilely **Stegia 8:733**

3. Apothecia and epiderm splitting irregularly **Cryptomyces 8:707**

II. Apothecia and epiderm little or not at all concrete **Pseudophacidium R. 94**

Phaeosporae

14:814

Spores dark, 1-celled, oblong

I. Apothecia superficial, membranous, laciniate **Phaeophacidium 14:814**

Hyalodidymae

Spores hyaline, 1-septate, elliptic to oblong

I. Apothecia scutellate or oblong, laciniate **Schizothyrium R. 75 (incl. Rhagadolobium 14:816)**

Phaeodidymae

Spores dark, 1-septate, elliptic to oblong

I. Apothecia in black foliicole spots **Cocconia 8:738**

II. Apothecia stellately erumpent through epiderm
Metadothella 18: 162

III. Apothecia and epiderm concrete, laciniate
Keithia 10: 49

Phragmosporae
8: 740

Spores typically hyaline, 2-several-septate, ovoid to oblong

I. Apothecia and epiderm concrete, laciniate
Sphaeropezia 8: 740, R. 72

II. Apothecia and epiderm not concrete, splitting irregularly
Pseudographis R. 90

Dictyosporae
8: 764, 16: 790

Spores muriform, typically hyaline, ovoid to oblong

I. Apothecia round to oblong, splitting irregularly; aparaphysate
Dothiora 8: 764, R. 108

Scolecosporae
8: 744, 10: 51, 11: 432, 14: 817, 16: 789, 18: 163

Spores bacillar to filiform, typically hyaline, continuous or septate

I. Apothecia and epiderm concrete
1. Apothecia in black foliicole stroma-like spots
Rhytisma 8: 752, R. 82
(incl. Duplicaria 8: 764)
2. Apothecia not in stroma-like spots
a. Apothecia and epiderm laciniate **Coccomyces 8: 744, R. 76**
b. Apothecia and epiderm operculately circumscissile
Moutoniella 18: 163

II. Apothecia and epiderm not concrete
1. Apothecia round, laciniate **Coccophacidium R. 97**
2. Apothecia oblong to elongate, hysterioid
Clithris 18: 165, R. 101

Family 31. STICTIDACEAE
REHM 112

Apothecia sunken, finally more or less erumpent, round or elongate, single or grouped, typically waxy, rarely membranous or leathery, white or bright-colored, at least never black, splitting the epiderm laciniately or irregularly, hypothecium little developed.

Subfamily Eustictidae
REHM 113

Apothecia waxy, not deeply sunken, finally opening widely, and exposing the hymenium.

Hyalosporae

8:648, 10:44, 11:428, 14:806, 16:776, 18:146

Spores hyaline, 1-celled, globose to oblong

I. Spores globose
  1. Asci 8-spored — **Lindauella 16:777**
  2. Asci many-spored — **Flaminia 16:777**

II. Spores elliptic to oblong
  1. Paraphyses long-pointed, much longer than the asci — **Stegia 8:733, R. 155**
  2. Paraphyses blunt, swollen or branched
    a. Paraphyses thread-shaped or forked
      (1) Apothecia round
        (a) Apothecia blackish; ascus pore blue with iodin — **Trochila 8:728, R. 127**
        (b) Apothecia bright-colored
          x. Ascus pore blue with iodin
            (x) Paraphyses forked, enlarged and colored above — **Ocellaria 8:654, R. 133**
            (y) Paraphyses little if at all enlarged or colored — ***Habrostictis R. 137**
          y. Ascus pore not blue with iodin — **Naevia 8:658, R. 145**
      (2) Apothecia oblong or elongate
        (a) Hymenium blue with iodin — **Xylographa 8:664, R. 153**
        (b) Hymenium not blue with iodin — **Briardia 16:776, R. 151**
    b. Paraphyses irregularly branched
      (1) Asci 8-spored — **Propolis 8:648, R. 141**
      (2) Asci many-spored — **Propolina 8:654**

Phaeosporae

Spores 1-celled, dark, oblong — **Stictophacidium R. 1215**

Didymosporae

8:666, 10:45, 11:428, 14:808, 16:778, 18:147

Spores 1-septate, typically hyaline or bright-colored, oblong

I. Paraphyses lacking — **Coccopeziza 10:45**

II. Paraphyses present
  1. Spores blue or green — **Ploettnera 16:778**
  2. Spores hyaline
    a. Spores with 1-2 cilia at each end; hysterioid — **Iridionia 16:788**
    b. Spores muticate
      (1) Paraphyses filiform or forked
        (a) Apothecia round
          x. Asci not blue with iodin — ***Naeviella R. 164**
          y. Asci blue with iodin
            (x) Ascus pore alone blue with iodin — **Diplonaevia 8:666, R. 161**
            (y) Whole hymenium blue with iodin — ***Diplocryptis R. 158**

(b) Apothecia rounded, with flexuose clefts
Lauterbachiella 16: 788

(2) Paraphyses irregularly branched
(a) Apothecia round; not blue with iodin
Propolidium 8: 667

(b) Apothecia elongate; ascus pore blue with iodin
***Xyloglyphis R. 170**

Phragmosporae

8: 669, 10: 46, 11: 429, 14: 808, 16: 778, 18: 148

Spores 2-several-septate, hyaline, rarely darkish, oblong to elongate

I. Spores somewhat fuscous — **Eupropolis 8: 676 (incl. Janseella 16: 780)**

II. Spores hyaline
1. Paraphyses filiform or forked
a. Asci not blue with iodin — ***Merostictis R. 164**
b. Asci blue with iodin
(1) Ascus pore alone blue with iodin
Phragmonaevia 8: 674, R. 160

(2) Whole hymenium blue with iodin
Cryptodiscus 8: 669, R. 158

2. Paraphyses branched; apothecia elongate
Xylogramma 8: 677, R. 169

Dictyosporae

8: 704, 11: 431, 14: 812, 16: 782, 18: 151

Spores muriform, typically hyaline, ovoid to oblong

I. Asci 1-spored — **Pleostictis 8: 703**

II. Asci 8-spored
1. Apothecia oblong, hysterioid — **Melittiosporium 8: 704, R. 172**
2. Apothecia round
a. Apothecia urceolate — **Platysticta 8: 703**
b. Apothecia disk-like — **Delpontia 18: 151**

Scolecosporae

8: 681, 10: 46, 11: 429, 14: 810, 16: 781, 18: 152

Spores bacillar or filiform, typically hyaline

I. Asci 8-spored
1. Apothecia pilose — **Lasiostictis 8: 696**
2. Apothecia not pilose
a. Spore cells separating — **Schizoxylum 8: 697, R. 181**
b. Spore cells not separating
(1) Paraphyses filiform or nearly so; asci cylindric
Stictis 8: 681, R. 175 (incl. Karstenia 8: 702, Cerion 18: 154)

(2) Paraphyses much branched; asci clavate
Naemacyclus 8: 701, R. 173

II. Asci many-spored — **Carestiella 14: 810**

Subfamily Ostropae

REHM 185

Apothecia membranous or leathery, deeply sunken, the scarcely opened tip alone erumpent.

I. Spores 1-celled, elliptic; asci clavate — **Laquearia R. 187**

II. Spores many-celled, filiform; asci cylindric

1. Apothecia cask-shaped, partly erumpent — **Ostropa R. 188**
2. Apothecia with only the thick ostiole erumpent — **Robergea R. 189**

Family 32. TRYBLIDIACEAE

REHM 191

Apothecia sunken, then erumpent, often lobed, brown or black, membranous or horny; hypothecium well-developed, thick.

I. Apothecia scattered

1. Spores 1-septate
   a. Spores with a mucose covering — ***Tryblidis R. 194**
   b. Spores without a mucose covering — **Heterosphaeria R. 198**
2. Spores 2-several-septate
   a. Spores with a mucose covering — **Tryblidiopsis R. 193**
   b. Spores without a mucose covering — **Odontotrema R. 204**
3. Spores muriform — **Tryblidium R. 196**
4. Spores filiform — ***Odontura R. 207**

II. Apothecia cespitose or stromate; spores bacillar or filiform — **Scleroderris R. 208**

Family 33. DERMATEACEAE

REHM 241

Apothecia sunken, then erumpent, cup-shaped to oblong, single or grouped, waxy, leathery or horny, mostly brownish or black; hypothecium more or less developed.

Hyalosporae

8: 547, 10: 36, 11: 422, 14: 794, 16: 762, 18: 121

Spores hyaline, 1-celled, globose to oblong

I. Apothecia large, usually stalked or radicate at base

1. Apothecia ear-shaped, more or less vertical, leathery
   a. Spores ovoid to oblong — **Midotis 8: 547**
   b. Spores globose — **Midotiopsis 18: 121**
2. Apothecia urceolate or turbinate
   a. Apothecia stalked; exciple and hypothecium prosenchymatic — **Urnula 8: 548**
   b. Apothecia stalked; exciple and hypothecium parenchymatic — **Choriactis 18: 121**
   c. Apothecia sessile, hairy; exciple parenchymatic, hypothecium prosenchymatic — **Scytopezis 18: 122**

II. Apothecia small, sessile or nearly so

1. Asci 8-spored
   a. Apothecia more or less corky — **Dermatea 8: 550, R. 246**
   b. Apothecia coriaceous to subcorneous — **Cenangium 8: 556, R. 219 (incl. Ameghiniella 8: 584, Ephelina 8: 585)**
2. Asci many-spored, or 8-spored and many-spored — **Tympanis 8: 578, R. 264**

Phaeosporae

16: 764, 18: 127

Spores dark, 1-celled, oblong

I. Apothecia coriaceous, erumpent — **Phaeangium 16: 764**

Hyalodidymae

8: 587, 10: 37, 11: 424, 14: 798, 18: 127

Spores hyaline, 1-septate, elliptic to oblong

I. Apothecia patellate, coriaceous to corneous — **Cenangella 8: 587**

II. Apothecia elongate, cleft, subcorneous — **Angelinia 18: 129**

Phaeodidymae

18: 128

Spores dark, 1-septate, elliptic to oblong

I. Apothecia patellate, coriaceous — **Phaeangella 18: 128**

Hyalophragmiae

8: 594, 16: 765, 18: 129

Spores hyaline, 2-several-septate, elliptic to fusoid

I. Apothecia waxy-membranous, pilose, urceolate — **Crumenula 8: 600, R. 235**

Phaeophragmiae

2: 757, R. 233

Spores dark, 2-several-septate, elliptic to fusoid

I. Apothecia hysterioid, cleft, coriaceous — **Tryblidiella R. 233**

Scolecosporae

8: 601, 10: 37, 11: 425, 18: 130

Spores filiform, hyaline or subhyaline

I. Apothecia urceolate to cup-shaped, subcoriaceous — **Godronia 8: 601, R. 237**

II. Apothecia clavate, stipe corneous, disk submucose — **Crinula 8: 606**

Family 34. BULGARIACEAE

REHM 444

Apothecia mostly superficial, cup-shaped to disk-shaped, usually smooth, gelatinous-fleshy or gelatinous-waxy, horn-like when dry; hypothecium gelatinous, more or less developed.

Hyalosporae

4: 609, 10: 38, 11: 425, 14: 801, 16: 766, 18: 131

Spores hyaline, 1-celled, globose to oblong

I. Spores globose — **Pulparia 8: 612**

II. Spores elliptic to bacillar

1. Apothecia in a lens-shaped gelatinous stroma — **Physmatomyces 16: 770**

2. Apothecia not in a stroma

a. Exciple lacking

(1) Asci 8-spored

(a) Apothecia microscopic, margined by changed paraphyses — **Gloeopeziza 10: 41**

(b) Apothecia larger; paraphyses not modified — **Agyrium 8: 634, R. 450**

(2) Asci 16-spored — ***Agyrina 8: 636**

b. Exciple present

(1) Lichenicole — **Ahlesia 8: 633**

(2) Not lichenicole

(a) Apothecia stipitate — **Ombrophila 8: 613, R. 475 (incl. Stamnaria 8: 620, R. 465)**

(b) Apothecia sessile

x. Asci 8-spored

(x) Apothecia smooth outside

m. Apothecia with an even disk — **Orbilia 8: 621, R. 453 (incl. Bulgariopsis 18: 135)**

n. Apothecia with a much folded disk — **Haematomyces 8: 633**

(y) Apothecia veined or roughened outside

m. Apothecia 1-2 cm. wide — **Gloeocalyx 18: 132**

n. Apothecia 2-9 cm. wide — **Sarcosoma 10: 42, R. 497**

y. Asci many-spored — ***Myridium 8: 631**

Phaeosporae

8: 636, 10: 41, 14: 804, 16: 770, 18: 140

Spores dark, 1-celled, elliptic to fusoid

I. Apothecia turbinate, substipitate, closed at first, large — **Bulgaria 8: 636, R. 494**

II. Apothecia disciform, sessile, open at first, smaller — **Bulgariella 8: 638**

Hyalodidymae

8: 639, 10: 42, 11: 427, 14: 805, 16: 771, 18: 142

Spores hyaline or subhyaline, 1-septate, elliptic to fusoid

I. Parasitic, urn-shaped; paraphyses forming an epithecium — **Paryphedria 10: 43, R. 484**

II. Saprophytic, disciform; epithecium lacking — **Calloria 8: 639, R. 462**

Phaeodidymae

10:42, 16:771, 18:142

Spores brown, 1-septate, elliptic to fusoid

1. Apothecia subturbinate, sessile — **Sorokinia 10:42**

Phragmosporae

8:641, 10:43, 11:427, 16:773, 18:143

Spores typically hyaline, 2-several-septate, fusoid

I. Apothecia turbinate to disciform — **Coryne 8:641, R. 485**

Hyalodictyae

18:145

Spores hyaline, muriform, ovoid

I. Apothecia cupulate to plane — **Dictyonia 18:144**

Phaeodictyae

8:646, 10:44, 18:144

Spores dark, muriform, ovoid to oblong

I Hymenium sinuate-gyrose, not margined — **Haematomyxa 8:646**

II. Hymenium smooth, acute-margined — **Sarcomyces 10:44**

Scolecosporae

8:646, 14:805, 16:775, 18:145

Spores filiform, typically hyaline

I. Apothecia without an exciple — **Agyriopsis 14:805**

II. Exciple present

1. Apothecia dark or black; spores medium — **Holwaya 8:646**
2. Apothecia gray or bright-colored; spores very long — **Ophiogloea 18:145**

Family 35. PATELLARIACEAE

REHM 277

Apothecia mostly superficial, cupulate to disk-shaped, more rarely boat-shaped or oblong, usually dark or black, carbonous, leathery, corneous or waxy; hypothecium typically well-developed.

Hyalosporae

8:769, 10:52, 11:433, 14:818, 16:791, 18:165

Spores hyaline, 1-celled, globose to oblong

I. Asci many-spored

1. Spores globose — **Biatorella 8:469, R. 303**
2. Spores allantoid — **Biatorellina 18:172**

II. Asci 8-spored

1. Apothecia oblong to elongate, cleft — **Placographa R. 313**
2. Apothecia round
   a. Parasitic on lichen thalli
      (1) Exciple present — **Rhymbocarpus 14: 819**

(2) Exciple lacking — **Nesolechia** 10: 53, R. 315

b. Saprophytic

(1) Paraphyses branched, forming an epithecium

(a) Asci club-shaped

x. Subicle absent — **Patinella** 8: 769, R. 310

y. Subicle present, radiate — **Actinoscypha** 8: 774

(b) Asci cylindric — **Starbaeckia** 10: 53

(2) Paraphyses simple; epithecium none — **Psilothecium** 18: 168

Phaeosporae

10: 55

Spores dark, 1-celled, globose to elliptic

I. Apothecia patellate, margined, black — **Lagerheimia** 10: 55

Hyalodidymae

8: 779, 10: 56, 11: 434, 14: 820, 16: 792, 18: 173

Spores hyaline, 1-septate, elliptic to fusoid

I. Parasitic on lichen thalli — **Scutula** R. 321

II. Not lichenicole

1. Apothecia smooth, saprophytic — **Patellea** 8: 783, R. 283

2. Apothecia setose, parasitic on leaves — **Johansonia** 8: 785

Phaeodidymae

8: 779, 10: 56, 11: 434, 14: 820, 16: 792, 18: 173

Spores dark, 1-septate, elliptic to fusoid

I. Asci 8-spored

1. Apothecia on a foliicole radiate subicle — **Woodiella** 16: 794

2. Apothecia not on a subicle

a. Apothecia round

(1) Apothecia superficial

(a) Saprophytic — **Karschia** 8: 779, R. 345

(b) Parasitic on lichens — ***Epilichen** 18: 177, R. 350

(2) Apothecia sunken, then erumpent

(a) Parasitic on lichens — **Abrothallus** 8: 739, R. 358

(b) Saprophytic — **Caldesia** R. 289

b. Apothecia elliptic to linear

(1) Apothecia irregularly elliptic or oblong — **Melaspilea** 10: 58, R. 362

(2) Apothecia boat-shaped to linear — **Hysteropatella** R. 367

II. Asci 16-spored — **Ravenelula** 8: 782

III. Asci many-spored — ***Pleospilis** 18: 179

Hyalophragmiae

8: 786, 10: 59, 11: 434, 14: 821, 16: 795, 18: 179

Spores hyaline, 2-several-septate, elliptic to fusoid

I Parasitic on lichens — **Mycobilimbia** 10: 60, R. 327

II. Saprophytic

1. Apothecia twisted when dry — **Durella 8: 790, R. 286**
2. Apothecia not contorted — **Patellaria R. 329**
   (incl. Lecanidion 8: 795)

Phaeophragmiae

8: 786, 10: 59, 11: 434, 14: 821, 16: 795, 18: 179

Spores dark, 2-several-septate, elliptic to fusoid

I. Asci 8-spored
   1. Margin of cup involute, densely costate-rugose — **Rhytidopeziza 10: 65**
   2. Margin not costate-rugose
      a. Apothecia erumpent — **Pseudotryblidium 10: 65, R. 370**
      b. Apothecia superficial
         (1) Parasitic typically on lichens
            (a) Apothecia round — **Leciographa 10: 61, R. 372**
            (b) Apothecia elliptic to elongate — ***Lecoglyphis R. 380**
         (2) Saprophytic — ***Mycolecis, R. 372, 10: 61**

II. Asci many-spored

Dictyosporae

8: 802, 11: 435, 14: 823, 18: 185

Spores hyaline or subhyaline, muriform, ovoid to oblong

I. Apothecia laciniate, depressed-spheroid — **Blitrydium 8: 802**

II. Apothecia not laciniate, patellate — **Tryblidaria 18: 186**

Scolecosporae

8: 807, 10: 65, 11: 435, 14: 823, 16: 798

Spores hyaline or subhyaline, bacillar to filiform

I. Spores separating at the joints — **Bactrospora 10: 67, R. 344**

II. Spores not separating
   1. Apothecia sessile
      a. Parasitic — **Mycobacidia 10: 66, R. 337**
      b. Saprophytic — **Pragmopara R. 339**
         (incl. Scutularia 8: 807)
   2. Apothecia stalked, turbinate
      a. Parasitic — ***Parathalle R. 343**
      b. Saprophytic — **Lahmia 10: 65, R. 341**

Family 36. CALICIACEAE

REHM 388, ZAHLBRUCKNER 80

Mycelium inconspicuous and saprophytic, or parasitic on algae, forming a powdery, crustose, foliose or fruticose thallus; apothecia sessile or stalked, cup- to top-shaped, opening more or less completely, asci disappearing very early and the disk then covered with a persistent mass of spores and paraphyses, i. e., mazaedium; exciple prosenchymatic, horny, proper or thalline.

I. Mycelium saprophytic, at least not forming a thallus
   1. Spores 1-celled, globose or globoid

a. Spores clear or merely yellowish
(1) Algae present but not forming a thallus
Farriolla 83
(2) Algae lacking
(a) Asci long and slender stalked, ovoid above
Caliciopsis R. 388
(b) Asci cylindric **Roesleria 8: 826, R. 396**
b. Spores dark
(1) Apothecia black, nearly sessile **Sphinctrina 83, R. 389**
(2) Apothecia bright-colored, with a slender stalk
***Eucyphelis R. 392**
(Cyphelium Rehm)

2. Spores typically 2-several-celled
a. Spores 2-celled
(1) Apothecia sessile **Acolium R. 398**
(2) Apothecia with a slender stalk **Mycocalicium R. 401**
b. Spores 3-several-celled **Stenocybe 82 R. 413**

II. Mycelium forming a thallus with algae
1. Thallus crustose
a. Spores 1-celled, globose or globoid
(1) Asci 8-spored
(a) Spores dark; disk more or less flat
x. Apothecia stalked **Chaenotheca 81**
y. Apothecia sessile ***Holocyphis 84**
(b) Spores clear or yellowish; disk globose
Coniocybe 82
(2) Asci many-spored **Tylophorella 85**
b. Spores 2-several-celled, transeptate or muriform
(1) Spores transeptate
(a) Spores 2-celled, dark or brown
x. Apothecia stalked
(x) Apothecia long-stalked **Calicium 81**
(y) Apothecia with short thick stalk
Pyrgidium 83
y. Apothecia sessile
(x) Algae Pleurococcus **Cyphelium 83**
(y) Algae Chroolepus
m. Proper exciple alone present
***Dipyrgis 84**
n. Thalline exciple also present
***Ditylis 84**
(b) Spores 3-many-celled
x. Proper exciple alone present **Pyrgillus 84**
y. Thalline exciple also present **Tylophorum 84**
(2) Spores muriform **Pseudacolium 84**
2. Thallus foliose
a. Thallus of horizontal scales with marginal apothecia
Calycidium 85

b. Horizontal scales sterile; apothecia on cylindric podetia **Tholurna 85**

3. Thallus fruticose
   a. Thallus hollow; apothecia on the under side **Pleurocybe 85**
   b. Thallus with solid medulla; apothecia terminal
      (1) Apothecia without thalline covering, goblet-like **Acroscyphus 86**
      (2) Apothecia enclosed in a globose thalline exciple, which finally opens irregularly at the top **Sphaerophorus 86**

Family 37. CHRYSOTRICHACEAE

ZAHLBRUCKNER 117, 127

Apothecia disk-form, margined, asci persistent; mazaedium lacking, thallus uniform, cobwebby, cottony or spongy, loose, without layers, algae Palmella, Pleurococcus, Chroolepus or Cladophora.

I. Thallus with Palmella or Pleurococcus
   1. Spores 1-celled **Crocynia 242**
   2. Spores 2-4-celled **Chrysothrix 117**

II. Thallus with Chroolepus; spores clear
   1. Spores 1-celled ***Holocoenis 128**
   2. Spores 2-celled **Coenogonium 127**

III. Thallus with Cladophora; apothecia lacking **Racodium 128**

Family 38. COLLEMATACEAE

ZAHLBRUCKNER 154, 158, 167, 168

Apothecia disk-form or pitcher-form, with persistent asci; thallus more or less gelatinous when moist, mostly without layers, always with blue-green algae, scaly, foliose or fruticose, rarely crustose.

I. Algae Gloeocapsa, Chroococcus or Xanthocapsa; spores typically 1-celled, colorless **Subfamily Pyrenopsidae 158**

1. Algae Gloeocapsa
   a. Thallus crustose, scaly or dwarf fruticose
      (1) Spores 1-celled
         (a) Asci 8-spored **Pyrenopsis 159**
         (b) Asci 32-spored ***Pleopyrenis 160**
      (2) Spores 2-celled **Cryptothele 159**
   b. Thallus foliose, of a single leaf; spores clear, 1-celled **Phylliscidium 160**
   c. Thallus fruticose, with rhizoids; spores clear, 1-celled **Synalissa 160**

2. Algae Chroococcus
   a. Thallus crustose; apothecia more or less open **Pyrenopsidium 160**
   b. Thallus foliose, of one leaf. umbilicate; apothecia closed **Phylliscum 161**

3. Algae Xanthocapsa
   a. Thallus crustose
      (1) Spores 1-celled
         (a) Hymenium covered with a mass of algae and hyphae **Gonohymenia 161**
         (b) Hymenium without epithecial mass
            x. Thallus pseudoparenchymatic at margin **Forssellia 161**
            y. Thallus nowhere pseudoparenchymatic **Psorotichia 161**
      (2) Spores 2-celled; apothecia closed **Collemopsidium 161**
   b. Thallus of one leaf, umbilicate, often lobed
      (1) Thallus pseudoparenchymatic **Anema 162**
      (2) Thallus not pseudoparenchymatic
         (a) Spores 1-celled
            x. Hyphae loose, net-like at margin **Thyrea 162**
            y. Hyphae perpendicular to the margin **Jenmania 162**
         (b) Spores 2-celled **Paulia 163**
   c. Thallus fruticose, branched, upright
      (1) Thallus without layers
         (a) Asci 8-spored **Peccania 163**
         (b) Asci 12-many-spored ***Pleoconis 164**
      (2) Thallus layered, with a cortex **Phloeopeccania 164**

II. Thallus with Nostoc; spores clear **Subfamily Collematae 168**
   1. Apothecia with proper exciple only, biatorin
      a. Spores 1-celled
         (1) Spores globose to fusoid, straight
            (a) Thallus crustose, scarcely gelatinous **Leprocollema 170**
            (b) Thallus scaly or dwarf fruticose, gelatinous **Leciophysma 170**
         (2) Spores needle-shaped, twisted **Koerberia 173**
      b. Spores transeptate, 2-many-celled
         (1) Spores 2-celled; thallus without cortex **Homothecium 171**
         (2) Spores 4-8-celled; thallus with cortex **Arctomia 173**
   2. Apothecia with thalline exciple, lecanorin
      a. Spores 1-celled
         (1) Thallus scaly or dwarf fruticose; spores thin-walled
            (a) Thallus without cortex **Physma 170**
            (b) Thallus with pseudoparenchymatic cortex **Lemmopsis 171**
         (2) Thallus large-leaved; spores thick-walled or mucose **Dichodium 171**
      b. Spores transeptate to muriform
         (1) Thallus without cortex

(a) Spores 2-celled ***Dicollema 172**
(b) Spores transeptate, many-celled **Collema 171**
(c) Spores muriform **Blennothallia 172**
(2) Thallus with a pseudoparenchymatic cortex on one or both sides or pseudoparenchymatic throughout
(a) Spores transeptate, 3-many-celled **Leptogiopsis 175**
(b) Spores muriform **Leptogium 174**

III. Thallus with Scytonema or Stigonema; spores colorless **Subfamily Ephebae 154**
1. Thallus crustose to scaly
a. Thallus uniform, not corticate
(1) Spores 1-celled **Pterygiopsis 157**
(2) Spores 4-celled **Petractis 124**
b. Thallus corticate above **Porocyphus 157**
2. Thallus dwarf fruticose, much branched, dark
a. Apothecia sunken in swellings of the thallus
(1) Spores 1-celled; paraphyses present **Ephebeia 155**
(2) Spores 2-3-celled **Ephebe 155**
b. Apothecia superficial
(1) Thallus without pseudoparenchymatic cortex or central medulla
(a) Paraphyses capitate, septate **Spilonema 154**
(b) Paraphyses filiform, not septate **Thermutis 154**
(2) Thallus with large-celled pseudoparenchymatic cortex and central medulla
(a) Cortex of one row of cells; spores 2-celled **Leptodendriscum 155**
(b) Cortex of several rows
x. Spores 1-celled **Leptogidium 156**
y. Spores 2-celled **Polychidium 156**

IV. Algae Rivularia; spores clear **Subfamily Lichinae 164**
1. Apothecia disk-form; thallus scaly to granular
a. Apothecia with proper exciple; algae horizontal **Pterygium 165**
b. Apothecia with thalline exciple; algae erect **Steinera 166**
2. Apothecia almost perithecioid; thallus dwarf fruticose
a. Algae in the middle of the thallus and parallel with the long axis of the branches **Lichinodium 166**
b. Algae absent from the middle but marginal beneath the cortex
(1) Algae parallel with the long axis of the branches **Lichina 167**
(2) Algae perpendicular to the long axis
(a) Paraphyses present **Lichinella 166**
(b) Paraphyses absent **Homopsella 167**

Family 39. PELTOPHORACEAE

ZAHLBRUCKNER 122, 176, 190

Thallus firm, not at all gelatinous, crustose or foliose, more or less lobed and somewhat erect at the margin but never truly fruticose, typically attached to the substratum by rhizoids or by a navel, with a pseudoparenchymatic cortex on one or both sides or pseudoparenchymatic throughout; apothecia typically sunken in the thallus or grown together with it on the whole under side, more or less margined by the thallus, but a proper exciple lacking.

I. Thallus uniform to crustose; algae Protococcus, rarely Pleurococcus
Subfamily Ectolechiae 122

1. Spores transeptate, usually 2-3-celled
   a. Paraphyses not branched
      (1) Paraphyses free; no algae below the hypothecium
      Asterothyrium 123
      (2) Paraphyses united; algae below the hypothecium
      Lecaniella 124
   b. Paraphyses branched and united
      (1) Spores 2-celled **Actinoplaca 124**
      (2) Spores many-celled **Tapellaria 243**
2. Spores muriform
   a. Asci 1-spored; hypothecium without algae
      (1) Paraphyses unbranched, free **Lopadiopsis 123**
      (2) Paraphyses branched, united
         (a) Epithecium without algae **Sporopodium 123**
         (b) Epithecium with algae ***Gonothecis 123**
   b. Asci 8-spored; hypothecium with algae below
   Arthotheliopsis 124

II. Thallus foliose or foliose scaly, rarely subfruticose; algae typically bluegreen, rarely bright-green

1. Apothecia not marginal; thallus pseudoparenchymatic throughout
Subfamily Heppiae 176
One genus, parasitic on Scytonema **Heppia 177**
2. Apothecia typically marginal or even with the thallus; thallus layered
Subfamily Peltophorae 190
   a. Thallus foliose, usually large-leaved
      (1) Apothecia on the upper side of the thallus
         (a) Apothecia marginal on lobes of thallus; lower surface of thallus without cortex
            x. Algae Nostoc **†Peltophora 194 (Peltigera)**
            y. Algae Palmella (Dactylococcus) ***Chloropeltis 194**
         (b) Apothecia superficial; lower surface with cortex below the apothecia
            x. Algae Nostoc **Solorina 192**
            y. Algae Palmella **Solorinina 192**
      (2) Apothecia on the under side of elongate thallus lobes; thallus completely corticate on both sides
         x. Algae Nostoc **Nephromium 194**

y. Algae Palmella **Nephroma 193**

b. Thallus minute, small triangular scales radiating from the apothecium

(1) Asci 8-spored; spores brownish, 4-6-celled **Asteristium 191**

(2) Asci many-spored; spores clear, 2-celled **Solorinella 192**

Family 40. LECIDEACEAE

ZAHLBRUCKNER 114, 129, 138, 144

Thallus firm, not gelatinous, crustose, scaly or foliose, exceptionally dwarf fruticose, with rhizoids or a navel in the larger forms, with or without cortex; apothecia superficial or somewhat sunken at first, with a characteristic proper exciple, very rarely lacking, but without a thalline exciple. The absence of the latter distinguishes this family from the Parmeliaceae.

I. Thallus uniform or crustose

1. Algae Chroolepus or Phyllactidium **Subfamily Lecanactidae 114**

a. Proper exciple lacking, or rudimentary and lateral

(1) Spores transeptate; exciple mostly absent **Schismatomma 115**

(2) Spores muriform; exciple thin, complete **Melampydium 116**

b. Proper exciple well-developed, carbonous

(1) Spores 2-celled **Arthoniactis 115**

(2) Spores 4-many-celled **Lecanactis 115**

(3) Spores needle-shaped ***Scolecactis 115**

2. Algae Pleurococcus or Palmella **Subfamily Lecideae 129**

a. Thallus uniform-crustose, loose, without cortex; spores clear, fusoid, 4-celled **Pilocarpum 116**

b. Thallus typically crustose, firm

(1) Asci 1-8-spored, rarely 16-32-spored

(a) Spores 1-celled

x. Spores clear

(x) Asci 1-2-spored; spores large, thick-walled **Mycoblastus 133**

(y) Asci 8-spored

m. Exciple black, carbonous **Lecidea 130**

n. Exciple clear or colored, not carbonous **Biatora 132**

(z) Asci 16-32-spored ***Pleolecis 132**

y. Spores brown **Orphniospora 133**

(b) Spores 2-celled

x. Spores clear

(x) Paraphyses simple

m. Spores thick-walled, large **Megalospora 134**

n. Spores thin-walled, small

(m) Thallus with cortex ***Diphloeis 136**

(n) Thallus without cortex

r. Exciple and hypothecium dark or black
Catillaria 133

s. Exciple and hypothecium clear or bright
Biatorina 134

(y) Paraphyses branched, in a slimy hymenium
***Diphanis 138**

y. Spores brown; paraphyses branched
***Diphaeis 138**

(c) Spores 4-many-celled

x. Spores elliptic to long-fusoid

(x) Thallus not corticate, crustose-uniform

m. Spores thin-walled **Bacidia 135**

n. Spores thick-walled **Bombyliospora 136**

(y) Thallus corticate, warty to scaly
Toninia 136

y. Spores needle-shaped or filiform
†Scolecosporis 136 (Scoliciosporum)

(d) Spores muriform

x. Spores clear

(x) Spores with mucus covering; paraphyses branched
***Phalodictyum 138**

(y) Spores without mucus cover; paraphyses simple
Lopadium 137

y. Spores brown, mucose **Rhizocarpum 137**

(2) Asci many-spored

(a) Exciple bright-colored, soft **Biatorella 151**

(b) Exciple dark or black, hard **Sporostatia 152**

II. Thallus scaly or foliose; algae Pleurococcus or Palmella
Subfamily Phyllopsorae 138

1. Thallus scaly, with rhizoids; disk even

a. Spores 1-celled

(1) Hypothecium pseudoparenchymatic
Phyllopsora 138

(2) Hypothecium not pseudoparenchymatic

(a) Exciple clear or bright **Psoromaria 183**

(b) Exciple dark or black **Psora 132**

b. Spores transeptate **Psorella 139**

2. Thallus mostly with one large leaf; disk often furrowed
Subfamily Gyrophorae 147

a. Spores 1-celled; disk furrowed in most of the species
Gyrophora 147

b. Spores transeptate

(1) Spores 2-many-celled, colorless ***Merophora 148**

(2) Spores 2-celled, brown **Dermatiscum 149**

c. Spores muriform, dark **Umbilicaria 149**

III. Thallus dwarf fruticose, of low erect slightly branched podetia, horizontal thallus lacking; spores clear, 2-celled **Sphaerophoropsis 133**

Family 41. CLADONIACEAE

ZAHLBRUCKNER 139

Thallus of two kinds, one horizontal on the substratum, crustose, scaly to foliose, the other consisting of erect clubshaped, cupshaped or filiform, simple or branched podetia; algae typically Pleurococcus; apothecia terminal or lateral, mostly convex to globose, with proper exciple only, except in Chlorocaulum; spores colorless.

I. Apothecia with proper exciple
  1. Podetia short, simple, rarely forked; apothecia terminal
    a. Podetia equal, not broadened above
      (1) Podetia covering the surface
        (a) Hypothecium clear
          x. Spores 1-celled — **Baeomyces 140**
          y. Spores transeptate
            (x) Spores elliptic to rod-shaped
              m. Spores 2-celled — ***Dibaeis 140**
              n. Spores 4-celled
                (m) Algae bluegreen — ***Cyanobaeis 141**
                (n) Algae yellow-green — **Heteromyces 141**
            (y) Spores filiform, many-celled — **Gomphyllus 141**
        (b) Hypothecium dark; spores 1-celled — **Pilophorum 142**
      (2) Podetia marginal on a foliose thallus — **Gymnoderma 142**
    b. Podetia broadened above into lobes or tongues bearing the hymenium on one side
      (1) No algae below the hymenium; medulla uniform — **Glossodium 142**
      (2) Algae below the hymenium; medulla with thicker strands — **Thysanothecium 142**
  2. Podetia funnelform, cupshaped or more or less branched, large
    a. Spores 1-celled; podetia hollow — **Cladonia 143**
    b. Spores 4-many-celled — **Stereocaulum 146**
    c. Spores muriform — **Argopsis 146**

II. Apothecia with thalline exciple — ***Chlorocaulum 146**

Family 42. PARMELIACEAE

ZAHLBRUCKNER 118, 124, 150, 195, 199, 207, 216

Thallus of one kind, podetia lacking, firm, not gelatinous, crustose, scaly, foliose or fruticose, often with rhizoids, typically layered, algae typically yellow green, but bluegreen in two subfamilies; apothecia characterized by a thalline exciple, which is rarely lacking, superficial, rarely immersed

I. Thallus typically crustose, sometimes scaly or lobed at the margin
  1. Algae Pleurococcus or Palmella, rarely Protococcus
    a. Asci 1-32-spored, mostly 8-spored
      (1) Disk conspicuous, not perithecioid — **Subfamily Leanorae 199**
        (a) Spores 1-celled

x. Asci 1-8-spored
(x) Paraphyses simple, free
m. Spores straight, elliptic to oblong
(m) Thallus bright yellow; pycnoconidia elliptic
Candelariella 207
(n) Thallus rarely bright yellow; conidia filiform
r. Cortex not pseudoparenchymatic
Lecanora 201
s. Cortex pseudoparenchymatic
Psoroma 183
n. Spores crescent to falcate
Harpidium 199
(y) Paraphyses branched and united
Ochrolechia 203
y. Asci 12-many-spored ***Myriolecis 202**
(b) Spores 2-celled
x. Paraphyses simple, free
(x) Sterigmata exobasidial **Lecania 204**
(y) Sterigmata endobasidial **Icmadophila 204**
(incl. Placolecania 205)
y. Paraphyses branched, united **Calenia 205**
(c) Spores 4-many-celled
x. Apothecia superficial
(x) Asci 1-8-spored
m. Thallus with cortex **Haematomma 205**
n. Thallus without cortex
(m) Paraphyses forked; spores moniliform, 30-40-celled
Conotrema 121
(n) Paraphyses simple; spores not moniliform, 8-30-celled
***Adermatis 204**
(y) Asci 16-32-spored ***Dyslecanis 204**
y. Apothecia immersed; thallus without cortex
(x) Paraphyses simple, free **Phlyctella 206**
(y) Paraphyses branched and united
Phlyctidia 206
(d) Spores muriform
x. Spores clear, at least not dark
(x) Apothecia superficial, broad
Myxodictyum 206
(y) Apothecia immersed, small **Phlyctis 206**
y. Spores dark **Diploschistes 122**
(2) Disk small, more or less closed and perithecioid; apothecia mostly sunken in warts **Subfamily Pertusariae 195**
(a) Spores 1-celled
x. Paraphyses simple, free **Perforaria 195**
y. Paraphyses branched and united
Pertusaria 195

(b) Spores 2-celled; paraphyses branched and united **Varicellaria 198**

b. Asci many-spored; spores 1-celled, more rarely 2-celled **Subfamily Acarosporae 150**

(1) Apothecia superficial
(a) Thallus bright yellow ***Pleochroma 207**
(b) Thallus not bright yellow **Maronea 152**
(2) Apothecia typically immersed, with mostly narrow disk **Acarospora 152**

2. Algae Chroolepus or Phyllactidium; apothecia with thalline exciple, at least when young **Subfamily Gyalectae 124 (incl. Thelotremae 118)**

a. Thalline exciple present and persistent
(1) Spores 1-celled **Jonaspis 125**
(2) Spores 2-celled ***Ocellis 118**
(3) Spores 4-many-celled
(a) Spores clear
x. Apothecia sprouting repeatedly from the margin, forming erect forked chains of apothecia **Polystroma 121**
y. Apothecia not in chains
(x) Algae Chroolepus
m. Exciple and hypothecium clear **Ocellularia 118**
n. Exciple and hypothecium dark, hard **Sagiolechia 126**
(y) Algae Phyllactidium **Phyllophthalmaria 120**
(b) Spores brown **Phaeotrema 119**
(4) Spores muriform
(a) Spores clear
x. Paraphyses simple, free **Thelotrema 119**
y. Paraphyses branched and united ***Phanotylium 121**
(b) Spores dark or brown
x. Paraphyses simple, free **Leptotrema 120**
y. Paraphyses branched and united
(x) Apothecia sunken in groups in a stroma **Tremotylium 120**
(y) Apothecia not in a stroma **Gyrostomum 120**

b. Thalline exciple present at first, then more or less completely disappearing
(1) Asci 1-8-spored
(a) Spores 2-celled **Microphiale 125**
(b) Spores 4-many-celled **Bryophagus 126**
(c) Spores muriform **Gyalecta 125**
(2) Asci 12-many-spored
(a) Spores 2-celled **Ramonia 125**
(b) Spores 6-many-celled **Pachyphiale 126**

II. Thallus typically foliose or fruticose, sometimes small-leaved or scaly; thalline exciple sometimes lacking

1. Algae Pleurococcus, Protococcus, Palmella or Cystococcus
   a. Asci many-spored; apothecia cespitose on a one-leaved thallus **Glypholecia 153**
   b. Asci 1-32-spored
      (1) Thallus foliose, horizontal or upright, rarely fruticose, typically dorsiventral
         (a) Thallus with cyphellae or pseudocyphellae or furnished with well-developed clubshaped cephalodia
            x. Lower side of thallus with cyphellae or pseudocyphellaê
               (x) Apothecia with thalline exciple
                  m. Spores 2-celled
                     (m) Spores clear ***Diphanosticta 189**
                     (n) Spores brown ***Diphaeosticta 189**
                  n. Spores 4-many-celled
                     (m) Spores clear ***Phanosticta 189**
                     (n) Spores brown **Sticta 188**
               (y) Apothecia with proper exciple only ***Dysticta 189**
            y. Lower side of thallus without cyphellae or pseudocyphellae; thallus typically with cephalodia
               (x) Algae Protococcus **Lobaria 185**
               (y) Algae Cystococcus, i. e., in mucose colonies ***Cystolobis 188**
         (b) Thallus typically without cyphellae, pseudocyphellae, and cephalodia **Subfamily Parmeliae 207**
            x. Asci 16-32-spored **Candelaria 209**
            y. Asci 2-8-spored
               (x) Cortex on both sides of thallus
                  m. Apothecia superficial
                     (m) Lower cortex more or less cellular, usually with rhizoids **Parmelia 211 (incl. Parmeliopsis 209)**
                     (n) Lower cortex without rhizoids, spongy, of net-like hyphae **Anzia 213**
                  n. Apothecia marginal or terminal; thallus often fruticose
                     (m) Disks upright from the beginning **Cetraria 214**
                     (n) Disks on the under side of thallus lobes, later upright by the twisting of the lobes **Nephromopsis 216**
               (y) Cortex on the upper side alone
                  m. Apothecia superficial; lower surface without cyphellae **Physcidia 209**
                  n. Apothecial terminal; cyphellae on lower side **Heterodea 208**
      (2) Thallus fruticose, erect or hanging, often long and hair-like; radial, rarely dorsiventral in structure **Subfamily Usneae 216**
         (a) Spores 1-celled or unknown

x. Medulla traversed by varying solid strands
Letharia 218

y. Medulla uniform without strands

(x) Cortex formed of hyphae running lengthwise

m. Spores clear; asci 8-spored
Bryopogon 219

n. Spores brownish; asci 4-spored
Alectoria 219

(y) Cortex of hyphae more or less perpendicular to the long axis, pseudoparenchymatic

m. Medulla of hyphae running lengthwise

(m) Medulla loose, not horny; apothecia unknown
Thamnolia 225

(n) Medulla firm, horny

r. Thallus low, podetium-like; apothecia unknown
Siphula 225

s. Thallus fruticose, elongate; apothecia known

(r) Thallus dorsiventral, without fibrous branches; medulla and cortex not separable
Everniopsis 218

(s) Thallus radial, usually with fibrous branches; medulla and cortex readily separable
Usnea 223

n. Medulla of hyphae running in all directions

(m) Thallus more or less hollow

r. Thallus swollen, tubular
Dactylina 218

s. Thallus not swollen and tubular

(r) Thallus fruticose, erect
Dufourea 218

(s) Thallus podetium-like; apothecia unknown
Endocena 226

(n) Thallus flattened, not hollow, dorsiventral
Evernia 217

(b) Spores 2-celled **Ramalina 220**

(c) Spores muriform, brown, large; asci 1-spored
Oropogon 220

2. Algae bluegreen, Scytonema or Nostoc

a. Thallus large-leaved, with cyphellae, pseudocyphellae or cephalodia

(1) Lower side of thallus with cyphellae or pseudocyphellae

(a) Apothecia with thalline exciple

x. Spores clear, bacillar to acicular, 2-8-celled
***Podostictina 189**

y. Spores brown

(x) Spores 2-celled **Stictina 189**

(y) Spores 4-celled ***Merostictina 189**

(b) Apothecia with proper exciple only
***Dystictina 190**

(2) Cyphellae or pseudocyphellae absent; cephalodia usually present
(a) Apothecia with thalline exciple
***Phycodiscis 188**
(b) Apothecia with proper exciple only
Lobarina 188

b. Thallus scaly to small-leafy, sometimes crustose, exceptionally large-leafy, without cyphellae, etc. **Subfamily Pannariae 178**

(1) Lower surface of thallus scarcely or not at all veined; spores 1-2-celled
(a) Upper cortex well-developed, distinct
x. Upper cortex with hyphae perpendicular to it
(x) Upper cortex hairy or pilose
Erioderma 183
(y) Upper cortex not hairy
m. Apothecia with thalline exciple
(m) Spores 1-celled; algae Nostoc
Pannaria 181
(n) Spores 2-celled; algae Scytonema
Massalongia 183
n. Apothecia with proper exciple only
(m) Spores 1-celled **Parmeliella 181**
(n) Spores 2-many-celled **Placynthium 181**
y. Upper cortex of horizontal hyphae
Coccocarpia 184
(b) Upper cortex indistinct; algae occupying nearly the whole width of the thallus **Lepidocellema 180**
(2) Lower surface of thallus with distinct forked veins; spores 4-celled
Hydrothyria 184

Family 43. PHYSCIACEAE

ZAHLBRUCKNER 226-234

Thallus crustose, foliose or fruticose, as in Parmeliaceae; apothecia mostly lecanorin, sometimes with proper exciple alone; spores normally 2-celled, with more or less thickened cross-wall, often traversed by a line-like canal, or exceptionally 1-many-celled or muriform

I. Spores 2-celled
1. Spores clear
a. Thallus without cortex, uniform or crustose
(1) Apothecia with thalline exciple **Caloplaca 227**
(2) Apothecia with proper exciple only
Blastenia 226
b. Thallus with cortex, foliose or fruticose
(1) Thallus foliose, horizontal or ascending, dorsiventral, with rhizoids, cortex pseudoparenchymatic on both sides
Xanthoria 229
(2) Thallus fruticose, erect, radial, cortex of conglutinate longitudinal hyphae
Theloschistes 230
2. Spores dark or brown
a. Thallus without cortex, uniform or crustose

(1) Apothecia with thalline exciple
(a) Asci 8-spored **Rinodina 232**
(b) Asci 12-24-spored ***Pleorinis 233**
(2) Apothecia with proper exciple only **Buellia 231**

b. Thallus with cortex, foliose or fruticose
(1) Upper cortex of perpendicular hyphae, pseudoparenchymatic
(a) Apothecia with thalline exciple
x. Hypothecium clear **Physcia 234**
y. Hypothecium black **Dirinaria 235**
(b) Apothecia with proper exciple only **Pyxine 234**
(2) Upper cortex of hyphae parallel with the long axis, not pseudoparenchymatic; apothecia with proper exciple **Anaptychia 236**

II. Spores 3-4-celled
1. Spores clear
a. Thallus without cortex, uniform or crustose
(1) Apothecia with thalline exciple ***Meroplacis 228**
(2) Apothecia with proper exciple only **Xanthocarpia 227**
b. Thallus with cortex, fruticose **Niorma 230**
2. Spores brown
a. Thallus without cortex, uniform or crustose
(1) Apothecia with thalline exciple ***Merorinis 233**
(2) Apothecia with proper exciple alone **Diplotomma 232**
b. Thallus with cortex, foliose; exciple proper ***Phragmopyxine 234**

III. Spores muriform, brown
1. Thallus without cortex, uniform or crustose ***Dictyorinis 233**
2. Thallus with cortex, foliose **Hyperphyscia 236**

Family 44. MOLLISIACEAE

REHM 503

Apothecia superficial or erumpent, cupulate to disk-shaped, mostly smooth, rarely with hairs, typically soft-waxy; distinguished from all other families by the typically brownish exciple, which is entirely parenchymatic, or at least about the base.

Subfamily Eumollisiae

Apothecia superficial from the beginning

Hyalosporae

Spores hyaline, 1-celled, globose to elliptic

I. Apothecia not on a subicle
1. Spores globose **Mollisiella 18: 64**
2. Spores elliptic to fusoid **Mollisia R. 511, 8: 321**

II. Apothecia on a subicle — **Tapesia** R. 573, 8: 371

Hyalodidymae

Spores hyaline, 1-septate, elliptic to oblong

I. Apothecia not on a subicle — **Niptera** R. 549, 8: 480

II. Apothecia on a subicle

1. Spores with a mucose covering — **Stictoclypeolum** 18: 110
2. Spores not mucose
   a. Spores constricted, large, 50 x 25 μ — **Psorotheciopsis** 16: 746
   b. Spores not constricted, small, 12 x 5 μ — **Linhartia** 16: 744

Hyalophragmiae

Spores hyaline, 2-several-septate, elliptic to fusoid

I. Apothecia not on a subicle or thallus — **Belonidium** R. 561, 8: 496

II. Apothecia on a subicle or thallus

1. Spores ciliate at each end — **Ciliella** 16: 748
2. Spores not ciliate
   a. Apothecia on a subicle of hyphal threads — **Trichobelonium** R. 590, 16: 747
   b. Apothecia on a parenchymatic thallus — **Pazschkea** 14: 788 (incl. **Psorotheciella** 16: 746)

Hyalodictyae

Spores hyaline, muriform, ovoid to oblong

I. Subicle present; asci 1-4-spored; spores mucose — †**Melittosporis** 16: 751 (**Melittosporiopsis**)

Scolecosporae

Spores hyaline, filiform, usually septate

I. Apothecia gregarious; subicle lacking — **Belonopsis** R. 571, 16: 752

Subfamily Pyrenopezizae

Apothecia at first covered, then erumpent and more or less superficial

Hyalosporae

Spores hyaline, 1-celled, globose to oblong

I. Apothecia bright-colored, on living leaves — **Pseudopeziza** R. 596, 8: 723

II. Apothecia dark-brown without, not on living leaves

1. Apothecia with bristles — **Pirottaea** R. 636, 8: 386
2. Apothecia without bristles, but sometimes with projecting rows of cells
   a. Subicle lacking — **Pyrenopeziza** R. 608, 8: 354
   b. Subicle present — ***Spilopezis** R. 620

Phaeosporae

Spores dark or brownish, 1-celled, elliptic to oblong

I. Apothecia leathery, bright-colored outside
Velutaria R. 645, 8: 488

Hyalodidymae

Spores hyaline, 1-septate, elliptic to fusoid

I. Apothecia scarcely erumpent, bright colored
Fabraea R. 599, 8: 735

II. Apothecia nearly superficial, dark-brown without
***Dibelonis R. 638**

Hyalophragmiae

Spores hyaline, 2-several-septate, oblong to fusoid

I. Apothecia at last superficial, more or less roughened
Beloniella R. 638

Family 45. HELOTIACEAE

REHM 647

Apothecia mostly superficial, rarely erumpent or arising from a sclerotium, typically stalked, sometimes sessile, cupulate to disk-shaped, waxy; distinguished by an exciple which is completely prosenchymatic.

Subfamily Helotiae

Apothecia not hairy

Hyalosporae

Spores hyaline, 1-celled, globose to oblong

I. Apothecia on a subicle — **Eriopeziza R. 693**

II. Apothecia not on a subicle

1. Apothecia arising from a sclerotium, long-stalked
Sclerotinia R. 803, 8: 195

2. Apothecia not arising from a sclerotium

a. Apothecia green, arising from a green substratum
Chlorosplenium R. 752, 8: 315

b. Apothecia not on a green substratum

(1) Apothecia margined by a row of triangular teeth

(a) Apothecia stalked — **Cyathicula R. 740, 8: 304**

(b) Apothecia sessile — ***Pezoloma**

(2) Apothecia without teeth

(a) Asci many-spored — **Comesia 8: 468**

(b) Asci typically 8-spored

x. Apothecia sessile — **Pezizella R. 653, 8: 275**

y. Apothecia stalked

(x) Ascus pore blue with iodin — **Helotium R. 772, 8: 210**
(incl. Ciboria R. 754, 8: 201)

(y) Ascus pore not blue with iodin
Phialea R. 708, 8: 251
(incl. Helotium in part)

Hyalodidymae

Spores hyaline, 1-septate, elliptic to fusoid

I. Apothecia typically sessile — ***Eubelonis R. 685**

II. Apothecia stalked

1. Stalk ridged or folded — **Lanzia 8: 479**
2. Stalk not ridged or folded — **Hymenoscypha R. 781**

Hyalophragmiae

Spores hyaline, 2-several-septate, elliptic to fusoid

I. Apothecia not toothed at margin

1. Apothecia sessile — **Belonium R. 685, 8: 492**
2. Apothecia stalked
   a. Subicle lacking
      (1) Spores muticate
         (a) Paraphyses colorless, epithecium lacking — **Belonioscypha R. 743**
         (b) Paraphyses colored, forming an epithecium — **Rutstroemia R. 763**
      (2) Spores 1-ciliate at each end — ***Belospora R. 744, 8: 488**
   b. Subicle present — **Masseea 18: 99**

II. Apothecia with a row of triangular teeth at margin

1. Apothecia sessile — ***Merodontis 18: 102**
2. Apothecia stalked — **Davincia 18: 101**

Scolecosporae

Spores typically hyaline, filiform

I. Apothecia sessile or merely narrowed below

1. Apothecia smooth — **Gorgoniceps R. 690, 8: 504**
2. Apothecia hairy — **Arachnopeziza R. 698**

II. Apothecia stalked — **Pocillum R. 747, 8: 605**

Subfamily Dasyscyphae

REHM 824

Apothecia hairy

Hyalosporae

Spores hyaline, 1-celled, globose to fusoid

I. Spores globose — **Lachnellula R. 862, 8: 390**

II. Spores elliptic to fusoid

1. Paraphyses lance-shaped, pointed
   a. Apothecia sessile — ***Dyslachnum R. 868, 888**
   b. Apothecia stalked — **Lachnum R. 870**
2. Paraphyses filiform, blunt
   a. Apothecia divided above into 3-6 lobes, black — **Arenaea 18: 75**
   b. Apothecia entire, rarely black

(1) Apothecia hairy with distinct bristles
(a) Hairs shining, clear, non-septate, nearly solid
***Phalothrix R. 831**
(b) Hairs dull, usually septate, hollow
x. Apothecia sessile ***Dasypezis R. 829, 842**
y. Apothecia stalked **Dasyscypha R. 832, 8: 432**
(2) Apothecia villose with projecting hyphae
Hyphoscypha 18: 87

Hyalodidymae

Spores hyaline, 1-septate, elliptic to fusoid

I. Spores at first 1-celled, but finally 2-celled
Lachnella R. 853, 8: 391
(incl. Perrotia 18: 90)

Hyalophragmiae

Spores hyaline, 2-several-septate, oblong to fusoid

I. Paraphyses lance-shaped, pointed **Erinella R. 910, 8: 507**
II. Paraphyses bearing conidia at the tips **Diplocarpa 18: 110**

Family 46. PEZIZACEAE

REHM 913

Apothecia typically terrestrial, erumpent or superficial, sessile or stalked, urn-shaped to disciform, smooth or hairy, fleshy or fleshy-waxy, rarely leathery; usually medium to large forms.

Subfamily Pezizae

Apothecia smooth, i. e., without hairs

Hyalosporae

Spores hyaline, 1-celled, globose to fusoid

I. Asci not blue with iodin
1. Apothecia cleft on one side, ear-like **Otidea R. 1023, 8: 94**
2. Apothecia not ear-like
a. Spores globose
(1) Apothecia fleshy or fleshy-waxy
(a) Substipitate, parasitic **Pitya R. 925, 8: 209**
(b) Sessile, terrestrial **Detonia R. 927, 1269, 8: 105**
(Barlaea 8: 111, Otidella 8: 99)
(2) Apothecia cartilaginous **†Peltophoromyces 16: 720**
(Peltigeromyces)
b. Spores elliptic to fusoid
(1) Apothecia sessile
(a) Spores with reticulately thickened wall
Aleuria R. 968
(b) Spores smooth or roughened
x. Apothecia not on a subicle **Humaria R. 934, 8: 118**

y. Apothecia on a subicle — **Pyronema R. 962, 8: 107 (incl. Phycascus 16: 709)**

(2) Apothecia stalked

(a) Stalk narrow, cylindric, mealy-rough, almost hairy — **Macropodia R. 984, 8: 158**

(b) Stalk mostly short and wide, not mealy-rough

x. Stalk large and thick, deeply furrowed — **Phleboscyphus R. 981, 18: 13 (Acetabula)**

y. Stalk even or slightly furrowed

(x) Apothecia persistently cup-shaped — **Geopyxis R. 971, 8: 63**

(y) Apothecia finally open and flat — **Discina R. 976, 8: 99**

II. Asci blue with iodin

1. Apothecia cleft on one side, ear-like — ***Iotidea R. 1028**

2. Apothecia not ear-like

a. Spores globose — **Plicariella R. 993**

b. Spores elliptic to fusoid

(1) Apothecia sessile

(a) Apothecia with a milky juice — **Galactinia 8: 106**

(b) Apothecia without milky juice

x. Apothecia not on a subicle

(x) Apothecia leathery, black — **Urnula R. 999, 8: 548**

(y) Apothecia fleshy, not black

m. Apothecia on the surface of the ground — **Plicaria R. 1000 (Pustularia in part)**

n. Apothecia large, sunken, lobed — **Peziza R. 1019, 8: 73 and 511 (Pustularia in part)**

y. Apothecia on a subicle — **Melachroia R. 997**

(2) Apothecia with a long, slender stalk — **Tarzetta R. 1021**

Phaeosporae

Spores dark, 1-celled, globose to oblong

I. Spores globose — **Phaeopezia 8: 471, R. 995**

II. Spores elliptic

1. Apothecia sessile — **Aleurina 18: 88**

2. Apothecia stalked — ***Podaleuris 18: 88**

Subfamily Scutelliniae

Apothecia setose or hairy

Hyalosporae

Spores hyaline, 1-celled, globose to fusoid

I. Spores globose

1. Spores smooth
   a. Cup dark or black, more or less strigose at base
      Pseudoplectania R. 1039, 8: 165
   b. Cup bright-colored, hairy or setose
      Sphaerospora R. 1037, 8: 188
2. Spores warted or reticulate; cups white-hairy
   Pyronemella R. 1038, 8: 194

II. Spores elliptic to fusoid
1. Spores rostrate at base **Puttemansia 18: 98**
2. Spores muticate
   a. Apothecia sunken in the ground, opening by lobes
      Sepultaria R. 1075, 8: 166
   b. Apothecia superficial
      (1) Apothecia sessile
         (a) Apothecia dark-hairy or ciliate
            x. Apothecia uniformly dark-hairy
               Pelodiscus 16: 1147, 18: 35
            y. Apothecia also with long cilia at the margin
               (x) Paraphyses clavulate, blunt **Scutellinia R. 1042, 8: 173 (Lachnea)**
               (y) Paraphyses equal, brown, pointed
                  Desmazierella R. 1041, 8: 386
         (b) Apothecia bright-hairy or ciliate
            x. Apothecia uniformly bright-hairy
               ***Leucopezis**
            y. Apothecia with marginal cilia also
               Neottiopezis 8: 190, R. 1068
      (2) Apothecia stalked
         (a) Apothecia dark or black
            x. Stalk long, slender, mealy **Macropodia R. 984, 8: 158**
            y. Stalk short, thick with brown hairs and rhizoids
               Plectania 8: 163, R. 1070
         (b) Apothecia and hairs bright-colored
            Sarcoscypha R. 1070, 8: 153 (incl. Trichoscypha 8: 160, Pilocratera 18: 31)

Phaeosporae

Spores hyaline, 1-celled, globose to fusoid

I. Apothecia with a cylindric verrucose stalk **Phaeomacropus 16: 740**
II. Apothecia sessile ***Trichaleuris 18: 89**

Family 47. HELVELLACEAE

REHM 1134

Apothecia typically terrestrial, and stalked, sometimes sessile, club-shaped, conical or saddle-shaped, rarely flat, mostly smooth, fleshy, cartilaginous or rarely gelatinous; usually large forms.

Subfamily Rhizinae

Apothecia sessile, flat, arched or irregularly globose

I. Spores globose — **Sphaerosoma R. 1140, 8: 56**

II. Spores elliptic or fusoid

1. Spores elliptic, rounded at ends — **Psilopezia R. 1137, 8: 152 (incl. Peltidium 18: 11)**
2. Spores fusoid, pointed at the thickened ends — **Rhizina R. 1138, 8: 57**

Subfamily Helvellae

Apothecia stalked, cap- or saddle-shaped, or columnar

I. Hymenium ridged in both directions

1. Ridged cap stalked — **Morchella R. 1200, 8: 8**
2. Ridged cap sessile — **Underwoodia 10: 1**

II. Hymenium smooth, convolute or ridged longitudinally

1. Hymenium saddle-like, more or less lobed — **Helvella R. 1179, 8: 17**
2. Hymenium globoid, convolute — **Gyromitra R. 1189, 8: 15**
3. Hymenium cap- or bell-shaped, smooth or ridged — **Verpa R. 1195, 8: 29**

Subfamily Geoglossae

Apothecia stalked, clavate or capitate

I. Hymenium distinct from stem, disciform or capitate

1. Spores 1-celled — ***Haplocybe R. 1168 (incl. Moellerodiscus 18:8)**
2. Spores 2-4-celled
   a. Apothecia gelatinous — **Leotia R. 1164, 8: 609**
   b. Apothecia waxy or fleshy-waxy — **Cudoniella R. 1166, 8: 41**
3. Spores filiform or acicular
   a. Apothecia fleshy, cap-shaped with involute margin — **Cudonia R. 1169, 8: 527 (Leotiella 16: 700)**
   b. Apothecia waxy, button-shaped, solid — **Vibrissea R. 1170, 8: 51**

II. Hymenium club-shaped, not distinct from stem or but slightly so

1. Spores hyaline
   a. Spores 1-celled
      (1) Spores globose — **Neolecta 8: 40**
      (2) Spores elliptic — **Mitrula R. 1146, 8: 32 (Spragueola 14: 742)**
   b. Spores 2-4-celled, fusoid
      (1) Hymenium covering the whole club — **Microglossum R. 1151, 8: 39**
      (2) Hymenium on one side only — **Hemiglossum 10: 2**
   c. Spores more or less filiform — **Spathularia R. 1158, 8: 48 (incl. Mitruliopsis 18: 10)**
2. Spores brown, clavate or cylindric, many-celled — **Geoglossum R. 1153, 8: 42**

Family 48. ASCOBOLACEAE

REHM 1078

Apothecia superficial, typically fimicole, scutellate to disciform, fleshy or waxy or gelatinous; asci mostly broad and clavate, projecting above the hymenium at maturity.

Subfamily Ascophanae

Spores colorless

I. Hymenium within an exciple
  1. Asci 4- or 8-spored
    a. Spores globose
      (1) Asci 4-spored — **Boudierella 14: 792**
      (2) Asci 8-spored — **Cubonia 8: 527**
    b. Spores elliptic to fusoid; asci 8-spored
      (1) Apothecia smooth — **Ascophanus R. 1085, 8: 528**
      (2) Apothecia hairy or setose
        (a) Spores smooth — **Lasiobolus R. 1096, 8: 536**
        (b) Spores spiny — **Aphanascus 10: 35**
  2. Asci 16-many-spored
    a. Asci many
      (1) Apothecia fimbriate with delicate hairs; asci 32-spored — **Streptotheca 10: 34**
      (2) Apothecia not hairy; asci 16-many-spored — **Rhyparobius R. 1099**
    b. Ascus one — **Thelebolus R. 1106**

II. Hymenium without an exciple; asci many-spored — **Zukalina R. 1108**

Subfamily Ascobolae

Spores colored

I. Spores globose — **Boudiera R. 1113, 8: 512**

II. Spores elliptic to fusoid
  1. Spores in a gelatinous mass in ascus — **Saccobolus R. 1115, 8: 524**
  2. Spores free in the ascus
    a. Apothecia smooth
      (1) Exciple present, normal — **Ascobolus R. 1120, 8: 514**
      (2) Exciple lacking — **Ascodesmis 8: 824**
    b. Apothecia hairy or ciliate — **Dasybolus 11: 421**

Family 49. CORDIERITACEAE

8: 810, 16: 803

Apothecia suberose or corneo-carbonous, superficial, ramose-stipitate, arising at the tips of the branches, finally cup-like and open; asci terete-clavate, 6-8-spored; spores 1- or 2-celled, mostly hyaline.

I. Spores 1-celled, hyaline; stipe much branched above, horny-carbonous — **Cordierites 8: 810**

II. Spores 2-celled; stipe fascicled-ramose, suberose
Acroscyphus 8:811

Order 11. GYMNASCALES

Apothecia imperfect, more or less effuse or obsolete, maculiform, byssoid or dot-like, exciple absent; asci mostly free, often single, 1-many-spored, rarely with paraphyses.

Family 50. EXASCACEAE

8:811, 10:67, 11:435, 14:823, 16:803, 18:196

Asci parallel and crowded, sessile or enlarged at base; parasitic in living plants and deforming the part attacked as a rule.

I. Asci few-spored, usually 8-spored
1. Spores 1-celled, more or less globose — **Exascus 8:816**
2. Spores 2-3-septate, oblong — **Elsinoe 16:804**

II. Asci many-spored
1. Asci more or less globose — **Taphridium 18:203**
2. Asci terete-clavate — **Taphrina 8:812**

Family 51. GYMNASCACEAE

8:820, 10:70, 11:437, 14:824, 16:805, 18:194

(incl. Ascoidaceae, Ascocortiaceae, Endomycetaceae, Protomycetaceae)

Asci more or less solitary or grouped in masses of mycelium; for the most part saprophytic.

I. Saprogenous
1. Asci 1-2-spored — **Bargellinia 8:823**
2. Asci 3-8-spored
a. Spores globose or nearly so
(1) Spores brown or violet — **Amaurascus 11:438**
(2) Spores hyaline or golden
(a) Asci 3-5-spored — **Conidiascus 16:807**
(b) Asci 8-spored
x. Asci surrounded by serrate spiral hyphae — **Ctenomyces 8:824**
y. Asci without serrate spiral hyphae
(x) Asci solitary
m. Asci acrogenous — **Eremascus 8:822**
n. Asci intercalary — **Oleina 8:822**
(y) Asci grouped or congested in masses — **Gymnascus 8:823** (incl. Arachniotus 11:438)
b. Spores elliptic, hyaline; asci vertical, clavate — **Ascocorticium 10:71**
3. Asci many-spored
a. Spores globose
(1) Asci elongate, split at base — **Dipodascus 11:439**
(2) Asci terete-clavate, simple at base — **Ascoidea 10:71**

b. Spores elliptic — †**Ascodes 16: 807 (Oscarbrefeldia)**

II. Biogenous
1. Asci 4-8-spored
a. Asci 4-spored, solitary; on fungi — **Endomyces 8: 821**
b. Asci 8-spored
(1) Spores 1-celled
(a) Hyphae of palmiform haustoria; on fungi — **Podocapsa 8: 820**
(b) Hyphae filamentous; on animals — **Eidamella 16: 805**
(2) Spores muriform; on leaves — **Nostocotheca 16: 806**
2. Asci many-spored
a. Mycelium present — **Eremothecium 8: 821**
b. Mycelium none
(1) Haustoria present; on fungi — ***Podocapsium 8: 820**
(2) Haustoria absent; mostly on flowering plants — **Protomyces 7: 319**

Family 52. SACCHAROMYCETACEAE

8: 916, 11: 457, 14: 828, 16: 818, 18: 198

True hyphae lacking, unicellular, propagating by buds; asci spurious?, globose to elliptic, mostly 1-4-spored; growing typically in sugary or starchy liquids or materials.

I. Cells increasing by fission — **Schizosaccharomyces 18: 201**
II. Cells increasing by budding
1. Spores pileiform or limoniform, costate — **Willia 18: 198**
2. Spores globose to irregular
a. Vegetative cells conjugating — **Zygosaccharomyces 18: 198**
b. Vegetative cells normal — **Saccharomyces 18: 198**

Order 12. TUBERALES

Ascoma or apothecium typically more or less globose, and indehiscent, with one to many hollows, locules or veins, fleshy, waxy, leathery or even subcarbonous, saprophytic or parasitic, usually subterranean; asci present, 1-many-spored.

Family 53. CYTTARIACEAE

8: 4, 16: 695, 18: 1

Ascomata globose or obovate, firm fleshy, subcorneous when dry, stuffed or hollow, loculiferous at the periphery, producing tubercular swellings on the branches of living trees; locules globose, large, dehiscing by lobes, filled with asci and paraphyses; asci cylindric 8-spored; spores hyaline.

I. Ascoma globose or obovate; all locules bearing asci — **Cyttaria 8: 4**

II. Ascoma turbinate, fenestrate below; asci on a definite disk
Rickiella 18: 1

Family 54. PHYMATOSPHAERIACEAE (incl. MYRIANGIACEAE)

8: 843, 11: 440, 16: 799, 18: 191

Ascomata verruciform, small, waxy, membranous or subcarbonous, superficial, densely loculiferous within; locules with a single ascus, indehiscent; asci globose or short clavate, 8-spored.

Hyalosporae

Spores hyaline, 1-celled, ovoid to elliptic

I. Ascomata globose-depressed, membranous **Phillipsiella 8: 844**

Phaeosporae

Spores dark, 1-celled, elliptic to fusoid

I. Spores angulose, verrucose; fimicole **Guillermondia 18: 191**

Hyalodidymae

Spores hyaline, 1-septate, elliptic to fusoid

I. Ascomata dark, globose-depressed **Microphyma 8: 844**
II. Ascomata bright-colored, applanate **Leptophyma 8: 844**

Hyalophragmiae

Spores hyaline, 2-several-septate, oblong to fusoid

I. Ascomata elongate, rugose **Eurytheca 8: 846**
II. Ascomata punctiform to obconic
1. Ascomata punctiform or applanate
a. Ascomata punctiform; asci clavate **Harknessiella 8: 845**
b. Ascomata applanate-disciform; asci ovoid to globose
Myriangium 16: 800
(incl. Myriangella 18: 192)
2. Ascomata hemispheric or obconic; asci globose
Molleriella 8: 845

Phaeophragmiae

Spores dark, 2-several-septate, oblong to fusoid

I. Ascomata blood-red, membranous-waxy **Kusanoa 16: 800**

Hyalodictyae

Spores hyaline, muriform

I. Ascomata bright-colored
1. Ascomata on a radiate subicle **Phymatosphaeria 8: 847**
2. Ascomata not on a subicle **Ascomycetella 8: 846**
II. Ascomata dark or black **Trichophyma 18: 194**

Phaeodictyae

Spores dark, muriform

I. Ascomata applanate-tuberculiform, black **Cookella 8:846**

Family 55. ONYGENACEAE

8:861, 10:80, 11:440, 16:807

Ascomata subglobose, sessile or stipitate, membranous, fragile, epizoic; gleba waxy, then pulverulent; asci 8-spored, globose, evanescent; spores continuous, subhyaline.

A single genus **Onygena 8:861**

Family 56. ELAPHOMYCETACEAE (incl. CENOCOCCACEAE)

8:863, 10:80, 11:441

Ascomata hypogaean, woody, crustose or carbonous, more or less globose, indehiscent, finally producing a powdery spore mass or gleba; asci 1-8-spored, sometimes spurious.

I. Gleba interwoven with silky threads; asci normal **Elaphomyces 8:863**

II. Gleba without capillitium; asci spurious, cell-shaped **Cenococcum 8:871**

Family 57. TUBERACEAE (incl. ENDOGONACEAE, EOTERFEZIACEAE)

8:872, 10:80, 11:442, 14:826, 16:808, 18:205

Ascomata hypogaean, rarely epigaean or parasitic, fleshy or waxy hardened, more or less globose, indehiscent; gleba never becoming a powdery mass, typically veined or lacunose, rarely continuous; asci 1-8-spored, rarely spurious.

Hyalosporae

Spores hyaline, 1-celled, globose to elliptic

I. Gleba without veins, but with one or more cavities
  1. Asci linear or elongate
    a. Spores verrucose or roughened
      (1) Spores globose **Pseudogenea 16:808**
      (2) Spores ovoid to elliptic **Genea 8:873**
    b. Spores smooth
      (1) Gleba with a single large cavity **Hydnocystis 8:876**
      (2) Gleba convolute lacunose
        (a) Densely lanate; canals not produced to surface **Geopora 8:877**
        (b) Not lanate; canals produced to surface **Pseudohydnotria 16:808**
  2. Asci globose to oblong
    a. Spores roughened or alveolate, globose

(1) Asci 2-4-spored; spores with recurved spines
Terfeziopsis 16:816

(2) Asci 8-spored

x. Hollows or canals not reaching the surface

(x) Gleba with irregular stellate hollows
Myrmecocystis 16:809

(y) Microscopic; gleba central, lax
Lilliputia 16:816

y. Hollows or canals reaching the surface
Hydnobolites 8:879

b. Spores smooth

(1) Gleba of numerous locules; epigaean, parasitic on fungi
Eoterfezia 18:205

(2) Hypogaean

(a) Ascoma brown villous **Phaeangium 11:442**

(b) Ascoma not villous **Balsamia 8:877**

II. Gleba with veins, solid or also lacunose

1. Veins of two colors; spores globose, smooth
Stephensia 8:880

2. Veins all of one color

a. Spores globose, roughened

(1) Gleba with distinct veins; asci mostly 2-3-spored
Delastria 8:904

(2) Gleba marbled with brown spots; asci 3-4-spored
Piersonia 16:812

b. Spores ellipsoid, smooth

(1) Spores apiculate at each end, limoniform
Leucangium 8:899

(2) Spores not apiculate

(a) Asci 8-spored, broadly stipitate **Tirmania 11:444**

(b) Asci 6-8-spored, not stipitate **Picoa 8:899**

Phaeosporae

Spores dark, 1-celled

I. Gleba without veins; typically with hollows or canals

1. Spores globose, roughened

a. Asci linear or cylindric

(1) Gleba with one or more hollows **Gyrocratera 16:815 (incl. Cryptica 10:82)**

(2) Gleba homogeneous, lax **Ruhlandiella 17:241**

b. Asci broad, oblong **Hydnotrya 8:879**

2. Spores ovoid, smooth **Genabea 8:878**

II. Gleba with veins

1. Veins of two colors

a. Some veins white **Pachyphloeus 8:881**

b. No veins white **Tuber 8:882**

2. Veins of one color

a. Asci elongate; gleba not divided into masses
Choeromyces 8: 900

b. Asci ovate to globose; gleba divided into masses
Terfezia 8: 902

Order 13. UREDINALES

Apothecia reduced to a mass of persistent or evanescent asci, waxy, leathery, gelatinous or powdery; parasites.

Family 58. UREDINACEAE

7: 528, 9: 291, 11: 174, 14: 269, 16: 257, 17: 244

Parasitic; apothecia reduced to a mass of asci with fixed spore cells., i. e., teleutospores with 1 or more cells; conidia normally present, produced in cluster cups (aecidia, aecia), sori (uredinia), or spermagonia (pycnia); the asci and conidia may occur on the same host or upon different hosts, or one or the other alone may occur; teleutospores producing a promycelium and sporidioles upon germination.

Amerosporae

Teleutospores 1-celled, colored, rarely hyaline, or absent

I. Teleutospores present
1. Teleutospores hyaline
a. Teleutospores catenate — **Monosporidium 9: 297**
b. Teleutospores single — **Zaghouania 17: 268**
2. Teleutospores colored
a. Spore mass or sorus horizontal
(1) Teleutospores catenate
(a) Spores in a pseudoperidium — **Dietelia 14: 291**
(b) Spores not in a pseudoperidium — **Clastopsora 17: 263**
(2) Teleutospores not catenate
(a) Uredospores not in a pseudoperidium
x. Spores half smooth, half roughened
Hemileia 7: 585
y. Spore cells alike smooth or rough
(x) Teleutospores on a stalk — **Uromyces 7: 531**
(y) Teleutospores not stalked
m. Teleutospores connate in a lentiform layer
†Uromycodes 14: 290
(Schroeteriaster)
n. Teleutospores not connate — **Chaconia 14: 290**
(b) Uredospores in a pseudoperidium
x. Teleutospore sorus determinate, black or dark-brown
Melampsora 7: 586
(incl. Phacopsora 14: 289)
y. Teleutospore sorus indeterminate, pale or reddish
Melampsorella 7: 596
(incl. Hyalopsora 17: 268)
b. Spore mass or sorus with a cylindric columella, more or less vertical, globose to cylindric

(1) Teleutospores mucose; uredospores lacking
Masseella 14: 292

(2) Teleutospores not mucose; uredospores present
(a) Uredospores in a pseudoperidium
Cronartium 7: 597

(b) Uredospores not in a pseudoperidium
Skierka 16: 271

II. Teleutospores absent; pycnia, aecia or uredinia only
1. Spores in a pseudoperidium or cup
a. Spores in pycnia **Aecidiolum 7: 773**
b. Spores in aecia
(1) Aecia cup-shaped, usually dentate or crenate at margin
Aecidium 7: 774

(2) Aecia cylindric, margin fimbriate
Roestelia 7: 833

(3) Aecia irregular, more or less globose
(a) Spores catenate; on conifers **Peridermium 7: 835**
(b) Spores free; not on conifers **Pericladium 7: 838**

2. Spores not in a pseudoperidium; uredinia
a. Spores single **Uredo 7: 838**
b. Spores catenate **Caeoma 7: 863**

Didymosporae

Teleutospores 2-celled, colored or hyaline

I. Teleutospores absent; aecia alone present
Aecidiella 14: 389

II. Teleutospores present
1. Sori horizontal
a. Teleutospores catenate, in a pseudoperidium
†Didymosira 11: 205
(Pucciniosira)

b. Teleutospores single
(1) Teleutospores not in a pseudoperidium
(a) Teleutospores subpenicillate at each end
Dasyspora 9: 313

(b) Teleutospores not penicillate
x. Pedicel of spore with a hyaline gelatinous sheath
†Coleoma 9: 313
(Coleopuccinia)

y. Pedicel without gelatinous sheath
(x) Teleutospores longitudinally 1-septate
Diorchidium 7: 736

(y) Teleutospores transversely 1-septate
m. Teleutospores with a hyaline integument
Uropyxis 7: 735

n. Teleutospores without hyaline integument

(m) Spore cells with germination pores
Puccinia 7: 600
(inc. Trichopsora, Chrysopsora 11: 206, Gymnoconia 14: 360)

(n) Spore cells without germination pores
Leptinia 14: 358

(2) Teleutospores in a pseudoperidium
Schizospora 14: 361

2. Sori vertical

a. Teleutospores confluent into a gelatinous stratum
Gymnosporangium 7: 737

b. Teleutospores closely joined in a columella
(1) Spores catenate — **Gambleola 16: 314**
(2) Spores not catenate — **Didymopsora 16: 315**

Phragmosporae

Teleutospores 2-several-septate

I. Teleutospores not in a pseudoperidium

1. Teleutospores transversely septate

a. Teleutospores catenate — **†Phragmostele 16: 321**
b. Teleutospores not catenate — **(Pucciniostele)**

(1) Uredospores not catenate

(a) Teleutospores cylindric; cells separating with difficulty
Phragmidium 7: 742
(incl. Phragmopyxis 14: 361, Rostrupia, Barclayella 9: 316)

(b) Teleutospores moniliform; cells separating easily
Xenodochus 7: 750

(2) Uredospores catenate, at least at first

(a) Wall of teleutospore thick; promycelium simple with a single sporidiole at apex
Coleosporium 7: 751
(incl. Stichopsora 16: 318)

(b) Wall of teleutospore thin; promycelium 3-septate, with a sporidiole at each cell
Chrysomyxa 7: 759

2. Teleutospores longitudinally or obliquely septate

a. Teleutospores developed within the host cells

(1) Uredospores in a pseudoperidium; homoecious
Thecopsora 7: 764

(2) Uredospores lacking; heteroecious
Calyptospora 7: 766

b. Teleutospores developed outside the host cells
Pucciniastrum 7: 762

II. Teleutospores in a pseudoperidium

1. Teleutospores catenate, verrucose — **Endophyllum 7: 767**
2. Teleutospores not catenate, echinulate — **Milesia 7: 768**
(incl. Uredinopsis 17: 269)

Dictyosporae

Teleutospores septate in two directions, or muriform

I. Teleutospores more or less radiately 3-septate
Triphragmium 7: 768
(incl. Hapalophragmium 16: 1121)

II. Teleutospores radiately 4-many-septate or muriform
Ravenelia 7: 770
(incl. Sphaerophragmium 11: 209, Alveolaria 11: 212, Hemileiopsis 16: 269, Anthomyces 16: 325, Pleoravenelia and Neoravenelia, 17: 407)

Family 59. USTILAGINACEAE

7: 449, 9: 282, 11: 230, 14: 410, 16: 367, 17: 472

Mycelium growing widely through parts of living plants, chiefly flowers and fruits, finally disappearing, leaving the mass of spores; spores producing upon germination a promycelium upon which sporidioles are borne.

Amerosporae

Spores 1-celled

I. Sori without a fungal involucre
1. Sporidioles typically pleurogenous on the promycelium
a. Spores arising from a compact subgelatinous stroma
Cintractia 7: 480
b. Spores not arising from a compact subgelatinous stroma
Ustilago 7: 451
(incl. Anthracoidea 14: 420)
2. Sporidioles many, acrogenous, crowning the promycelium
a. Sori powdery at maturity
(1) Sporidioles many, in a capitulum **Neovossia 16: 375**
(2) Sporidioles not in a capitulum **Tilletia 7: 481**
b. Sori not powdery at maturity
(1) Spores catenate, then separating **Sirentyloma 14: 425**
(2) Spores not catenate
(a) Spores rostrate **Rhamphospora 9: 287**
(b) Spores not rostrate
x. In stems and leaves
(x) Sori pustulate, pale or rust-brown
Entyloma 7: 487
(y) Sori explanate, widely expanded, black
Melanotaenium 7: 496
y. In roots
(x) Spores conglobate in spheroid cysts
Oedomyces 11: 234
(y) Spores not conglobate **Entorrhiza 7: 497**

z. In ovaries — **†Ustilaginula 7: 498 (Ustilagopsis)**

II. Sori with a fungal involucre
1. Spores in a powdery mass — **Sphacelotheca 7: 499**
2. Spores in a hard black crust — **Melanopsichium 17: 484**

Didymosporae

Spores united by twos or 2-celled

I. Spore-bearing hyphae tubular, enclosed in a stroma — **Mycosyrinx 17: 484**

II. Spore-bearing hyphae not in a stroma
1. Spores joined laterally by a narrow isthmus; sporidioles pleurogenous — **Schizonella 7: 500**
2. Spores joined horizontally and broadly; sporidioles acrogenous — **Schroeteria 7: 500**

Dictyosporae

Spores closely joined in masses, the latter appearing to be many-celled spores

I. Spores or cells of each mass alike
1. Sporidioles pleurogenous or acrogenous; usually not foliicole
a. Promycelium simple — **Tolyposporium 7: 501**
b. Promycelium branched — **Tolyposporella 14: 427**
2. Sporidioles acrogenous, typically foliicole
a. Sporidioles numerous
(1) Spore masses covered by a layer of sterile cells — **Doassansia 7: 502 (incl. Cornuella, Burrillia 11: 236)**
(2) Spore masses without a sterile layer — **Tuburcinia 7: 507**
b. Sporidioles solitary; sori reddish, usually fructicole — **Thecophora 7: 507**
3. Sporidioles unknown; sori mostly very black — **Sorosporium 7: 511 (incl. Poecilosporium 16: 380)**

II. Spores or cells of two kinds in each mass, central few large, peripheral many, small
1. Sori of many sacks containing spore masses — **Polysaccopsis 16: 381**
2. Sori without sacks — **Urocystis 7: 515**

Class 5. BASIDIOMYCETES

Spores produced on basidia, not inclosed in asci.

Order 14. AGARICALES (HYMENOMYCETES)

Basidia exposed on an even or modified hymenium, the latter usually in the form of gills, pores or teeth.

Family 60. TREMELLACEAE

6:760, 9:257, 11:142, 14:244, 16:215, 17:203

Pileus typically gelatinous and homogeneous, horny when dry, reviving when wet, sometimes waxy or leathery but then with divided basidia; hymenium typically amphigenous or superior, smooth or somewhat convolute; basidia globose to terete, transversely or longitudinally divided, or in one subfamily merely terete-clavate and furcate, 1-4-sterigmate; spores globose to reniform and oblong, continuous or septate, producing sporidioles on germination; conidia often present with the spores. Some gelatinous forms included in the following families on account of the character of the hymenium seem to belong properly in this family.

Subfamily Auriculariae

Basidia transversely septate, elongate or fusoid

I. Pileus, or at least the hymenium, gelatinous
  1. Entire pileus gelatinous
    a. Pileus verruciform or effuse
      (1) Basidia mixed with paraphyses — **Mylittopsis 14:246**
      (2) Basidia without paraphyses
        (a) Spores not producing sporidioles on germination — **Platygloea 6:771**
        (b) Spores producing sporidioles — **Helicogloea 11:145**
    b. Pileus disciform, cupulate or columnar
      (1) Pileus erect, filiform, columnar — **Eucronartium 17:211**
      (2) Pileus not columnar, disciform or cupulate
        (a) Basidia without sterigmata — **Auriculariella 6:407**
        (b) Basidia with sterigmata
          x. Basidia 2-sterigmate; pileus applanate — **Phlebophora 16:215**
          y. Basidia 3-4-sterigmate; pileus pezizoid — **†Collopezis 16:216 (Tjibodasia)**
  2. Pileus coriaceous or membranous, hymenium gelatinous
    a. Pileus coriaceous; hymenium reticulate-costate — **Auricularia 6:762**
    b. Pileus membranous; hymenium smooth or plicate — **Hirneola 6:764**

II. Pileus waxy, crust-like or byssoid
  1. Pileus waxy or crust-like
    a. Pileus very minute, disciform, on a pedicel — **Pilacrella 14:246**
    b. Pileus membranous, incrusting — **Jola 14:245**
  2. Pileus byssoid
    a. Basidia without a sac near the base — **Stypinella 14:244**
    b. Basidia with a sack near the base — **Saccoblastia 14:244**

Subfamily Tremellae

Basidia longitudinally 4-divided, or cruciate, globose or ovoid

I. Spores alone present, i. e., homosporous

1. Pileus waxy or byssoid
   a. Pileus waxy, scarcely gelatinous
      (1) Pileus effuse — **Protomerulius 11: 142**
      (2) Pileus cupulate or concave — **Hirneolina 17: 208**
   b. Pileus byssoid — **Stypella 14: 246**
2. Pileus gelatinous
   a. Pileus covered with sterile setae, effuse — **Heterochaete 14: 247**
   b. Pileus without sterile setae
      (1) Pileus erect, clavate, columnar or spatulate
         (a) Pileus clavate, simple or branched — **Clavariopsis 16: 219 (incl. Hyaloria 14: 252)**
         (b) Pileus spatulate, large, simple — **Gyrocephalus 6: 795**
      (2) Pileus effuse, globose, cupulate or pulvinate
         (a) Spores 1-celled
            x. Pileus cupulate, radicate — **Femsjonia 6: 779**
            y. Pileus pulvinate or effuse
               (y) Basidia in chains; hymenium not cerebriform — **Sirobasidium 14: 248**
               (y) Basidia not in chains; hymenium cerebriform — **Tremella 6: 780 (inc. Naematelia 6: 792)**
         (b) Spores 2-4-celled, at least upon germination, reniform
            x. Spores 2-4-celled, sporidioles allantoid; pileus truncate-cupulate or effuse — **Exidia 6: 772**
            y. Spores 2-celled, sporidioles straight; pileus pulvinate, gyrose — **Ulocolla 6: 777**

II. Spores and conidia present, i. e., heterosporous
1. Pileus ascending and dendroid — **†Collodendrum 17: 208 (Tremellodendron)**
2. Pileus effuse to pulvinate
   a. Spores on the disk, conidia on the exciple — **Craterocolla 6: 778**
   b. Conidia and spores usually succeeding each other on the same area
      (1) Pileus cerebriform, pulvinate or effuse — **Tremella 6: 780**
      (2) Pileus not cerebriform, crust-like
         (a) Spores reniform, conidia ovoid — **Sebacina 6: 540**
         (b) Spores ovoid, conidia hamate — **Exidiopsis 14: 248**

Subfamily Dacryomycetae

Basidia terete-clavate, furcate above

I. Pileus effuse, pulvinate or globose, typically sessile
1. Spores septate, at least upon germination
   a. Pileus gyrose; spores not horseshoe-shaped — **Dacryomyces 6: 796**
   b. Pileus tuberculiform; spores horseshoe-shaped — **Delortia 6: 795**

2. Spores not septate
   a. Spores hyaline; pileus more or less effuse, waxy — **Arrhytidia 6: 804** (incl. Ceracea 6: 805)
   b. Spores colored; pileus subglobose — **Seismosarca 9: 260**

II. Pileus cupulate, clavate or foliose, typically stalked
1. Pileus irregularly cup-shaped, usually stipitate
   a. Pileus gelatinous or cartilaginous, cupulate — **Guepinia 6: 805**
   b. Pileus leathery, hymenium gelatinous, cupulate-disciform — **Ditiola 6: 813**
2. Pileus erect, foliose-lobed — **†Tremellastrum 17: 193** (Tremellopsis)
3. Pileus capitate to lanceolate, stipitate
   a. Pileus capitate, head inflated, corrugate; stipe hollow
      (1) Homosporous — **Collyria 6: 811**
      (2) Heterosporous — **Dacryopsis 11: 149**
   b. Pileus clavate, club plicate — **Dacryomitra 6: 811**
   c. Pileus lanceolate, hanging — **Myxomycidium 16: 220**

Family 61. CLAVARIACEAE

6: 690, 9: 247, 11: 134, 14: 235, 16: 203, 18: 193

Hymenium not discrete from the hymenophore, amphigenous; pileus more or less clavate or coralloid, subcarnose or leathery, simple or branched.

I. Pileus with many crowded, leaf-like branches — **Sparassis 6: 690**

II. Branches not leaf-like
1. Pileus fleshy
   a. Branches fibrous-splitting — **Acurtis 6: 691**
   b. Branches not splitting — **Clavaria 6: 692** (incl. Phaeoclavulina 14: 238)
2. Pileus leathery, rarely subgelatinous
   a. Pileus somewhat gelatinous
      (1) Pileus capitate; cap hollow, inflated — **Baumanniella 14: 244**
      (2) Pileus clavate or coralloid — **Calocera 6: 732**
   b. Pileus leathery
      (1) Pileus tomentose — **Lachnocladium 6: 738**
      (2) Pileus not tomentose
         (a) Pileus terete or compressed, dry, cartilaginous — **Pterula 6: 740** (incl. Phaeopterula 17: 201)
         (b) Pileus simple, filiform or capitate — **Hirsutella 11: 140**
            x. Pileus capitate, inflated — **Physalacria 6: 759**
            y. Pileus more or less filiform

(x) Pileus clavulate with filiform stipe
Typhula 6: 743

(y) Pileus linear or subclavate; stipe short or none
Pistillaria 6: 752

Family 62. THELEPHORACEAE

6: 513, 9: 218, 11: 115, 14: 212, 16: 181, 18: 160

Hymenium inferior or amphigenous, leathery, waxy or membranous, smooth, i. e., without spines, pores, etc., sometimes somewhat ridged, or cracked; spores various.

I. Not parasitic on algae

1. Pileus more or less gelatinous

a. Pileus effuse

(1) Spores hyaline — **Cerocorticium 16: 196**

(2) Spores olivaceous — **Aldridgea 11: 129**

b. Pileus convex to discoid — **Discocyphella 16: 202**

2. Pileus not gelatinous

a. Hymenium somewhat ridged or roughened

(1) Hymenium subcarnose, infundibuliform, costate
Craterellus 6: 514

(2) Hymenium leathery

(a) Hymenium woody, with radiating ridges, warty-roughened
Cladoderris 6: 547

(b) Hymenium similar, but with fan-like ridges
Beccariella 6: 550

b. Hymenium smooth, or absent

(1) Hymenium present, smooth

(a) Hymenium without cystidia

x. Pileus urn-shaped, stipitate — **Hypolyssus 6: 521**

y. Pileus typically crateriform to dimidiate

(x) Pileus with distinct intermediate stratum
Stereum 6: 551

(y) Pileus homogeneous or nearly so

m. Pileus vertical, beautifully convolute, mitriform
Skepperia 6: 603

n. Pileus not convolute

(m) Basidia not transeptate — **Thelephora 6: 521 (incl. Friesula 6: 685)**

(n) Basidia transeptate — **Septobasidium 11: 118**

z. Pileus resupinate, effuse, rarely cupulate

(x) Pileus not cupulate

m. Hymenium waxy

(m) Spores large, citriform — **Michenera 6: 652**

(n) Spores medium, not citriform
Corticium 6: 603 (incl. Kneiffia 6: 510)

n. Hymenium fleshy, spores minute, colored

(m) Spores smooth — **Coniophora 6: 647**
(n) Spores angular or aculeate — **Prillieuxia 14: 225**
(y) Pileus cupulate or cylindric
m. Pileus cupulate — **Cyphella 6: 667**
n. Pileus terete to cylindric — **Solenia 6: 424**
(b) Hymenium with cystidia
x. Cystidia simple
(x) Cystidia hyaline — **Peniophora 6: 640 (incl. Coniophorella 17: 183)**
(y) Cystidia colored — **Hymenochaete 6: 588 (incl. Lloydiella 16: 1116)**
y. Cystidia septate — **Bonia 11: 123**
(2) Hymenium absent, or more or less cobwebby
(a) Biogenous
x. Hymenium endophytic — **Endobasidium 17: 190**
y. Hymenium erumpent
(x) Basidia circinate — **Helicobasidium 6: 666**
(y) Basidia not circinate
m. Spores globose; on galls — **Urobasidum 11: 131**
n. Spores cylindric; on roots — ***Chrysobasidium 11: 131 (Aureobasidium)**
o. Spores oblong; on leaves — **Exobasidium 6: 664**
(b) Saprogenous
x. Spores septate, fuscous — **Heterobasidium 9: 237**
y. Spores 1-celled, hyaline
(x) Brown stellate hyphae present — **Asterostroma 9: 236**
(y) Brown stellate hyphae absent
m. Basidia 4-spored — **Hypochnus 6: 653**
n. Basidia 2-spored — **Matruchotia 11: 118**

(Cfr. Tulasnellaceae 14: 234)

II. Parasitic on algae
1. Algae Chroococcus — **Cora 6: 685**
2. Algae Scytonema — **Rhipidonema 6: 687**

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Family 63. HYDNACEAE

6: 429, 9: 208, 11: 106, 14: 201, 16: 174, 18: 147

Pileus cap-shaped to resupinate, fleshy, gelatinous, woody or leathery; hymenium consisting of spines, teeth, or granules, rarely somewhat pore-like; spores various.

I. Pileus more or less gelatinous
1. Gelatinous, stalked or dimidiate; with teeth — **Tremellodon 6: 479**
2. Waxy-gelatinous, resupinate, with granules — **Grandiniella 14: 208**

II. Pileus fleshy, woody or leathery
1. Hymenium of more or less subulate teeth or spines

a. Pileus present
(1) Perennial; woody — **†Hydnophysa 16: 177 (Hydnofomes)**
(2) Not perennial
(a) Pileus clavaria-like — **Hericium 6: 478**
(b) Pileus not clavaria-like
x. Teeth free; mostly carnose
(x) Pileus typically stalked — **Hydnum 6: 430 (incl. Echinodontium 16: 176)**
(y) Pileus horizontal — **Sistotrema 6: 480**
y. Teeth connected at base; coriaceous
(x) Cystidia lacking — **Irpex 6: 482**
(y) Cystidia present
m. Cystidia subulate — **Asterodon 11: 111**
n. Cystidia stellate — **Hydnochaete 14: 211**
b. Pileus lacking
(1) Teeth on a membranous subicle — **Caldesiella 6: 477**
(2) Teeth without a subicle — **Mucronella 6: 512**
2. Hymenium of granules, warts or folds
a. Hymenium of granules or warts
(1) Hymenium with penicillate-multifid warts — **Odontia 6: 506**
(2) Hymenium with simple granules or warts
(a) Hymenium porose-reticulate, granular — **Grammothele 6: 505**
(b) Hymenium with difform, obtuse cylindric warts — **Radulum 6: 493 (incl. Phaeoradulum 16: 179)**
(c) Hymenium with globose hollowed granules — **Grandinia 6: 500**
b. Hymenium with folds or laminae
(1) Hymenium with fold-like crests
(a) Crests with edge entire — **Phlebia 6: 497**
(b) Crests with edge incised — **Lopharia 6: 500**
(2) Hymenium with anastomosing radiate laminae — **Thwaitesiella 11: 112**

Family 64. POLYPORACEAE

6: 1, 9: 150, 11: 79, 14: 164, 16: 138, 17: 95

Pileus cap-shaped, shelf-like, or resupinate, very rarely volvate or annulate, fleshy, leathery or woody, rarely gelatinous; hymenium consisting of pores, very rarely somewhat lamellar; spores typically 1-celled, hyaline or colored.

I. Pileus fleshy, putrescent, or gelatinous
1. Pileus fleshy
a. Stipe volvate or annulate
(1) Stipe volvate — **†Boletium 14: 164 (Volvoboletus)**

(2) Stipe annulate — **Boletopsis 14: 164**

b. Stipe not volvate or annulate

(1) Stipe central, tubes usually not discrete from each other

(a) Spores cylindric, minute — **†Bactroboletus 16: 142 (Filoboletus)**

(b) Spores globose to fusoid

x. Pileus and stipe beautifully squarrose-scaly — **Strobilomyces 6: 49**

y. Pileus and stipe not squarrose-scaly

(x) Layer of tubes separating readily from the hymenophore — **Boletus 6: 2 (incl. Suillus, Tylopilus 16: 142)**

(y) Layer of tubes not separating readily from the hymenophore

m. Tubes not discrete from each other

(m) Tubes radiate; hymenophore mucronate — **Boletinus 6: 51**

(n) Tubes sinuose or gyrose; hymenophore smooth — **Gyrodon 6: 51**

n. Tubes discrete from each other — **Fistulinella 17: 101**

(2) Stipe lateral; tubes discrete from each other — **Fistulina 6: 54**

2. Pileus gelatinous

a. Stalked; spores brown

(1) Pileus single — **Rodwaya 16: 172**

(2) Pileus many, superimposed on the stipe — **Mycodendrum 9: 206**

b. Mostly sessile; spores hyaline — **Laschia 6: 404**

II. Pileus leathery, corky or woody, rarely tough-fleshy

1. Tubes gelatinous — **Gloeoporus 6: 403**

2. Tubes not gelatinous

a. Hymenium covered by a volva-like membrane — **Cryptoporus 17: 125**

b. Hymenium not volvate

(1) Tubes in several layers; perennial, woody — **Fomes 6: 150**

(2) Tubes not stratified in layers

(a) Tubes typically pore-like

x. Tube layer distinct but not separable from the hymenophore; tough-fleshy to leathery

(x) Pileus thick, tough-fleshy, stalked or sessile — **Polyporus 6: 55 (incl. Laccocephalum 11: 87)**

(y) Pileus thin, coriaceous or membranous

m. Pileus stipitate to dimidiate

(m) Tubes not spiny inside — **Polystictis 6: 208**

(n) Tubes spiny inside — **Mucronoporus 9: 188**

n. Pileus resupinate — **Poria 6: 292**

y. Tube layer not distinct from hymenophore; tubes often unequally sunken
(x) Pileus suberose; typically sessile to resupinate
m. Tubes subrotund **Trametes 6: 334**
(incl. Sclerodepsis 9: 194)
n. Tubes not round, or of two forms
(m) Tubes of two forms, one normal, the other loculiform, enclosed **Myriadoporus 6: 384**
(n) Tubes alike, superficial
r. Tubes hexagonal **Hexagonia 6: 356**
s. Tubes sinuose-labyrinthine, elongate
Daedalea 6: 370
(y) Pileus leathery, membranous or waxy; sessile
m. Tubes immersed in discrete warts; resupinate
Porothelium 6: 421
n. Tubes not immersed in warts
(m) Tubes with a papilla in the center
Theloporus 6: 421
(n) Tubes reticulate-gyrose, not papillate
Merulius 6: 411
(incl. Poroptyche 9: 206)
(b) Tubes lamella-like (see Daedalea also)
x. Tubes of many little laminae **Bresadolia 6: 388**
y. Tubes lamellose, in radiating series
Favolus 6: 390
z. Tubes really concentric lamellae **Cyclomyces 6: 389**

Family 65. AGARICACEAE

Pileus typically cap-shaped and stalked, rarely sessile and the hymenium above, fleshy to corky; pileus sometimes enclosed in a cap veil which persists at the base of the stipe as a volva; hymenium consisting of radiating lamellae or gills, often protected by a gill veil which remains on the stipe as a ring; gills covered with basidia, bearing typically 4 sterigmata and spores; spores typically 1-celled, hyaline or colored.

Leucosporae

5: 8, 9: 1, 11: 1, 14: 63, 16: 1, 18: 1

Spores colorless, or very dilutely colored even in spore prints, globose to fusoid, smooth or rough

I. Edge of the gills entire, not canaliculate or split
1. Fleshy, putrescent, not reviving when wet
a. Edge of the gills acute, not fold-like
(1) Trama of the pileus not vesiculose; spores typically smooth
(a) Gills more or less fleshy, readily separable into two layers
x. Stipe central or nearly so
(x) Hymenophore discrete from the fleshy stipe
m. Stipe volvate

(m) Stipe annulate — **Amanita 5: 8**
(n) Stipe not annulate — **Amanitopsis 5: 20**
n. Stipe not volvate
(m) Stipe annulate — **Lepiota 5: 27**
(n) Stipe not annulate — **Schulzeria 5: 72**
(y) Hymenophore homogeneous and confluent with the fleshy or fibrous-elastic stipe
m. Stipe annulate, without a volva — **Armillaria 5: 73**
n. Stipe not annulate or volvate
(m) Gills adnate or sinuate, not decurrent — **Tricholoma 5: 87**
(n) Gills typically decurrent — **Clitocybe 5: 141**
(z) Hymenophore confluent with the cartilaginous stipe but heterogeneous from it
m. Gills not decurrent
(m) Cap very thin, diaphanous — **Hiatula 5: 305**
(n) Cap not diaphanous
r. Margin of the young cap turned in — **Collybia 5: 200**
s. Margin of the young cap straight — **Mycena 5: 251** **(incl. Eomycenella 17: 21)**
n. Gills decurrent; cap umbilicate — **Omphalia 5: 208**
y. Stipe excentric or none — **Pleurotus 5: 339**
(b) Gills waxy rather than fleshy, splitting with difficulty — **Hygrophorus 5: 387**
(2) Trama of cap more or less vesiculose; spores globose, spiny
(a) Gills with milky, white or bright-colored sap — **Lactarius 5: 423** **(incl. Lactariopsis 17: 30)**
(b) Gills with clear sap, if any — **Russula 5: 453**
b. Edge of gills obtuse or fold-like
(1) Gills decurrent, dichotomous, somewhat waxy — **Cantharellus 5: 482**
(2) Gills not decurrent
(a) Gills somewhat broad, obtuse — **Nyctalis 5: 499**
(b) Gills thin or obsolete
x. Gills thin
(x) Gills vein-like, fleshy — **Arrhenia 5: 498** **(incl. Campanella 14: 100, Rimbachia 11: 32)**
(y) Gills of two sorts, gelatinous — **Stylobates 5: 502**

y. Gills obsolete — **Cymatella 16: 49**

2. Fleshy-leathery, leathery, corky or woody, persistent, reviving when wet
   a. Fleshy-leathery or gelatinous-leathery
      (1) Gills distinct
         (a) Stipe discrete from the hymenophore
            x. Cap fleshy and tough or thin and leathery — **Marasmius 5: 503 (incl. Marasmiopsis 14: 101)**
            y. Cap gelatinous-leathery — **Heliomyces 5: 569**
         (b) Stipe and hymenophore continuous
            x. Edge of gills acute
               (x) Edge serrate — **Lentinus 5: 571 (incl. Lentodium 14: 121, Lentodiopsis 17: 47)**
               (y) Edge entire — **Panus 5: 614**
            y. Edge of gills obtuse, gills dichotomous — **Xerotus 5: 630**
      (2) Gills fold-like, edges canaliculate or crisp — **Trogia 5: 635**
   b. Corky
      (1) Gills distinct
         (a) Gills tomentose — **Tilotus 5: 652**
         (b) Gills smooth — **Lenzites 5: 637**
      (2) Gills line-like, parallel, flexuous — **Hymenogramme 5: 652**

II. Edge of gill split or appendiculate
   1. Fleshy
      a. Stipe central; edge of gills split — **Oudemansiella 5: 653**
      b. Stipe lateral; edge with appendages — **Pterophyllus 5: 654**
   2. Membranous or coriaceous
      a. Membranous; stipe central; gills split into flexuous fragments — **Rhacophyllus 5: 654**
      b. Coriaceous; stipe none or lateral; edge split and revolute — **Schizophyllum 5: 654**

Rhodosporae

5: 656, 9: 82, 11: 43, 14: 124, 16: 69, 18: 52

Spores rosy, salmon-colored or rosy-rust-colored in spore prints, paler under the miscoscope

I. Stipe central
   1. Hymenophore discrete from the stipe
      a. Stipe volvate at base
         (1) Stipe annulate also — **Metraria 9: 82**
         (2) Stipe not annulate — **Volvaria 5: 656**
      b. Stipe not volvate
         (1) Stipe annulate — **Annularia 5: 663**
         (2) Stipe not annulate
            (a) Fleshy; gills free — **Pluteus 5: 665**

(b) Tough; gills adnexed **Schinzinia 11:44**

2. Hymenophore homogeneous and confluent with the stipe
   a. Gills decurrent
      (1) Stipe fleshy-fibrous **Clitopilus 5:698**
      (2) Stipe cartilaginous **Eccilia 5:729**
   b. Gills adnexed, sinuate or free
      (1) Stipe fleshy-fibrous; gills sinuate **Entoloma 5:679**
      (2) Stipe cartilaginous; gills not sinuate
         (a) Cap convex; margin at first inflexed **Leptonia 5:706**
         (b) Cap campanulate; margin straight from the first **Nolanea 5:716**
3. Hymenophore continuous with the cartilaginous stipe, but different from it; volvate **Volvariella 16:70**

II. Stipe excentric or none; lignicole **Claudopus 5:733**

Ochrosporae

5:735, 9:90, 11:48, 14:131, 16:83, 18:62

Spores ochraceous or more or less rust-colored

I. Gills not separating readily or naturally from hymenophore
   1. Gill veil not cobwebby
      a. Stipe central
         (1) Stipe volvate or annulate
            (a) Stipe volvate **Locellina 5:761**
            (b) Stipe annulate **Pholidota 5:736 (incl. Pholiotella 9:90)**
         (2) Stipe not volvate or annulate
            (a) Gills not deliquescing
               x. Stipe fleshy
                  (x) Gills adnate or decurrent **Flammula 5:809**
                  (y) Gills mostly sinuate
                     m. Cap fibrillose, silky or scaly **Inocybe 5:762**
                     n. Cap smooth, more or less viscid **Hebeloma 5:791**
               y. Stipe cartilaginous
                  (x) Gills decurrent **Tubaria 5:872**
                  (y) Gills not decurrent
                     m. Margin of cap inflexed at first **Naucoria 5:828**
                     n. Margin of cap straight
                        (m) Stipe discrete from hymenophore; gills free **Pluteolus 5:859**
                        (n) Stipe homogeneous with hymenophore **Galera 5:860**
            (b) Gills deliquescing **Bolbitius 5:1073**
      b. Stipe excentric or none; lignicole **Crepidotus 5:876**

2. Gill veil cobwebby, hanging curtain-like from the margin, often disappearing completely with age **Cortinarius 5: 889**

II. Gills separating readily from the hymenophore; margin of cap persistently involute **Paxillus 5: 983**

Melanosporae

5: 991, 9: 136, 11: 69, 14: 149, 16: 112, 18: 82

Spores purple, dark-purple to black

I. Spores purple or dark-purple
  1. Hymenophore discrete from stipe
    a. Stipe volvate at base
      (1) Stipe annulate **Chitoniella 14: 149**
      (2) Stipe not annulate **†Chitonis 5: 992 (Chitonia, Clarkeinda)**
    b. Stipe not volvate
      (1) Stipe annulate **Agaricus 5: 993**
      (2) Stipe not annulate; gills free **Pilosace 5: 1010**
  2. Hymenophore continuous with stipe
    a. Stipe annulate **Stropharia 5: 1012**
    b. Stipe not annulate; margin sometimes cortinate
      (1) Margin of cap cortinate; rarely subannulate **Hypholoma 5: 1027**
      (2) Margin not cortinate
        (a) Gills decurrent **Deconica 5: 1058**
        (b) Gills not decurrent
          x. Margin of cap inflexed at first **Psilocybe 5: 1043**
          y. Margin of cap straight **Psathyra 5: 1060**

II. Spores dark or black, not purple
  1. Gills deliquescing **Coprinus 5: 1078**
  2. Gills not deliquescing
    a. Gills united above to the hymenophore
      (1) Cap fleshy, fleshy-waxy or membranous
        (a) Gills waxy; spores globose, spiny **Phaeohygrocybe 17: 81**
        (b) Gills not waxy
          x. Margin of cap with a viscid cobwebby cortina **Phaeolimacium 16: 110**
          y. Margin of cap not viscid-cortinate
            (x) Spores globose to elliptic
              m. Stipe annulate; variegated gills exceeding the margin **Anellaria 5: 1125**
              n. Stipe not annulate
                (m) Cap fleshy, not striate; variegated gills exceeding the margin **Panaeolus 5: 1118**
                (n) Cap membranous, striate; uniform gills not exceeding the margin **Psathyrella 5: 1126**

(y) Spores elongate, fusoid; gills decurrent
Gomphidius 5: 1137

(2) Cap leathery-horny; spores minute, globose
Anthracophyllum 5: 1139

b. Gills free above, not united to the hymenophore; stipe dilated into a lamellar disk above **Montagnites 5: 1140**

Order 15. LYCOPERDALES (GASTEROMYCETES)

Typically terrestrial, sometimes lignicole or hypogaeous, fleshy, leathery or membranous; spores borne on basidia, in a receptacle or a peridium, continuous, hyaline or colored.

Family 66. PHALLACEAE

7: 2, 9: 262, 11: 153, 14: 254, 16: 224, 17: 212

Receptacle arising from a volva, bearing outside or inside the sporiferous pulp or gleba, stalk-like, pileiform, or sessile and more or less clathrate

I. Gleba covering the outside of receptacle; receptacle stalk-like, pileate or appendaged

1. Receptacle pileate; gleba on outer surface of pileus

a. Stalk with an appendage below the pileus

(1) Appendage net-like; volva smooth **Dictyophora 7: 3**

(2) Appendage collar-like; volva aculeate
Echinophallus 16: 226

b. Stalk without an appendage

(1) Upper part of volva remaining with pileus, and enclosing the gleba
Cryptophallus 14: 254

(2) Upper part of volva not enclosing gleba at maturity
Ithyphallus 7: 8
(incl. Alboffiella 16: 227)

2. Receptacle without hanging pileus; gleba borne directly on the apex of the stalk-like receptacle

a. Receptacle without appendages

(1) Receptacle floccose **Floccimutinus 14: 255**

(2) Receptacle not floccose **Mutinus 7: 12**
(incl. Aporophallus Itajahya 11: 153, Jansia 16: 226)

b. Receptacle or gleba with coralloid processes
Kalchbrennera 7: 14

II. Gleba on the inside of the hollow receptacle, which is clathrate or lobed

1. Receptacle hollow and clathrate, or formed of a few vertical branches joined at the apex

a. Receptacle stalked

(1) Gleba dimorphous, apex with sterile radiate laminae, lower part with convolute subclathrate lobes **Dictyobole 17: 213**

(2) Gleba not dimorphous

(a) Receptacle hollow-clathrate, stalked

x. Openings polygonal **Simblum 7: 16**
y. Openings vertically elongate **Colus 7: 21**
(b) Receptacle of thin anastomosing branches, stipitiform at base **Clathrella 16: 228**

b. Receptacle sessile
(1) Hollow-clathrate, or of a few united vertical branches **Clathrus 7: 18**
(2) Radiately loculate within **Protubera 11: 155**

2. Receptacle divided above into free laciniae or lobes
a. Receptacle expanded above into a horizontal border which is laciniate at the margin **Aseroe 7: 25**
b. Receptacle divided directly into lobes
(1) Lobes distinct from stalk in structure and color
(a) Lobes without winged appendages **Lysurus 7: 22**
(b) Lobes with membranous winged appendages **Blumenavia 11: 154**
(2) Lobes like the stalk in structure and color
(a) Receptacle spheric, lobes contiguous **Phallogaster 11: 155**
(b) Receptacle elongate or cupulate; lobes more or less spreading
x. Lobes sporiferous **Anthurus 7: 23**
y. Lobes not sporiferous **Calathiscus 7: 24**

Family 67. LYCOPERDACEAE

7: 48, 9: 266, 11: 157, 14: 257, 16: 230, 17: 217

Epigaeous, rarely hypogaeous or lignicole, peridium usually globose to pyriform, sessile or stipitate, membrano-coriaceous, furnished with a mouth or opening irregularly, enclosing a more or less powdery, often floccose, gleba; spores globose to ellipsoid, hyaline or colored, smooth or rough.

I. Peridium more or less completely traversed by a continuation of the stipe, i. e., a columella; gleba lamellate or with membranous septa or more or less uniform **Subfamily Podaxae**

1. Gleba lamellate; capillitium none; peridium turbinate **Gyrophragmium 7: 51**
2. Gleba not lamellate, more or less divided by anastomosing septa, or uniform
a. Gleba with septa
(1) Capillitium none; stipe central, not volvate, short
(a) Peridium with broad false radiate lamellae beneath **Elasmomyces 14: 258**
(b) Peridium without lamellae beneath **Secotium 7: 51**
(2) Capillitium present, filamentous; stipe volvate **Polyplocium 7: 55**
b. Gleba without septa or locules; capillitium copious
(1) Peridium subsessile; columella free, not touching the apex of the peridium
(a) Epigaeous

x. Columella cup-shaped; exoperidium areolate
Cycloderma 7: 56

y. Columella obturbinate; exoperidium splitting into lobes
Geasteropsis 17: 229

(b) Hypogaeous; spores subfusoid **Mesophellia 7: 56**

(2) Peridium stipitate; columella touching the apex of the peridium

(a) Peridium splitting longitudinally, or laterally lacerate

x. Peridium opening lengthwise by valves
Chaenoderma 9: 268

y. Peridium laterally lacerate **Cauloglossum 7: 57**

(b) Peridium opening horizontally or circularly

x. Peridium opening around the stipe
Podaxon 7: 58

y. Peridium opening circularly around the middle
† **Sphaerocybis 7: 60**
(Sphaericeps)

II. Peridium typically without a columella, with exo- and endoperidium; gleba floccose, rarely septate **Subfamily Geasterae**

1. Peridium stalked

a. Inner peridium alone persistent

(1) Peridium fixed to stipe, with distinct mouth
Tylostoma 7: 60

(2) Peridium easily separable from stipe; mouth none
Queletia 7: 65

b. Both peridial layers persistent

(1) Exoperidium forming a volva about the stipe

(a) Endoperidium convex; spores on upper surface
Battarea 7: 65

(b) Endoperidium hemispheric; spores within
† **Podoloma 17: 223**
(Battareopsis)

(2) Exoperidium not volvate; inner peridium with a mouth

(a) Endoperidium with plicate-sulcate mouth; capillitium copious
Husseya 7: 67

(b) Endoperidium suspended free in cavity of exoperidium, mouth with bright-colored scales **Mitromyces 7: 68**

2. Exoperidium sessile, typically stellate-laciniate, containing 1 or more endoperidia

a. Endoperidium one

(1) Spores borne on the inside

(a) Exoperidium closed **Diploderma 7: 92**

(b) Exoperidium opening stellately or circularly

x. Exoperidium stellate

(x) Endoperidium dehiscent, usually by a mouth; capillitium present
Geaster 7: 70

(y) Endoperidium indehiscent; capillitium none
Stella 9: 272

y. Exoperidium cup-shaped, mouth minute, ciliate
Diplocystis 7: 92

(2) Spores borne on the outside of endoperidium; stellate
Trichaster 7: 93

b. Endoperidia several

(1) Mycelium crust-like; capillitium not hollow
Broomeia 7: 93

(2) Mycelium not crust-like; capillitium hollow
Coelomyces 7: 94

III. Peridium without a columella; exoperidium lacking or consisting of a papery or spiny cortex; gleba floccose **Subfamily Lycoperdae**

1. Peridium with a distinct, stalk-like sterile base; exoperidium spiny or warty
Lycoperdon 7: 106

2. Peridium without sterile base; gleba fertile throughout

a. Peridium sessile or nearly so

(1) Capillitium a dense elastic mass discrete from the peridium

(a) Peridium persistent **Lanopila 7: 95**

(b) Peridium falling away **Eriosphaera 7: 96**

(2) Capillitium not dense elastic and discrete

(a) Peridium persistent

x. Mouth at apex, or lacking **Bovista 7: 96**

y. Mouth at base when in the ground
Catastoma 11: 165

(b) Peridium entirely falling away **Lycoperdopsis 16: 243**

b. Peridium stipitate; exoperidium dehiscing above along undulating folds
Calvatia 7: 105

IV. Peridium without columella; gleba with cell-like spaces, often containing sporangioles, or powdery **Subfamily Sclerodermatae**

1. Gleba without sporangioles, finally powdery

a. Peridium none; gleba naked, subcylindric
Gymnoglossum 11: 158

b. Peridium present, enclosing the gleba

(1) Peridium sessile or nearly so

(a) Peridium not dehiscent

x. Gleba reticulate-veined, hard **Corditubera 14: 266**

y. Gleba not reticulate-veined, somewhat floccose

(x) Spores globose **Hippoperdon 7: 133**

(y) Spores fusiform **Castoreum 7: 142**

(b) Peridium dehiscent stellately or irregularly
Scleroderma 7: 134
(incl. Caloderma 16: 243)

(2) Peridium stalked

(a) Peridium not dehiscent, clavate **†Corynogaster 14: 266**
(Clavogaster)

(b) Peridium dehiscent

x. Peridium clavate, splitting above and entirely disappearing
Favillea 7: 146

y. Peridium globoid, not entirely disappearing

(x) Stipe hollow; peridium dehiscing irregularly, or rimose
Phellorina 7: 145

(y) Stipe not hollow

m. Peridium many-lobed; stipe fibrous-woody
Xylopodium 7: 143

n. Peridium reticulately dehiscent; stipe solid
Areolaria 7: 144

2. Gleba containing numerous sporangioles

a. Sporangioles fleshy or gelatinous

(1) Peridium stipitate; stipe with persistent cupulate volva
Dictyocephalus 17: 238

(2) Peridium not volvate, sessile or with stipe-like base

(a) Parasitic in glumes; peridium not dehiscent
Testicularia 7: 150

(b) Terrestrial or parasitic on roots

x. Peridium with sterile stipe-like base, mucose-cellular within
Polysaccum 7: 146

y. Peridium sessile, fleshy-cellular within
Polygaster 7: 146

b. Sporangioles membranous, not fleshy or gelatinous

(1) Peridium corky; sporangioles round
Arachnium 7: 150

(2) Peridium membranous; sporangioles cylindric, gyrose
Scoleciocarpus 7: 151

(3) Peridium hard; sporangioles large, flexuous
Paurocotylis 7: 152

Family 68. HYMENOGASTRACEAE

7: 154, 9: 280, 11: 168, 14: 267, 16: 245, 17: 239

Typically subterranean, very rarely epigaeous, mycelium often persistent; peridium not opening at maturity, wall occasionally lacking, more or less globose; gleba fleshy or gelatinous, putrescent, more or less cellular or loculate, capillitium none.

I. Peridium wall present, distinct

1. Peridium easily separating from the gleba

a. Peridium volvate

(1) Peridium silky, reticulate-sulcate; volva gelatinous
Clathrogaster 16: 250

(2) Peridium waxy-gelatinous, not sulcate
Torrendia 17: 241

b. Peridium not volvate

(1) Peridium vertical, elongate-cylindric; basidia 2-spored
Protoglossum 11: 158

(2) Peridium more or less globose

(a) Endosporium and exosporium separated by a hyaline mucus
Leucogaster 9: 281

(b) Endosporium and exosporium contiguous

x. Spores elliptic to lanceolate, smooth
Hysterangium 7: 155

y. Spores globose, rough or spiny

(x) Peridium lanate; basidia usually 7-spored
Sclerogaster 11: 169

(y) Peridium not lanate; basidia 3-4-spored

m. Gleba with a sterile base, radicate
Octaviania 7: 158

n. Gleba without a sterile base, not radicate
Martellia 16: 252

2. Peridium separating from the gleba with difficulty or not at all

a. Peridium covered with thread-like masses of mycelium

(1) Spores hyaline **Rhizopogon 7: 161**

(2) Spores colored **Melanogaster 7: 164**

b. Peridium without thread-like masses of mycelium

(1) Spores spiny

(a) Gleba percurrent by a columella
Arcangeliella 16: 255

(b) Gleba without a columella **Hydnangium 7: 175**

(2) Spores not spiny, smooth, verrucose, rugose, etc.

(a) Gleba with branching columella and sterile base
Dendrogaster 17: 240

(b) Gleba without columella or sterile base
Hymenogaster 7: 168
(incl. Chamonixia, Leucophleps 16: 251)

II. Peridium wall lacking

1. Hypogaeous

a. Spores elliptic, striate-sulcate **Gautiera 7: 177**

b. Spores globose, spiny or warty **Gymnomyces 16: 249**

2. Epigaeous; spores globose, warty **Macowanites 7: 179**

Family 69. NIDULARIACEAE

7: 28, 9: 265, 11: 156, 14: 256, 16: 229, 17: 214

Epigaeous, fimicole or lignicole, funnel-shaped to cup-shaped, leathery, containing one to many lentiform or globoid sporangioles, the latter attached by a cord to the wall of the peridium; spores elliptic, smooth.

I. Peridium single

1. Peridium with several to many sporangioles

a. Peridium torn at the apex in opening **Nidularia 7: 28**

b. Peridium opening by a deciduous membrane

(1) Sporangioles attached to wall by a cord

(a) Spores mixed with filaments; peridium of three united layers
Cyathus 7: 32

(b) Spores not mixed with filaments; peridium of a single cottony layer **Crucibulum 7: 43**

(2) Sporangioles densely crowded in a glutinous substance **Nidula 17: 215**

2. Peridium with a single gelatinous sporangiole **Dacryobolus 7: 45**

II. Peridium double, outer stellate, inner with a single viscous sporangiole **Sphaerobolus 7: 46**

FUNGI IMPERFECTI

Secondary or propagative stages of other fungi, largely Ascomycetes, characterized by the presence of conidia borne in perithecia-like or disk-like structures, on a stroma, or on a mycelial mass. Many of these forms have been connected by means of experiment with the corresponding perfect stage, but the vast majority of them are found alone in nature.

Order 16. PHOMATALES (Sphaeropsideae Sacc. 3: 1)

Conidia borne on simple or branched threads, so-called basidia, in pycnidia; pycnidia globose, conic, elongate, dimidiate, disk-shaped or cup-shaped, membranous, carbonous, coriaceous or somewhat fleshy, usually black, sometimes bright-colored.

Family 70. PHOMATACEAE (Sphaerioidaceae 3: 1)

Pycnidia globose, conic or lens-like, membranous, carbonous or subcoriaceous, black, immersed or superficial, separate or in a stroma; conidia from 1 to many-celled, hyaline or dark.

Hyalosporae

3: 1, 10: 100, 11: 472, 14: 844, 16: 825, 18: 220

Conidia 1-celled, hyaline, globose, ovoid or oblong, often curved

I. Pycnidia separate

1. Pycnidia smooth

a. Pycnidia borne in discolored areas, i. e., maculicole **Phyllosticta 3: 3**

b. Pycnidia not maculicole

(1) Conidia single, not in chains

(a) Conidia muticate, not ciliate or trigonous

x. Subicle none

(x) Pycnidia muticate or papillate, not rostrate or cylindric

m. Pycnidia erumpent or immersed

(m) Basidia 1-spored, mostly short

r. Pycnidia papillate

(r) Growing on lichens **Lichenosticta 16: 851**

(s) Not lichenicole

h. Basidia hamate **Phomopsis 18: 264**

i. Basidia not hamate
(h) Conidia less than 15 μ **Phoma 3: 65**
(i) Conidia 15 μ or more long **Macrophoma 10: 189**
s. Pycnidia astomous or irregularly dehiscent
(r) Pycnidia subcarnose, sclerotioid
h. Conidia obtuse at both ends **Plenodomus 3: 184**
i. Conidia acute at both ends **Sclerotiopsis 3: 184**
(s) Pycnidia carbonous, circumscissile **Piptostomum 3: 183**
(n) Basidia several-spored, branched **Dendrophoma 3: 178**
n. Pycnidia superficial
(m) Pycnidia dense in asteroma-like spots **Asteromella 3: 182**
(n) Pycnidia not in such spots
r. Pycnidia globose or nearly so
(r) Basidia short, straight **Aposphaeria 3: 169**
(s) Basidia beautifully circinate **Pyrenotrichum 3: 184**
(t) Basidia none **Mycogala 3: 185**
s. Pycnidia turbinate, carnose **Crocicreas 3: 183**
(y) Pycnidia rostrate or cylindric
m. Pycnidia globose, rostrate **Sphaeronaema 3: 185**
n. Pycnidia cylindric **Glutinium 11: 500**
y. Subicle present
(x) Subicle white, cobwebby **Cicinnobolus 3: 216 (incl. Byssocystis 11: 502)**
(y) Subicle dark
m. Subicle usually radiate **Asteroma 3: 201**
n. Subicle not radiate **Chaetophoma 3: 199**
(b) Conidia ciliate, forked or angled
x. Conidia ciliate at apex
(x) Apex 1-ciliate **Strasseria 18: 284**
(y) Apex several-ciliate **Neottiospora 3: 216**
y. Conidia forked or angled
(x) Conidia Y-like; subicle present **Ypsilonia 3: 215**
(y) Conidia trigonous **Trigonosporium 16: 892**
(2) Conidia in chains

(a) Chains of spores simple or nearly so
Sirococcus 3: 217

(b) Chains of spores connected, often net-like
Peckia 3: 217

2. Pycnidia with hairs or bristles
a. Bristles stellate; conidia ovoid **Staurochaeta 3: 218**
b. Bristles simple
(1) Basidia usually simple, conidia fusoid
Vermicularia 3: 221
(2) Basidia usually branched, conidia oblong
Pyrenochaeta 3: 219

II. Pycnidia in a stroma
1. Stroma globose, conic or valsa-like
a. Conidia in chains ***Sirodothis**
b. Conidia single
(1) Stroma globose, conic or pulvinate
(a) Stroma more or less globose or pulvinate
x. Stroma unilocular **Dothiopsis 10: 228**
y. Stroma several- or many-locular
(x) Pycnidia distinct
m. Pycnidia aggregate in a basal stroma
Dothiorella 3: 235
n. Pycnidia more deeply immersed
(m) Necks not joined in one ostiole
Lamyella 11: 510
(n) Necks joined in a single ostiole
Torsellia 11: 510
(y) Pycnidia merely locules in the stroma
m. Locules several, not numerous
Rabenhorstia 3: 243
n. Locules very numerous **Fuckelia 3: 244**
(b) Stroma conic-truncate, conidia bacillar
Ceuthospora 3: 277
(2) Stroma valsa-like
(a) Conidia fusoid or bacillar **Fusicoccum 3: 247**
(b) Conidia allantoid **Cytospora 3: 252**
(c) Conidia globose or ovoid **Cytosporella 3: 251**
2. Stroma applanate, effuse or linear
a. Stroma linear, conidia connate in fours
Gamosporella 10: 238
b. Stroma applanate or effuse
(1) Growing on leaves and stems **Placosphaeria 3: 244**
(2) Growing on fungi **Anthracoderma 10: 238**

Of Uncertain Position.

Manginia 18: 266. a Phoma with micro- and macropycnidia

Phaeosporae

3:291, 10:251, 11:511, 14:919, 16:905, 18:302

Conidia 1-celled, dark, globose, ovoid or oblong

I. Pycnidia separate
  1. Pycnidia without mycelium or subicle
    a. Pycnidia smooth, not hairy
      (1) Conidia in chains, globose — **Sirothecium** 10:270
      (2) Conidia not in chains
        (a) Pycnidia sessile, spheroid
          x. Pycnidia beaked — **Naemosphaera** 10:259
          y. Pycnidia not beaked
            (x) Pycnidia with a distinct orbicular locule — **Hypocenia** 3:320
            (y) Pycnidia without such a locule
              m. Conidia on long basidia
                (m) Pycnidia thin, white-lacerate at top — **Harknessia** 3:320
                (n) Pycnidia subcarbonous, not lacerate — **Sphaeropsis** 3:291
              n. Basidia very short or obsolete — **Coniothyrium** 3:305
        (b) Pycnidia stipitate, clavate — **Levieuxia** 3:321
    b. Pycnidia hairy or setose — **Chaetomella** 3:321
  2. Pycnidia with distinct mycelium or subicle
    a. Pycnidia astomous, in a dark subicle — **Capnodiastrum** 10:272
    b. Pycnidia perforate, with basal hyphae — **Cicinnobella** 18:302

II. Pycnidia cespitose or in a stroma
  1. Pycnidia in dense erumpent clusters — **Haplosporella** 3:323
  2. Pycnidia in a definite stroma
    a. Stroma applanate or effuse, foliicole — **Discomycetopsis** 11:517
    b. Stroma dot-like, discoid or hemispheric
      (1) Stroma dot-like, immersed — **Melanconiopsis** 16:915
      (2) Stroma discoid to hemispheric
        (a) Stroma discoid; spores large — **Nothopatella** 11:517
        (b) Stroma pulvinate; spores minute, catenulate — **Cytoplea** 3:325
        (c) Stroma hemispheric; pycnidia circinate — **†Circinastrum** 3:325 **(Weinmannodora)**

Hyalodidymae

3:384, 10:295, 11:522, 14:942, 16:925, 18:335

Conidia hyaline, 1-septate, ovoid, ellipsoid or oblong

I. Pycnidia separate
  1. Pycnidia not beaked
    a. Pycnidia in discolored areas, maculicole

(1) Pycnidia immersed, then erumpent, perforate
(a) Conidia muticate — **Ascochyta 3:384**
(b) Conidia with setae at the apex — **Robillardia 3:407**
(2) Pycnidia superficial, astomous — **Pucciniospora 10:317**
b. Pycnidia not maculicole
(1) Pycnidia hairy — **Didymochaete 14:953** **(Vermiculariella 16:940)**
(2) Pycnidia smooth
(a) Conidia with an appendage at each end
x. Conidia with 1 or more bristles — **Darluca 3:410**
y. Conidia with cap-like appendages — **Tiarospora 10:311**
(b) Conidia muticate
x. Basidia 1-spored
(x) Pycnidia on a cobwebby subicle, phyllogenous — **Actinonema 3:408**
(y) Pycnidia without subicle, ramicole — **Diplodina 3:411**
y. Basidia several-many-spored — **Cystotricha 3:413**
2. Pycnidia beaked — **Rhynchophoma 3:414**

II. Pycnidia in a stroma
1. Stroma effuse
a. Stroma consisting of two distinct layers — **Thoracella 16:941**
b. Stroma of a single layer — **Placosphaerella 14:948**
2. Stroma verruciform
a. Stroma superficial — **Pazschkella 16:528**
b. Stroma erumpent — **Cytodiplospora 11:942**

Phaeodidymae

2:329, 10:275, 11:518, 14:927, 16:915, 18:319

Spores dark, 1-septate, ovoid to oblong

I. Pycnidia separate
1. Pycnidia beaked
a. Pycnidia hairy — **Rhynchodiplodia 18:329**
b. Pycnidia smooth — **Pellioniella 18:329**
2. Pycnidia not beaked
a. Pycnidia hairy — **Chaetodiplodia 3:374**
b. Pycnidia smooth
(1) Conidia with a mucous layer, very large — **Macrodiplodia 3:374**
(2) Conidia without a mucous layer
(a) Pycnidia erumpent
x. Conidia 1-ciliate at apex — ***Chaetoconis 10:337** **(Kellermannia in part)**
y. Conidia muticate
(x) Conidia less than 15 μ long — **Microdiplodia 18:323**

(y) Conidia 15 μ or more long **Diplodia 3: 329**
(b) Pycnidia superficial, lignicole **Diplodiella 3: 375**
II. Pycnidia cespitose or in a stroma
1. Pycnidia cespitose **Botryodiplodia 3: 377**
2. Pycnidia in a stroma
a. Pycnidia and subicle enclosed in a hemispheric stroma **Lasiodiplodia 14: 939**
b. Pycnidia without subicle, in a globose stroma **Diplodiopsis 18: 335**

Hyalophragmiae

3: 418, 10: 330, 11: 533, 14: 962, 16: 947, 18: 358

Conidia hyaline, 2-several-septate, oblong to fusoid

I. Pycnidia more or less globose
1. Subicle none
a. Conidia appendaged at apex
(1) Seta 1 **Kellermannia 10: 337**
(2) Setae 3 **Bartalinia 16: 951**
b. Conidia muticate **Stagonospora 3: 445**
2. Subicle present, dark, phyllogenous **Asteromidium 10: 338**
II. Pycnidia elongate to cylindric **Mastomyces 3: 456**

Phaeophragmiae

3: 418, 10: 317, 11: 528, 14: 953, 16: 943, 18: 362

Conidia hyaline, 2-several-septate, oblong to fusoid

I. Pycnidia separate
1. Conidia free from each other
a. Conidia muticate
(1) Pycnidia papillate or subastomous
(a) Pycnidia with flattened base **Macrobatis 11: 532**
(b) Pycnidia globose, without flattened base
x. Pycnidia on a stellate subicle, superficial **Couturea 3: 442**
y. Pycnidia without a subicle, erumpent
(x) Pycnidia hairy **Wojnowicia 14: 960**
(y) Pycnidia smooth **Hendersonia 3: 418**
(2) Pycnidia opening widely, with an operculum
(a) Pycnidia superficial, dark, hairy **Angiopoma 3: 442**
(b) Pycnidia immersed, pale, smooth **Lichenopsis 3: 442**
b. Conidia appendaged
(1) Conidia 1-ciliate at each end **Cryptostictis 3: 443**
(2) Conidia 1-ciliate at base by the basidium **†Uroconis 18: 368 (Urohendersonia)**
(3) Conidia with a round or cup-like appendage at each end **Santiella 16: 947**

2. Conidia united in groups
   a. Conidia united into a fascicle — **Eriosporina 11: 532**
   b. Conidia stellately united — **Prosthemium 3: 444**

II. Pycnidia locules in a stroma — **Hendersonula 3: 445**

Hyalodictyae

16: 955

Conidia hyaline, muriform, ovoid or oblong

I. Pycnidia erumpent, papillate — **†Hyalothyris 16: 955 (Hyalothyridium)**

Phaeodictyae

3: 459, 10: 338, 11: 536, 14: 964, 16: 951, 18: 369

Conidia dark, muriform, oblong to ovoid, rarely radiate or cruciate

I. Pycnidia separate
   1. Conidia not reticulately roughened
      a. Pycnidia corticole, erumpent — **Camarosporium 3: 459**
      b. Pycnidia xylogenous, subsuperficial — **Cytosporium 3: 470**
   2. Conidia reticulately roughened — **Endobotrya 3: 470**

II. Pycnidia locules in a stroma — **Dichomera 3: 471**

Scolecosporae

3: 474, 10: 349, 11: 538, 14: 967, 16: 956, 18: 376

Conidia hyaline or dilutely colored, elongate-fusoid, bacillar or filiform, continuous or septate.

I. Pycnidia separate
   1. Pycnidia membranous or carbonous
      a. Pycnidia superficial
         (1) Pycnidia hairy
            (a) Conidia single on the basidia — **Trichocollonema 18: 404**
            (b) Conidia ternate on the basidia — **Gamospora 10: 402**
         (2) Pycnidia smooth
            (a) Pycnidia beaked — **Cornularia 3: 598**
            (b) Pycnidia not beaked
               x. Conidia usually expelled in a ball — **Collonema 10: 397**
               y. Conidia not expelled in a ball — **Septorella 14: 981**
      b. Pycnidia immersed or erumpent
         (1) Pycnidia hairy, maculicole — **Trichoseptoria 11: 548**
         (2) Pycnidia smooth
            (a) Pycnidia beaked — **Sphaerographium 3: 596**
            (b) Pycnidia not beaked
               x. Pycnidia maculicole, phyllogenous — **Septoria 3: 474**
               y. Pycnidia not maculicole
                  (x) Pycnidia complete at top, usually papillate — **Rhabdospora 3: 578**

(y) Pycnidia more or less incomplete at top
m. Pycnidia gaping, showing a gelatinous spore mass **Gelatinosporium 3: 596**
n. Pycnidia not exposing a gelatinous mass
(m) Pycnidia foliicole **Phleospora 3: 577**
(n) Pycnidia rami-caulicole **Phlyctaena 3: 593**

2. Pycnidia suberose, incomplete, often pale
a. Pycnidia cespitose **Micropera 3: 604**
b. Pycnidia merely gregarious **Micula 3: 604**

II. Pycnidia in a stroma
1. Conidia 4-6 fasciculate on a basidium **Eriospora 3: 600**
2. Conidia separate
a. Conidia setose-penicillate **Dilophospora 3: 600**
b. Conidia muticate
(1) Stroma superficial, setose **†Merodothidis 18: 405 (Septodothideopsis)**
(2) Stroma erumpent or immersed
(a) Pycnidia distinct in the stroma **Cytosporina 3: 601**
(b) Pycnidia locules in the stroma **Septosporiella 10: 403**

Family 71. ZYTHIACEAE
(Nectrioidaceae Sacc. 3: 613)

Pycnidia, and stromata when present, fleshy or waxy, light-colored, white, yellow, red or orange, globose, more rarely cup-shaped or hysterioid; conidia various, mostly hyaline.

Subfamily Zythiae

Pycnidia more or less globose

Hyalosporae

3: 613, 10: 404, 11: 552, 14: 988, 16: 983, 18: 407

I. Pycnidia separate
1. Pycnidia smooth
a. Pycnidia beakless
(1) Conidia in chains **Sirozythia 18: 410**
(2) Conidia not catenulate
(a) Pycnidia on creeping hyphae **Eurotiopsis 10: 406**
(b) Pycnidia without mycelium
x. Conidia spiny or ciliate
(x) Conidia spiny **Roumegueriella 3: 616**
(y) Conidia with several cilia at apex **Ciliospora 18: 410**
y. Conidia smooth
(x) Pycnidia single-walled
m. Pycnidia more or less papillate **Zythia 3: 614**

n. Pycnidia with crateriform ostiole
Libertiella 3:616
o. Pycnidia cup-shaped **Lemalis 3:672**
(y) Pycnidia with outer circumscissile wall
Dichlaena 3:620
b. Pycnidia beaked **Sphaeronaemella 3:617**
2. Pycnidia hairy or spiny
a. Pycnidia densely beset with conoid 1-celled setae
Muricularia 3:218
b. Pycnidia with slender bristles or hairs
(1) Hairs fasciculate **Collocystis 3:616**
(2) Hairs separate
(a) Hairs everywhere but at the apex
Chaetozythia 10:406
(b) Hairs only around the wide ostiole
Pseudozythia 18:409

II. Pycnidia cespitose or in a stroma
1. Pycnidia cespitose, beaked; conidia in chains
Treleasiella 14:989
2. Pycnidia in a stroma
a. Stroma more or less pulvinate; conidia fusoid
Aschersonia 3:619
b. Stroma fruticose branched; conidia bacillar
Hypocreodendrum 14:992

Phaeosporae

10:409, 18:416

Conidia dark, 1-celled, globose to oblong

I. Pycnidia separate, beaked; basidia obsolete **Ampullaria 18:416**
II. Pycnidia in a stroma **Martinella 10:409**

Hyalodidymae

3:621, 10:409, 11:553, 16:986, 18:416

Conidia hyaline or nearly so, 1-septate, ovoid to oblong

I. Basidia simple or nearly so **Pseudodiplodia 3:621**
II. Basidia dendroid branched **Diplozythia 18:417**

Hyalophragmiae

3:621, 10:410, 18:417

Conidia hyaline, several-septate, elliptic to fusoid

I. Conidia oblong-fusoid **Stagonopsis 3:621**
II. Conidia 4-radiate, with septate radii **Chiastospora 3:621**

Scolecosporae

3:622, 10:410, 18:418

Conidia hyaline, bacillar or filiform, continuous or septate

I. Pycnidia separate

1. Pycnidia beakless, almost discoid — **Trichocrea 10: 410**
2. Pycnidia beaked; conidia 1-ciliate — **Mycorhynchus 18: 418**

II. Pycnidia in a stroma; conidia hamate — **Polystigmina 3: 622**

Subfamily Patellinae

Pycnidia cupulate or hysterioid

Hyalosporae

3: 622, 10: 411, 11: 553, 18: 419

Conidia hyaline, 1-celled, globose to oblong

I. Pycnidia separate
1. Pycnidia cup-shaped
a. Pycnidia smooth
(1) Pycnidia carnose; basidia simple, cylindric — **Patellina 3: 622**
(2) Pycnidia submembranous; basidia branched — **Ollula 10: 411**
b. Pycnidia hairy
(1) Conidia in chains — ***Sirocyphis**
(2) Conidia not in chains — **Cyphina 3: 623**
2. Pycnidia flattened, oblong, cleft — **Hysteromyxa 3: 622**

II. Pycnidia in a stroma
1. Stroma suberose, white — **Munkia 10: 408**
2. Stroma corneous, black — **†Pycnostroma 18: 415 (Aschersoniopsis)**

Hyalophragmiae

11: 553

Conidia hyaline, several-septate, oblong

I. Pycnidia immersed, waxy — **Pseudostictis 11: 553**

Scolecosporae

10: 411

Conidia hyaline, filiform, continuous

I. Pycnidia waxy, cup-shaped, on a white subicle — **Trichosperma 10: 411**

Family 72. LEPTOSTROMATACEAE

Pycnidia membranous or carbonous, black, more or less distinctly dimidiate, scutiform, astomous, ostiolate or cleft, erumpent or superficial.

Hyalosporae

3: 625, 10: 412, 11: 553, 14: 992, 16: 986, 18: 419

Conidia hyaline, 1-celled, globose to oblong

I. Pycnidia separate
1. Pycnidia astomous or variously perforate, but not cleft
a. Basidia lacking

(1) Pycnidia on a subicle
(a) Subicle of fumaginous hyphae — **Eriothyrium 10: 418**
(b) Subicle of broad fibers — **†Trichopeltium 10: 418 (Trichopeltulum)**

(2) Pycnidia without subicle
(a) Conidia muticate
x. Pycnidia stellately divided or cleft — **Actinothecium 3: 638**
y. Pycnidia depressed-clypeate, not stellate — **Leptothyrium 3: 626 (Sacidium 3: 649)**
(b) Conidia setulose at each end — **Tracyella 18: 424**
b. Basidia present, cylindric — **Piggotia 3: 636**
2. Pycnidia more or less clearly cleft lengthwise
a. Pycnidia elongate or lanceolate — **Leptostroma 3: 639**
b. Pycnidia subcircular — **Labrella 3: 647**

II. Pycnidia in a stroma
1. Stroma phyllogenous — **Melasmia 3: 637**
2. Stroma growing on animal hairs — **Trichophila 10: 423**

Phaeosporae

3: 653, 10: 423, 14: 996, 18: 429

Conidia dark, 1-celled, globose to oblong

I. Pycnidia separate
1. Pycnidia on a dark subicle, radiately dehiscent — **Asterostomella 10: 423**
2. Pycnidia not on a subicle
a. Conidia conglobate, verrucose — **Discomycopsella 18: 429**
b. Conidia not conglobate, smooth — **Pirostoma 3: 653**

II. Pycnidia in a stroma
1. Stroma membranous
a. Pycnidia distinct, exserted — **Peltostroma 18: 430**
b. Pycnidia merely locules, immersed — **Lasmenia 10: 425**
2. Stroma carbonous; locules many, immersed — **Poropeltis 18: 430**

Hyalodidymae

10: 426, 11: 557, 18: 431

Conidia hyaline, 1-septate, oblong to fusoid

I. Pycnidia separate
1. Pycnidia astomous or variously perforate, not cleft
a. Conidia muticate — **Leptothyrella 10: 426**
b. Conidia cuspidate at apex, falcate — **Kabatia 18: 433**
2. Pycnidia cleft lengthwise, elongate — **Fioriella 18: 432**

II. Pycnidia in a stroma, rimose — **Pseudomelasmia 18: 434**

Phaeodidymae

10: 426, 18: 431

Conidia dark, 1-septate, oblong to fusoid

I. Pycnidia separate
  a. Pycnidia ostiolate — **Diplopeltis 10: 426**
  b. Pycnidia longitudinally cleft — **Holcomyces 18: 431**
II. Pycnidia in a stroma, ostiolate — **Seynesiopsis 18: 431**

Hyalophragmiae

3: 653, 10: 426, 11: 557, 14: 996, 16: 992, 18: 434

Conidia hyaline, 2-several-septate, oblong to fusoid

I. Pycnidia astomous or ostiolate, not cleft
  1. Conidia muticate; pycnidia with creeping hyphae — **Asterothyrium 18: 434**
  2. Conidia ciliate
    a. Conidia fusoid, 1-ciliate at each end — **Discosia 3: 653**
    b. Conidia cruciate, each arm 1-ciliate — **Entomosporium 3: 657**
II. Pycnidia rimose dehiscent — **Cystothyrium 10: 427**

Phaeophragmiae

14: 997, 18: 435

Conidia dark, 1-several-septate, oblong to fusoid

I. Pycnidia separate, rimose-gaping; conidia 1-ciliate each way — **Labridium 14: 997**

II. Pycnidia in a stroma; conidia muticate, finally black — **Phragmopeltis 18: 435**

Scolecosporae

3: 658, 10: 428, 11: 557, 14: 997, 16: 992, 18: 436

Conidia normally hyaline, bacillar or filiform, continuous or septate

I. Pycnidia astomous or opening variously
  1. Pycnidia with a round ostiole; conidia catenate — **Crandallia 14: 998**
  2. Pycnidia astomous or irregularly dehiscent
    a. Pycnidia with radiate-fimbriate margin — **Actinothyrium 3: 658**
    b. Pycnidia not radiate-fimbriate
      (1) Pycnidia of two kinds, small simple and large loculate — **Brunchorstia 10: 431**
      (2) Pycnidia of one kind
        (a) Conidia muticate
          x. Pycnidia corrugate, not hairy; conidia not separating — **Melophia 3: 658**
          y. Pycnidia hairy; conidia separating into joints — **Chaetopeltis 14: 998**
        (b) Conidia ciliate-penicillate at apex — **Giulia 18: 435**

II. Pycnidia elongate, longitudinally cleft
1. Basidia simple, bacillar — **Leptostromella 3: 659**
2. Basidia umbellately branched — ***Petasodes 14: 998**

Family 73. EXCIPULACEAE

Pycnidia membranous or carbonous, black, cup-shaped, patellate or hysterioid, at first more or less spheric, but at length widely open, erumpent or superficial, glabrous or hairy.

Hyalosporae

3: 665, 10: 432, 11: 558, 14: 999, 16: 993, 18: 436

Conidia hyaline, 1-celled, globose to oblong

I. Pycnidia pilose or setose
1. Conidia muticate; pycnidia cupulate — **Amerosporium 3: 680**
2. Conidia ciliate; pycnidia cupulate
a. Conidia several-ciliate at apex — **Polynema 3: 687**
b. Conidia 1-ciliate at each end — **Dinemasporium 3: 683**

II. Pycnidia smooth or nearly so
1. Pycnidia more or less cup-shaped, or disciform
a. Pycnidia composed of conglutinate dark hyphae — **Godroniella 3: 665**
b. Pycnidia with cellular context
(1) Pycnidia cup-like when mature, sometimes obconoid
(a) Basidia simple
x. Pycnidia cup-shaped — **Excipula 3: 665**
y. Pycnidia terete-conic — **Catinula 3: 673**
(b) Basidia branched — **Heteropatella 3: 670**
(2) Pycnidia subglobose-collabent, disciform or verruciform
(a) Pycnidia subglobose, irregularly dehiscent and collabent — **Dothichiza 3: 671**
(b) Pycnidia disciform, often imperfect and covered by epiderm — **Discula 3: 674**
(c) Pycnidia verruciform; conidia mucose-involute — **Agyriellopsis 18: 438**
2. Pycnidia hysterioid or valvately gaping
a. Pycnidia widely hysterioid — **Psilospora 3: 679**
b. Pycnidia valvately gaping
(1) Basidia typically branched — **Sporonema 3: 677**
(2) Basidia simple or none — **Pleococcum 3: 679**

Phaeosporae

10: 439, 18: 441

Conidia dark, 1-celled, globose to oblong

I. Pycnidia patellate, smooth — **Phaeodiscula 10: 439**
II. Pycnidia cupulate, setulose at margin — **†Coniothyris 10: 439 (Coniothyriella)**

Hyalodidymae

3 : 687, 10 : 440, 11 : 560, 14 : 1002, 16 : 993, 18 : 442

Conidia hyaline, 1-septate, oblong to fusoid

I. Pycnidia discoid or patellate
  1. Pycnidia discoid, veiled; basidia simple **Discella 3 : 687**
  2. Pycnidia patellate, subsuperficial; basidia branched **Pseudopatella 3 : 688**

II. Pycnidia hysterioid or irregularly gaping
  1. Pycnidia hysterioid, elongate **Scaphidium 18 : 443**
  2. Pycnidia globose, then irregularly gaping; conidia catenate **Siropatella 18 : 443**

Hyalophragmiae

3 : 688, 10 : 441, 11 : 560, 14 : 1002, 18 : 443

Conidia hyaline, 2-several-septate, oblong to fusoid

I. Pycnidia cupulate or subcupulate
  1. Pycnidia smooth; conidia sometimes 1-ciliate **Excipulina 3 : 688**
  2. Pycnidia setulose
    a. Conidia fusoid, inner cells somewhat colored **Excipularia 3 : 689**
    b. Conidia X-shaped, entirely hyaline **Acanthothecium 10 : 442**

II. Pycnidia discoid and inequal, margin lacerate **Pilidium 3 : 689**

Phaeophragmiae

10 : 443, 18 : 444

Conidia dark, 2-several-septate, oblong to fusoid

I. Pycnidia hysterioid; conidia not catenate **Dichaenopsis 18 : 444**

II. Pycnidia laciniately dehiscent; conidia catenate **Taeniophora 10 : 443**

Scolecosporae

3 : 690, 10 : 443, 14 : 1002, 16 : 993, 18 : 445

Conidia typically hyaline, bacillar or filiform, continuous or septate

I. Pycnidia separate
  1. Conidia separating at the joints **Schizothyrella 3 : 690 (incl. Pseudocenangium 10 : 445)**
  2. Conidia not separating
    a. Pycnidia discoid, margin lacerate; conidia filiform **Protostegia 3 : 690**
    b. Pycnidia mostly cupulate, not lacerate; conidia hamate **Oncospora 3 : 691**

II. Pycnidia in a stroma, pezizoid **Ephelis 3 : 691**

Order 17. MELANCONIALES

Family 74. MELANCONIACEAE

Pycnidia lacking, or reduced to a stratum merely; strata typically bearing basidia of various sorts upon which conidia arise, forming masses or acervuli, which are immersed or erumpent, black, gray or light-colored, waxy, corneous or even submembranous.

Hyalosporae

3: 698, 10: 446, 11: 562, 14: 1004, 16: 995, 18: 447

Conidia hyaline, 1-celled, globose to oblong, rarely dilutely colored

I. Conidia muticate
  1. Masses, or acervuli, not setose
    a. Conidia not catenate
      (1) Masses bright-colored, subtremelloid
        Hainesia 3: 698
      (2) Masses gray to black, rarely bright-colored, waxy or horny
        (a) Masses gray, rarely bright-colored, waxy
          x. Growing on leaves or fruits for the most part
            Gloeosporium 3: 699
          y. Growing usually on twigs of trees or shrubs
            Myxosporium 3: 722
        (b) Masses black, discoid, horny **Melanostroma** 3: 728
    b. Conidia in chains
      (1) Masses oblong, hysterioid, dark, hard
        Hypodermium 3: 728
      (2) Masses discoid, pulvinate or conoid
        (a) Masses bright-colored, softish **Myxosporella** 3: 729
        (b) Masses dark to black
          x. Basidia repeatedly branched
            (x) Masses discoid; basidia dichotomous
              Blennoria 3: 730
            (y) Masses depressed-pulvinate; basidia verticillate
              Agyriella 3: 731
            (z) Masses perithecioid; basidia irregularly branched
              ***Hormyllium** 3: 733
          y. Basidia simple
            (x) Masses perithecioid, black ***Thecostroma** 3: 752
            (y) Masses scutellate, olive or ashen
              Myxormia 3: 734
            (z) Masses truncate, black below, pale above
              Bloxamia 3: 734
  2. Masses setose at margin; basidia short, fasciculate
    Colletotrichum 3: 735

II. Conidia aristate with a branched awn at apex
  Pestalozziella 3: 737

Phaeosporae

3: 749, 10: 471, 11: 571, 14: 1018, 16: 1008, 18: 469

Conidia dark, 1-celled, globose to oblong or fusoid

I. Conidia solitary on the basidia
  1. Conidia globose or oblong — **Melanconium 3:749**
  2. Conidia fusoid, often arcuate
    a. Basidia not swollen at base — **Cryptomela 3: 760**
    b. Basidia swollen at base — **Basiascum 10: 474**

II. Conidia in chains
  1. Conidial chains separate — **Trullula 3: 731**
  2. Conidial chains in a mucose head — **Thyrsidium 3: 761**

Hyalodidymae

3: 766, 10: 475, 11: 572, 14: 1020, 16: 1009, 18: 472

Conidia hyaline or nearly so, 1-septate, ovoid to fusoid

I. Conidia muticate
  1. Saprogenous, on stems and fruits — **Septomyxa 3: 766**
  2. Biogenous, typically on leaves — **Marsonia 3: 767**

II. Conidia 3-4-ciliate at each end — **Gloeosporiella 11: 575**

Phaeodidymae

3: 763, 10: 475, 11: 572, 14: 1029, 16: 1009

Conidia dark, 1-septate, ovoid to fusoid

I. Conidia solitary
  1. Conidia muticate — **Didymosporium 3: 763**
  2. Conidia 1-3-ciliate at apex — **Neobarclaya 14: 46, 10: 475**

II. Conidia catenate, connected by hyaline isthmi — **Bullaria 3: 766**

Hyalophragmiae

3: 801, 10: 480, 11: 575, 14: 1022, 16: 1012, 18: 474

Conidia hyaline, 2-several-septate, oblong to fusoid or clavate

I. Conidia separate
  1. Conidia muticate
    a. Conidia oblong or fusoid, masses usually pale — **Septogloeum 3: 801**
    b. Conidia long-clavate; masses dark — **Rhopalidium 3: 801**
  2. Conidia 1-several-ciliate, usually at the apex — **Pestalozzina 11: 580**

II. Conidia united at base into a radiate or stellate group — **Prosthemiella 3: 803 (incl. Psammina 10: 498)**

Phaeophragmiae

3: 771, 10: 480, 11: 575, 14: 1022, 16: 1012, 18: 475

Conidia dark, at least in part, 2-several-septate, oblong to cylindric

I. Conidia muticate
  1. Conidia separate, not in chains
    a. Conidia oblong or elongate
      (1) Conidia curved-attenuate, i. e., hyaline-rostrate
        (a) Conidia dark, except the hyaline beak
          Scolecosporium 3: 782
        (b) Conidia with 2 inner cells opaque, others clear
          Toxosporium 14: 1030
      (2) Conidia oblong, not rostrate
        (a) Conidia cirrhose protruded and atro-inquinant
          Stilbospora 3: 771
        (b) Conidia not protruded and atro-inquinant
          Coryneum 3: 774
    b. Conidia stellate-lobed, lobes several-septate
      Asterosporium 3: 782
  2. Conidia in chains
    a. Conidia connected by filiform isthmi — **Siridium 3: 782**
    b. Conidia chains without isthmi — **Siridiella 11: 580 (incl. Septotrullula 18: 487)**

II. Conidia ciliate
  1. Conidia ciliate at apex alone
    a. Conidia 1-ciliate — **Monochaetia 18: 485**
    b. Conidia several-ciliate — **Pestalozzia 3: 784**
  2. Conidia 1-ciliate at each end — **Hyaloceras 3: 783 (incl. Amphichaeta 18: 486)**

Phaeodictyae

3: 803, 10: 508, 11: 565, 14: 1035, 16: 1022, 18: 488

Conidia dark, muriform, ovoid or oblong

I. Conidia muticate
  1. Conidia not catenate — **Steganosporium 3: 803**
  2. Conidia catenate by cylindric isthmi — **Phragmotrichum 3: 806**

II. Conidia pluriciliate at apex; end cells subhyaline
  Morinia 10: 508

Scolecosporae

3: 737, 10: 498, 11: 582, 14: 1031, 16: 1018, 18: 488

Conidia cylindric, filiform or suballantoid, hyaline, mostly continuous

I. Conidia allantoid — **Naemospora 3: 746**

II. Conidia bacillar to filiform
  1. Conidia fasciculate at the apex of the basidia
    Trichodytes 14: 1031
  2. Conidia solitary
    a. Masses white or pale, foliicole; conidia filiform
      Cylindrosporium 3: 737, 18: 491
    b. Masses gray or dark, usually ramicole; conidia falcate
      Cryptosporium 3: 740

c. Masses bright-colored, saprophytic; conidia falcate
Libertella 3: 744

Staurosporae
18: 493
Conidia star-shaped, hyaline

I. Masses phyllogenous, bright-colored; conidia 4-radiate
Asteroconium 18: 493

Order 18. MONILIALES (Hyphomyceteae Sacc. 4: 1)

Hyphae more or less developed, cobwebby or more or less compacted, but rarely arising from a definite stratum or stroma, never enclosed in a pycnidium, typically superficial.

Family 75. MONILIACEAE (Mucedineae 4: 2)

Hyphae hyaline or bright-colored, more or less fragile, lax, not cohering in fascicles; conidia concolorous, i. e., hyaline or bright-colored.

Hyalosporae
4: 2, 10: 510, 11: 586, 14: 1037, 16: 1023, 18: 495
Conidia hyaline, or bright-colored, 1-celled, globose, ovoid to short-cylindric

Micronemeae
Hyphae very short or obsolete, or little different from the conidia

I. Conidia not in chains
1. Conidia solitary, at least not capitate
a. Saprogenous
(1) Hyphae none
(a) Conidia separate — **Chromosporium 4: 6**
(b) Conidia joined in twos or threes, not catenate
Selenotila 11: 587
(2) Hyphae very short, branched, septate
Coccospora 4: 9
b. Entomogenous — **Massospora 4: 10**
(incl. Sorosporella 10: 512)
c. Phytogenous
(1) In fungi
(a) Conidia ovoid, smooth — **Myceliophthora 11: 587**
(b) Conidia globose, verrucose — **Coccosporella 11: 586**
(2) In leaves
(a) Hyphae paliform, stipate, very short
Microstroma 4: 9
(b) Hyphae vermiform-tortuose; biophilous
Ophiocladium 11: 587
2. Conidia capitate; hyphae lacking; biophilous
Glomerularia 4: 10

II. Conidia in chains
1. Saprophilous
a. Conidial chains arising in the hyphae
(1) Conidial branches simple, arcuate **Malbranchea 4: 11**
(2) Conidial branches dichotomous, not arcuate
Glycophila 4: 11
b. Chains arising at the apex of the hyphae
(1) Conidia globose, elliptic or fusiform
(a) Hyphae short, simple or nearly so
x. Conidia globose or suboblong **Oospora 4: 11**
y. Conidia fusoid, acute each way **Fusidium 4: 25**
(b) Hyphae longer, distinctly branched
Monilia 4: 31
(incl. Halobyssus 11: 588)
(2) Conidia bacillar or cuboid
(a) Hyphae nearly obsolete; conidia bacillar
Cylindrium 4: 36
(b) Hyphae distinctly present
x. Conidia bacillar **Polyscytalum 4: 38**
y. Conidia cuboid **Geotrichum 4: 39**
2. Biophilous
a. Growing within leaf tissue **Oidiopsis 18: 507**
b. Growing on leaves or other parts
(1) Conidia ellipsoid, without isthmi **Oidium 4: 40**
(2) Conidia globose, connected by isthmi
Paepalopsis 4: 47

Macronemeae

Hyphae elongate and distinct from the conidia

I. Conidia in heads **Cephalosporiae**
1. Conidia not catenulate
a. Conidia globose or oblong
(1) Conidia sessile on the head or nearly so
(a) Fertile hyphae inflated at apex
x. Apical vesicle globose-inflated
(x) Conidia sessile, not mucus-covered
m. Vesicle verrucose or muriculate
(m) Fertile hyphae simple **Oedocephalum 4: 47**
(n) Fertile hyphae sigmoid, much branched
Sigmoideomyces 10: 523
n. Vesicle hexagonally areolate
Rhopalomyces 4: 50
(y) Conidia on stalks, mucus-covered
Gliocephalus 16: 1031
y. Vesicle clavate or lobed
(x) Vesicle disk-shaped, stellate-lobed
Coronella 4: 51

(y) Vesicle clavate or subpalmate **Buseella 18: 509**

(b) Fertile hyphae not inflated at apex

x. Conidial head covered with mucus

(x) Fertile hyphae simple **Hyalopus 4: 51**

(y) Fertile hyphae with verticillate branches at tip **Gliobotrys 18: 510**

y. Head without mucus

(x) Fertile hyphae with one head

m. Conidia not separating **Papulospora 4: 58**

n. Conidia separating

(m) Head elongate **Doratomyces 4: 53**

(n) Head globose or slightly clavate

r. Sterile hyphae scanty **Haplotrichum 4: 53**

s. Sterile hyphae long, decumbent **Cephalosporium 4: 56**

(y) Fertile hyphae with 2-several heads

m. Conidia upright on verticillate basidia **Coemansiella 4: 55**

n. Conidia in more definite heads

(m) Fertile hyphae simple, with 3-several heads of conidia on spines **Botryosporium 4: 54**

(n) Fertile hyphae several times 2-3-fid **Trichoderma 4: 59**

(2) Conidia borne on little stalks or sterigmata

(a) Fertile hyphae simple **Corethropsis 4: 62**

(b) Fertile hyphae verticillate branched **Spicularia 4: 63**

b. Conidia short cylindric

(1) Conidia without mucus **Cylindrocephalum 4: 63**

(2) Conidia covered with mucus **Acontium 18: 512**

2. Conidia catenulate **Aspergillae**

a. Fertile hyphae inflated at apex

(1) Fertile hyphae simple or nearly so

(a) Sterigmata of apical vesicle none or simple

x. Conidia terminal on sterigmata **Aspergillus 4: 64**

y. Conidia lateral and terminal on sterigmata **Dimargaris 4: 76**

(b) Sterigmata verticillate branched **Sterigmatocystis 4: 71 (incl. Alliospora 18: 516)**

(2) Fertile hyphae dichotomous, branches curved **Dispira 4: 77**

b. Fertile hyphae little or not at all inflated

(1) Fertile hyphae verticillately branched at tip

(a) Tips equally verticillate; conidia doliiform **Amblyosporium 4: 77**

(b) Tips unequally verticillate; conidia globoid

x. Conidia without mucus **Penicillium 4: 78**
(incl. Citromyces 11: 593)
y. Conidia enclosed in mucus **Gliocladium 4: 84**
(2) Fertile hyphae not verticillate at tip
Briarea 4: 85

II. Conidia borne irregularly on simple or branched but not inflated or verticillate hyphae **Botrytidae**
1. Conidia smooth or scarcely roughened
a. Saprogenous
(1) Conidia typically pleurogenous
(a) Fertile hyphae 2-several-furcate **Haplaria 4: 85**
(b) Fertile hyphae simple or nearly so
x. Conidia globose or ellipsoid **Acladium 4: 87**
y. Conidia short cylindric **Cylindrotrichum 4: 88**
(2) Conidia acrogenous or pleurogenous
(a) Some intermediate joints of the hyphae swollen and denticulate conidia-bearing **Physospora 4: 88**
(b) Intermediate joints equal
x. Conidia-bearing hyphae of two sorts, the upright alone denticulate
Blastomyces 10: 529
y. Conidia-bearing hyphae of one sort
(x) Fertile hyphae simple or nearly so
m. Hyphae not denticulate; conidia solitary
(m) Hyphae forming a crust-like stratum
Hyphoderma 4: 89
(n) Hyphae loose, cobwebby **Acremonium 4: 89**
(incl. Thermomyces 18: 524)
n. Hyphae denticulate; conidia usually grouped
(m) Hyphae everywhere denticulate, bearing conidia only at tip
Xenopus 18: 524
(n) Hyphae denticulate or proliferous at tip alone
r. Apex denticulate, many-spored
Rhinotrichum 4: 91
s. Apex inflated-ampulliform, 1-spored
Olpitrichum 11: 594
(y) Fertile hyphae branched
m. Conidia globose to ovoid
(m) Both sterile and fertile hyphae procumbent
r. Sterile hyphae intracellular
Hartigiella 16: 1031
s. Sterile hyphae superficial
(r) Fertile hyphae vaguely branched
h. Conidia acro-pleurogenous
Sporotrichum 4: 96
(incl. Leiosepium 16: 1036)
i. Conidia on a one-sided sympodium
Monopodium 10: 544

(s) Fertile hyphae dichotomous; conidia acrogenous on spine-like branches **Langloisula 10: 535**

(n) Fertile hyphae erect or ascending

r. Conidia solitary acrogenous

(r) Fertile hyphae spiny-branched at apex **Plectothrix 18: 525**

(s) Fertile hyphae not spiny-branched **Monosporium 4: 113 (incl. Allescheriella 14: 1075)**

s. Conidia loosely grouped about the apex

(r) Conidia not involved in mucus

h. Conidia on inflated muriculate apices **Phymatotrichum 16: 1033**

i. Apices not muriculate or inflated **Botrytis 4: 116**

(s) Conidia involved in mucus **Tolypomyria 4: 137**

n. Conidia fusoid to cylindric

(m) Fertile hyphae mostly procumbent **Sporotrichella 10: 534**

(n) Fertile hyphae erect or ascending

r. Conidia fusoid on the upper side of curved branches **Martensella 4: 138**

s. Conidia acrogenous

(r) Conidia-bearing branches terete **Cylindrophora 4: 138**

(s) Conidia-bearing branches ellipsoid **Cylindrodendrum 4: 139**

b. Biogenous

(1) Conidia smooth, solitary, more rarely subcatenate **Ovularia 4: 139 (incl. Ovulariopsis 16: 1036)**

(2) Conidia densely spiny **Ramulaspera 18: 532**

2. Conidia muricate or tuberculose-stellate

a. Conidia globose

(1) Conidia merely muricate

(a) Hyphae loose, cobwebby **Sepedonium 4: 146**

(b) Hyphae woven into a subgelatinous pellicle **Pellicularia 4: 149**

(2) Conidia setose at apex as well as muricate **Chaetoconidium 10: 544**

b. Conidia tuberculose-stellate **Asterophora 4: 148**

III. Conidia acrogenous on verticillate branches **Verticilliae**

1. Conidia solitary or loosely grouped, not in chains

a. Conidia-bearing branches very short, ampulliform
Pachybasium 4: 149

b. Conidia-bearing branches terete or longer

(1) Conidia globose to ovoid

(a) Tips of branches clavate, in twos rectangularly
Verticilliopsis 11: 600

(b) Tips of branches normal

x. Conidia conglutinate into a stratum
Corymbomyces 18: 533

y. Conidia not conglutinate

(x) Conidia separating readily from the tips
Verticillium 4: 150

(y) Conidia separating with difficulty from the tips
Cladobotryum 4: 160

(2) Conidia cylindric or elongate

(a) Conidia-bearing branches or sporophores 1-spored

x. Sporophores straight **Acrocylindrium 4: 161**

y. Sporophores uncinate **Uncigera 4: 162**

(b) Sporophores several-spored

x. Sporophore inflated verrucose at apex
Calcarisporium 4: 162

y. Sporophore incurved, with seriate conidia below
Coemansia 4: 162

2. Conidia capitate or densely spicate, not in chains

a. Conidia sessile

(1) Conidia capitate, involved in mucus

(a) Fertile hyphae smooth **Acrostalagmus 4: 163**
(incl. Harziella 16: 1037)

(b) Fertile hyphae asperate **Gloeosphaera 18: 535**

(2) Conidia densely spirally spicate at apices
Clonostachys 4: 165

b. Conidia on small stalks **Sceptromyces 4: 166**

3. Conidia in chains **Spicaria 4: 166**
(incl. Nomuraea 18: 533)

IV. Joints of the hyphae inflated here and there and bearing pleurogenous conidia
Gonatobotrytae

1. Joints smooth

a. Conidia catenulate **Gonatorrhodum 4: 169**

b. Conidia solitary **Nematogonium 4: 170**

2. Joints muricate or punctate

a. Conidia solitary **Gonatobotrys 4: 168**

b. Conidia catenulate, forming a spheric head
Gonatorrhodiella 10: 548

Hyalodidymae

4: 176, 10: 548, 11: 600, 14: 1057, 16: 1038, 18: 539

Conidia hyaline or bright-colored, 1-septate, ovoid oblong or short fusoid

I. Conidia not in chains
  1. Saprophilus
    a. Conidia smooth
      (1) Fertile hyphae simple or nearly so
        (a) Hyphae inflated at apex or joints
          x. Hyphae denticulate inflated at apex; conidia fusoid **Diplorhinotrichum 18: 540**
          y. Hyphae inflated at both apex and joints **Arthrobotrys 4: 181**
        (b) Hyphae not inflated
          x. Conidia spirally pleurogenous **Haplariopsis 18: 539**
          y. Conidia solitary acrogenous or capitate
            (x) Conidia capitate at apex **Cephalothecium 4: 180**
            (y) Conidia solitary at apex
              m. Fertile hyphae long **Trichothecium 4: 178**
              n. Fertile hyphae very short **Didymopsis 4: 182**
      (2) Fertile hyphae branched
        (a) Fertile hyphae irregularly branched **Diplosporium 4: 178**
        (b) Fertile hyphae verticillate or dichotomous
          x. Fertile hyphae verticillate **Diplocladium 4: 176**
          y. Fertile hyphae dichotomous; sterigmata subternate **Cylindrocladium 11: 600**
    b. Conidia echinulate; conidial cells unequal **Mycogone 4: 183**
  2. Biophilous
    a. Conidia obliquely beaked **Rhynchosporium 18: 540**
    b. Conidia not beaked
      (1) Hyphae mostly simple, not spirally twisted **Didymaria 4: 184**
      (2) Hyphae simple, spirally twisted **Bostrichonema 4: 185**

II. Conidia catenulate
  1. Fertile hyphae simple, short **Hormiactis 4: 186**
  2. Fertile hyphae verticillately branched **Didymocladium 4: 186**

Hyalophragmiae

4: 188, 10: 551, 11: 601, 14: 1059, 16: 1041, 18: 544

Conidia hyaline or bright-colored, 2-several-septate, oblong, fusoid or elongate

Micronemeae

Fertile hyphae very short and little different from the conidia

I. Conidia in chains, cylindric or oblong **Septocylindrium 4: 223**

II. Conidia not in chains
  1. Sporophore 3-celled, upper cell much inflated **Milowia 4: 222**
  2. Sporophore not inflated, sometimes obsolete

a. Conidia ciliate at apex and upper septum
Mastigosporium 4: 220

b. Conidia not ciliate

(1) Hyphae lacking; conidia not aggregate
Fusoma 4: 220

(2) Hyphae distinct; conidia aggregate

(a) Conidia in mucose glomerules **Rotaea 4: 222**

(b) Conidia in fascicles, not mucose **Paraspora 4: 222**

Macronemeae

Fertile hyphae manifest and distinct from the conidia

I. Saprophilous

1. Conidia solitary or at least not capitate

a. Fertile hyphae simple

(1) Sterile hyphae lacking **Dactylella 4: 193**

(2) Sterile hyphae abundant **Monacrosporium 4: 193**

b. Fertile hyphae branched

(1) Hyphae verticillately branched **Dactylium 4: 188**

(2) Hyphae irregularly branched **Blastotrichum 4: 191**

2. Conidia capitate

a. Fertile hyphae vesiculose at tip; fimicole
Cephaliophora 18: 544

b. Fertile hyphae not swollen

(1) Hyphae simple; sterile lacking **Dactylaria 4: 194**

(2) Hyphae verticillate; sterile hyphae present
Mucrosporium 4: 190

II. Biophilous

1. Conidia mucose-conglobate, allantoid, often continuous
Allantospora 14: 1043

2. Conidia not mucose-conglobate

a. Conidia ciliate at apex ***Trichoconis 18: 545**

b. Conidia not ciliate

(1) Conidia ovate-cylindric or elongate, often catenate
Ramularia 4: 196

(2) Conidia obclavate-piriform **Piricularia 4: 217**

(3) Conidia long vermiform **Cercosporella 4: 218**

Hyalodictyae

11: 608, 18: 561

Conidia hyaline, or bright-colored, muriform, ovoid to globose or cubic

I. Hyphae much branched; conidia elliptic or globose, cells uniform
Stemphyliopsis 18: 561

II. Hyphae little branched; conidia six-lobed and sarciniform, central cell larger, colored, lobes hyaline **Synthetospora 11: 608**

Staurosporae

4: 230, 10: 567, 11: 608, 14: 1067, 16: 1049, 18: 559

Conidia hyaline or bright-colored, stellate, radiate or forked, septate or continuous

I. Hyphae lacking; conidia trident-shaped **Tridentaria 4: 231**

II. Hyphae present

1. Conidia globose to cylindric, permanently attached to 2-3 divergent sterigmata **Tetracladium 14: 1067**

2. Conidia themselves stellate or radiate

a. Conidia bilobate-forked; lobes parallel, contiguous **Pedilospora 18: 559**

b. Conidia narrowly digitate **Prismaria 4: 230**

c. Conidia 3-4-radiate

(1) Conidia ciliate at the apex **Titaea 4: 231**

(2) Conidia muticate

(a) Conidia 3-radiate **Trinacrium 4: 231**

(b) Conidia 4-radiate

x. Fertile hyphae very short, simple **Tetracium 18: 560**

y. Fertile hyphae branched **Lemonniera 14: 1067**

Helicosporae

4: 233, 10: 568, 11: 608

Conidia hyaline or bright-colored, spirally curved, cylindric

I. Hyphae very short; conidia spiral **Helicomyces 4: 233**

II. Hyphae various; conidia spirally twisted into a conic or ovate tube **Helicoum 11: 609**

Family 76. DEMATIACEAE

Hyphae dark or black, cobwebby, loose, usually rigid, not cohering in definite fascicles; conidia typically dark and concolorous, but sometimes the hyphae are dark and conidia clear, or the conidia dark and the hyphae clear. This family is parallel with the Moniliaceae and certain intermediate forms must be sought in both places.

Amerosporae

2: 235, 10: 569, 11: 610, 14: 1068, 16: 1059, 18: 563

Conidia dark, or sometimes hyaline but the hyphae then dark, 1-celled, globose to oblong.

Micronemeae

Hyphae very short or scarcely different from the conidia.

I. Conidia not in chains

1. Conidia globose to elliptic

a. Sterile hyphae nearly obsolete **Coniosporium 4: 238**

b. Sterile hyphae elongate **Cordella 10: 586**

2. Conidia elongate, usually fusoid **Fusella 4: 246**

II. Conidia in chains

1. Conidia of two sorts, larger catenate, smaller glomerate **Heterobotrys 4: 267**

2. Conidia all alike

a. Hyphae dark
(1) Chains breaking up readily
(a) Conidia globose or ovoid **Torula 4: 247**
(b) Conidia clavate **Gongromeriza 4: 263**
(2) Chains breaking up with difficulty
(a) Chains curved **Gyroceras 4: 266**
(b) Chains straight or nearly so **Hormiscium 4: 263**
b. Hyphae hyaline **Torulina 18: 566**

III. Conidia in heads or racemes; conidia usually piriform **Echinobotryum 4: 268**

Macronemeae

Hyphae manifest and distinct from the conidia

I. Conidia dark, rarely subhyaline
1. Conidia not in chains
a. Conidia capitate
(1) Fertile hyphae simple, but often with short apical branches
(a) Hyphae with apical branches or basidia
x. Biophilous **Periconiella 4: 275**
y. Saprophilous
(x) Apex with heterogeneous basidia
m. Apex swollen; basidia 3-4 **Haplobasidium 10: 578**
n. Apex not swollen; basidia many **Stachybotrys 4: 269**
(y) Apex short-branched, rarely simple
m. Apex short-branched or simple
(m) Apex not swollen **Periconia 4: 270**
(n) Apex swollen **Stachybotryella 18: 570**
n. Apex capitate-branched; branches 2-3-furcate and spine-bearing **Cephalotrichum 4: 275**
(b) Hyphae without apical branches or basidia
x. Conidia globose **Trichobotrys 18: 571**
y. Conidia boat-shaped curved; hyphae dark-ringed **Camptoum 4: 276**
z. Conidia fusoid, sometimes subhyaline **Acrotheca 4: 276**
(2) Fertile hyphae branched below the apex
(a) Hyphae forked below apex; conidia oblong **Synsporium 4: 278**
(b) Hyphae repeatedly dichotomous; conidia globose or elliptic **Dicyma 18: 570**
b. Conidia verticillate-pleurogenous
(1) Hyphae dark nodose-inflated; conidia ovoid **Gonatobotryum 4: 278**
(2) Hyphae hyaline, dark-ringed
(a) Conidia globose-angulose **Goniosporium 4: 280**
(b) Conidia fusoid **Arthrinium 4: 279**

c. Conidia inserted irregularly
(1) Hyphae loose, typically saprogenous
(a) Hyphae vesiculose-inflated here and there
x. Conidia-bearing vesicles pleurogenous
Oedemium 4: 297
y. Conidia-bearing vesicles acrogenous
Cystophora 4: 298
(b) Hyphae not vesiculose-inflated
x. Fertile hyphae erect
(x) Branches circinate at apex; conidia mesogenous, muricate
Acrospira 4: 282, 14: 1056
(y) Branches spirally twisted; conidia exogenous
Streptothrix 4: 282
(z) Hyphae simple or with straight branches
Virgaria 4: 280
y. All hyphae more or less creeping
(x) Branches curved or lash-like
Campsotrichum 4: 295
(y) Branches not curved
m. Conidia spiny, rarely smooth
Zygodesmus 4: 283
n. Conidia smooth
(m) Conidia sessile **Trichosporium 4: 288**
(n) Conidia on stalks or basidia
r. Conidia on tooth-like sterigmata
Rhinocladium 4: 295
s. Conidia on jar-like basidia
Basisporium 18: 533
(2) Hyphae forming a crust, biogenous
Glenospora 4: 298

d. Conidia solitary, acrogenous
(1) Fertile hyphae simple
(a) Sterile hyphae lacking
x. Fertile hyphae short and fascicled at base
Hadrotrichum 4: 301
y. Fertile hyphae longer, separate **Monotospora 4: 299**
(b) Sterile hyphae present
x. Conidia with a loose hyaline membrane
†Phaeoconis 18: 571
(Nigrospora)
y. Conidia without a membrane
(x) Conidia with a large shining gutta
Sporoglena 14: 1074
(y) Conidia without a shining gutta
Acremoniella 4: 302
(incl. Cordella 10: 586)

(2) Hyphae branched; conidium at first enclosed in a vesicle from which it escapes at the apex **Conioscypha 18: 572**

2. Conidia in chains
   a. Sterile hyphae all creeping or obsolete
      (1) Conidia of two kinds; larger catenulate fuscous, smaller internal catenulate cylindric hyaline **Thielaviopsis 11: 612**
      (2) Conidia all alike
         (a) Conidia produced in the hyphae **Sporendonema 10: 515**
         (b) Conidia produced on the hyphae
            x. Fertile hyphae spirally twisted, forming a head of conidia **Helicocephalum 10: 512**
            y. Fertile hyphae not twisted
               (x) Fertile hyphae simple, not branched at tip
                  m. Chains of conidia lateral **Dematium 4: 308**
                  n. Chains terminal
                     (m) Conidia without isthmi **Catenularia 4: 303**
                     (n) Conidia connected by cylindric isthmi **Prophytroma 4: 309**
               (y) Fertile hyphae branched
                  m. Hyphae dendroid **Hormodendrum 4: 310**
                  n. Hyphae capitate branched at tip **Haplographium 4: 304**
   b. Some sterile hyphae erect and mixed with the fertile **Hormiactella 4: 311**

II. Conidia hyaline or subhyaline
1. Conidia acrogenous on short heteromorphic basidia at the lower part or at the base of erect hyphae
   a. Conidia capitate glomerate
      (1) Sterile hyphae simple and circinate at apex **Bolacotricha 4: 316**
      (2) Sterile hyphae much branched below **Myxotrichum 4: 317**
   b. Conidia not capitate
      (1) Conidia solitary
         (a) Erumpent; conidia fusoid, usually setose **Ellisiella 4: 315**
         (b) Superficial
            x. Sterile hyphae simple
               (x) Conidia globose **Botryotrichum 4: 313**
               (y) Conidia bacillar
                  m. Sterile hyphae tortuous **Sarcopodium 4: 312**
                  n. Sterile hyphae circinate at apex **Helicotrichum 4: 313**
            y. Sterile hyphae branched
               (x) Hyphae irregularly branched; basidia verticillate **Costantinella 16: 1054**
               (y) Hyphae repeatedly dichotomous

m. Branches continuous; basidia terete, basal
Circinotrichum 4: 314

n. Branches septate; basidia ampulliform, above base
Ceratocladium 4: 315

(2) Conidia loosely catenate; conidia basilar, ovoid
Stirochaete 4: 316

2. Conidia on hyphae of the same kind

a. Conidia solitary, neither catenate or capitate

(1) Hyphae erect, simple

(a) Hyphae with a single lateral basidium near base
Zygosporium 4: 328

(b) Hyphae with pleurogenous conidia
Chloridium 4: 320

(2) Hyphae branched

(a) Hyphae erect, smooth

x. Hyphae verticillate branched **Verticicladium 4: 327**

y. Hyphae more or less irregularly branched

(x) Conidia ovoid **Mesobotrys 4: 324**

(y) Conidia cylindric **Chaetopsis 4: 324**

(z) Conidia falcate, sometimes ciliate
Menispora 4: 325

(b) Hyphae somewhat decumbent, more or less spiny

x. Hyphae nodose-spiny here and there
Gonytrichum 4: 329

y. Hyphae spiny but not swollen **Cladorrhinum 4: 330**

b. Conidia capitate

(1) Hyphae simple, with basidia only at the tip

(a) Conidia globose

x. Basidia verticillate **Fuckelina 4: 330**

y. Basidia irregular **Pimina 16: 1054**

(b) Conidia ovoid, mucose **Scopularia 4: 330**

(2) Hyphae more or less verticillate branched
Stachylidium 4: 331

c. Conidia catenate, arising within the hyphae

(1) Conidia in simple chains **Chalara 4: 333**

(2) Conidia conglutinate into a long curl
Cirromyces 18: 627

Didymosporae

4: 341, 10: 595, 11: 616, 14: 1077, 16: 1056, 18: 575

Conidia 1-celled, dark, more rarely hyaline, ovoid to oblong

Micronemeae

Hyphae very short or scarcely different from the conidia.

I. Conidia not in chains

1. Hyphae lacking **Dicoccum 4: 342**

2. Hyphae present, circinate **Cycloconium 4: 343**

II. Conidia in chains **Bispora 4: 343**

Macronemeae

Hyphae distinctly different from the conidia

I. Conidia smooth, muticate
1. Conidia not capitate
a. Conidia more or less catenulate at first
(1) Hyphae and conidia biform, the latter 1-celled dark or continuous hyaline **Epochnium 4: 375**
(2) Hyphae and conidia uniform
(a) Hyphae here and there inflated **Cladotrichum 4: 370**
(b) Hyphae not inflated
x. Hyphae erect; conidia long-catenate **Diplococcium 4: 374**
y. Hyphae somewhat decumbent; conidia short-catenate or finally solitary **Cladosporium 4: 350**
b. Conidia not catenate
(1) Hyphae beautifully flexuose-torulose **Polythrincium 4: 350**
(2) Hyphae not torulose or flexuose
(a) Hyphae inflated at tip, branched **Pseudobeltrania 18: 578**
(b) Hyphae not inflated, usually short and little branched
x. Conidia merely acrogenous **Fusicladium 4: 345** **(incl. Passalora 4: 344)**
y. Conidia acro-pleurogenous **Scolecotrichum 4: 347**
2. Conidia capitate **Cordana 4: 376**

II. Conidia muriculate or ciliate
1. Conidia muriculate **Trichocladium 4: 376**
2. Conidia ciliate at apex; fertile and sterile hyphae intermixed **Beltrania 4: 377**

Phragmosporae

4: 380, 10: 606, 11: 621, 14: 1082, 16: 1060, 18: 581

Conidia 2-several-septate, dark, rarely hyaline, ovoid to cylindric or vermicular

Micronemeae

Fertile hyphae very short or little different from the conidia

I. Conidia not in chains
1. Conidia muticate
a. Conidia united at base, fasciculate, cylindric **Cryptocoryneum 4: 395**
b. Conidia separate
(1) Conidia ovoid to cylindric
(a) Saprogenous **Clasterosporium 4: 382**
(b) Phyllogenous **Stigmina 4: 394**
(2) Conidia fusoid-falcate **Fusariella 4: 395**
2. Conidia cuspidate or setose

a. Hyphae dichotomous and broadened at apex — **Urosporium 4: 397**

b. Hyphae not dichotomous or broadened — **Ceratophorum 4: 395**

II. Conidia in chains
1. Conidia not connected by isthmi — **Septonema 4: 397**
2. Conidia connected by isthmi — **Polydesmus 4: 401**

Macronemeae

Fertile hyphae distinctly different from the conidia

I. Conidia solitary or nearly so, acrogenous for the most part
1. Conidia muticate
a. Conidia echinulate — **Heterosporium 4: 480**
b. Conidia smooth
(1) Biophilous
(a) Hyphae creeping, radiate — **Ophiotrichum 10: 617**
(b) Hyphae ascending or erect
x. Conidia ovoid to oblong — **Napicladium 4: 481** (incl. Cercosporidium 18: 594)
y. Conidia filiform or vermicular — **Cercospora 4: 431**
(2) Saprophilous
(a) Hyphae rigid; conidia ovoid to elongate
x. Conidia ovoid — **Brachysporium 4: 423**
y. Conidia elongate — **Helminthosporium 4: 402**
(b) Hyphae flexuous, pannose — **Drepanospora 4: 430**
2. Conidia 1-3-ciliate at apex — **Camposporium 4: 482**

II. Conidia verticillate or capitate
1. Hyphae dark
a. Conidia acrogenous, forming a head
(1) Hyphae simple — **Acrothecium 4: 483**
(2) Hyphae branched at the apex — **Atractina 18: 584**
b. Conidia pleurogenous, somewhat verticillate
(1) Hyphae rostrate and naked at apex — **Rhynchomyces 18: 584**
(2) Hyphae not rostrate at apex — **Spondylocladium 4: 482**
2. Hyphae hyaline or bright-colored, apex denticulate — **Neomichelia 18: 593**

III. Conidia catenate as a rule
1. Conidia arising from the interior of the hyphae — **Sporoschisma 4: 486**
2. Conidia arising from the apex, sometimes solitary — **Dendryphium 4: 487**

Dictyosporae

4: 496, 10: 665, 11: 632, 14: 1090, 16: 1075, 18: 612

Conidia dark, rarely hyaline, muriform, globose to oblong

Micronemeae

Hyphae very short or scarcely different from the conidia

I. Conidia not in chains
1. Conidia muticate
a. Conidia irregularly muriform or sarciniform
(1) Conidia with a conic point at each side
Oncopodium 18: 616
(2) Conidia muticate
(a) Conidia globose to oblong
x. Conidia ovoid to oblong, loose **Sporodesmium 4: 497**
y. Conidia globose to ovoid, aggregated
Stigmella 4: 507
(b) Conidia sarciniform, often coalescent
Coniothecium 4: 508
b. Conidia as if composed of parallel chains of cells
(1) Chains of conidia never separating
Dictyosporium 4: 513
(2) Chains of conidia separating **Spira 4: 514**
2. Conidia corniculate at apex **Tetraploa 4: 516**
II. Conidia in chains, often asperate or with isthmi
Sirodesmium 4: 516

Macronemeae

Hyphae distinctly different from the conidia

I. Conidia of the same form
1. Conidia not in chains or capitate
a. Conidia bearing little conidia on their surface
Xenosporium 18: 612
b. Conidia normal
(1) Hyphae alike
(a) Conidia cruciate-divided, verrucose
†Tetracoccosporis 18: 617
(Tetracoccosporium)
(b) Conidia muriform, typically smooth
x. Hyphae decumbent **Stemphylium 4: 519**
y. Hyphae erect or ascending
(x) Conidia globose, pleurogenous
m. Conidia around the apex of the hyphae
Coccosporium 4: 542
n. Conidia conglobate around the base
Trichaegum 4: 542
(y) Conidia ovoid to oblong, mostly acrogenous
Macrosporium 4: 523
(incl. Mystrosporium 4: 539)
(2) Hyphae of two kinds, longer sterile, shorter fertile
Septosporium 4: 543
2. Conidia capitate **Dactylosporium 4: 545**

3. Conidia catenate
   a. Hyphae velvety, erect, subsimple; conidia caudate
      Alternaria 4: 545
   b. Hyphae crustose, various; conidia 2-celled; conidia-like ganglia sarciniform
      Fumago 4: 547

II. Conidia of two forms, dark sarciniform and subhyaline falcate
Sarcinella 4: 548

Staurosporae

4: 552, 11: 639, 14: 1107, 16: 1181, 18: 625

Conidia forked or stellate, usually dark, septate or continuous

I. Conidia of two forms, small fusoid hyaline, large lobate many-celled, brown
Desmidiospora 10: 568

II. Conidia alike
1. Fertile hyphae present; conidia 3-4-radiate
   Triposporium 4: 554
2. Fertile hyphae lacking
   a. Conidia on a cellular stroma, 2-4-digitate
      Chiromyces 4: 554
   b. Cellular stroma lacking
      (1) Conidia 3-several-radiate; xylogenous
      Ceratosporium 4: 552
      (2) Conidia 2-radiate; phyllogenous **Hirudinaria 4: 553**

Scolecosporae

Conidia long-filiform or vermicular

One genus **Cercospora 4: 431, 14: 1099**

Helicosporae

4: 557, 10: 680, 11: 638, 14: 1107, 16: 1081, 18: 624

Conidia cylindric, spiral or convolute, typically septate, dark or hyaline

I. Hyphae obsolete **Helicopsis 10: 680**

II. Hyphae present
1. Conidia septate transversely **Helicosporium 4: 557**
2. Conidia muriform **Helicoma 11: 638**

Family 77. STILBACEAE

Sterile hyphae creeping, scanty; fertile hyphae collected into stalk-like or stroma-like fascicles bearing conidia at the top, more rarely along the side, pale, bright-colored or dark.

Hyalostilbae

Hyphae and conidia pale or bright-colored, not dark or black

Amerosporae

4: 561, 10: 681, 11: 640, 14: 1107, 16: 1082, 18: 630

Conidia globose, elliptic or oblong, 1-celled, hyaline or pale, or bright-colored

I. Conidial part distinctly capitate or at least terminal

1. Conidia not in chains
   a. Head of conidia not gaping or splitting above
      (1) Head not spiny
         (a) Conidiophores of head normal
            x. Conidia covered with mucus
               (x) Synnema monocephalous
                  m. Conidiophores dendroid-verticillate
                     (m) Without distinct sterigmata
                     Dendrostilbella 18: 635
                     (n) With obpiriform sterigmata
                     Pirobasidium 18: 638
                  n. Conidiophores not dendroid-verticillate
                     Stilbum 4: 564
               (y) Synnema polycephalous
                  m. Capitula on extremely short branches
                     Polycephalum 4: 575
                  n. Capitula on spreading subulate branches
                     Tilachlidium 4: 576
                  o. Capitula on erect branches **Corallodendrum 4: 576**
            y. Conidia without mucus
               (x) Synnema monocephalous
                  m. Conidiophores spirally twisted
                     Martindalia 4: 578
                  n. Conidiophores more or less straight
                     (m) Conidia rhombic or biconic
                     Rhombostilbella 18: 636
                     (n) Conidia globose to fusoid
                     Ciliciopodium 4: 577
                     (incl. Clavularia 10: 686)
               (y) Synnema polycephalous
                  m. Terrestrial, large, 1-2 cm.; conidia ovoid
                     Macrostilbum 16: 1083
                  n. Small, not terrestrial; conidia elongate-ovate
                     Chondromyces 4: 576
         (b) Conidiophores conidium-like, septate; monocephalous
            Atractiella 4: 578
      (2) Head spiny with radiating spicules
         (a) Spicules conic, granulate **Actiniceps 4: 579**
         (b) Spicules with many curved branches at middle
            Heterocephalum 18: 642
   b. Head of conidia persistent below, splitting above
      Pilacre 4: 579
2. Conidia in chains
   a. Synnema with conidia above; conidia without mucus
      (1) Synnema not pubescent **Coremium 4: 581**
         (incl. Pritzeliella 18: 644)
      (2) Synnema pubescent **Lasioderma 4: 584**
   b. Synnema with conidia below; conidia with mucus
      Microspatha 10: 687

II. Conidial part cylindric or long-clavate
  1. Conidia more or less equally scattered
    a. Biophilous; sterigmata denticulate branched
      Cladosterigma 11: 640
    b. Saprophilous; sterigmata none or simple
      Isaria 4: 584
  2. Conidia in lateral heads or racemes
    a. Conidia in racemes; synnema lobate **Peribotryum 4: 595**
    b. Conidia in heads
      (1) Conidiophores with lateral nodes, usually escaping through the stomata
        Helostroma 18: 630
      (2) Conidiophores without nodes, usually entomophilous
        Gibellula 11: 643

Didymosporae

18: 645

Conidia 2-celled, hyaline, globose to oblong

I. Synnema cylindric, fimbriate at apex; conidia oblong
  Didymobotryopsis 18: 645
II. Synnema capitate; conidia fusoid **Didymostilbe 18: 645**

Phragmosporae

4: 598, 10: 691, 14: 1109, 18: 646

Conidia 2-several-septate, hyaline, oblong to bacillar

I. Conidia solitary
  1. Conidia bacillar, aristate above, separating at joints
    Stilbomyces 14: 1109
  2. Conidia not aristate or separating
    a. Conidia oblong **Arthrosporium 4: 598**
    b. Conidia elongate-falcate **Atractium 4: 599**
II. Conidia catenate, cylindric **Symphyosira 4: 600**

Helicosporae

18: 658

Conidia filiform, spirally twisted

I. Synnema erect, setose **Helicostilbe 18: 657**

Phaeostilbae

Hyphae and conidia or one or the other dark

Amerosporae

4: 603, 10: 692, 11: 643, 14: 1109, 16: 1086, 18: 648

Conidia 1-celled, dark, globose to elongate

I. Conidia not in chains
  1. Synnema setose **Saccardaea 11: 643**
  2. Synnema naked
    a. Conidia asperate, on minute basidia **Basidiella 10: 698**

b. Conidia smooth
(1) Synnema carnose, racemose-branched
Stilbothamnium 14: 1110
(2) Synnema fibrous or corneous, not racemose
(a) Basidia lageniform **Ceratocladium 18: 649**
(b) Basidia lacking, at least not lageniform
x. Synnema stalked, fibrous
(x) Conidia dark, globose to elliptic
Sporocybe 4: 604
(y) Conidia hyaline
m. Conidia ovoid to oblong **Graphium 4: 609**
n. Conidia elongate or falcate **Harpographium 4: 619**
y. Synnema sessile, corneous **Glutinium 4: 620**

II. Conidia in chains
1. Synnema setose **Trichurus 14: 1112**
2. Synnema not setose
a. Stalk scopulate branched above **Stemmaria 10: 696**
b. Stalk simple or nearly so
(1) Capitule loose
(a) Base of synnema subequal; usually on stems
Stysanus 4: 620
(b) Base of synnema perithecioid; usually on leaves
Graphiothecium 4: 624
(2) Capitule compact
(a) Conidia globose
x. Conidia echinulate **Harpocephalum 14: 1111**
y. Conidia smooth
(x) Conidia pleurogenous **Heydenia 4: 625**
(y) Conidia acrogenous **Briosia 10: 698**
(b) Conidia ovoid to oblong **Antromycopsis 14: 1113**

Didymosporae

4: 626, 10: 699, 18: 654

Conidia 1-septate, dark or hyaline, oblong to cylindric

I. Conidia muticate **Didymobotryum 4: 626**
II. Conidia 1-ciliate at apex **Hoehneliella 18: 654**

Phragmosporae

4: 627, 10: 699, 11: 644, 14: 1113, 16: 1089, 18: 655

Conidia 2-several-septate, dark or hyaline, oblong to cylindric

I. Conidia capitate
1. Synnema simple
a. Synnema black; conidia densely capitate
Arthrobotryum 4: 628
b. Synnema fuscous or pale; conidia loosely capitate
Isariopsis 4: 630
2. Synnema dendroid branched **Xylocladium 16: 1089**

II. Conidia not capitate
1. Conidia catenulate **Dendrographium 11: 644**
2. Conidia not catenulate
a. Stalk fibrous
(1) Synnema simple or branched; conidia acro-pleurogenous **Podosporium 4: 627**
(2) Synnema branched; conidia acrogenous **Negeriella 14: 1114**
b. Stalk parenchyma-like
(1) Conidia pleurogenous, on a disk **Riccoa 18: 656**
(2) Conidia acrogenous **Podosporella 11: 644**

Dictyosporae

4: 632

Conidia muriform, dark or hyaline, oblong

I. Synnema stalked, capitate **Sclerographium 4: 632**

Staurosporae

I. Conidia of 4-5-radiate cells, hyaline **Riessia 4: 627**

Family 78. TUBERCULARIACEAE

Hyphae compacted into a globose, discoid or verruciform body or sporodochium; sporodochia typically sessile, waxy or subgelatinous, white, bright-colored or dark to black.

Mucedinae

Hyphae and conidia white or bright-colored

Amerosporae

4: 635, 10: 700, 11: 645, 14: 1115, 16: 1090, 18: 658

Conidia hyaline or bright-colored, 1-celled, globose to fusoid

I. Sporodochia smooth or nearly so
1. Conidiophores normal
a. Conidia muticate
(1) Conidia not covered with mucus
(a) Conidia not acrogenous capitate
x. Sporodochium girt by a heterogeneous cup **Patellina 4: 677**
y. Sporodochium without a heterogeneous cup
(x) Conidia not catenate or scarcely so
m. Conidia escaping from interior of hyphae
(m) Conidiophores branched **Endoconidium 10: 708**
(n) Conidiophores simple **Trichotheca 10: 714**
n. Conidia arising on outside of hyphae
(m) Conidiophores lacking
r. Conidia large, pellucid
(r) Conidia globose **Sphaerosporium 4: 664**
(s) Conidia oval **Diaphanium 4: 672**
s. Conidia small, not pellucid **Pactilia 4: 672**

(n) Conidiophores present
r. Conidia pleurogenous or acro-pleurogenous
(r) Conidia globose **Beniowskia 16: 1091**
(s) Conidia ovoid to oblong
Tubercularia 4: 638
(t) Conidia fusoid to cylindric
Fusicolla 4: 664
s. Conidia acrogenous
(r) Conidiophores verrucose
Dacrymycella 4: 671
(s) Conidiophores not verrucose
h. Uredinicole **Tuberculina 4: 653**
i. Not uredinicole
(h) Sporodochia globose
+ Conidia globose; conidiophores short
Aegerita 4: 661
—. Conidia ovoid; conidiophores branched
Granularia 4: 649
(i) Sporodochia pulvinate
+. Conidia acicular
Kmetia 16: 1158
—. Conidia terete-oblong
Bactridiopsis 18: 662
(j) Sporodochia disk-shaped, or cupulate
+. Sporodochia disk-shaped
Hymenula 4: 667
(Hymenella 16: 1105)
—. Sporodochia cupulate
Hyphostereum 11: 649
(k) Sporodochia verruciform or effuse
+. Conidiophores simple
(+) Conidiophores radiate, united at base
Clinoconidium 16: 1093
(—) Conidiophores not united or radiate
Sphacelia 4: 666
—. Conidiophores dendroid branched
Dendrodochium 4: 650
(y) Conidia in chains
m. Conidia covered with mucus
Collodochium 18: 661
n. Conidia without mucus
(m) Conidia globose
r. Conidia hyaline **Sphaerocolla 11: 648**
s. Conidia blue **Sporoderma 4: 676**
(n) Conidia elliptic to oblong
r. Sporodochium disk-shaped, orange-red
Necator 16: 1094
s. Sporodochium subglobose, whitish
Patouillardia 4: 677

(o) Conidia cylindric
r. Sporodochium dilated above, stalked
Bizzozeriella 10: 716
s. Sporodochia globose to verruciform
(r) Sporodochia gelatinous, sessile
Cylindrocolla 4: 673
(s) Sporodochia not gelatinous, short-stalked
Sphaeridium 4: 675
(b) Conidia acrogenous capitate; sporodochia turbinate
Cephalodochium 4: 678
(2) Conidia covered with mucus
(a) Sporodochium globose, hardened
Thecospora 4: 679
(b) Sporodochia verruciform or discoid, gelatinous or waxy
x. Sporodochia verruciform or subeffuse
Illosporium 4: 656
(incl. Myxonema 10: 714)
y. Sporodochia discoid **Epidochiopsis 11: 648**
b. Conidia ciliate
(1) Conidia 1-ciliate at base only **Stigmatella 4: 679**
(2) Conidia ciliate at both ends
(a) Conidia 1-ciliate at each end **Thozetia 4: 679**
(b) Conidia 7-8-ciliate at each end **Chaetospermum 10: 706**
2. Conidiophores with internal conidia-bearing areoles
Scoriomyces 4: 680

II. Sporodochia setulose, ciliate or uniformly woolly
1. Sporodochia woolly or setulose
a. Sporodochia setulose; conidia catenate
Periola 4: 681
b. Sporodochia woolly or velvety; conidia capitate
(1) Conidia globose **Dacryodochium 14: 1122**
(2) Conidia oblong **Lachnodochium 14: 1122**
2. Sporodochia ciliate at the margin
a. Sporophores none; conidia coacervate **Volutellaria 4: 682**
b. Sporophores distinct
(1) Conidia in chains **Volutina 18: 667**
(2) Conidia not in chains
(a) Conidiophores 6-ciliate above, united below
Guelichia 10: 720
(b) Conidiophores not ciliate or united
Volutella 4: 682

Didymosporae

4: 690, 10: 721, 18: 668

Conidia 1-septate, hyaline or bright-colored

I. Conidia in chains
1. Sporodochia setulose **Endodesmia 4: 691**
2. Sporodochia smooth **Gymnodochium 18: 668**

II. Conidia not in chains
1. Sporodochia setulose — **Leptotrichum 4: 690**
2. Sporodochia smooth
a. Conidia verrucose — **Cosmariospora 4: 690**
b. Conidia smooth — **Patouillardiella 10: 721**

Phragmosporae

4: 691, 10: 721, 11: 649, 14: 1123, 16: 1097, 18: 669

Conidia 2-several-septate, hyaline or bright-colored, fusoid to falcate (in Fusarium sometimes short and simple).

I. Conidia somewhat catenate, cylindric — **Discocolla 11: 653**

II. Conidia rarely catenate
1. Conidia cruciately 4-celled; sporodochium gelatinous — **Sarcinodochium 18: 677**
2. Conidia not cruciate
a. Conidiophores short, simple
(1) Conidia very large, terete-oblong — **Bactridium 4: 691**
(2) Conidia doliiform — **Pithomyces 4: 693**
b. Conidiophores more or less branched
(1) Conidiophores dichotomous; conidia key-like — **Heliscus 4: 693**
(2) Conidiophores usually verticillately branched; conidia usually falcate, sometimes oblong
(a) Sporodochium gelatinous — **Pionnotes 4: 725**
(b) Sporodochium waxy or byssoid — **Fusarium 4: 694** (incl. **Microcera 4: 727**)

Dictyosporae

18: 676

Conidia muriform, hyaline, subglobose

I. Sporodochia globose — **Sporocystis 18: 676**

Staurosporae

4: 728, 16: 1104, 18: 677

Conidia forked or cruciate, hyaline or bright-colored

I. Conidiophores simple; conidia horseshoe-like — **Lituaria 4: 728**

II. Conidiophores branched
1. Conidia with short irregular branches or lobes — **Aegeritopsis 18: 677**
2. Conidia forked or cruciate
a. Conidia 2-forked, septate — **Dicranidium 4: 728**
b. Conidia 3-forked or subcruciate, continuous — **Triglyphium 4: 728**

Helicosporae

4: 729, 10: 732, 11: 653, 18: 678

Conidia spirally convolute

I. Conidiophores lacking — **Everhartia 4: 729**

II. Conidiophores present
1. Conidia continuous — **Troposporium 4: 729**
2. Conidia septate — **Hobsonia 11: 653**

Dematiae

Hyphae olive, to brown or black; conidia concolorous, rarely hyaline

Amerosporae

4: 736, 10: 732, 11: 654, 14: 1129, 16: 1104, 18: 678

Conidia 1-celled, globose to elongate, sometimes unequal

I. Conidia not in chains
1. Sporodochia not setose
a. Conidiophores lacking
(1) Lichenicole — **Spilomium 18: 678**
(2) Not lichenicole
(a) Sporodochia gelatinous; conidia globose, vesiculose — **Myriophysa 4: 742**
(b) Sporodochia not gelatinous
x. Sporodochia hemispheric, with a stratum of conidia — **Spermodermia 4: 742**
y. Sporodochia disk-like, applanate — **Sclerodiscus 10: 735**
b. Conidiophores present
(1) Sporodochia thick, tremelloid — **Epidochium 4: 747**
(2) Sporodochia not tremelloid
(a) Conidiophores with a slender apical appendage; conidia globose — **Bonplandiella 10: 732**
(b) Conidiophores not appendaged
x. Conidia globose
(x) Sporodochia cellular, uniform — **Epicoccum 4: 736**
(y) Sporodochia of three hyphal layers — **Triplicaria 10: 734**
y. Conidia ovoid to bacillar
(x) Conidiophores bacillar; sporodochia subdiscoid — **Hymenopsis 4: 744**
(y) Conidiophores branched
m. No brown radiate hyphae at base — **Strumella 4: 742**
n. Brown radiate hyphae at base — **Astrodochilum 14: 1117**
2. Sporodochia ciliate or with exserted hypae
a. Sporodochia with loose exserted conidiophores, verruciform — **Trichostroma 4: 752**
b. Sporodochia margined with hairs or setae
(1) Setae dark — **Chaetostroma 4: 749**
(2) Setae or hairs white — **Myrothecium 4: 750**

II. Conidia in chains
1. Conidiophores lacking — **Exosporina 18: 684**
2. Conidiophores present
a. Sporodochium tremelloid — ***Hormodochis 4: 749**
b. Sporodochium not tremelloid
(1) Sporodochium ciliate — ***Chaetodochis 4: 750**
(2) Sporodochium not ciliate
(a) Sporodochia globose — **Sphaeromyces 4: 753**
(b) Sporodochia stellate — **Actinomma 4: 753**

Didymosporae

4: 754, 10: 737, 16: 1105, 18: 684

Conidia 1-septate, typically dark, elliptic to fusoid

I. Sporodochia lichenicole, globose — **Sclerococcum 4: 754**

II. Sporodochia not lichenicole
1. Sporodochia foliicole
a. Sporodochia annuliform asteroid — **Hyphaster 18: 685**
b. Sporodochia subglobose — **Pucciniopsis 10: 737**
2. Sporodochia lignicole — **Epiclinium 4: 754**

Phragmosporae

4: 755, 10: 738, 11: 656, 14: 1131, 16: 1106, 18: 685

Conidia 2-several-septate, usually colored, oblong to cylindric

I. Conidia in chains; sporodochium discoid — **Trimmatostroma 4: 757**

II. Conidia not in chains
1. Conidia 1-ciliate at each end — **Ciliofusarium 11: 656**
2. Conidia muticate
a. Sporodochium hairy — **Excipularia 18: 688, 3: 689**
b. Sporodochium smooth
(1) Conidia laterally proliferate and joined in bundles — **Amallospora 14: 1131**
(2) Conidia not proliferate and united
(a) Sporodochia convex-pulvinate — **Exosporium 4: 755**
(b) Sporodochia vertically cylindric or clavate — **Listeromyces 18: 685**

Dictyosporae

4: 758, 10: 739, 11: 656, 14: 1131, 16: 1107, 18: 689

Conidia muriform, usually dark

I. Conidia in chains — **Bonordeniella 18: 689**

II. Conidia not in chains
1. Sporodochia setulose — **Chaetostromella 11: 656**
2. Sporodochia smooth — **Spegazzinia 4: 758**

Scolecosporae

18: 689

Conidia filiform, hyaline

I. Sporodochia globose, setulose — **Schizotrichum 18: 688**

Staurosporae

4 : 753

Conidia angulose-stellate, hyaline

I. Sporodochia scutellate, pilose — **Stephanoma 4: 753**

Helicosporae

11 : 654

Conidia spirally twisted, smoky

I. Sporodochia pulvinate — **Troposporella 11: 654**

Sterile Mycelia

14 : 1138, 16 : 1108, 18 : 690

Conidia permanently absent so far as known

I. Parasitic on algae — **Lepraria, Pulveraria, etc. Z. 239**

II. Not parasitic on algae

1. Tubercle-like
   a. Tubercles connected with fibrils — **Rhizoctonia 14: 1175 (Coccobotrys 16: 1108)**
   b. Tubercles without fibrils
      (1) Cortex discrete — **Acinula 14: 1174**
      (2) Cortex not discrete — **Sclerotium 14: 1139**
2. Maculiform; black stromata in leaves and stems — **Ectostroma 14: 1177**
3. Root-like
   a. Filaments rigid, broad, terete or depressed, dark, white within — **Rhizomorpha 14: 1180**
   b. Filaments rigid, capilliform, dark, closely adhering — **Capillaria 14: 1184**
4. Clavariform; filaments terete, vertical, simple or branched — **Anthina 14: 1184**
5. Cobwebby or byssoid
   a. Cespitose interwoven, primary hyphae joined in bundles — **Ozonium 14: 1187**
   b. Cespitose interwoven, hyphae not fasciculate, black — **Rhacodium 14: 1189**
   c. Cobwebby, soft, fleeting, white or pale — **Hypha 14: 1192**
   d. Adpressed, creeping, dendritic, white to brownish, not forming a continuous membrane — **Himantia 14: 1194**
6. Membrane-like; densely interwoven, forming a continuous suberose or coriaceous membrane — **Xylostroma 14: 1197**
7. Deformed, discolored corky cells of plants — **Phloeoconis 14: 1197**

Key to Spore Sections

Amerosporae: spores one-celled, not stellate or spiral
- Allantosporae: spores sausage-shaped, mostly clear
- Hyalosporae: spores hyaline or clear, globose to oblong
- Phaeosporae: spores dark, yellow, brown or black, globose to oblong
- Leucosporae: spores clear, rarely faintly colored
- Rhodosporae: spores rose-colored
- Ochrosporae: spores yellow to yellow-brown
- Melanosporae: spores dark purple to black

Didymosporae: spores 1-septate or 2-celled
- Hyalodidymae: spores hyaline, 2-celled
- Phaeodidymae: spores dark, 2-celled

Phragmosporae: spores few-many-transeptate, 3-many-celled
- Hyalophragmiae: spores hyaline, 3-many-celled
- Phaeophragmiae: spores dark, 3-many-celled

Dictyosporae: spores septate crosswise and lengthwise, i. e., muriform
- Hyalodictyae: spores hyaline, muriform
- Phaeodictyae: spores dark, muriform

Scolecosporae: spores needle-shaped to filiform, continuous or septate
- Hyaloscoleciae: spores hyaline, filiform
- Phaeoscoleciae: spores dark, filiform

Staurosporae: spores stellate or radiate, hyaline or dark, continuous or septate

Helicosporae: spores spirally twisted, hyaline or dark, continuous or septate

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Glossary of Latin and English Terms

A

a, without (in comp.)
ab, from
abbreviatus, shortened
abeuns, deviating
abhorreo, abhor, differ from
abiegnus, fir
abietinus, fir
abnormis, abnormal
abortivus, abortive
abortus, aborted
abrupte, abruptly
abundans, abundant
abunde, abundantly
ac, and
acaudatus, without a tail
accedo, to approach
accessory, additional
accipio, to accept
acerinus, maple
acervulatus, heaped, massed
acervulus, i, m., a little heap
acervus, i, m, a heap
achromaticus, without color
achrous, colorless
acicularis, acicular, needle-shaped
acidulus, slightly acid
acies, ei, f., edge
acotyledon, nis, m., cryptogam
acquiro, to acquire
acrogenus, acrogenous, borne at tip
acropleurogenus, borne at the tip and on the sides
acris, sharp
aculeatus, spiny, pointed
aculeolatus, spiny, pointed
acuminatus, long-pointed
acus, us, f., needle
acutatus, acute
acutiusculus, somewhat acute
acutus, acute
ad, to
adesse, to be present
adhibitus, used, applied
adhuc, as yet, hitherto
adinterim, meanwhile
admiro, to look, wonder at
admodum, at least, fully, very
adnatus, adnate, touching broadly
adparenter, apparently
adproximatus, drawn near
adscendens, ascending
adsociatus, clustered
adspectus, us, m., sight, appearance
adultus, fully grown
adustus, burned, blackened
aecidiiformis, aecidium-shaped
aecium, a cluster cup
aegre, poorly, with difficulty
aemulans, rivalling
aemulus, similar
aeneus, brazen, coppery
aequalis, equal
aequans, equalling
aequidistans, equally distant
aerius, aerial
aerobius, growing in the air
aerophilus, aerial
aeruginosus, copper-colored
aeternus, eternal
affectus, affected
affixus, attached
afflatus, swollen
agamicus, asexual
agamus, asexual
ager, ri, m., field
agglomeratus, heaped together
aggregatus, grouped together
albicans, whitening
albidus, white
albofarctus, white-stuffed
albolutescens, whitish yellow
albus, white
alcoholicus, alcoholic
alienus, foreign, strange
aliquantisper, for a while

aliquantulus, somewhat, a little
alius, another, other
alius,—alius, some—others
allantoid, sausage-shaped, short and curved
allantoideus, a, um, allantoid, sausage-shaped
alliaceus, a, um, of an onion
alpis, mountain
alte, deeply
alternus, a, um, alternate
altitudo, f., height
altus, a, um, high
alutaceus, grayish yellow
alveolatus, a, um, with hollows
amaricans, making bitter, irritating
ambiens, surrounding
ambitus, m., periphery
amentum, n., catkin
amerosporus, a, um, with one-celled spores
amethysteus, a, um, amethyst-colored
amissus, a, um, lost, dismissed
ammoniacalis, e, like ammonia
amnis, is, m., a brook
amoebiformis, e, amoeba-form
amoeboid, amoeba-like
amoeboideus, a, um, amoeba-like
amoene, beautifully
amoenus, a, um, beautiful, pleasant
amoveo, to withdraw
amphibius, a, um, amphibial
amphigenus, a, um, borne on both sides
amplectens, clasping
amplecto, to wind or clasp
amplus, a, um, broad, ample
ampulliformis, ampulliform, cushion-like
amycelicus, without mycelium
amygdalinus, almond-like, pink
analogus, similar
anastomosans, anastomosing, running together
anceps, cipitis, two-headed, double
androgynus, with male and female
angularis, angular
angulosus, angulose, angular
angustatus, narrowed
angustus, narrow
animalcula, ae, f., little animal
annularis, ring-like
annulatim, in a ring
annulatus, annulate, with a ring, ringed
annuliform, ring-like
annulus, i, m., a ring
annuosus, aged, old
anormaliter, abnormally
anserinus, of or pertaining to geese
ante, before
antecedens, preceding
antheridiiformis, antheridium-like
antheridium, ii, m., antherid
antherozoidium, ii, n., antherozoid
antice, in front
aparaphysatus, without paraphyses
apertus, open
aperio, to open, uncover
apex, icis, m., tip
apiculatus, apiculate, with a point
apiculiformis, like a little point
apophysatus, with a supporting cell
apothecium, ii, n., cup or disk containing asci
appendicula, ae, f., little appendage
appendiculatus, appendiculate, appendaged
appendix, icis, f., appendage
applanatus, applanate, flattened
approximatus, close, near
apricus, wild
apud, at
apus, odis, without a stalk
aquaeductus, us, m., aqueduct
aquaticus, aquatic
aquosus, watery
arachnoideus, cobwebby
araneosus, cobwebby
arbor, is, f., tree
arbusculiformis, shrub-like
arcte, closely
arcticus, arctic
arcuatim, bow-like, curved
arcuatus, arcuate, bow-like
area, ae, f., space
areola, ae, f., little space
areolatus, areolate, marked by areas or spaces
arescens, drying
aresco, to become dry

argenteus, silvery
argentinus, silvery
argillaceus, clay-color
aridus, dry
arista, ae, f., awn
aristatus, aristate, awned
arrectus, upright, stiff
arrhizus, without roots
articulatus, jointed
articulus, i, m., joint
asciger, ascus-bearing
ascogenic, producing asci
ascoma, atis, n., spore-fruit, ascus-bearing body
ascophorus, ascus-bearing
ascus, i, m., sac
asiaticus, Asiatic
asper, rough
asperatus, asperate, roughened
aspergo, to scatter, sprinkle
asperulus, slightly roughened
asser, eris, m., branch, beam, post
assurgens, ascending
asterigmaticus, without stalks
asterineus, star-like, radiate
asteroid, star-like, radiate
asteroma-like, with radiate subicle
astomus, mouthless
astromatoideus, without a stroma
asymmetricus, irregular
ater, dark, black
atomatus, with small particles
atomisticus, tiny
atque, also
atrans, blackening
atratus, dark
atro-fuscus, dark
atro-inquinans, blackening
atro-nitidus, black and shining
atropiceus, black as pitch
atropurpureus, dark purple
attenuatus, tapering
attingens, touching
attolens, raising
atypicus, abnormal
auctio, onis, f., growth
auctor, is, comm., author
auctus, enlarged
audeo, to dare
augmentum, i, n., increase, growth
aurantiaceus, orange, golden
aurantinus, orange
auratus, golden
aureus, golden
auriformis, ear-shaped
australis, southern
aut, or
autem, moreover
authenticus, authentic
autumnus, autumn
avulsus, torn off, separated
axicola, growing on the axis
axiformis, axis-like
axilaris, axillary
azonus, without zones
azygospore, a zygospore formed without conjugation

B

bacca, ae, f., berry
baccatus, berry-like
bacillaris, bacillar, rod-shaped
bacteriformis, bacterium-like
bactrosporus, with rod-shaped spores
baculum, i, n., rod
badius, brown
basidiosporus, with spores borne on stalks
basidium, ii, n., rod, basidium
basilaris, basal
basis, is, f., base
bene, plainly, well
benevole, kindly
betulicola, growing on birch
betulinus, birchen
bi-, two, twice
bibulus, absorbing
biclavuligerus, bearing two club-shaped branches
biconic, conic at each end
biconvexus, biconvex
bicornus, with two horns, two-branched
bicorticus, with two barks
bidentatus, two-toothed
bifidus, split into two parts
biformis, or -us, of two forms
bifrons, on both sides of the leaf
bifurcatus, two-forked

biguttulatus, with two globules or vacuoles
bilabellulatus, two-lipped
bilabiatus, two-lipped
bilobus, two-lobed
bilocularis, two-celled
binatim, by twos
binucleolatus, with two oil-drops
binus, two-fold
biogenus, biogenous, growing on organisms
biophilus, biophilous, growing on organisms
bipunctatus, with two vacuoles
bis, twice
biscoctiformis, biscuit-shaped
biserialis, in two rows
biseriatus, in two rows
bisporus, two-spored
bitunicatus, with two walls
biuncinatus, two-hooked
bombardus, cannon-like
borealis, northern
botryosus, botryose, clustered like grapes
botuliformis, botuliform, sausage-shaped
brachiatus, with arms
bractea, ae, f., bract
brevicollis, short-necked
brevis, short
breviter, shortly
breviusculus, somewhat short
brunneolus, brownish
brunneus, brown
bulla, ae, f., bubble
bullula, ae, f., a little swelling
byssinus, cottony
byssisedus, byssisede, seated on cotton
byssoideus, byssoid, cottony
byssus, i, f., cotton

C

caerulescens, turning blue
caesius, bluish-grey
caespes, itis, m., tuft
caespitosus, cespitose, in tufts
caesus, fallen
calamus, i, m., stem
calcareus, of lime, calcareous
calcariferus, bearing lime
calcifer, bearing lime
calidarium, ii, n., hot-house
callosus, roughened
calvescens, becoming bare
calvitium, ii, n., bald spot
calvus, bare, bald, not pubescent
calx, calcis, f., lime
calyciformis, cup-shaped
calycicola, living on the calyx
calycularis, cup-shaped
calyptra, ae, f., cap
calyx, ycis, m., calyx, cup
campanulatus, bell-shaped
campaniformis, bell-shaped
campylotropus, curved
canaliculatus, canaliculate, channeled
candicans, growing white
cannabinus, of hemp
canus, hoary
capillaris, hair-like
capillatura, ae, f., mass of hair
capilliform, hair-like
capillitium, ii, n., mass of threads
capillus, i, m., hair
capitatus, capitate, in heads
capitulatus, borne in little heads
capitulum, i, n., a little head
capreolus, i, m., goat
caprinus, of or pertaining to goats
capsula, ae, f., capsule
caput, itis, n., head
carbo, onis, m., carbon, charcoal
carbonaceus, like coal
carbonicola, on burned-over ground or on charcoal
carbonous, like coal or carbon
carens, lacking
caries, ei, f., decay
carinatus, keeled
cariosus, decaying
carneus, flesh-colored
carnosus, carnose, fleshy
caro, carnis, f., flesh
carpogenus, living on fruit
carpogonium, ii, n., carpogone
cartilagineus, cartilaginous, tough but pliable
caryopsis, idis, f., grain

castaneus, chestnut brown
catenate, in chains
catenifer, chain-bearing
catenigerus, bearing chains
catenula, ae, f., chain
catenulatus, catenulate, in chains
catenuliformis, chain-like
catenulus, m., -a, f., a small chain
caterva, ae, f., heap, crowd
catervatim, in heaps, in groups
cauda, ae, f., tail
caudatus, caudate, tailed
caudex, icis, m., stalk
caudicula, ae, f., a little stalk
caulicola, growing on stems
caulis, is, m., stem
caulogenus, on stems
caverna, ae, f., a cavern, hollow
cavernosus, with hollows
cavernula, ae, f., a little cavity
cavitas, atis, f., cavity
cavitatus, hollow
cavus, i, m., hollow
celans, hiding
cella, ae, f., a cell
celluliformis, cell-shaped
cellulosus, cellular
censeo, to think, estimate
centrifugus, centrifugal
centrum, i, n., the centre
cephalodium ii, n., a globose to club-shaped projection on a lichen thallus
ceraceus, waxy
cerebriformis, brain-like
cereus, waxy
cerno, to perceive, separate
cernuus, nodding, inclined
cerumen, inis, n., wax
cervinus, tawny
cespitose, clustered, crowded
ceterum, remaining
chalybeus, of steel
character, eris, m., character, style
charta, ae, f., paper
chartaceus, papery
chlamydosporicus, with chlamydospores
chlorinus, greenish
chlorophyllous, green, with chlorophyll
chorda, ae, f., twine, a cord
cibaria, ae, f., food
cicatrix, icis, f., a scar
ciliatulus, slightly ciliate
ciliatus, ciliate, with long hairs on the margin
ciliolatus, ciliolate, with cilia
cincinnatus, curled
cinctus, surrounded
cinerascens, becoming ashen
cinereus, ashen
cingens, surrounding
cingulatus, surrounded
cingulus, i, m., a little belt
cinnabarinus, orange red
cinnamomeus, cinnamon-colored
circa, near
circinatus, circinate, coiled
circino, to circle
circiter, about
circuitus, us, m., a circuit
circulus, i, m., a circle
circumambiens, encircling
circumdatus, surrounded
circumscissile, splitting circularly
circumscriptus, circumscribed
circumtextus, surrounded
circumvallatus, surrounded
cirrhatus, curled
cirrhosus, curly
citatus, cited
cito, to name, mention
cito, soon, rather
citriformis, citriform, lemon-shaped
citrinus, lemon yellow
cladodium, ii, n., a leaf, branch
cladogenus, borne on branches
clathratus, clathrate, latticed
clausus, closed
clava, ae, f., a club
clavaria-like, club-shaped, or coral-like
clavatus, club-shaped
claviformis, club-shaped
clavis, is, f., a key
clavula, ae, f., a little club
clavulatus, club-shaped
clypeatus, shield-like
clypeus, i, m., a shield

coacervatus, coacervate, heaped together
coadunatio, onis, f., a summing up
coadunatus, united, collected
coalescens, coalesced, running together
coalitus, joined, running together
coarctatus, crowded
coccineus, bright red
coccus, i, m., round cell, berry
cochleariformis, spoon-shaped
cochleatus, ear-like
coctus, cooked
coenobium, ii, n., a colony
coerulescens, turning blue
coffeatus, coffee-like
coffeicolor, coffee-colored
coffeiformis, coffee-shaped
cognatus, related
cogo, to act, collect
cohabitans, living together
cohaerens, cohering
collabasco, to fall in
collabens, collapsing, crumbling up
collabent, collapsing, falling in
collapsus, collapsed
collariatus, collared, attached to a collar
collectivus, collected
colliculosus, with tiny elevations
collum, i, n., a neck
colonia, ae, f., a colony
color, is, m., color
coloratio, onis, f., coloration, color
coloratus, colored
coloreus, colored
columella, ae, f., a small pillar, columella
columnaris, columnar
comatus, shaggy
comestibilis, eatable
commissura, ae, f., commissure, path, cleft
commixtus, commingled
communico, to share, communicate
communis, common
comosus, hairy
compactus, dense
compaginatus, united
complectens, comprising, clasping
complecto(r), to clasp
complexus, complex
compositus, composed, compound
compressus, compressed
concatenatus, in chains
concavus, concave
concentricus, concentric
conceptaculum, i, n., conceptacle
conchiformis, conchiform, shell-shaped
concolor, concolorous, of like color
concrescens, growing together
concretus, united
condensus, condensed
conditio, onis, f., condition
confero, to collect
confertus, crowded
confirmatio, onis, f., confirmation
conflatus, swollen
confluens, running together
confluo, to merge
conformis, all alike, similar
confundo, to mingle, confuse
congestus, crowded
conglobatus, conglobate, heaped together
conglomeratus, heaped
conglutinatus, conglutinate, glued together
congregatus, aggregated
congruo, to agree
conicus, conical
conidium, ii, n., an asexual spore
conidial, producing or pertaining to conidia
conidicus, conidial
conidiferus, conidia-bearing
conidiophorum, i, n., a hypha bearing conidia, a condiophore
conjugatio, onis, f., conjugation
connatus, connate, joined
connexus, connected
connivens, connivent, approaching
conoideus, conoid, cone-shaped
consortium, ii, n., company
conspergens, sprinkled
conspersus, scattered
conspicuus, conspicuous
conspurcatus, polluted
constipatio, onis, f., a crowding

constituens, constituting
consuetudo, inis, f., a habit
consumptus, destroyed
contemno, to condemn, disparage
contextum, i, n., texture, context
contiguus, close
continens, containing
continuus, continuous, one-celled
contortus, twisted
contra, against
contractus, narrowed
contusus, bruised
conus, i, m., a cone
convergens, coming together
convolutus, convolute, coiled
convolutio, onis, f., a fold
copiosus, abundant
coprophilus, growing on dung
copulans, copulating
coralloid, coral-like
coralloideus, coralloid, like much-branched coral
coriaceus, leathery
corneus, corneous, horn-like
corniculatus, corniculate, horned
corniformis, horn-shaped
cornutus, horned
coronatus, crowned
corpusculum, i, n., a little body
corrugatus, corrugate, ridged
corruptus, corrupted, spoiled
cortex, icis, m., the bark
corticalis, cortical, of bark
corticatus, corticate, with a bark or epiderm
corticola, corticole, growing on bark
cortina, ae, f., veil
cortinate, with a curtain-like veil
corvinus, pertaining to the raven, black
costa, ae, f., ridge
costatus, costate, ridged
crassities, ei, f., thickness
crassitudo, inis, f., thickness, width
crassiusculus, somewhat broad
crassus, broad
crateriformis, crateriform, crater-shaped
creber, crowded
cremicolor, cream-colored
cribrosus, sieve-like
crinitus, hairy, crested
crispulus, somewhat crisp
crispus, crisp
crista, ae, f., crest
cristatus, crested
crocatus, yellow
croceus, yellow
cruciatim, cruciately, cross-like
cruentatus, bloody
crusta, ae, f., crust
crustaceous, crust-like
crustiformis, crust-shaped
crustose, forming a crust, more or less interrupted
crustula, ae, f., a little crust
cubile, is, n., a bed
cuboideus, cuboid, cubical
cucullatus, hooded
cucumeriformis, cucumber-shaped.
culmicola, growing on grass-stems
culmus, i, m., culm, a stalk, stem
cultellus, i, m., a small knife
culter, tri, m., a knife
cultriformis, knife-like
cultus, cultivated
cum, with
cumulatus, heaped up
cuneatus, wedge-shaped
cuneiformis, wedge-shaped
cuniculus, i, m., a rabbit
cupreus, coppery
cuprinus, coppery
cupula, ae, f., a little cup
cupularis, cupulatus, cupuliformis, cup-shaped
curtus, short
curvatus, curved
cusp, a point
cuspidatus, cuspidate, with a tooth
cuticula, ae, f., cuticle
cuticularized, with firm cover or cuticle
cutis, is, f., the skin
cyaneus, blue
cyathiformis, cup-like
cyclus, i, m., a cycle
cylindraceus, cylindricus, cylindrical
cymbiformis, boat-shaped
cyphella, ae, f., an opening or hollow

in a thallus, more or less cup-shaped
cystidium, ii, n., cyst
cystophore, the stalk which bears a cell or cyst

D

daedaleus, labyrinthine
dealbatus, whitened
debilis, weak
deciduus, falling
decies, ten times
decorticatus, without bark
decumbens, prostrate
decurrens, decurrent, running down the stem
defectus, lacking
deficiens, lacking
deficio, to lack
definitus, definite
deflexus, deflexed
deformus, deformed
degenero, to degenerate
dehiscens, dehiscent, splitting
dein, then, at length
dejectus, fallen
dejiciens, throwing down
delicatulus, delicate
delineatus, figured
deliquescens, deliquescing, liquefying
delitescens, hiding
delitesco, to conceal, lurk
deltoideus, delta-like, triangular
dematium-like, black and cobwebby
dematius, black and cottony
demonstro, to show
demum, at length
dendritice, dendritically, tree-like
dendriticus, tree-like
dendroideus, dendroid, tree-like
denigratus, blackened
denique, at length
densus, close, dense
dentatus, toothed
denticulatus, denticulate, with little teeth
denudans, denuding
denudatus, denuded
deorsum, downward
dependens, hanging
deplanatus, flattened
depressus, depressed
derumpens, breaking
descendens, descending
desciscens, leaving, deserting
describo, to describe
descriptus, described
desicco, to dry up
desinens, ending, closing
desum, to fail, be absent
destitutus, lacking
destruens, destroying
detergibilis, removable, breakable
deustus, burnt
diametralis, of the diameter
diametrum, i, n., diameter
diaphanus, diaphanous, transparent
diatrype-like, with a stroma different from the tissue of the matrix
dichotomus, dichotomous, two-forked
diclinus, with separate sexes
dictyosporus, spores having cross and longitudinal walls
didymosporus, with two-celled spores
didymus, two-fold or two-celled
differo, to differ
difficilis, difficult
diffluens, diffluent, dissolving
diffractus, broken
diformis, of two forms
digestus, broken up
digitiformis, finger-shaped
digitaliformis, digitate, finger-like
digitatus, digitate, having fingers
dignosco, to differ
dignotus, to distinguish
dilabens, breaking apart
dilatatus, spread out
dilute, dilutely
dilutus, dilute
dimidiatus, dimidiate, two-lobed, halved
dimidius, half
dimorphus, of two forms
dioecious, sex organs on separate plants
directio, onis, f., direction
directus, straight
dirumpens, breaking apart
disciformis, disc-shaped
discolorus, discolorous, discolored

discretus, discrete, separate
discrimen, inis, n., difference
disculus, i, m., little disc
disfractus, broken
disparens, disappearing
dispergens, scattering
dispositus, arranged
disruptus, broken
disseco, to cut up
dissectus, cut up
disseminatus, scattered
dissentio, to disagree
dissepimentum, i, n., partition, wall
distal, distant, further
distans, remote
distichus, distichous, in two rows
distinguo, to distinguish
diu, long
divaricatus, spreading
divergens, diverging
diversimodus, in different ways
diversus, diverse, different
divinans, conjecturing
divisio, onis, f., a division
divisus, divided
doliiformis, doliiform, cask-shaped, jar-shaped
dolium, ii, n., cask, jar
donacinus, of a reed
donatus, furnished
dorsiventral, with two unlike sides
dorsum, i, n., back
dothideaceus, like Dothidea, i. e., loculate
dubitantur, doubtfully
dubius, doubtful
duco, to lead
ductus, led
dulcis, sweet
dumetum, i, n., a thicket
duo, two
duodecim, twelve
duplo, twice
duriusculus, somewhat hard
durities, ei, f., hardness
durus, hard

E

eburneus, ivory-white
ecaudatus, without a tail
eccentricus, eccentric, lateral
echinatus, spiny
echinulatus, echinulate, spiny
edulis, edible
effiguratus, shaped, formed
effoetus, worn out
efformatus, formed
effusus, effuse, spread out
egrediens, growing out
elasticus, elastic
elatus, tall
elevatus, raised
ellipticus, elliptical
ellipsoideus, ellipsoid
elongatus, lengthened
emarginatus, without a margin
emergens, emerging
emergo, to emerge
emersus, emerging
emittens, emitting
emortuus, dead
enatus, arising from
endobasidial, continuous with the basidium
endobiotic, growing within living things
endochroma, atis, n., colored contents
endogenus, endogenous, born within
endoperidium, ii, n., inner peridium
endophytic, growing in plants
endoplasma, atis, n., protoplasm
endoxylus, within wood
endozoic, growing in animals
enim, for
endoparasiticus, internally parasitic
entomogenus, entomogenous, living in insects
epelliculosus, without a covering or pellicle
epidermis, idis, f., epiderm, the surface skin
epigaeus, epigaean, on the ground
epigenus, borne above
epiphloeodus, on the bark
epiphragma, an upper wall or division
epiphyllus, on the upper side of the leaf
epiphytic, upon plants
episporium, ii, n., outer wall of spore
epithecium, a layer above the asci, usually formed of the tips of the paraphyses

epizoic, growing on animals
equinus, equine, belonging to horses
erectus, erect
ergo, therefore
erostratus, without a beak
erostris, without a beak
erraticus, erratic, wandering
error, is, m., error
eructatus, thrown up
erumpens, bursting out
erysiphoideus, like Erysiphe, cobwebby
eseptate, without cross walls
estriatus, without lines or markings
etiam, also
etsi, although
eumorphus, well-formed
eutype-like, eutypeous, eutypoid, with an effuse stroma similar to the tissue of the matrix
evacuans, emptying
evacuatus, emptied
evado, to escape
evaginatus, without a sheath
evanescens, evanescent, disappearing
evanidus, vanishing
evidentius, more clearly
evolutus, developed
evolvatus, without a volva
evolvens, developing
exacte, exactly
exalbescens, becoming white
exalbidus, whitish
exalbugo, to whiten
exannulatus, without a ring
exappendiculatus, not appendaged
exaridus, dried out
exasperans, roughened
exasperatus, roughened
exaspero, to roughen
excavatio, onis, f., an excavation, hollowing out
excavatus, hollowed out
excedens, exceeding
excentric, out of the centre, lateral
exciple, the outer wall or covering of an apothecium
excipuliformis, cup-shaped
excipulum, i, n., exciple, margin
excrescens, growing out
excutiens, shaking out
exemplaris, model
exemplarium, ii, n., specimen, sample
exemplum, i, n., an example
exesus, consumed, destroyed
exhibens, exhibiting
exigens, scanty
exiguitas, atis, f., smallness, scantiness
exiguus, little, small
exilis, thin, slender
eximie, exceedingly
existimo, to estimate
exitus, us, m., a departure, escape
exobasidial, separated by a wall from the basidium
exogenus, arising on the outside
exoperidium, ii, n., outer peridium
exoriens, arising
exosporium, ii, n., exospore, outer wall of the spore
expallens, becoming pale
explodens, exploding
expulsus, expelled
exquisite, beautifully
exsertus, exserted, thrust out
exsiccatio, onis, f., a drying out
exsiccatus, dried out
exsiliens, escaping
exsuccus, without milk or juice
extensio, onis, f., extension
externus, external
extimus, outermost, ultimate
extra, without, outside
extrico, to extricate
extrorsum, toward the edge
extus, outside

F

fabiformis, bean-shaped
fabrica, ae, f., texture
facies, ei, f., face, form
facilis, easily
fagineus, beechen
falcatus, falcate, scythe-shaped, curved
falciformis, beak-shaped, scythe-shaped
familia, ae, f., family
familiola, ae, f., a little family
farctus, stuffed

farina, ae, f., meal, flour
farinaceus, mealy
fascia, ae, f., fascicle
fasciatus, grouped
fasciculatus, fasciculate, fascicled, in bundles
fastigiatus, bunched
fatiscens, disappearing, breaking up
favosus, hollow
femineus, feminine
fenestratus, with windows or openings
fere, almost
fermentatio, onis, f., fermentation
fermentum, i, n., yeast
ferruginascens, turning rust-colored
ferrugineus, rust-colored
ferrumequinum, i, n., a horse-shoe
ferrum, i, n., iron
fibra, ae, f., a fiber, filament
fibrilla, ae, f., little fibril
fibrillula, ae, f., a little fibril
fibrosus, fibrous
fictitius, fictitious
filamentosus, filamentous, thread-like
filia, ae, f., daughter
filiformis, filiform, thread-shaped
filiger, filament-bearing
filum, i, n., thread
fimbria, ae, f., fringe
fimbrians, fringing
fimbriatulus, slightly fringed
fimbriatus, fimbriate, fringed
fimicola, fimicole, dwelling on dung
fimus, i, m., dung
findo, to cleave, divide
firmulus, somewhat firm
fissilis, cleft, ruptured
fissuratus, fissured, split
fissus, split
fistulosus, hollow
flabelliformis, fan-shaped
flaccidus, weak
flagella, ae, f., lash
flagellatus, bearing long bristles or threads
flagelliformis, lash-like
flamens, flame-colored
flavens, yellowing
flavidus, yellowish
flavus, yellow
flexuosus, flexuous, full of turns or windings
flexus, bent
flocciformis, tuft-like
floccosus, floccose, cottony
floccus, i, m., tuft
floralis, floral
flumen, inis, n., river
fluvius, ii, m., a river
fluxilis, flowing
foedatus, dark, soiled
foetidus, with a bad odor
foliicola, foliicole, living on leaves
foliose, like a leaf in form
folium, ii, n., leaf
foramen, inis, n., a hole
forma, ae, f., form
formans, forming
formo, to form
formosus, beautiful
fornix, icis, m., a vault
forsan, perhaps
forsitan, perhaps
fortasse, perhaps
forte, strongly
fovens, nourishing
fraccidus, soft, mellow
fractus, broken
fragilis, fragile
fragmentum, i, n., a bit, fragment
frequens, frequent
friabilis, falling to pieces
frigidarium, ii, n., a cold place, cold storage
frondosus, leafy
frons, dis, f., a leaf
fructicola, living on fruits
fructiferus, fructifer, fruit-bearing
fructificans, fruiting
fructificatio, nis, f., fruiting
fructus, us, m., fruit
frustulatus, fragmentary
frustum, i, n., a bit, piece
fruticosus, fruticose, shrub-like
fruticulosus, fruticulose, shrub-like
fucatus, colored
fugans, fleeting
fulciens, supporting
fuligineus, fuliginous, sooty

fuligo, inis, f., soot
fultus, supported
fulvellus, somewhat tawny
fulvescent, becoming tawny
fumagineus, fumaginous, smoky.
fumosus, smoky
fungicola, fungicole, growing on fungi
fungillus, i, m., a little fungus
fungus, i, m., a fungus
funicularis, rope-like
funiculus, i, m., a little rope
funiformis, rope-like
furcatus, furcate, forked
furfur, uris, m., bran
furfuraceus, bran-like
furfurellus, covered with bran
fuscatus, darkened
fuscellus, somewhat dark
fuscescens, darkening
fuscidus, dark
fuscidulus, dark
fuscus, dark, or dark brown
fusiformis, fusiform, spindle-shaped
fusisporus, with spindle-shaped spores
fusoideus, fusoid, spindle-shaped

G

galeiformis, hood-shaped
galeriformis, cap-shaped
gamete, sex-cell
gangliformis, forming knots
gangligerus, bearing knots
gelatina, ae, f., gelatine
geminatus, paired, twinned
gemmiparus, producing buds
generans, generating
genesis, is, f., origin
geniculatus, bent
genuflexus, bent
genuinus, genuine
genus, eris, n., genus
gerens, bearing
germinans, germinating
germinatio, onis, f., germination
gibbosus, swollen
gigastylosporus, with very large stylospores
gignens, producing
gigno, to bear
gilvus, brownish
glaber, smooth
glabrescens, becoming smooth
glacies, ei, f., glacier, ice
glans, glandis, f., a nut,
glaucescens, turning bluish-green
glaucus, sea-green
gleba, ae, f., soil, mass
globosus, globose, rounded
globuliger, bearing a ball
globulus, i, m., a globule
glomerula, ae, f., a little mass
glomerulatim, in heaps
gluten, inis, n., glue
glutinosus, glutinous
gonidium, ii, n., an algal cell
gossypinus, cottony
gracilis, graceful, slender
gradatim, gradually
gradus, us, m., grade, step
gramen, inis, n., grass
gramineus, grassy
graminicola, growing on grass
grandis, large
grandiusculus, somewhat large
granulatus, granular
granulosus, granular
graphidoideus, long and cleft, like Graphis
graveolens, of unpleasant odor
gregarius, gregarious, in clusters
gregatim, in clusters
grex, gregis, m., a flock
griseolus, grayish
griseus, gray
grossus, thick
grumosus, heaped
grumulus, i, m., a heap
gumosus, gummy
gutta, ae, f., a vacuole
guttatus, with little drops
guttula, ae, f., a drop or vacuole
guttulosus, with drops
gyalectoideus, Gyalecta-like
gypseus, gypsum-like
gyrosus, gyrose, spiral

H

habeo, to have
habitatio, onis, f., habitat
habitus, us, m., habit

hactenus, up to the present time
haerens, adhering
haereo, to hold to
halos, o, f., a halo
hamatus, hamate, hooked
haud, not at all
haustorium, ii, n., a sucker
helicoideus, spiral-like
heliotropicus, heliotropic
helvolus, deep purple
herba, ae, f., a plant
herbicola, dwelling on herbs
heterogamete, one of two unlike sex-cells
heterogeneus, different
heteroicus, on two hosts
heteromorphus, heteromorphic, of different kinds
hexagonus, hexagonal
hexasporus, six-spored
hians, gaping
hiascens, gaping
hibernans, resting
hicillic, here and there
hinc, hence
hirtellus, somewhat shaggy
hodiernus, of today
homogeneus, homogeneous
homoicus, on one host
homomorphus, alike, of one form
horizontalis, horizontal
hornotinus, of this year
hortus, i, m., a garden
hospes, itis, m., a host
hospitalis, of a host
huc, hither, in this direction
humectatus, wet
humectus, moist
humidulus, moist
humilis, low, small
humistratus, moist
humus, i, f., the earth
hyalinulus, somewhat clear
hyalinus, hyaline, clear
hyalosporus, with clear, one-celled spores
hydrophilus, aquatic
hygrometricus, absorbing moisture
hygrophanus, translucent
hymeniferus, membrane-bearing
hymenium, ii, n., fruiting surface, consisting of asci, or of basidia.
hymenophorum, i, n., that which bears the hymenium
hypertrophiens, hypertrophying
hypha, ae, f., a fungus filament
hyphasma, atis, n., the mycelium.
hyphoideus, hypha-like
hyphomycetus, mould-like, cobwebby
hypocreaceus, Hypocrea-like, fleshy and bright-colored
hypodermicus, under the epiderm
hypogaeus, hypogaean, underground
hypogenus, on the under side
hypophloeodus, under the bark
hypophyllus, on the under side of leaf
hypostroma, atis, n., lower stroma
hypothallus, i, m., hypothallus
hypothecium, the area just below the layer of asci
hysteriformis, Hysterium-like, long and cleft
hysterinus, long and cleft as in Hysterium
hysterothecium, an oblong or linear perithecium opening by a cleft

I.

ibi, there, then
icon, onis, f., an image, figure
idem, the same
ideoque, therefore
idoneus, fit
igitur, therefore, accordingly
ignotus, unknown
imbricatus, imbricate
immaculatus, without spots
immarginatus, without a margin
immaturus, young
immediate, directly
immersus, sunken
immutatus, unchanged
impalpabilis, extremely fine and minute
impervius, impervious
implens, filling
implexus, infolded
impolitus, not polished
impositus, imposed

imprimis, especially
improbabile, improbably
imus, lowest
inaequilateralis, unequal-sided
inaequaliter, unequally
inaequipolaris, with unequal poles
inanis, empty
inarticulatus, without divisions
incarceratus, hidden
incarnatus, pink
incertus, uncertain
incisio, onis, f., incision, cutting
incisus, cut
inclinatus, bent
inclusus, inclosed
incoctus, not cooked
incolens, dwelling in
incoloratus, without color
inconditus, confused, unformed
incrassatulus, somewhat thickened
incrassatus, broadened, thickened
incresco, to grow in, increase
incumbens, lying upon
incurviusculus, somewhat incurved
incusus, forged, made
indeterminatus, indefinite
indico, to indicate
indigito, to utter, announce
indivisus, undivided
indoles, is, f., nature, natural ability
indumentum, i, n., a covering
induratus, hardened
indurescens, growing hard
indusium, ii, n., indusium
indutus, covered
ineptum, improper
inermis, unarmed
inferior, lower
inferus, below, lower
infestans, infesting
inficiens, infecting
infimus, lowest
infixus, fastened in
inflans, inflating
inflatus, inflated
infossus, sunken
infra, lower, below
infundibuliformis, infundibuliform, funnel-shaped
infuscatus, darkened
initio, at first
initium, ii, n., the beginning
innatus, innate
innotesco, to become clear
innumerus, innumerable
inordinatus, without order
inquinans, blackening
inquinatus, dirty
inquirendus, to be investigated
insculptus, insculptate, hollowed
insectum, i, n., insect
insertio, onis, f., insertion
insertus, inserted
insidens, seated upon
insitus, ingrafted
inspersus, scattered
inspissatus, thickened
instar, like
instructus, built up
insuetus, unusual
insula, ae, f., an island
integer, whole
intense, intensely
intercalary, in the midst of, between
interdum, sometimes
interim, meanwhile
intermedius, intermediate
intermixtus, mixed with
internervius, between the nerves
internus, internal
interspersus, interspersed, scattered
interstitium, ii, n., a space
intertextus, intertwined
intus, within
intracellaris, within the cell
intrans, entering
intricatus, intertwined
intumescens, swelling
intus, within
invasus, invaded
inversus, inverted
investiens, covering
invicem, in turn, mutually
involucrum, i, n., involucre
ipse, self
irregularis, irregular
irregulariter, irregularly
irrepens, creeping in
irroratus, bedewed
isabellinus, isabel-colored

isogamete, one of two similar sex-cells
isthmus, i, m., a connection
itaque, therefore
iteratus, repeatedly

J

jacio, to throw
jamdudum, this long time
jodicus, of iodine
jodus, i, m., iodine
junior, younger, young
jus, juris, n., law, right
juvenilis, young
juxta, near

L

labiatus, lipped
labium, ii, n., lip
labrum, i, n., a lip
labyrinthus, labyrinthian, tortuose
laccatus, milky
lacerans, tearing
laceratus, lacerate, torn
lacerus, torn
lacinia, ae, f., a tear
laciniatus, laciniate, torn, lobed
lacrimiformis, tear-like
lactens, milky
lactescens, milky
lactiginosus, filled with milk, milky
lacuna, ae, f., a hole
lacunosus, lacunose, with hollows
lac, lactis, n., milk
lacus, us, m., a lake
laeticolor, bright-colored
laetus, bright
laevis, smooth
lageniformis, flask-shaped
lamella, ae, f., gill
lamina, ae, f., scale, layer, blade
laminaris, leaf-like
lanatus, woolly
lanceolatus, lance-shaped
languens, withering
lanosus, woolly
lanuginosus, woolly
laricinus, of larch
larva, ae, f., larva
lateritius, brick red
latitudo, inis, f., width
latiusculus, somewhat wide
latus, eris, n., the side
latus, broad, wide
laxus, loose
lectus, collected
lego, to collect
leiosporus, with smooth spores
leniter, slightly, gently
lenticularis, lenticular, lens-shaped
lentiformis, lens-shaped
lentus, tough, flexible
leporinus, of a hare
leptodermus, thin-walled
leprosus, scab-like
leucosporus, with white spores
levis, light, smooth
levitas, atis, f., smoothness
liber, free
liberatus, freed
lichenicola, lichenicole, growing on lichens
lichenoideus, lichen-like
ligneus, woody
lignatilis, of wood
lignicola, lignicole, growing on wood
lignum, i, n., wood
lilacinus, lilac-colored
limbatus, bordered
limbum, i, n., limb, border
limes, itis, m., limit
limitatus, limited
limoniformis, lemon-shaped
linea, ae, f., line
linearis, linear
lineola, ae, f., little line
linguiformis, tongue-shaped
liquifaciens, liquifying
liquo, to melt
lirella, ae, f., furrow
lirelliform, furrow-like
lividus, livid, purple
lobulatus, somewhat lobed
locandus, to be located
locatus, located
locellatus, with chambers
locellus, i, m., a little cell
loco, to place, locate
loculiferus, containing hollows
loculus, i, m., locule, place, cell, hollow

locus, i, m., place
longicollus, with long beaks
longior, longer
longitrorsum, longitudinally
longitudinalis, lengthwise
longus, long
lophus, i, m., a crest
lubricus, slippery
lucidus, clear, lucid
ludibundus, playful
lumen, inis, n., opening
lunatus, crescent-shaped
lunulate, crescent-shaped
luridus, lurid
luteus, yellow
lutescens, yellowish
lux, lucis, f., light

M

maceratus, softened
macro-, large
macrostylospora, ae, f., large stylospore
macula, ae, f., a spot
maculatis, spotted
maculicola, dwelling on spots
maculiformis, spot-shaped
madidus, moist, wet
magis, more
magniguttatus, with one or two large globules
magnitudo, inis, f., size
magnus, great, large
majusculus, somewhat large
male, poorly
mamillaris, protuberant
mamilliformis, shaped like a papilla
manifestus, evident
mappa, ae, f., a map
marcescens, withering
marginatus, margined
margo, inis, m., and f., margin
marmoratus, marble-like
massa, ae, f., mass
massula, ae, f., a little mass
matricalis, belonging to the matrix
matrix, icis, f., matrix, layer or tissue
maturus, mature
maturescens, ripening
maxime, greatly
mazaedium, i, n., a dough-like mass of spores and paraphyses
medietas, atis, f., middle
mediocris, average
mediocriter, moderately
medius, i, m., medium
medulla, ae, f., the pith, medulla
medullary, belonging to the pith or medulla
medullatus, stuffed, pithy
melanosporus, with black spores
melioideus, meliola-like
melius, better
melleus, honey-colored
mellinus, honey-colored
membrana, ae, f., membrane
membranaceus, membranaceous, membranous, thin or membrane-like
memoria, ae, f., memory
mens, mentis, f., mind
merenchymaticus, with many cells
merens, deserving
meridionalis, southern
mesogenus, mesogenous, borne in the middle
mesopodes, with stem in the middle
mesopus, with central stalk
metageneticus, metagenetic
metallicus, metallic
metiens, measuring
metulaeformis, pyramid-shaped
metuliformis, pyramid-shaped
micro-, small
microconidiophorus, bearing small conidia
microcystis, small-celled
micronemeus, with short hyphae
micropycnidium, ii, n., small pycnidium
microscopium, ii, n., microscope
microstylospora, ae, f., microstylospore
migro, to move
miniatus, bright red
minimum, least
minor, smaller
minuties, ei, f., detail
minutus, minute

mitis, pleasant, mild
mitratus, mitre-shaped
mobilis, mobile, moving
molecularis, molecule-like
molliusculus, somewhat smooth
mollis, smooth
moneo, to caution, warn
monile, is, n., a chain, necklace
moniliformis, chain-like
monoascus, with one ascus
monocephalus, monocephalic, one-headed
monocyclus, with one cycle
monoicus, monoecious
monoplastus, uniform, with one protoplast
monospermus, one-spored
monosporus, one-spored
monostichus, monostichous, in one row
mons, tis, m., a mountain
monstrosus, monstrous
montanus, mountainous
montosus, mountainous
morbosus, diseased
moriens, dying
mos, móris, m., manner
motilis, motile, able to move
movens, moving
mox, at length
mucedineus, white and cottony
mucilago, inis, f., mucilage
mucosus, mucose, slimy, mucous
mucus, i, m., mucus
mucro, onis, m., a point
mucronatus, pointed
mucronulatus, with a little point
mucronulus, i, m., a little point
multifidus, multifid, many-divided
multiguttatus, with many oil-drops
multilocularis, many-celled
multiloculatus, with many cells
multinucleate, with many nuclei
multisporus, many-spored
multizonatus, with many zones
multoties, many times, often
multus, much
munitus, furnished
muralis, muriform
muriculatus, muriculate, spiny
muriformis, muriform, with cross and longitudinal walls
murinus, mouse-colored
murus, i, m., wall
muscosus, mossy
mutans, changing
mutatus, changed
muticus, muticate, not pointed
muto, to change
mutue, mutually
mutuus, mutual
mycelialis, mycelial
mycelicus, mycelial
mycelium, ii, n., mycelium
mycogenus, dwelling on fungi
mycologus, i, m., a student of fungi
myochrous, mouse-colored
myriosporus, with many spores
mytiliform, shell-like

N

nascens, arising
nascor, to be born
natalis, native
naufragium, ii, n., shipwreck
navel, point of attachment
navicularis, boat-shaped
nebulosus, nebulous, cloudy, dark
nec, not
nectriaceus, Nectria-like
nemorosus, woody, shady
neque, and not
nervicola, growing on veins
nervi-sequus, nervi-sequens, following the veins
nidulans, nesting
nidulor, to nest
niduo, to nest
niger, black
nigredo, inis, f., blackness
nigresco, to grow black
nigricans, blackening
nigrifactus, blackened
nigrificatus, made black
nigrolimitatus, black-lined
nigropilus, black-hairy
nigropunctulatus, black-dotted
nigrostrigosus, black-hairy
nimium, too, too much
nisi, unless

nitens, shining
niteo, to shine
niveus, snow-white
nobilis, grand
nodosus, with joints
noduliferus, bearing knots
nodulosus, with joints
nodus, i, m., a joint, knot
nomen, inis, n., a name
non, not
nondum, not yet
nonne, not
nonnihil, somewhat
nonnisi, except
nonnullus, some
normalis, normal
notatus, marked
notus, known
novus, new
nubecula, ae, f., a little cloud
nubilosus, cloudy
nucleatus, nucleate
nucleiferus, nucleus-bearing
nucleolus, nucleole
nucleus, i, m., center, nucleus
nudiusculus, somewhat naked
nudus, naked
nullimodus, in no wise
nullus, none
numerosus, numerous
numerus, i, m., a number
numquam, never
nunc, now
nutiquam = ne-utiquam, by no means
nuto, to incline
nutrix, icis, f., host
nux, nucis, f., a nut

O

ob, for, toward, on account of
obclavatus, reversed club-shaped
obconicus, reversed-conical
obducens, covering
obduco, to cover
oblique, obliquely
obliterans, disappearing
obliteratus, lost, destroyed
oblongatus, oblong
oblongus, oblong
obpyriformis, obpiriform, reversed pear-shaped
obrutus, covered
obscurus, dark
observandum, to be observed
observatus, found
obsessus, surrounded
obsolesco, to become obsolete
obsoletus, obsolete, lacking
obtectus, covered
obtegens, covering
obturaculum, i, n., opening
obtusangulus, with obtuse angles
obtusatus, obtuse
obtusus, obtuse
obtutus, us, m., a looking at
obvallatus, surrounded
obvelo, to cover
obvius, clear, open
obvolvens, enveloping
occellatus, with openings
occulo nudo, with unaided eye
occupans, occupying
ochraceus, pale yellow, ochreous
ochrosporus, with yellow or yellow-brown spores
octavus, eighth
octo, eight
octonus, in eights
octoseptatus, with eight cross-walls
octosporus, eight-spored
oleosus, oily, with oil drops
oligosporus, few-spored
olim, formerly
olivascens, olivascent, becoming olive
olivaceus, olive
omissus, omitted
omnino, everywhere, entirely
oosporous, with resting spores formed by the union of unlike sex-cells, e.g., of egg and sperm
opacus, opaque
opalinus, clear
operculatus, operculate, with a lid
operculiformis, lid-shaped
operculum, i, n., a cover, lid
oppidum, i, n., a town
oppletus, filled
oppositus, placed
orbicularis, orbicular, round
orbiculatim, circularly

orbis, is, m., a circle
ordo, inis, m., order
organicus, organic
organum, i, n., an organ
oriens, arising
orientalis, eastern
orificium, i, n., opening
originalis, original
origo, inis, f., origin
orior, to arise
ornatus, furnished
orthotropus, straight
ortus, arisen
os, oris, n., mouth
oscillans, oscillating
osculum, i. n., mouth
ostendo, to show
ostiolatus, ostiolate, with a mouth
ostiolum, i, n., ostiole, opening
ovalis, oval
ovaricola, growing in ovaries
ovatus, egg-shaped
ovinus, of or belonging to a sheep
ovoideus, nearly egg-shaped

P

pachydermaticus, thick-walled
pachypleurus, thick-walled
paene, nearly
paenultimus, next to the last
pagina, ae, f., page, side
paliformis, paliform, stake-shaped, palisade-like
pallescens, turning pale
pallidus, pale
palmatus, palmate, hand-like, palm-like
palmicola, growing on palms
palpebra, ae, f., eyelid
paludosus, marshy
palumbinus, dove-colored, grayish
palus, udis, f., a marsh, swamp
panicula, ae, f., a panicle
paniculatus, paniculate, branched
panis, is, m., bread
pannosus, pannose, ragged
pannum, i, n., a rag, cloth
papillaris, papillate
papillatus, with papilla, papillate
papilliformis, like a papilla
papillula, ae, f., a little papilla
papillulatus, with a very small nipple or papilla
papulosus, with many pustules
papyraceus, papery
paradoxus, strange, contrary
parallelus, parallel
parasiticus, parasitic
parcus, few, scanty
parenchymaticus, parenchyma-like
paries, etis, m., a wall
paritas, atis, f., equality
paroechia, ae, f., parish
pars, partis, f., a part
partitus, divided
parum, too little
parvulus, small
parvus, small
pascuum, i, n., pasture
passim, everywhere
patellaris, dish-like
patelliformis, shaped like a dish
patens, spreading
patenter, openly
patior, to support, endure
patulus, spreading
paucilocularis, few-celled
paucus, few
paulatim, gradually
paulisper, for a little while
paulo, a little
pectinatus, comb-like
peculiaris, peculiar
pedatus, foot-like
pedicellatus, with a pedicel
pedicellus, i, m., pedicel
pediculatus, pedicelled
pedunculatus, stalked
pedunculicola, growing on peduncles
pellicle, skin, covering
pellicula, ae, f., a little skin
pelliculosus, with a covering
pelluciditas, atis, f., clearness
pellucidus, pellucid, clear
peltatus, shield-shaped
pendo, to hang
pendulus, hanging
penetrans, penetrating
penicillate, brush-like
penicilliformis, brush-like

pentagonus, pentagonal
per, through
peraffinis, closely related
perbrevis, very short
percursus, run through
perdurans, resting
perduro, to last
perennans, perennial
perennis, perennial
perexiguus, very thin
perexilis, very slender
perfectus, complete, perfect
perforans, perforating
perforatus, perforated
perfossus, hollowed out
pericarpium, ii, n., pericarp, covering
peridermicus, belonging to the periderm
peridermium, ii, n., periderm
peridium, ii, n., peridium
periphericus, peripheral around the edge
peristomium, ii, n., mouth
perithecialis, perithecial
perithecigerus, perithecium-bearing
perithecioid, perithecium-like
peritheciophorus, bearing perithecia
peronatus, rough, rough-booted
perparum, very little
perrumpens, breaking through
persicinus, peach-colored
persistans, persistent
perspiciens, transparent
perspicuus, clear
persuasus, convinced
pertenuis, very thin
pertineo, to belong
pertusus, protruded
pes, pedis, m., foot
petiolum, i, n., petiole
petrifactus, made like rock, hardened
pezizoideus, pezizoid, cup-fungus-like, cup-like
phacidiodeus, like Phacidium, black and disk-like
phaeophragmeus, with dark transeptate spores
phaeosporus, with dark, one-celled spores
phaseoliformis, bean-shaped
phomatoideus, Phoma-like
phyllogenus, phyllogenous, borne on leaves
phyllostictoideus, Phyllosticta-like
phytogenus, growing on plants
phytographus, i, m., a botanist
phytophilus, phytophilous, growing on plants
pictura, ae, f., a painting
pictus, colored
pileatus, cap-shaped
pileus, i, m., a cap
pilosellus, somewhat hairy
pilosus, pilose, with hairs
pilum, i, n., a hair
pineus, piny
pingo, to paint
pinna, ae, f., a leaflet
pinnatus, pinnate
piperatus, peppery, pungent
piscis, is, m., a fish
pisum, i, n., pea
placenta, ae, f., placenta
placentiformis, placenta-like
plaga, ae, f., a spot
plagula, ae, f., a little spot
plaguliformis, spot-like
planta, ae, f., a plant
plantula, ae, f., a little plant
planus, plane, flat
plasma, atis, n., plasm, mass
plasmodium, ii, n., protoplasm-like mass
pleiosporus, many-spored
plenus, full
plerumque, for the most part
pleuroacrogenus, borne at the tip and at the sides
pleurogenus, pleurogenous, borne on the walls or sides
plica, ae, f., a fold
plicatus, plicate, folded
pliciformis, fold-form
plumbeus, lead-colored
plures, many
pluriarticulatus, many-celled
pluriciliate, with many cilia
plurifurcatus, many forked
pluriguttulatus, many guttulate
plurilocellatus, with many hollows

pluriperforate, with several openings
pluristratosus, many-layered
poculiformis, cup-shaped
podetium, i, n., a stalk-like or cup-like erect thallus
polaris, polar
politus, polished
polleo, to be able, avail
pollex, icis, m., thumb
pollicaris, thumb-like, an inch long
polus, i, m., a pole
poly-, many
polyascus, with many asci
polyblastus, many-celled
polycephalus, polycephalous, with many heads
polyedricus, polyhedral
polygonus, with many angles
polyrrhizus, with many roots
polystichus, polystichous, in many rows
pondus, eris, n., weight
populus, i, f., poplar
porosus, with pores
porrigo, to stretch out
porus, i, m., a pore
positus, placed
possum, to be able
postea, hereafter
postice, at the back
postremus, last
potius, rather
praecedens, preceding
praecipue, especially
praeclarus, distinguished
praecox, early, abundant
praeditus, furnished
praeferendum, preferred
praelongus, very long
praeprimis, especially
praesens, present
praesertim, particularly
praestans, distinguishing, excelling
praesumptus, assumed, presumed
praetereaque, besides, moreover
praeteritus, past
pratum, i, n., a meadow
primitivus, primitive
primitus, at first
primus, first
prioritas, atis, f., priority
prismaticus, prismatic
privus, without, deprived
pro, for
probabilis, probable
procerus, tall
processus, projection
procumbens, procumbent, prostrate
prodeuns, projected
productus, carried out, produced
proficiscor, to begin, arise
profunditas, atis, f., depth
profundus, deep
projectus, thrown off
proles, is, f., a race, offspring
proliferus, proliferous, produced, proliferate
proliger, bearing offspring
prolongatio, onis, f., prolongation; lengthening
promycelium, i, n., promycelium
prope, near
proper exciple, an apothecial covering or wall without algae
propius, proper
propinquus, adjacent
propulsus, expelled
proratione, comparatively
prorsus, forwards, exactly
prorumpo, to break through
prosenchymaticus, prosenchymatic, consisting of long cells or filaments
proteus, changing, variable
protractus, extended
protrudens, projecting
provectus, prolonged, advanced
proveniens, coming
pruinulosus, somewhat powdery
pruinosus, powdery, pruinose
pseudo-, false
pseudoparaphyses, false paraphyses
pseudoparenchyma, false parenchyma, a tissue looking like parenchyma but formed of threads
pseudoperidium, a covering
pseudoplasmodium, ii, n., a false plasmodium
pseudopodium, ii, n., false foot, lobe
pseudostiolum, i, n., false ostiole

pseudostroma, atis, n., a false stroma
pseudostromaticus, resembling a stroma
pseudothallus, i, m., false thallus
puberulus, somewhat hairy
pubescens, hairy
pubes, is, f., hair
puccinoideus, puccinia-like
pulchellus, beautiful
pulcher, beautiful
pulchre, beautifully
pulpa, ae, f., pulp, mass
pulveraceus, powdery
pulverulentus, powdery
pulvinatus, cushioned
pulvinulus, i, m., a little cushion
pulvis, eris, m., powder
punctiformis, punctiform, dot-like
punctulans, dotting
punctulatus, punctate, dotted
purpurascens, becoming purple
purus, pure
pusillus, tiny
pusio, onis, m., a growth
pustula, ae, f., a mass
pustulate, pertaining to a swollen mass
putamen, inis, n., a shell
putredo, to decay
putrescens, decaying
putris, decaying
pycnidicus, pycnidial
pyramidatus, pyramidal
pycnidium, i, n., pycnidium
pyreniformis, pyreniform, shaped like a nut
pyriformis, pear-shaped
pyxidatus, like a box

Q

quadricoccus, of four round cells
quadripartitus, four-divided
quadrisporus, four-spored
quadrum, i, n., a square
qualis, like
quam, than
quandoque, whenever, at some time
quartus, fourth
quasi, almost
quater, four times
quaternus, by fours
quattuor, four
quercinus, oaken
quia, because
quinqueseptatus, five septate
quisque, each
quisquilae, arum, f., dirt, trash
quoad, as long as, as much as
quod, that
quoque, also

R

racemulus, i, m., a little raceme
racemus, i, m., a bunch of grapes, raceme
rachis, is, f., axis
radians, radiating
radiatim, radiately
radiatus, radiate
radicalis, basal
radicans, root-like, rooting
radicatus, radicate, more or less rooted
radiciformis, root-shaped
radicosus, having many roots
radix, icis, f., a root
ramicola, ramicole, living on twigs
ramosus, much branched
ramulus, i, m., a little branch
ramus, i, m., a branch
rarius, more rarely
raro, rarely
rasus, leveled
reabsorptus, reabsorbed
recedo, to recede, differ
recensio, onis, f., a reviewing
recludens, opening
recognoscens, recognizing
rectangularis, rectangular
rectangulus, rectangular
rectus, straight
reddo, to return, restore
refractus, turned back
refringens, refringent
regio, onis, f., region
relatus, related
relinquens, leaving
relinquo, to leave
reliquus, left, remaining
remote, distantly

remotiusculus, somewhat distant
reniformis, reniform, kidney-shaped
repandus, turned back
repens, creeping
reperio, to find
repertorium, ii, n., an inventory, catalogue
repertus, found
repetite, repeatedly
repetitus, repeated
repletus, full
repo, to crawl
res, rei, f., a thing
resolvens, breaking up
resorptus, absorbed
resupinatus, resupinate, horizontal, the hymenium turned up
reticulatus, reticulate, net-like
reticulum, i, n., a net
retiformis, net-like
retineo, to retain, keep
retis, is, f., a net
retrorsus, backward
retusus, with a little sinus
revelo, to reveal, uncover
revivescens, reviving
revoco, to recall
revolutus, folded back
rhabarbarinus, yellow
rhizoid, root
rhizoideus, root-like
rhizomorphoideus, root-like
rhizophilus, growing on roots
rhodosporus, with rose-colored spores
rhombius, rhombic
rhomboideus, rhomboid
rhytismoideus, Rhytisma-like
ricciiformis, like Riccia, a liverwort
rigens, stiff, rigid
rigidulus, somewhat stiff
rigidus, stiff
rima, ae, f., cleft
rimosus, rimose, cleft, cracked,
ripa, ae, f., bank
rite, rightly, fitly, well
rivulosus, with channels
rivus, i, m., brook
robustus, robust
roridus, like dew
ros, roris, m., dew
roseolus, somewhat rosy
roseus, rose-colored
rostellatus, somewhat beaked
rostratus, rostrate, beaked
rostriformis, beak-like
rostrum, i, n., beak
rosulatus, rosette-like
rotundatus, rounded
rubeolus, somewhat reddish
ruber, red
rubellus, somewhat reddish
rubescens, growing red
rubiginosus, rust-colored
rubricosus, reddish
rufescens, becoming reddish
rufus, reddish
rugosiusculus, more or less wrinkled
rugulosus, furrowed, roughened
rumpens, breaking
ruptus, broken
rursus, backward
rutilus, red

S

saccatus, saccate, sac-like
saccharinus, sugary
saccharum, i, n., sugar
sacciformis, sac-shaped
sacculiformis, like a little sac
sacculus, i, m., a little sac
saepe, often
salicinus, of willow
salmonicolor, salmon colored
salmonius, salmon-colored
saltem, at least
samara, ae, f., key fruit
samariform, key-shaped
sanguineus, bloody, blood-colored
sapidus, filled with sap, savory
sapor, oris, m., flavor
saprogenus, saprogenous, growing on decayed matter
saprophilus, growing on decaying matter
saprophyticus, saprophytic
sarciniformis, sarciniform, packet-like
sarmentum, i, n., twig
satis, sufficient
saturatus, saturated

scaber, rough
scabridus, rough
scabriusculus, somewhat rough
scalaris, of a ladder, or staircase
scaliformis, ladder-like
scariosus, thin, papery
scheda, ae, f., sheet of paper
scio, to know
scissilis, splitting
sclerotiformis, sclerotium-like
sclerotioideus, sclerotioid, sclerotium-like
sclerotium, i, n., sclerotium, a hard black mass
scolecosporus, with thread shaped spores
scopulate, like a brush
scrobiculatus, roughened, furrowed
scrotiformis, bladder-like
scruposus, rough
scrutator, oris, m., an investigator
scutatus, shield-shaped
scutellatus, like a small shield
scutiformis, shield-shaped
secedens, separating
secernibilis, separable
sectio, onis, f., a section
secundarius, secondary
secundum, according to
secus, otherwise
sed, but
sedulus, diligent, careful
segmentiformis, segment-like
sejunctus, separate
semel, once
semen, inis, n., a seed
semi, half
semiexertus, half extended
semiimmersus, half immersed
semiinfossus, (cf. infossus)
semiinsculptus, (cf. insculptus)
seminalis, seed-like
seminicola, growing on seeds
semipellucidus, half-pellucid
semiteres, half columnar
semiuncialis, a half inch
semper, always
senescens, growing old
sensim, gradually
sensus, us, m., opinion, sense
separabilis, separable, separating
separo, to separate
sepimentum, i, n., partition
sepono, to separate
septatus, septate, divided into cells
septentrionalis, northern
septulum, i, n., a little septum
sepulchrum, i, n., grave
sequens, following
sericellus, somewhat silky
sericeus, silky
series, ei, f., a series
serotinus, late
serpens, creeping
serpentinus, serpentine
serratus, serrate
serus, late
sesqui, by a half
sesquilinea, one inch and a-half
sesquipedalian, very long
sessilis, seated, without a stalk
seta, ae, f., a bristle
setaceus, bearing one or more bristles
setiformis, bristle-shaped
setiger, bristle-bearing
setosus, setose, with bristles
setula, ae, f., a little bristle
setulose, with bristles or spines
seu, or
sexilocularis, with six cells or locules
sexsporus, six-spored
sexsulcatus, six-furrowed
siccans, drying
siccus, dry
sigillatim, seal-like
sigmoideus, sigmoid, s-like
signatus, marked
sileo, to be silent
silva, ae, f., a forest
similaris, like
similis, similar
simple, not branched; one-celled (of spores)
simplex, icis, simple
simul, at the same time
simulate, apparently
simulo, to imitate, copy, represent
sine, without
singularis, peculiar, not in chains
singulus, each

sinuatus, sinuate
sinuosus, crooked
sistens, comprising
situs, placed
socia, ae, f., society
sociatus, grouped together
soleo, to be accustomed
solidiusculus, somewhat solid
solitarius, solitary
solitus, usual
sollertus, distinguished
solubilis, dissolving
solutus, dissolved
sordes, is, f., dirt
sordidus, dirty
sorus, i, m., spore mass
spadiceus, brownish
spatha, ae, f., a spathe
spargo, to scatter
sparsus, scattered, sparse
spathulatus, spathulate
spatium, i, n., space
specialis, special
species, ei, f., species
spectans, looking
specto, to look
spermagonium, ii, n., a pycnidium-like body
spermatiferus, spermatia-bearing
spermatiformis, like a spermatium
spermatioideus, spermatium-like
spermatium, ii, n., a conidium-like body
spero, to hope
sphaericus, spherical
sphaeroideus, nearly spherical
sphaerula, ae, f., a sphere
spica, ae, f., a point, ear
spicatus, spike-like
spiculosus, spiny
spiculum, i, n., a little spine
spiniformis, spiny
spinuligerus, spine-bearing
spinulosus, with little spines
spira, ae, f., a spiral
spiralis, spiral
spiraliter, spirally
spiritus, us, m., a spirit
spissus, thick
splendens, splendid
spongilliformis, sponge-like
spongiosus, spongy
sponte, spontaneously
sporangiferus, bearing sporangia
sporangioliferus, bearing small sporangia
sporangiolum, i, n., a little sporangium
sporangiophore, the stalk of a sporangium
spore-print, the spore mass obtained by placing the cap of a mushroom flat on a piece of white paper
sporicus, sporal
sporidiolum, i, n., a little spore
sporidium, i, n., a spore
sporiferus, spore-bearing
sporodochium, a compact, conidial body, mass of sporophores
sporomorphus, spore-shaped
sporophora, ae, f., sporophore
spurius, false
squama, ae, f., a scale
squamosus, scaly
squarrose, with spreading scales or hairs
statura, ae, f., stature.
status, us, m., stage
stellatus, stellate, star-like
stelliformis, star-shaped
stercoratus, manured
stercus, oris, n., dung
sterigma, atis, n., stalk
stilbeus, stilbum-like, mallet like
stilbiformis, stalk-like
stilboid, with a stalked-head, Stilbum-like
stipatus, crowded
stipes, itis, m., a stalk
stipitatus, stipitate, stalked
stipitellus, i, m., a little stalk
stipitiformis, stalk-like
stoloniferous, producing runners
stoloniformis, runner-like
stramineus, straw-colored
stratosus, in layers
stratum, i, n., a layer
strenuus, prompt, vigorous
stria, ae, f., a line

strigosus, strigose, long or coarsely hairy
striiformis, line-like
strobilus, i, m., a cone
stroma, atis, n., a covering, layer
stromaticus, stromatic
stromatiferus, bearing a stroma
structura, ae, f., a structure
stupposus, tow-like
stylospora, ae, f., a stylospore
suadens, persuading
suavis, pleasant
sub, affix meaning somewhat, slightly
subacutus, somewhat acute
subaequans, nearly equal
subalbus, nearly white
subalutaceus, somewhat yellow
subastomous, more or less mouthless
subbulbosus, somewhat bulbous
subcarbonaceus, slightly carbonaceous
subcarnulosus, slightly fleshy
subclavatus, subclavate
subclypeate, somewhat shield-shaped
subcolumelliformis, somewhat like a columella
subconoideus, slightly conical
subcrustose, somewhat crust-like
subcuboideus, somewhat cubical
subcutaneus, under the epidermis
subdeterminatus, limited
subdiscoideus, somewhat disc-shaped
subelevatus, somewhat raised
suberosus, suberose, corky
subfuscus, subfuscous, somewhat dark
subglobosus, subglobose
subiculum, i, n., subicle, a compact cottony mycelium
subimmersus, slightly immersed
subinde, presently, forthwith, now and then
subito, suddenly
subnullus, nearly lacking
substantia, ae, f., substance
subterraneus, subterranean
subtilis, thin, slender
subtilitas, atis, f., fineness, thinness
subulatus, subulate, awl-shaped
subuliformis, awl-shaped
subvitro, under the lens
succresco, to grow under
suffultus, supported
sulcatus, sulcate, furrowed
sulcula, ae, f., a little furrow
sulcus, i, m., a furrow
sulphurellus, sulphurish
sulphureus, sulphur-colored
summa, ae, f., highest point, sum
superans, exceeding
superficialis, superficial
superficies, ei, f., the surface
superimpositus, superimposed
superpositus, superposed
superus, upper
supremus, uppermost
surculus, i, m., a shoot
sursum, upward
suspensor, supporting cell or group of cells
sustinens, supporting
sylva, ae, f., a forest (see silva)
sympodice, sympodially
synnema, atis, n., an erect fascicle of hyphae, as in Stilbaceae

T

tabesco, to melt
tactus, touched
taeniola, ae, f., a little band
talis, such
tamen, however, yet
tandem, at length
tantillus, so little
tapetum, i, n., nourishing layer
tarde, slowly, late
tartareus, powdery
tectus, covered
tegens, covering
tegmen, inis, n., a cover
teleutospora, ae, f., a teleutospore
teleutosporiferus, bearing teleutospores
tenacellum, somewhat tenaceous
tenellus, delicate
tentacula, ae, f., a tentacle
tentaculiformis, tentacle-shaped
tenuatim, drawn out
tenuis, slender
ter, three times
terete, cylindrical

teretiusculus, round, cylindric
terminalis, terminal
terminatus, terminated
ternate, in threes
ternus, three-fold
terra, ae, f., soil, earth
terrestris, terrestrial
tertius, third
testa, ae, f., a shell, coat
testaceus, brick-colored
tetradidymus, four-fold
tetragonus, four-angled
tetrasporus, four-spored
thalamium, i, n., a room
thallicola, growing on a thallus
thalliformis, thallus-like
thalline exciple, applied to an exciple containing algae
thallus, a more or less definite mass of hyphae parasitic on algae
thelephoroideus, thelephora-like
tigrinus, like a tiger
tinctus, tinged
tingens, tinging
tomentellus, hairy
tomentosus, hairy
tornatus, rounded-off
toruloideus, chain-like
torulosus, torulose, necklace-like
tortuosus, flexuous
tortus, twisted
totaliter, totally
totus, all
trabs, is, f., a beam
tractus, us, m., a tract
trahendum, to be drawn
trama, ae, f., a pathway
transeptate, with all cross-walls transverse
translucidus, clear
trapezoideus, trapezium-like
transiens, temporary
transversalis, transversal
tremelloideus, tremelloid, gelatinous
tremellosus, jelly-like
triangularis, triangular
tribus, us, f., a tribe
tricornutus, with three horns
trifoveolatus, with three hollows
trigonus, trigonous, three-angled
trilobus, three-lobed
trinacriformis, three-pronged
tripartitus, three-divided
tripedalis, three feet long
tripollicaris, three inches
triquetrus, three-cornered
trisporus, three-spored
tristichus, in three rows
tropicus, tropical
truncatus, cut-off
truncicola, growing on trunks
trunculus, i, m., a little trunk, stem
truncus, i, m., a trunk
tuber, eris, n., tuber, a swelling
tubercularinus, Tubercularia-like
tuberculario id, Tubercularia-like, warted
tubercularoideus, Tubercularia-like
tuberculiformis, wart-like
tuberculosus, roughened
tuberiform, tuber-like
tuberiformis, tuberiform, tuber-shaped
tubulosus, tubular
tubulus, i, m., a tube
tumescens, swelling
tumidulus, somewhat swollen
tumifactus, swollen
tunc, then
tunica, ae, f., cloak, coating
tunicatus, tunicate, covered
turbinatus, turbinate, top-shaped
turgescens, swollen
turgidus, swollen
turriformis, shaped like a tower
turritus, turreted, tower-like
typice, usually, characteristically
typus, i, m., a type

U

uber, rich
ubi, where
ubiquemque, everywhere
udus, wet
uliginosus, rich, muddy
ullus, any
ultimus, last
ultra, beyond or more
-ulus, a, um, suffix, meaning small
umbellatus, umbellate, umbelled
umbelliformis, like an umbel

umbilicatus, umbilicate, with a navel, sunken in the center, somewhat funnel-form.
umbilicus, i, m., navel
umbonatus, umbonate, with a boss
umbra, ae, f., shade
umbrinus, brown
umbrosus, shady
uncia, ae, f., an inch
uncialis, an inch long
uncinatus, hooked
unde, whence
undique, in all directions
undulatus, wavy
uniarticulatus, one-jointed
unicus, single
uniformis, of one form
unilateralis, one-sided
unilocular, with a single cavity or cell
uniserialis, one-rowed
uniseriatus, one-rowed
unitus, joined
unquam, ever
urceolatus, pitcher-shaped
uredinicola, growing on rusts
uredospora, uredospore
uredosporiferus, bearing uredospores
urniformis, urn-shaped
uromorphus, tail-like
usque, up to
usurpatus, usurped
ut, as
uterque, both
ut-plurimum, for the most part
utriculiformis, bladder-shaped
utrimque, on both sides, in both directions
uvidus, moist, wet

V

vaccinus, pertaining to a cow
vacuus, empty
vage, vaguely
vagina, ae, f., a sheath
vaginatus, sheathed
vagus, vague
valde, strongly
validiusculus, more or less stout
valseus, valsous, valsoid, Valsa-like, with the perithecia in a circle in the stroma
valva, ae, f., a valve
valvatim, valvate, with valves
variabilis, variable
varie, variously
variegatus, of different colors
varius, different
-ve, or
vegetus, fresh, vegetating
venementer, strongly
vel, or
velatus, veiled
vellus, eris, n., fleece, wool
velo, to cover
velocitas, atis, f., swiftness
velum, i, n., a veil
veluti, as
velutinus, velvety
vena, ae, f., a vein
venenatus, poisonous
veniformis, vein-like
ventricosus, swollen
vere, truly
vergo, to approach
verisimiliter, apparently
vermicularis, worm-like
vermiformis, vermiform, worm-shaped
vernalis, vernal, of or belonging to spring
vero, truly
verruciformis, wart-like
verruculosus, verrucose, warted
versatus, poured
versicolor, of different colors
versiformis, of different forms
versus, towards
vertens, turning
vertex, icis, m., the tip
verticalis, vertical
verticillatim, in whorls
verticillatus, verticillate, whorled
vescus, small, weak
vesicula, ae, f., vesicle, swollen cell
vesiculosus, vesiculose, swollen, bladdery
vestiens, covering
vestiguum, i, n., remnant, vestige
vestio, to cover

vestitus, furnished, covered
vetustus, old
vibrans, changing
videor, to seem
vigens, growing
villosulus, somewhat woolly
villus, i, m., a hairy covering
vinarius, of wine
vineus, of or belonging to wine
vinum, i, n., wine
violaceus, violet
violascens, turning violet
virens, becoming green
virgatus, rod-shaped
viridarium, i, n., greenhouse
virgultum, i, n., bush, copse
viridifuscus, greenish brown
viridulus, greenish
viscidulus, viscid, somewhat sticky
visibilis, visible
visus, seen
vitellinus, yellow
vitreus, glassy
vivens, living
vividus, vivid
vivus, alive
vix, hardly
volva, ae, f., a cup-like sheath at the base of a stem
volvaceus, with a volva
volvatus, with a volva
vulgatus, common
vulgo, commonly
vulpinus, of a fox

X

xylogenus, xylogenous, growing on wood
xylophilus, growing on wood

Z

zona, ae, f., a zone
zonula, ae, f., a little zone
zoogenus, on animals
zoogonid, a motile propagative cell
zoospora, ae, f., zoospore
zoosporangium, ii, n., zoosporangium
zoosporiferus, producing zoospores
zygosporiacus, pertaining to a zygospore
zygosporous, with resting spores formed by the conjugation of similar sex cells
zymogenus, ferment-producing

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