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THE GENERA OF MYXOMYCETES

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THE GENERA OF MYXOMYCETES

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The starting points for the nomenclature of the various plant groups, as specified by the International Rules of Botanical Nomenclature of 1915, and repeated in subsequent editions of the Rules and its successor, the Code, specify that the starting point for the Myxomycetes must be the first edition of Linnaeus' *Species Plantarum*, of 1753. The lichens are also tied to that date. The bulk of the fungi have as their starting point Fries's *Systema Mycologicum* of 1821-32, published in six installments during those years. However, the "Gasteromycetes"—surely an unnatural group, but the one in which the Myxomycetes were included for over a century after 1753—have a separate starting point, dating from Persoon's *Synopsis Methodica Fungorum* of 1801. Other exceptions are made for other groups, but few of these affect the Myxomycetes.

A number of references to Myxomycetes were made prior to 1753. Of these, that of Micheli, 1729, is perhaps most significant. Micheli described and illustrated several species, two of which can be identified with species recognized today, and others at least to genera. Haller, in 1742, in his *Historia methodica stirpium Helveticae*, described several species and accompanied them with excellent illustrations. These, and other works of the period, are frequently cited in the works of Linnaeus and his contemporaries and provide a way in which the very short Latin diagnoses used in descriptions of that day can be interpreted.

Linnaeus, 1753, named and described five species—surely a scanty harvest for a starting point work—assigning two of them to *Clathrus*, two to *Mucor* and one to *Lycoperdon*. In the second edition of the same work, 1763, seven species, probably representing only six species as now understood, are listed.

In the remaining years of the eighteenth century a number of au-

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thors published descriptions and illustrations of Myxomycetes, some of them very good, of whom J. F. Gmelin, in Linn., Syst. Nat., ed. 13, 1791; Batsch, *Elenchus Fungorum*, 1783-9; Bulliard, *Herb. France*, 1780-93 and *Hist. Champ. France*, 1791; and Schrader, *Nova Genera Plantarum*, 1797, (the first book devoted to the Myxomycetes), deserve special mention. Persoon published several papers from 1794-99 in which many Myxomycetes were described and in 1801 in his *Synopsis methodica Fungorum* presented the first coherent and reasonably complete account of the group, although he did not separate them from the gasteromycetes. During the following years, a number of authors published on the Myxomycetes, of whom Link, Nees, S. F. Gray and Greville are frequently cited. On the foundation laid by these and others, Fries, in the first part of the third volume of the *Systema Mycologicum*, 1829, prepared an admirable treatment segregating them as the suborder Myxogastres of the gasteromycetes on the basis of the plasmodium. Although earlier authors had described plasmodia, Fries was the first to grasp their importance. Link, in 1833, raised the group to ordinal rank as the Myxomycetes. Fries's treatment served as the generally recognized guide to the slime molds until the appearance of Rostafinski's imposing monograph of 1874-6, which marks the beginning of modern taxonomic treatment. By that time, the use of the microscope had become general, and Rostafinski was the first to apply the results of its use to major problems of classification in the slime molds. The delimitation of many modern genera is based on characters which can be seen clearly only by microscopic observation, for example, the crystalline or amorphous character of the lime present in many species, and details of the capillitium and spores. In some cases, these have not proved to be as clear-cut and helpful as they were at first thought to be, and there can be little doubt that many genera now widely accepted will in the future be altered in their circumscription, combined with others, or subdivided. That is a matter for taxonomic decision. The present paper is concerned primarily with the nomenclatural record and to only a very minor extent with taxonomy.

In the following pages, I have listed the names of all genera I have been able to find to which Myxomycetes or what are probably Myxomycetes have been referred. Names of genera included in the Myxomycetes by earlier authors, but which are now known to belong to other groups and to which I have found no record of assignment of Myxomycetes, are omitted. In every case I have indicated the type if the generic name is to be regarded as that of a Myxomycete genus. Because of the various starting points, a number of species of Myxomycetes were assigned to genera now universally recognized as in-

cluded in other groups, anywhere from half to three-quarters of a century before the starting points of such groups. *Mucor*, *Clathrus*, *Clavaria*, *Tremella*, and *Lycoperdon* are examples of such generic names. Obviously, the types of such genera cannot be the same for such double use. The Code does provide for conservation of such names in their long-accustomed application, provided a fully-documented case is presented to, and adopted by, a Congress. The number of such conserved names, which it was confidently asserted at the time the provision was adopted would be relatively few, has already, in the vascular plants, become scandalously large. As yet, the number in the fungi is relatively few and none of them applies to a myxomycete genus.

Santessen, Sv. Bot. Tidsk. 58: 114, 1964, comments on some of the problems caused by the early starting points for Myxomycetes and suggests informally that *Amaurochaete*, *Lycoperdon*, and *Clathrus* should be conserved in the sense in which they are now applied. In the case of *Amaurochaete*, the situation is far from clear, and there is little danger of anyone using the other two for Myxomycetes. Rather than ask for conservation, it seems sufficient to accept these and comparable cases as the inevitable consequence of tying nomenclature, which aims at stability, to taxonomy, which must remain fluid, and to adjust to the situation with as little formal legislation as possible.

An attempt has been made to indicate obligate, accepted and probable synonymy. Where a later name is nomenclaturally an obligate synonym of an earlier one, the triple dash (\equiv) is used. Where there is little doubt of the synonymy, I have used the equal symbol ($=$). Where the synonymy is commonly accepted, I have used the phrase "equated with." In the last two cases, this is obviously a taxonomic judgment, and is subject to revision in the light of new information.

It is too much to hope that the list is complete, but it is as nearly so as accumulated notes and available literature have permitted. I venture to publish it at this time in the hope that it will clarify some of the perplexing problems involved in the nomenclature of the slime molds.

AETHALIOPSIS Zopf, Pilzth. 149. 1885.

Type: *Aethaliopsis stercoriformis* Zopf, l.c. Now equated with *Fuligo cinerea* (Schw.) Morgan, Jour. Cinc. Soc. Nat. History 19: 33. 1896, based on *Enteridium cinereum* Schw., Trans. Am. Phil. Soc. II. 4: 261. 1832.

AETHALIUM Link, Ges. Nat. Freunde Berlin Mag. 3: 24. 1809.

Type: *Fuligo flava* Pers., Neues Mag. Bot. 1: 88. 1794. Now equated with *Fuligo septica* (L.) Wiggers, Prim. Fl. Holsat. 112. 1780, based on *Mucor septicus* L., Sp. Pl. ed. 2. 1656. 1763.

ALWISIA Berk. & Br., Jour. Linn. Soc. 14: 86. 1873.

Type: *Alwisia bombardata* Berk. & Br. l.c. Widely accepted. Transferred by Martin to *Tubifera* = *T. bombardata* (Berk. & Br.) Martin, Brittonia 13: 110. 1961.

AMAUROCHAETE Rost., Versuch 8. 1873.

Type: *Reticularia atra* (Alb. & Schw.) Fries, Syst. Myc. 3: 86. 1829, based on *Lycogala atrum* Alb. & Schw., Consp. Fung. 83. 1805 = *Amaurochaete atra* (Alb. & Schw.) Rost., Mon. 211. 1874.

Now equated with *Amaurochaete fuliginosa* (Sow.) Macbr., N. Am. Slime-Moulds 109. 1899, based on *Lycoperdon fuliginosum* Sow., Engl. Fungi, pl. 257, with descr. See comments under *Lachnobolus* Fries (1), and *Dermodium* Link; also Santessen, Sv. Bot. Tidskr. 58: 114. 1964.

AMPHISPORIUM Link, Ges. Nat. Freunde Berlin Mag. 7: 41. 1815.

Type: *Amphisporium versicolor* Link, l.c., (printed in Error "St. versicolor"). Now equated with *Didymium difforme* (Pers.) S. F. Gray, Nat. Arr. Brit. Pl. 1: 571. 1821. Saccardo, Syll. Fung. 3: 692. 1884, lists this genus and its single species after the Excipulaceae among the *genera dubia vel excludenda*. G. Lister, Mycet. ed. 3. 110. 1925, lists it as a synonym of *D. difforme* without a question mark. "*Stemonitis versicolor* Link" was not validly published.

ANCYROPHORUS Raunk., Bot. Tidskr. 17: 92. 1888.

Type: *A. crassipes* Raunk. l.c., p. 93. Now equated with *Enerthene ma papillatum* (Pers.) Rost., Mon. App. 28. 1876, based on *Stemonitis papillata* Pers., Neues Mag. Bot. 1: 90. 1794.

ANGIORIDIUM Grev., Scot. Crypt. Fl. pl. 310. 1827.

Type: *Reticularia sinuosa* Bull. Hist. Champ. Fr. 94. 1791 = *Angioridium sinuosum* (Bull.) Grev., l.c. Now equated with *Physarum bivalve* Pers., Ann. Bot. Usteri 15: 5. 1795.

ANTONIGEPPIA O. Kuntze, Rev. Gen. Pl. 3(2): 443. 1898.

Type: *Dermodium conicum* (Pers.) Rost., based on *Lycogala conicum* Pers., Syst. Myc., 159. 1801 = *A. conica* (Pers.) O. Kuntze, l.c.

ARCYODES O. F. Cook, Science 15: 651. 1902.

Type: *Licea incarnata* Alb. & Schw., Consp. Fung. 109. 1805 = *Arcyodes incarnata* (Alb. & Schw.) O. F. Cook, l.c.

To replace invalid *Lachnobolus* Fries II, q.v.

ARONGYLIUM Link, Ges. Nat. Freunde Berlin Mag. 3: 24. 1809.

A misprint for *Strongylium*, q.v., but cited by Wallroth, Fl. Crypt. Germ. 2: 337. 1833, using Link's spelling, as a synonym for *Reticularia*. ARCYRELLA Racib., Rozp. Akad. Umiej. 12: 81. 1884.

Lectotype: *A. irregularis* Racib., l.c., p. 83. Now equated with *Arcyria incarnata* (Pers., Obs. Myc. 1: 58. 1796 = *Arcyrella incarnata* (Pers.) Racib., Hedwigia 24: 170. 1885).

In the reference cited, Raciborski described four species as new under *Arcyrella*, obviously raising *Arcyria* subg. *Arcyrella* Rost., Mon. 275. 1875, to generic rank. He proposed the combinations *Arcyrella incarnata*, noted above, and *A. nutans* (Bull.) Racib. in 1885, and an additional species in 1889. Few later authors seem to have used the genus.

ARCYRIA Hill ex Wiggers, Prim. Fl. Holsat. 109. 1780.

Type: *Arcyria clathroides* Wiggers, var. *a*, l.c., based on *Clathrus denudatus* L., Sp. Pl. 1179. 1753 = *Arcyria denudata* (L.) Wettst., Verh. Zool.-Bot. Ges. Wien: Abh. 535. 1886.

Hill's name was published in 1751. The first valid publication after 1753 appears to be that of Wiggers. His *A. clathroides* was divided into two varieties, *a* *β*. For variety *a* he cites as a synonym *C. denudatus* L. and refers with approval to Jacquin's *Pl. 6*, Misc. Austr. 1778, there called *Clathrum denudatum* L. *Mucor Clathroides* Scop., Fl. Carn. ed. 2. 2: 493. 1772, carries the same specific epithet and refers to the same species, but is not cited by Wiggers and the latter's use of the specific epithet, which he capitalizes, may have been based independently on *Clathroides* Micheli, Nov. Pl. Gen. 212, pl. 94, f. 1. 1729.

Wiggers' var. *β* is based on "Hall. n. 2164. T. 8. f. 6." This is evidently a reference to Haller, Hist. Stirp. Helv. 3: 116. 1768, in which binomials are not used. It is probably a *Trichia*. Wiggers' three other species, *A. rufa*, *A. trichia*, and *A. pyriformis*, are of uncertain application.

ARSCYRIA. Variant spelling of *Arcyria* used by Greville in earlier part of Scot. Crypt. Flora.

BADHAMIA Berk., Trans. Linn. Soc. 21: 153. 1853.

Type: *Sphaerocarpus capsulifer* Bull., Hist. Champ. Fr. 139. 1791 = *Badhamia capsulifera* (Bull.) Berk. l.c.

BARBEYELLA Meylan, Bull. Soc. Bot. Genève II. 6: 89. 1914.

Type: *Barbeyella minutissima* Meylan, l.c.

BREFELDIA Rost., Versuch. 8. 1873.

Type: *Reticularia maxima* Fries, Syst. Orb. Veg. 147. 1825 = *Brefeldia maxima* (Fries) Rost., in Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 70. 1873.

BYSSUS L., Sp. Pl. 1168. 1753.

Type: *B. flos-aquae* L. l.c. (Drouet & Daily, Butler Univer. Bot. Stud. 12: 145. 1956)=*Oscillatoria prolifica* (Grev.) Gomont, Mon. Oscill. 225. 1893.

Micheli, Nova Pl. Gen. 210. 1729, recognized the genus and included 20 species, most of which were evidently algae, and cited various earlier authors who had used the name, including Ray, Gleditsch, Meth. Fung. 17. 1753 (pre-Linnaean), starts his definition of the genus "Est fungus—." He recognized 7 species, excluding certain algae which he referred to *Conferva*, but including species which Micheli had segregated as *Aspergillus* and *Botrytis*. His plate I, illustrating *Byssus*, consists mainly of crudely drawn reproductions of Micheli's figures.

Byssus, as typified by Drouet and Daily, and listed as so typified by Heller and Stearn, (1959), is clearly a genus of the Myxophyceae, included in the Nostocaceae Homocysteeae of which the starting point for nomenclature is 1892-3. As early as 1768, Haller (Hist. Stirp. Helv. 3: 105) restricted the genus to algae and indicated the type as "*Byssus* Linn. n. 1208." This may be reference to Linnaeus' Flora Suecica, ed. 2. 1755. Whether that is *B. flos-aquae* L. I do not know. Corda (Ic. Fung. 5: 1. 1842) noted that *Byssus*, as treated by Linnaeus, included heterogeneous elements and suggests, by implication, that it should be restricted to fungous mycelium. Its use for Myxomycetes is restricted to a few post-Linnaean, but pre-Friesian authors. *Byssus bombycinus* Retz., Sv. Vet.-Akad. Handl. 30: 251. 1769, is cited by Berlese (in Sacc., Syll. Fung. 7: 368. 1888) as a synonym of *Spumaria alba* (Bull.) DC., now equated with what is commonly called *Mucilago spongiosa* (Leyss.) Morgan. See *Mucilago*.

CALOMYXA Nieuwl., Am. Midl. Nat. 4: 335. 1916.

Type: *Physarum metallicum* Berk., Mag. Zool. Bot. 1: 49. 1836=*Calomyxa metallica* (Berk.) Nieuwl., l.c. To replace *Margarita* A. Lister, q.v.

CALONEMA Morgan, Jour. Cinc. Soc. Nat. Hist. 16: 27. 1893.

Type: *C. aureum* Morgan, l.c.

CARCERINA Fries, Summa Veg. Scand. 451. 1849.

Lectotype: *Didymium (Diderma) spumarioides* Fries, Symb. Gast. 20. 1818=*Carcerina spumarioides* Fries, l.c.=*Diderma spumarioides* (Fries) Fries, Syst. Myc. 3: 104. 1829.

Fries indicates that the genus is founded on "Didermatis sp. S.M. III." He makes three combinations under the new genus: *C. spumarioides*, *C. conglomerata* (Fries) Fries based on *Diderma conglomeratum* Fries, Syst. Myc. 3: 111. 1829, and *C. valvata* (Fries) Fries, based on *Diderma valvatum* Fries, Syst. Myc. 3: 109. 1829. The observation

at the bottom of page 154 of the volume cited suggests that Fries found these species puzzling. *C. spumarioides* is the only one which can be identified with reasonable certainty, and should be the basis for determining the type.

CERATIOMYXA Schroet., in Engler & Prantl, Nat. Pfl. 1(1): 16. 1889.

Type: *Isaria mucida* Pers., Neues Mag. Bot. 1: 121. 1794=*Ceratiomyxa mucida* (Pers.) Schroet. Now equated with *C. fruticulosa* (Müll.) Macbr., N. Am. Slime-Moulds 18. 1899.

Replaces *Ceratum* Alb. & Schw., q.v.

CERATIUM Alb. & Schw., Consp. Fung. 358. 1805.

Type: *C. hydnoides* (Jacq.) Alb. & Schw., l.c.=*Isaria mucida* Pers. p.p.=*Tremella hydnoidea* Jacq.

Not *Ceratum* Schrank Die Naturf. 27: 34. 1793. (Dinoflagellata). See *Ceratiomyxa*.

CHONDRIODERMA Rost., Versuch 13. 1873.

Type: *Didymium testaceum* Schrad., Nov. Gen. Pl. 25. 1797=*Diderma testaceum* (Schrad.) Pers., Syst. Fung. 167. 1801 (cited by Rost. as single example)=*Chondrioderma testaceum* (Schrad.) Rost., Mon. 179. 1874.

CIENKOWSKIA Rost., Versuch 9. 1873.

Type: *Physarum reticulatum* Alb. & Schw., Consp. Fung. 90. 1805=*Cienkowskia reticulata* (Alb. & Schw.) Rost., Mon. 91. 1874. Not *Cienkowskia* Regel & Rach, Ind. Sem. Hort. Petrop. 48: 1858, nor *Cienkowskyia* Solms, in Schweinf., Beitr. Fl. Aethiop. 197. 1867 (also spelled *Cienkowskia*). In the Kew Index 1: 535. 1895, the first is noted as "Gen dub. Bentham & Hooker f. l. 797" and the second is said to be a synonym of *Kaempferia* L. (Scitamineae). Neither appears to have been used for many years. *Willkommlangia* O. Kuntze, q.v., was proposed as a replacement for *Cienkowskia* Rost.

CIONIUM Link, Ges. Natur. Freunde Berlin Mag. 3: 28. 1809.

Type: *Didymium farinaceum* Schrad., Nov. Pl. Gen. 30. 1797=*Cionium farinaceum* (Schrad.) S. F. Gray, Nat. Arr. Brit. Pl. 1: 571. 1821=*C. farinaceum* (Schrad.) Link, Handb. Gew. 3: 410. 1833. Link did not publish the combination until 1833, apparently unaware of Gray's combination. *Didymium farinaceum* Schrad. is cited as a synonym of *Physarum farinaceum* Pers., Syn. Fung. 174. 1801, but Link in 1809 doubted that "*P. farinaceum* Alb. & Schw." (surely Persoon's name) was the same and questioned it again in 1833.

In 1815, Link, Ges. Nat. Freunde Berlin Mag. 7: 42, expressed doubt whether *Cionium* could be distinguished from *Didymium* and suggested that *D. farinaceum* be retained in *Didymium*. However, the

name had been taken up by Ditmar in 1813 and 1817 and was used by Nees in 1816, by S. F. Gray in 1821, by Sprengel in 1827 and by Link himself in 1833.

The genus was never clearly delimited, and as typified above, becomes a later synonym of *Didymium*. It was revived by Morgan, Jour. Cinc. Soc. Nat. Hist. 50: 144. 1894, as a section of *Didymium*, with exclusion of the type.

CIRRHOLUS Martius, Acta Acad. Nat. Cur. 10: 511. pl. 46, f. 4. 1821.

Type: *C. flavus* Martius, l.c. Assigned by author to gasteromycetes and included by early authors, including Corda, among Myxomycetes. In Saccardo, Syll. 18: 759. 1906, it is assigned to Montagne, with the note "*Physaro* aff. gen." Surely not a myxomycete.

CLASTODERMA A. Blytt, Bot. Zeit. 38: 343. 1880.

Type: *C. debaryanum* A. Blytt, l.c. (as *debarjanum*).

CLATHOPTYCHIUM Rost., Mon. 225. 1875.

Type: *Licea rugulosa* Wallr., Fl. Crypt. Germ. 2: 345. 1833=*C. rugulosum* (Wallr.) Rost., l.c. Now equated with *Dictydiaethalium plumbeum* (Schum.) Rost., in A. Lister, Mycetozoa 157. 1894.

Rostafinski cites six published synonyms of the type and only species, of which the earliest is *Licea plumbea* Schum., Enum. Pl. Saell. 2: 193. 1802, but selected Wallroth's name, which was the third on his list, to provide his specific epithet, hence Wallroth's species must be the type.

CLATHRODASTRUM O. Kuntze, Rev. Gen. Pl. 3(1): 848. 1891.

Type: *Clathrus nudus* L. Sp. Pl. 1179. 1753=*Clathrodastrum nudum* (L.) O. Kuntze, l.c. Equated by Kuntze with *Stemonitis fusca* Roth, but, as noted under *Clathrus* and *Stemonitis*, according to G. Lister only one of the four specimens so labelled in the Linnaean herbarium is that species. However, Kuntze's genus was validly published, as were those of his new combinations in which the specific epithet is not questioned.

Kuntze writes the name in his heading "*Clathro(i)dastrum*" Haller, 1742, but in the text spells it *Clathrodastrum*. I have found no valid publication of a combination in *Clathroidastrum*. Berlese, in Sacc., Syll. 7: 397. 1888, does cite *C. obscurum* Mich. as a synonym for *Stemonitis fusca* Roth, but since Micheli's name was not published as a binomial, such citation does not validate it.

CLATHRUM L. Variant spelling of *Clathrus* used by Jacquin, 1778, citing *C. denudatum* L.

CLATHRUS L., Sp. Pl. 1179. 1753.

Type: *Clathrus ruber*. Mich. ex Pers., Syn. Fung. 241. 1801=*C. cancellatus* L. l.c., 1179. 1753.

Of the three species listed in the *Species Plantarum*, only *C. cancel-*

latus represents the genus as it is used today. Linnaeus, Gen. Pl. ed. 5. 493. 1754, cites "Mich. 93," obviously a reference to *Clathrus ruber* Micheli, Nov. Pl. Gen. 214, pl. 93. 1729, which was also cited specifically in Sp. Pl. This suggests that Linnaeus thought it the typical representative of the genus. However, *Clathrus* in this sense is valid only from 1801.

Both of the other species are Myxomycetes. There is little question that *Clathrus denudatus* is at least essentially what is now called *Arcyria denudata* (L.) Wettst., which must also be the type of *Arcyria* Hill ex Wiggers, 1780, q.v., which, in the Myxomycetes, becomes a later homonym of *Clathrus* L.

C. nudus, the third and last species, appears to be a mixture of at least three species of *Stemonitis* and there is a long tradition that it also included what is now called *Comatricha typhoides*.

It would certainly be unwise to replace *Clathrus* as a genus of phalloids by applying it to the Myxomycetes. It was, however, used validly for Myxomycetes after 1753 by Batsch (1783) and apparently by Schmiedel, Retzius and Relhan, although I have not checked the three last. It is another example of the needless confusion caused by the unfortunate 1753 starting point for the group.

CLAUSTRIA Fries, Summa Veg. Scand. 451. 1849.

Type: *Spumaria?* *didermoides* Pers., Syn. Fung. XXIX. 1801=*C. didermoides* (Pers.) Fries, l.c. Now equated with *Physarum didermoides* (Pers.) Rost., at least in greater part.

CLAVARIA L., Sp. Pl. 1182. 1753.

Type: *C. vermicularis* Sw. ex Fries, Syst. Myc. 1: 484. 1921 (Corner, Mon. Clav. 215. 1950).

As so typified, *Clavaria* is a genus of Basidiomycetes, with the starting point of 1821. However, it was validated as a genus of Myxomycetes by the publication of *Clavaria puccinia* Batsch, Elench. Fung. 139. 1783, and *C. byssoides* Bull., Hist. Champ. Fr. 209. 1791, both now equated with *Ceratiomyxa fruticulosa* (Müll.) Macbr.

No one would seriously consider reviving this name for Myxomycetes.

COLLODERMA G. Lister, Jour. Bot. 48: 312. 1910.

Type: *Didymium oculatum* Lippert, Verh. Zool.-Bot. Ges. Wien 44: abh. 72. 1894=*C. oculatum* (Lippert) G. Lister, l.c.

COMATRICHIA Preuss, Linnaea 24: 140. 1851.

Type: *Stemonitis obtusata* Fries, Syst. Myc. 3: 160. 1829=*C. obtusata* (Fries) Preuss, l.c. Now equated with *Comatricha nigra* (Pers.) Schroet.

COMATRICHOIDES Hertel, Dusenja 7: 347. 1956.

Type: *Stemonitis nigra* Pers., in J. F. Gmel., Linn. Syst. Nat. 2: 1467.

1791=*Comatricha nigra* (Pers.) Schroet., Krypt. Fl. Schles. 3(1): 118.
1885=*Comatrichoides nigra* (Pers.) Hertel, Dusenja 7: 348. 1956.
Schroeter's combination is cited by Hertel. Since *Comatricha* is already typified by what is supposed to be a synonym of *Comatricha nigra*, Hertel's genus is invalid.

CORNUVIA Rost., Versuch 15. 1873.

Type: *Arcyria serpula* Wigand, Jahrb. Wiss. Bot. 3: 44. 1863=*Cornuvia serpula* (Wigand) Rost., in Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 76. 1873.

CORYNOIDES S. F. Gray, Nat. Arr. Brit. Pl. 1: 654. 1821.

Lectotype: *C. cornea* l.c. *Clavaria (Calocera) cornea* Fries, Syst. Myc. 1: 487. 1821. As so typified an earlier, but non-valid synonym of *Calocera* Fries, Syst. Orb. Veg. 90. 1825 (Dacrymycetaceae), validated Elench. Fung. 1: 233. 1828.

Corynoides byssoides (Bull.) S. F. Gray, l.c., is now equated with *Ceratiomyxa fruticulosa* (Müll.) Macbr., N. A. Slime-Moulds. 18. 1899.

CRATERIACHEA Rost., Versuch 11. 1873.

Type: *C. mutabilis* Rost., Mon. 36. 1874=*Physarum mutabile* (Rost.) G. Lister, Mycet. ed. 2. 53. 1911.

CRATERIUM Trent., in Roth, Catalecta Bot. 1: 224. 1797.

Type: *C. pedunculatum* Trent., l.c. Now equated with *C. minutum* (Leers) Fries., Syst. Myc. 3: 151. 1829.

CRIBRARIA Schrad. ex J. F. Gmel., in Linn., Syst. Nat. ed. 13. 2: 1471. 1791.

Type: *C. pallida* Schrad. ex J. F. Gmel., l.c.

Combined generic and specific description. I have found no reference to the species in Persoon, 1794, nor Schrader, 1797, nor in any later work. Neither genus nor species can be recognized from the description, but it may be a legitimately published earlier synonym of *Cribraria* Pers., q.v.

CRIBRARIA Pers., Neues Mag. Bot. 1: 91. 1794.

Type: *Cribraria rufescens* Pers., l.c. Now equated with *C. rufa* (Roth) Rost., Mon. 232. 1875.

CUPULARIA Link, Handb. 3: 421. 1833.

Type: *Arcyria leucocephala* Pers., in J. F. Gmel., Syst. Nat. 2: 1467. 1791=*Cupularia leucocephala* (Pers.) Link, l.c. Now equated with *Craterium leucocephalum* (Pers.) Ditmar, in Sturm, Deuts. Fl. Pilze 1: 21. 1813.

CYATHUS Haller, Hist. Stirp. Helv. 3: 127. 1768.

Type: *Cyathus hirsutus intus striatus* Haller, l.c.=*C. striatus* Hoffm. ex Pers., Syn. Fung. 237. 1801.

As so typified, *Cyathus* is a genus of gasteromycetes (Nidularia-

ceae) and should be cited as of Persoon 1801. It was, however, validly published for Myxomycetes by publication of *Cyathus minutus* Hoffm., Veg. Crypt. 2: 6, pl. 2, f. 2. 1791, cited and illustrated by Sowerby, Engl. Fungi, pl. 239. 1799, and now equated with *Craterium minutum* (Leers) Fries, Syst. Myc. 3: 151. 1829, based on *Peziza minuta* Leers, Fl. Herborn. 277. 1775. After 1801, it was used for *Cyathus cinereus* Purton, Midl. Fl. 3: 309. 1821, now equated with *Craterium leucocephalum* (Pers.) Ditm.

CYLICNIUM Wallr., Fl. Crypt. Germ. 2: 267. 1833.

Type: *C. operculatum* Wallr., l.c., p. 268. Equated with *Hymenobolina parasitica* Zukal, Oesterr. Bot. Zeits. 43: 133. 1893=*Licea parasitica* (Zukal) Martin, Mycologia 34: 702. 1942. Not *Licea operculata* (Wingate) Martin, Mycologia 34: 702. 1942, based on *Orcadella operculata* Wingate, Proc. Acad. Phila. [41]: 280. 1889.

CYTIDIUM Morgan, Jour. Cinc. Soc. Nat. Hist. 19: 8. 1896.

Type: *Physarum penetrale* Rex, Proc. Acad. Phila. 43: 389. 1891=*C. penetrale* (Rex) Morgan, l.c., p. 11.

DEMORDIUM Link, Ges. Natur. Freunde Berlin Mag. 3: 25. 1809.

Typographical error for *Dermodium*, q.v. Used by Fries in 1817, but corrected in later publications.

DERMODIUM Link, Ges. Natur. Freunde Berlin Mag. 3: 25. 1809, as *Demordium*. Corrected, l.c. 7: 41. 1815.

Type: *D. inquinans* Link, l.c. 3: 25. 1809.

D. inquinans may have referred to either of two species, now known as *Amaurochaete fuliginosa* (Sow.) Macbr. and *Brefeldia maxima* (Fries) Rost. The genus was adopted by Nees for his *D. fallax*, Syst. Pilze Schw. 108, pl. 8, f. 103A. 1816, which can scarcely be congeneric with either. Fries, Symb. Gast. 9, 1817, used the original spelling and cited only *D. inquinans* Link. His material may or may not have been Link's species; see his comment in Syst. Myc. 3: 86. 1829. Rostafinski, Mon. 211. 1874, cited *D. inquinans* Link as a synonym of *Amaurochaete atra* (Alb. & Schw.) Rost., and on p. 213, cited "*D. inquinans* Fries" (there is no such combination) as a synonym of *Brefeldia maxima*. The following year, he proceeded to erect a new genus, *Dermodium* Rost., q.v., for a quite different species. Since the type of *Dermodium* Link cannot be satisfactorily identified and since it has been a source of confusion and error, it should be discarded.

DERMODIUM Rost., Mon. 284. 1875. Not *Dermodium* Link, 1809.

Type: *Lycogala conicum* Pers.,=*D. conicum* (Pers.) Rost., l.c. A later homonym of *Dermodium* Link.

DIACHAEA Fries ex Berlese, in Sacc. Syll. 7: 387. 1888.

Alternative spelling of *Diachea* Fries, q.v. Used in the first two editions of the Lister monograph and elsewhere.

DIACHAEELLA Höhnelt, Sitz-Ber. Akad. Wien 118: 436. 1909.

Type: *Didymium bulbiliosum* Berk. & Br., Jour. Linn. Soc. 14: 84. 1873=*Diachaeella bulbiliosa* (Berk. & Br.) Höhnelt, l.c., p. 437.=*Diachea bulbiliosa* (Berk. & Br.) A. Lister, Jour. Bot. 36: 165. 1898 (as *Diachoea*).

DIACHEA Fries, Syst. Orbis Veg. 143. 1825.

Type: *Stemonitis elegans* Trent., in Roth, Catalecta Bot. 1: 220. 1797=*Diachea elegans* (Trent.) Fries, Syst. Myc. 3: 156. 1829. Now equated with *D. leucopodia* (Bull.) Rost., Mon. 190. 1874. See *Diachaea*.

DIACHEOPSIS Meylan, Bull. Soc. Vaud. Sci. Nat. 57: 149. 1930.

Type: *D. metallica* Meylan, l.c.

DIANEMA Rex, Proc. Acad. Phila. 43: 397. 1891.

Type: *D. harveyi* Rex, l.c.

DICHOSPORIUM Nees, Syst. Pilze Schw. 105. 1816.

Type: *D. aggregatum* Nees, l.c., pl. 8, f. 99.

Nees cites *Spumaria physaroides* Pers., Syn. Fung. 163. 1801, which may have been a *Didymium* or a *Diderma*, as a synonym, but his figure does not suggest a myxomycete, nor does his description. Fries regarded the genus as of doubtful affinity (See Syst. Myc. 3: 218. 1829, and 490. 1832). Ainsworth (Dict. Fungi ed. 5. 119. 1961) says “? *Badhamia*”, which seems very doubtful.

Probably not a myxomycete.

DICTYDIAETHALIUM Rost. Versuch 5. 1873.

Type: *Fuligo plumbea* Schum. Enum. Pl. Saell. 2: 193. 1803=*Reticularia plumbea* (Schum.) Fries, Syst. Myc. 3: 88. 1829=*Dictydiaethalium plumbeum* (Schum.) A. Lister, Mon. 157. 1894.

Reticularia plumbea is the only species cited as an example in the Versuch. In the Rostafinski monograph the genus name was changed to *Clathroptychium*, q.v., and *D. applanatum* Rost., in Fuckel, Jahrb. Nas. Ver. Nat. 27-28: 69. 1873, and “*D. dissilicis* Hazsl.”, Oesterr. Bot. Zeits. 27: 85. 1877, (not valid; see *Ophiuridium*) are equated with the same species, but the combination suggested, but not printed, in the Versuch was not formally published until the first edition of the Lister monograph in 1894.

DICTYDIUM Schrad., Nov. Gen. Pl. 20. 1797.

Type: *D. umbilicatum* Schrad., l.c. Now equated with *D. cancellatum* (Batsch) Macbr., based on *Mucor cancellatus* Batsch, Elench. Fung. Contin. 2: 135. 1789.

DIDERMA Pers., Neues Mag. Bot. 1: 89. 1794.

Type: *D. globosum* Pers., l.c.

In the original publication, Persoon listed four species in his new genus: *D. floriforme* (Bull.) Pers., *D. globosum* Pers., *D. contortum*

Pers., and *D. difforme* Pers. Because of certain complications to be discussed elsewhere, neither of the two last-named species should be the type. In N. Am. Flora 1(1): 131. 1949, I indicated *Sphaerocarpus floriformis* Bull. as the type of *Diderma*. However, this must be the type of *Leangium* q.v., whether it be regarded as a genus or a subgenus, and if it is used in either sense the type for *Diderma* must be *D. globosum*, which then automatically becomes the type of the subgenus *Diderma*.

DIDYMIUM Schrad., Nova Gen. Pl. 20. 1797.

Type: *D. farinaceum* Schrad., l.c., p. 22. Now equated with *D. melanospermum* (Pers.) Macbr., based on *Physarum melanospermum* Pers., Neues Mag. Bot. 1: 88. 1794. Persoon's name is cited by Schrader as a synonym, but rejected as inappropriate.

Of the eight species included by Schrader in his original publication, five would be included in *Diderma*, one is the type of *Lepidoderma*, and one is an ascomycete, leaving *D. farinaceum* as the only possible type. The genus as now used is really *Didymium* Schrad. emend. O. Kuntze, Rev. Gen. Pl. 3(2): 471. 1898.

DIPHThERIUM Ehrenb., Sylvae Myc. Berol. 26. 1818.

Type: *D. flavofuscum* Ehrenb. l.c., p. 27=*Lycogala flavofuscum* (Ehrenb.) Rost., in Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 68. 1873.

ECHINOSTELIUM de By., in Rost., Versuch 7. 1873.

Type: *E. minutum* de By., in Rost., Mon. 215. 1874.

ELAEOMYXA Hagelst., Mycologia 34: 593. 1942.

Type: *Diachea miyazakiensis* Emoto, Proc. Acad. Japan 11: 444. 1935=*E. miyazakiensis* (Emoto) Hagelst. l.c.

EMBOLUS Haller, Hist. Stirp. Helv. 3: 111. 1768.

Type: *Mucor embolus* L., Sp. Pl. 1185. 1753. Cited as *Embolus nigerrimus*, *albo villo adpersus* Haller, l.c.

Haller did not use binomials until late in his career. He did use them in 1795, and in his description of *Mucor embolus* L., in his Ic. Pl. Helv. 52, of that year, he cites the polynomial given as a synonym and refers to pl. 52, f. 1 of that work, which is an exact replica of plate 52 of the Hist. Stirp. Helv. of 1768 and plate 1 of the Enum. Pl. Helv. of 1742. The figure is excellent and suggests to me that of an *Arcyria*, possibly *A. cinerea* (Bull.) Pers., although G. Lister, Jour. Bot. 51: 162. 1913, thinks it may represent either *Comatracha nigra* or *C. typhoides*, an opinion which is fortified by Haller's use of the descriptive term *nigerrimus*. Batsch, Elench. Fung. Cont. 1: 263, 265. 1786, recognized two species of *Embolus*: *E. pertusus* (Batsch) Batsch, based on *Clathrus pertusus* Batsch, Elench. Fung. 143. 1783, which was cited by Persoon, Obs. Myc. 1: 37. 1796, as a synonym of *Stemonitis typhina* Pers.=*Comatracha typhoides* (Bull.) Rost., in A. Lister,

Mycet. 120. 1894, which is probably correct. The second species, *E. crocatus* is surely *Arcyria denudata* (L.) Wettst. The description of *Embolus lacteus* Hoffm., Veg. Crypt. 2: 8, pl. 2, f. 3. 1790, emphasized the milky immature stages of a stalked globular sporangium, clearly a myxomycete, not clearly recognizable to genus but possibly a *Trichia* or *Hemitrichia*.

The genus should be left in the obscurity into which it has fallen.

ENDOCALYX Berk. & Br., Jour. Linn. Soc. 15: 84. 1876.

Type: *E. thuaitzii* Berk. & Br., l.c.

Erroneously referred to Myxomycetes. A genus of Stilbellaceae (Hughes, Comm. Myc. Inst., Paper 50: 14-16. 1953).

ENDODROMIA Berk., Jour. Bot. & Kew Misc. 3: 79. 1841.

Type: *E. vitrea* Berk., l.c.

Originally described as a hyphomycete. According to Höhnelt (Sitz.-Ber. Akad. Wien 123: 97. 1914, this is *Echinostelium*, closely related to or identical with *E. minutum* de By. If this can be verified, *Endodromia* would be the valid name of *Echinostelium*.

ENERTHENEMA Bowman, Trans. Linn. Soc. 16: 152. 1830.

Type: *E. elegans* Bowman, l.c. Now equated with *E. papillata* (Pers.) Rost. = *Stemonitis papillata* Pers., Neues Mag. Bot. 1: 90. 1794.

ENTERIDIUM Ehrenb., Jahrb. Gewachtsk. 1(2): 55. 1819.

Type: *E. olivaceum* Ehrenb., l.c., p. 57.

ERIONEMA Penzig, Myxom. Buitenz. 36. 1898.

Type: *E. aureum* Penzig, l.c.

FAMINTZINIA Hazsl., Oesterr. Bot. Zeitschr. 27: 85. 1877.

Type: *Ceratium porioides* Alb. & Schw., Consp. Fung. 359. 1805 = *Famintzinia porioides* (Alb. & Schw.) Hazsl. Now equated with *Ceratiomyxa fruticulosa* (Müll.) Macbr., often as var. *porioides* (Alb. & Schw.) Rost., in A. Lister, Mycet. 26. 1894.

Described in a key, indicating characters in that way, without a formal description and citing "*F. porioides* (A. & S.)," which may be regarded as a valid publication of *Famintzinia poricoides*.

FULGIA Chev., Jour. de Physique 92: 58. 1822.

Type: *F. encaustica* Chev. l. c., pl. 1, f. 1.

Fries, Syst. Myc. 3: 136. 1829, enters it under *Physarum bryophilum* Fries, with the suggestion that it may be a prematurely dried *Physarum*. Rostafinski, Mon. 369. 1875, cites the type as "p.p. *Lamproderma columbina*." G. Lister, Mycet. ed. 3. 175. 1925, cites it as a synonym of that species, without comment. Ainsworth, Dict. Fungi ed. 5. 1963, cites Streinz as equating the genus with *Physarum*. This seems more plausible than Miss Lister's suggestion.

A second species, *F. farinacea* Chev., l.c. was not mentioned in Che-

vallier's treatment of the genus when he established the monospecific family Fulginaceae Chev., Fl. Par. ed. 2. 1: 346. 1836. There he suggests the genus is closely related to *Lycoperdon*, then still used as a myxomycete genus, and *Fuligo*. The latter, for all its different aspects, does merge into *Physarum*.

FULIGO Haller, Hist. Stirp. Helv. 3: 110. 1768.

Type: *Fuligo butyracea, crocea, cauliculis ramosis, laciniatis* = *Mucor unctuosus flavis* L., Fl. Suec. 1656. 1745 = *Mucor septicus* L., Sp. Pl. ed. 2. 1656. 1763 = *Fuligo septica* (L.) Wiggers, Prim. Fl. Holsat. 112. 1780.

Haller, in 1768, had not yet accepted binomial nomenclature, but his genus was validly published. Wiggers seems to have been the first to use the name in a binomial combination, with a single species, citing *Mucor septicus* L. as its only synonym.

GALEPERDON Wiggers, Prim. Fl. Holsat. 108. 1780.

Type: *Lycoperdon epidendrum* L., Sp. Pl. 1184. 1753 = *G. epidendrum* (L.) Wiggers, l.c., p. 109 = *Lycogala epidendrum* (L.) Fries, Syst. Myc. 3: 80. 1829. See *Lycogala*.

HALTEROPHORA Endl., Gen. Pl. 25. 1836.

Type: *Tipularia fulva* Chev., Jour. de Physique 92: 58. 1822 = *Halterophora fulva* (Chev.) O. Kuntze, Rev. Gen. Pl. 3(1): 855. 1893.

To replace *Tipularia* Chev., q.v. Endlicher did not publish the combination.

HEIMERLIA Höhnelt, Ann. Mycol. 1: 391. 1903.

Type: *H. hyalina* Höhnelt, l.c. Now provisionally equated with *Echinostelium minutum* de By., in Rost., Mon. 215. 1874.

Höhnelt distinguished this genus from *Echinostelium* by its small size and particularly its lack of a capillitium, and went so far as to propose the separate family Heimerliaceae for it. Extensive culture work in recent years has shown that *Echinostelium* may vary in size and in development of capillitium, and it is possible that the very small spores reported by Höhnelt (4-5 μ) may be explained by his comment "nondum bene evolutae." G. Lister's account of spore germination (Mon. ed. 3. 162. 1925) has not been confirmed. She suggested that *Endodromia* Berk., q.v., may be the same, and Höhnelt (Sitz.-Ber. Akad. Wien 123: 146. 1914) thought this highly probable.

HEMIARCYRIA Rost., Mon. 261. 1875.

Type: *Trichia clavata* Pers., Neues Mag. Bot. 1: 90. 1794 = *Hemiarcyria clavata* (Pers.) Rost., l.c., p. 264 = *Hemitrichia clavata* (Pers.) Rost., in Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 75. 1873.

A later synonym of *Hemitrichia*.

HEMITRICHIA Rost., Versuch 14. 1873.

Type: *Trichia clavata* Pers., Neues Mag. Bot. 1: 90. 1794 = *Hemi-*

177. 1829=*Lachnobolus circinans* (Fries) Fries. Now equated with *Arcyodes incarnata* (Alb. & Schw.) O. F. Cook, *Science* 15: 651. 1902, based on *Licea incarnata* Alb. & Schw., *Consp. Fung.* 109. 1805, and *Lachnobolus congestus* (Somm.) G. Lister, *Mycet.* ed. 2. 246. 1911, based on *Physarum congestum* Somm., *Suppl. Fl. Lapp.* 241. 1826.

Lachnobolus Fries, 1849, is a later homonym of *Lachnobolus* Fries, 1825, and can be validated only by formal conservation. *Lachnobolus* Fries, 1825 is an earlier name for what is now known as *Amaurochaete* Rost., 1873, but if *Amaurochaete* is to be abandoned, there are earlier names than *Lachnobolus* to be considered as replacements.

As it stands, *Lachnobolus* has long been a source of confusion. It appears to be invalid in both applications in which it has been used and should be discarded. But see reference to Santessen under *Amaurochaete*.

LAMPRODERMA Rost., *Versuch* 7. 1873.

Type: *Physarum columbinum* Pers., *Ann. Bot. Usteri* 15: 5. 1795=*L. columbinum* (Pers.) Rost., in *Fuckel, Jahrb. Nass. Ver. Nat.* 27-28: 69. 1873.

LAMPRODERMOPSIS Meylan, *Bull. Soc. Vaud. Sci. Nat.* 46: 56. 1910.

Type: *L. nivalis* Meylan, l.c.=*Dianema nivale* (Meylan) G. Lister, *Mycet.* ed. 3: 254. 1925.

LEANGIUM Link, *Ges. Nat. Freunde Berlin Mag.* 3: 26. 1809.

Type: *Sphaerocarpus floriformis* Bull., *Hist. Champ. Fr.* 142. 1791. (pl. 371. 1787)=*Leangium floriforme* (Link) Chev., *Fl. Par.* 1: 333. 1826=*Diderma floriforme* (Bull.) Pers., *Neues Mag. Bot.* 1: 89. 1794.

Link cited *Diderma floriformis* Pers. and *Diderma stellare* Pers. as included in his new genus, but did not actually publish the two new combinations until 1833, in *Handb. Gew.* 3: 412, but *Leangium stellare* (Schrad.) Link ex S. F. Gray, *Nat. Arr. Brit. Pl.* 1: 572. 1821, and *Leangium floriforme* (Bull.) Link ex S. F. Gray, l.c. 573 had already appeared. *L. physaroides* Link, *Ges. Nat. Freunde Berlin Mag.* 3: 26. 1809 was published as a new species intermediate between *Leangium* and *Physarum*. A strict interpretation of the rules would probably require that to be the type. What it was is completely uncertain. *L. stellare* is now equated with *D. radiatum* (L.) Morgan and *L. floriforme* is quite certainly *D. floriforme* (Bull.) Pers. Since *Leangium* is still widely used as a subgenus of *Diderma*, and could justifiably be restored to generic rank if it were to seem desirable, it seems best to indicate a common and clearly recognizable species as the type.

LEOCARPUS Link, *Ges. Nat. Freunde Berlin Mag.* 3: 25. 1809.

Type: *Diderma vernicosum* Pers., *Ann. Bot. Usteri* 15: 34. 1795=

Leocarpus vernicosus (Pers.) Link ex S. F. Gray, *Nat. Arr. Brit. Pl.* 1: 574. 1821. Now equated with *L. fragilis* (Dicks.) Rost. *Mon.* 133. 1874, based on *Lycopodon fragile* Dicks., *Pl. Crypt. Brit.* 1: 25. 1785.

Link did not make the formal combination in *Leocarpus* until 1833, but did indicate clearly that his genus was based on *Diderma vernicosum* Pers., and the combination, as his, is cited by S. F. Gray in 1821, Chevallier in 1826, Fries in 1829, Rostafinski in 1874 and numerous other authors, all cited as in the 1809 publication. It is true that Link published two additional species in 1809, *L. spermoides* Link, and *L. calcareus* Link, both on p. 25. The identity of the latter is somewhat uncertain but it is probably a *Diderma*; the former is universally equated with *L. fragilis*.

LEPIDODERMA de Bary, in Rost., *Versuch* 7. 1873.

Type: *Didymium tigrinum* Schrad., *Nov. Gen. Pl.* 22. 1797=*L. tigrinum* (Schrad.) Rost., in *Fuckel, Jahrb. Nass. Ver. Nat.* 27-28: 73. 1873 (as *tigrina*).

LEPIDODERMOPSIS Höhnelt, *Sitz.-Ber. Akad. Wien* 118: 439. 1909.

Type: *Didymium leoninum* Berk. & Br., *Jour. Linn. Soc.* 14: 83. 1873 =*L. leonina* (Berk. & Br.) Höhnelt, l.c. (as *leoninus*).

Not *Lepidodermopsis* Wilczek & Meylan, 1934.

LEPIDODERMOPSIS Wilczek & Meylan, *Bull. Soc. Vaud. Sci. Nat.* 58: 179. 1934.

Type: *L. vermicularis* Wilczek & Meylan, l.c.

A later homonym of *Lepidodermopsis* Höhnelt, 1909.

LEPTODERMA G. Lister, *Jour. Bot.* 51: 1. 1913.

Type: *L. iridescens* G. Lister, l.c.

LICAETHALIUM Rost., *Versuch* 4. 1873.

Type: *Enteridium olivaceum* Ehrenb., *Jahrb. Gewächsk.* 1(2): 55. 1819=*L. olivaceum* (Ehrenb.) Rost., *Mon.* 227. 1875 (as syn.). Usually equated with *Reticularia olivacea* Fries, *Syst. Myc.* 3: 89. 1829 (cited by Fries "Stirp. Fems. p. 147"). See Fries's comment, *Syst. Myc.* 3: 90. 1829.

LICEA Schrad., *Nov. Gen. Pl.* 16. 1797.

Lectotype: *L. pusilla* Schrad., l.c., p. 19.

Of the four species included by Schrader in the original treatment of the genus, only two, *L. pusilla* and *L. variabilis* are now retained in *Licea*. Martin, *Mycologia* 34: 700. 1942, suggested that *L. pusilla* should be the type and in *N. Am. Flora* 1(1): 13. 1949 definitely designated it as such. The fact that Rostafinski, *Mon.* 90. 1874, made it the type of *Protoderma*, q.v., is irrelevant.

LICEOPSIS Torrend, *Bull. Soc. Port. Sc. Nat.* 2: 63. 1908.

Type: *Reticularia lobata* A. Lister=*L. lobata* (A. Lister) Torrend, l.c.

LIGNIDIUM Link, in Fries, Symb. Gast. 10. 1817. Altered spelling.
See *Lignydidium* Link.

LIGNYDIUM Link, Ges. Nat. Freunde Berlin Mag. 3: 24. 1809.

Type: *L. griseo-flavum* Link, l.c. Now equated with *Fuligo muscorum* Alb. & Schw., Consp. Fung. 86. 1805.

LIGNYOTA Fries, Summa Veg. Scand. 459. 1848.

Type: *L. umbrina* Fries, l.c.

Saccardo, Syll. Fung. 18: 793. 1906. says, in index, "=*Chondrioderma* Rost." Fries's description is too vague to permit a guess as to what he had. He does cite after the name *L. umbrina* "1. *Licea macrospora* Schum." meaning that the species had been reported from Denmark under that name. That had been cited as a synonym of *Polyangium umbrinum* Fries, Elench. Fung. 2: 49. 1829, now regarded as one of the Myxobacteriaceae.

Lignyota Fries, has practically been forgotten and may well remain so.

LINDBLADIA Fries, Summa Veg. Scand. 449. 1848.

Type: *L. tubulina* Fries, l.c. Now usually called *L. effusa* (Ehrenb.) Rost., in Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 68. 1873, based on *Licea effusa* Ehrenb., Sylvae Myc. Berol. 26. 1818. There is grave doubt whether Ehrenberg's species was *Lindbladia effusa* as the name is now applied, but this will be discussed elsewhere.

LISTERELLA Jahn, Ber. Deutsch. Bot. Ges. 24: 540. 1906.

Type: *L. paradoxa* Jahn, l.c. p. 538.

LYCOGALA Mich. ex Adans., Fam. Pl. 2: 7. 1763.

Type: *Lycogala terrestra, caespitosum* etc. Mich., Nova Pl. Gen. 216, pl. 95, f. 5. 1729. Now equated with *Lycogala epidendrum* (L.) Fries, Syst. Myc. 3: 80. 1829, based on *Lycoperdon epidendrum* L., Sp. Pl. 1184. 1753.

Adanson cites *Mucilago* Mich., pl. 96, f. 1, 8-9, none of which appear to be *Lycogala* as now used, and Pl. 95, f. 5, which may or may not be *L. epidendrum*.

LYCOGALA Mich. ex Persoon, Neues Mag. Bot. 1: 87. 1794.

Type: *L. miniatum* Pers., l.c. (as *miniata*)=*Lycoperdon epidendrum* L., Sp. Pl. 1184. 1753, which is cited by Persoon as a synonym, as illustrated in Schaeff., Fung. Bav. 2. pl. 193. 1763. Schaeffer, l.c. 4: 132. 1775, describes the species illustrated as *Mucor fragiformis* Schaeff. It is surely *L. epidendrum*.

If Adanson's publication of *Lycogala* should not be regarded as valid, then *Galeperdon* Wiggers, 1780, q.v., is an earlier and valid synonym of *Lycogala* Pers.

LYCOPERDON L., Sp. Pl. 1183. 1753.

Type: *L. epidendrum* L., l.c. p. 1184=*Lycogala epidendrum* (L.) Fries, Syst. Myc. 3: 80. 1829.

Linnaeus' genus was a heterogeneous assemblage of nine species, including in addition to *L. epidendrum* one rust, five "gasteromycetes," none of which would be included in *Lycoperdon* today (all with starting point 1801) and two tuberaceous ascomycetes (starting points 1823, 1829). Only *L. epidendrum* was validly published in 1753.

The genus is now restricted to puff-balls and the type for such application must be one of the 14 species recognized by Persoon in Syn. Fung. 1801. Few would propose restoring *Lycoperdon* as a myxomycete genus, but it was extensively and, according to the current Code, validly used for Myxomycetes from 1753 to after 1801.

MARGARITA A. Lister, Mycet. 203. 1894. Not *Margarita* Gaud., Fl. Helv. 5: 335. 1829 (Compositae).

Type: *Physarum metallicum* Berk., Mag. Zool.-Bot. 1: 49. 1836=*Margarita metallica* (Berk.) A. Lister, Mycet. 203. 1894=*Calomyxa metallica* (Berk.) Nieuwl., Am. Midl. Nat. 4: 335. 1916.

MATRUCHOTIA Skup., Bull. Acad. Pol. 1924: 396. 1924. A later homonym of *Matruchotia* Boul., Rev. Myc. 16: 70. 1894 (Basidiomycetes).

Type: *M. splendida* Skup., l.c. Now equated with *Amaurcchaete tubulina* (Alb. & Schw.) Macbr., N. Am. Slime-Moulds, ed. 2. 150. 1922.

MATRUCHOTIELLA Skup. ex G. Lister, Mycet. ed. 3. 165. 1925.

Type: *Matruchotia splendida* Skup.=*Matruchotiella splendida* (Skup.) Skup. ex G. Lister, l.c.

Not *Matruchotiella* Grigorati (cited by Ainsworth, Dict. Myc. ed. 5. 235. 1961, presumably after 1925).

I find no record that Skupienski himself corrected his earlier name.

MESENERICA Tode, Fung. Meckl. 1: 7. 1790.
Type: *M. tremelloides* Tode, l.c. Based on plasmodium, well illustrated, but identity not determinable. Used by Persoon (Syn. Fung. 706. 1801) in this sense, discussed by Nees, Syst. Pilz. Schw. 230. 1816 and clarified by Fries, Syst. Myc. 3: 70. 1829.

METATRICHIA Ing, Trans. Brit. Mycol. Soc. 47: 51. 1964.

Type: *M. horrida* Ing, l.c.

MICROCARPON Schrad. ex J. F. Gmel., Linn. Syst. Nat. ed. 13. 2: 1470. 1791.

Type: *M. nigrum* Schrad. ex J. F. Gmel., l.c.

The genus is listed between *Stemonitis* and *Cribraria* and may therefore be presumed to refer to a myxomycete. It is not cited in Schrader,

1797, and the description does not permit reference to any known genus of Myxomycetes.

MINAKATELLA G. Lister, Jour. Bot. **59**: 92. 1921.

Type: *M. longipila* G. Lister, l.c.

MUCILAGO Micheli ex Batt., Fung. Hist. 76. 1755.

Type: *Mucilago crustacea alba* Micheli, Nov. Pl. Gen. 216, pl. 96, f. 2. = *M. crustacea* Wiggers, Prim. Fl. Holsat. 112. 1780. Now commonly called, *M. spongiosa* (Leys.) Morgan, Bot. Gaz. **24**: 57. 1897, based on *Mucor spongiosus* Leys., Fl. Hal., ed. 2. 305. 1783.

Morgan reviewed the evidence which led him to propose the binomial commonly used for the type and only species of the genus, but cited neither Battarra nor Wiggers.

MUCOR L., Sp. Pl. 1185. 1753.

Lectotype: *M. furfuraceus* L. = *Coniocybe furfuracea* (L.) Ach., K. Vet. Akad. Nya Handl. 288. 1916. Proposed by Santessen, Sv. Bot. Tidskr. **58**: 115. 1964, to make *Mucor* a lichen genus, against which *Mucor* Fries, Syst. Myc. **3**: 317. 1932, is to be conserved.

Mucor embolus L., l.c., is based on *Embolus nigerrimus, albo villo adpressus* Haller, Enum. Pl. Helv. **8**, pl. 1, f. 1. 1742, which resembles an *Arcyria*, looking, in Haller's figure, like *A. cinerea*. *M. sphaerocephalus* L., l.c., is also, as shown by Haller's figure cited, a myxomycete, probably a *Physarum*. *M. septicus* L., Sp. Pl. ed. 2. 1655. 1763, the basionym for *Fuligo septica* (L.) Wiggers, q.v., appeared only in the second edition of the Sp. Pl. The genus was used for Myxomycetes by various authors after 1753, but since the time of Fries's treatment this has rarely, if ever been done. See *Embolus*.

Current usage demands its exclusion as a genus of Myxomycetes.

MYXOMYCETES Renault, Fl. d'Autun IV. Fl. Foss. **2**: 242, f. 75, 76. 1896.

Type: *Myxomycetes mangini* Renault, l.c. Used for a fossil vaguely resembling a plasmodium or the track of a plasmodium.

MYXOMYCITES Mesch., Fung. Foss. Omnion 71. 1902.

Type: *M. mangini* (Renault) Mesch. Based on *Myxomycetes* Renault, with spelling revised to indicate its fossil nature and the comment: "fructibus omnino deficientibus." See Saccardo, Syll. Fung. **20**: 165. 1911, for reference to a possibly older use as a generic name.

NASSULA Fries, Summa Veg. Scand. 456. 1849.

Type: *Arcyria globosa* Schw. = *Nassula globosa* (Schw.) Fries, in Rost., Mon. 283. 1875, as synonym. Fries did not publish the combination and the genus has never been accepted.

NIDULARIA With., Bot. Arr. Brit. Pl. ed. 2. **2**: 859. 1787.

Type: *N. minuta* With., l.c. (not seen). Sowerby, Eng. Fung., pl. 239. 1799, cites Withering's name as a synonym of *Cyathus minutus*

Hoffm. His lower figure is clearly what is now referred to as *Craterium minutum* (Leers) Fries, Syst. Myc. **3**: 151. 1829. The upper figure is probably the same. In the fourth edition of Withering's book, p. 351. 1801, *N. minuta* is retained for this species.

The genus is now regarded as the type genus of the Nidulariaceae, starting point 1801. It was not recognized by Persoon in the Syn. Fung., hence, as a gasteromycete genus, it should be cited as Fries, Symb. Gast. **2**. 1817, with *N. confluens* Fries, l.c., as its type. See E. Fischer, in Engler & Prantl, Nat. Pfl. ed. **2**. **7a**: 57. 1933.

OLIGONEMA Rost., Mon. 291. 1875.

Type: *Trichia nitens* Libert, Pl. Crypt. Ard. Fasc. **3**, 277. 1834. (not *T. nitens* Pers., Obs. Myc. **1**: 62. 1796) = *O. nitens* (Libert) Rost., l.c. Now equated with *O. schweinitzii* (Berk.) Martin, Mycologia **39**: 460. 1947, based on *Physarum schweinitzii* Berk., Grevillea **2**: 66. 1873.

OPHIOTHECA Currey, Quart. Jour. Micr. Soc. **2**: 241. 1854.

Type: *O. chrysosperma* Currey, l.c. = *Perichaena chrysosperma* (Currey) A. Lister, Mycet. 196. 1894.

As originally published, both the genus and its single species might be regarded as provisional names under Art. 34 of the Code. The genus was, however, widely used for a time.

OPHIURIDIUM Hazsl., Oesterr. Bot. Zeitschr. **27**: 84. 1877.

Type: *O. dissiliens* Hazsl., l.c., p. 85 (as "*D.*" *dissiliens*, clearly a typographical error). Now equated with *Dictydiaethalium plumbeum* (Schum.) Rost., in A. Lister, Mycet. 157. 1894. *Dictydiaethalium dissiliens* Hazsl., l.c., was not validly published but has been cited in literature since it appeared in Bot. Jahresber. **5**: 156. 1877.

ORCADELLA Wingate, Proc. Acad. Phila. **41**: 280. 1889.

Type: *O. operculata* Wingate, l.c. = *Licea operculata* (Wingate) Martin, Mycologia **34**: 702. 1942.

ORTHOTRICHA Wingate, Jour. Myc. **2**: 125. 1886.

Type: *O. microcephala* Wingate, l.c. Now equated with *Clastoderma debaryanum* Blytt, Bot. Zeit. **38**: 343. 1880.

Not *Orthotrichum* Hedwig, Deser. Musc. **2**: 96. 1789; validated 1801. See *Wingina* O. Kuntze.

OSTRACODERMA Fries, Syst. Orb. Veg. 150. 1825, without species citation. Validated Syst. Myc. **3**: 213. 1829.

Type: *O. pulvinatum* Fries, l.c., p. 214.

Used by Schweinitz for *O. spadiceum* Schw., Trans. Am. Phil. Soc. II. **4**: 262. 1832, now equated with *Dictydiaethalium plumbeum* (Schum.) Rost., in A. Lister, Mycet. 157. 1894. See also Berlese, in Sacc. Syll. Fung. **7**: 467. 1888.

PARADIACHEA Hertel, Dusenien **7**: 349. 1956.

Type: *Diachea cylindrica* Bilgram, Proc. Acad. Phila. **57**: 524. 1905

≡*P. cylindrica* (Bilgram) Hertel, l.c.≡*Comatricha cylindrica* (Bilgram) Macbr., N. Am. Slime-Moulds ed. 2. 173. 1922.

PARADIACHEOPSIS Hertel, *Dusenian* 5: 191. 1954.

Type: *P. curitibana* Hertel, l.c., p. 192. In a subsequent paper, Hertel (*Dusenian* 7: 348. 1956), transferred six species of *Comatricha* and one of *Lamproderma* to *Paradiacheopsis*.

PECILA Lepell., *Bull. Soc. Philom.* 1822: 109. 1822.

Type: *P. peleterii* Lepell., l.c. p. 110.

Probably a myxomycete, but description too vague to interpret. Ainsworth, *Dict. Fung.* ed. 5. 293, 1961, suggests "*Fuligo*." My impression on reading the description was that it might be *Physarum cinereum*.

PERICHAENA Fries, *Symb. Gast.* II: 1817.

Type: *P. populina* Fries, l.c., p. 12. Now equated with *P. corticalis* (Batsch) Rost., *Mon.* 293. 1875, based on *Lycoperdon corticale* Batsch, *Elench. Fung.* 155. 1783. Fries cites "*Licea* Link diss. 2." as a synonym of his new genus. Link, *Ges. Nat. Freunde Berlin Mag.* 7: 41. 1815, gives an 8-word diagnosis of *Licea* followed by the phrase "*Hujus loci Licea strobilina et circumscissa*," without making the combinations. Fries's *L. populina*, for which he cites three synonyms, one of which is *L. circumscissa* Pers., may be identified with reasonable certainty and should be retained as the type.

PEZIZA L., *Sp. Pl.* 1180. 1763.

Type (1775): *P. minuta* Leers, *Fl. Herborn.* 277. 1775, the basionym of *Craterium minutum* (Leers) Fries, *Syst. Myc.* 3: 151. 1829. *Peziza convivalis* Batsch, *Elench. Fung.* 122. 1783, which is probably the same species, was validly published before 1823.

Now universally recognized as a genus of operculate discomycetes, for which the type must be selected from the species recognized in Fries, *Syst. Myc.* 2: 1823.

PHELONITES Chev. Variant spelling of *Phelonitis* q.v. used by Corda and Fries.

PHELONITIS Chev., *Fl. Paris* I: 245. 1826.

Type: *P. suberea* Chev., l.c. Possibly the aecial stage of a rust.

Fries, *Syst. Myc.* 3: 198. 1829, used the name for a "tribus" of *Licea*, including *L. suberea* (Chev.) Fries and *L. minima* Fries. Later, *Summa Veg. Scand.* 459. 1849, as *Phelonites*, he recognized it as a genus of Myxomycetes, recognizing three species, of which only *P. minor*, surely, but not formally based on *Licea minor*, would now be regarded as a Myxomycete.

PHLEBOMORPHA Pers., *Myc. Eur.* 1: 61. 1822.

Lectotype: *P. rufa* Pers., l.c., pl. 6, f. 1-2.

This, like the other five species included, is a myxomycete plasmodium. See Fries, *Syst. Myc.* 3: 70. 1829.

PHYSARELLA Peck, *Bull. Torrey Club* 9: 61. 1882.

Type: *P. mirabilis* Peck, l.c. Now equated with *P. oblonga* (Berk. & Curt.) Morgan, *Jour. Cinc. Soc. Nat. Hist.* 19: 7. 1895≡*Trichamphora oblonga* Berk. & Curt., *Grevillea* 2: 66. 1873.

PHYSARINA Höhnel, *Sitz.-ber. Akad. Wien* 118: 431. 1909.

Type: *P. echinocephala* Höhnel, l.c.

PHYSARUM Pers., *Neues Mag. Bot.* 1: 88. 1794.

Type: *P. aureum* Pers., l.c. Now equated with *Physarum viride* (Bull.) Pers., *Ann. Bot. Usteri* 15: 6. 1795≡*Sphaerocarpus viridis* Bull., *Hist. Champ. Fr.* 135. 1791.

PITTOCARPIUM Link, *Ges. Nat. Freunde Berlin Mag.* 7: 41. 1815.

Type: *P. flavum* Link, l.c.

An aethaloid form, possibly *Fuligo*, but uncertain.

POLYSCHISMIUM Corda, *l.c. Fung.* 5: 20. 1842.

Type: *Leangium*? *trevelyani* Grev., *Scot. Crypt. Fl.* 3: pl. 132. 1825≡*Diderma trevelyani* (Grev.) Fries, *Syst. Myc.* 3: 105. 1829.

Corda did not publish the combination in *Polyschisma* and, so far as I know, no one else has. In view of the rather special character of *D. trevelyani*, with the crystalline middle layer of its peridium, Corda's genus could reasonably be revived.

PROTODERMA Rost., *Mon.* 90. 1874. Not *Protoderma* Kütz. 1854 (Ulvaceae).

Type: *Licea pusilla* Schrad., *Nov. Gen. Pl.* 19. 1797≡*Protoderma pusillum* (Schrad.) Rost., l.c. (as *pusilla*).

A later homonym of the algal genus.

PROTODERMIIUM Rost. ex Berl., in *Sacc.*, *Syll. Fung.* 7: 328. 1888.

Type: *Licea pusilla* Schrad., *Nov. Gen. Pl.* 19. 1797≡*Protodermium pusillum* (Rost.) Rost. ex Berl., l.c.

To replace *Protoderma* Rost.

PROTODERMIDIUM O. Kuntze, *Rev. Gen. Pl.* 3(1): 867. 1891.

Type: *Licea pusilla* Schrad., *Nov. Gen. Pl.* 19. 1797≡*Protodermidium pusillum* (Schrad.) O. Kuntze, l.c.

To replace *Protodermium* Rost. ex Berl.

PROTOTRICHIA Rost., *Mon. App.* 38. 1876.

Type: *Trichia flagellifer* Berk. & Br., *Ann. Mag. Nat. Hist.* III. 18: 56. 1866≡*Prototrichia flagellifer* (Berk. & Br.) Rost., l.c. Now equated with *P. metallica* (Berk.) Masee, *Jour. Roy. Micr. Soc.* 1889: 351. 1889≡*Trichia metallica* Berk., in *Hook. f., Fl. Tasm.* 2: 268. 1859.

PUCCINIA J. F. Gmel. in *Linn., Syst. Nat.* ed. 13. 2: 1462. 1791.

Type: *Clavaria byssoides* Bull., *Hist. Champ. Fr.* 209. 1791 (pl. 415,

f. 2. 1788) = *Puccinia byssoides* (Bull.) J. F. Gmel., l.c. Now equated with *Ceratiomyxa fruticulosa* (Müll.) Macbr., N. Am. Slime-Moulds 18. 1899.

Puccinia is now universally accepted as a genus of Uredinales, the nomenclature dating from 1801, and its type for such application must be drawn from Persoon, Syn. Fung., of that date.

FYXIDIUM S. F. Gray, Nat. Arr. Brit. Pl. 1: 580. 1821.

Type: *Sphaerocarpus sessilis* Bull., Hist. Champ. Fr. 132. 1791. (pl. 417, f. V. 1788) = *Pyxidium sessile* (Bull.) S. F. Gray l.c. Now equated with *Perichaena corticalis* (Batsch) Rost., Mon. 293. 1875, based on *Lycoperdon corticale* Batsch, Elench. Fung. 155. 1783.

RACIBORSKIA A. Berl., in Sacc., Syll. Fung. 7: 400. 1888.

Type: *Rostafinskia elegans* Racib., Rozp. Akad. Umiej. 12: 78. 1884 = *Raciborskia elegans* (Racib.) A. Berl., l.c. p. 401 = *Comatricha elegans* (Racib.) G. Lister, Guide Brit. Mycet. ed. 3. 31. 1909. See *Rostafinskia*.

Not *Raciborskia* Woloszyńska, Bull. Acad. Sci. Crakow, Math.-Nat. Kl. B. 4-6: 199. 1919 (Chlorophyceae).

RETICULARIA Bull., Hist. Champ. Fr. 83. 1791.

Type: *R. lycoperdon* Bull. var. II, l.c., p. 93, pl. 476, f. 1.

Bulliard's genus included 12 species, most of which would now be included in *Fuligo*, *Lycogala*, *Mucilago*, *Diderma* and *Physarum*, as well as an *Ustilago* and two other species which are certainly not Myxomycetes. His *R. lycoperdon* was divided into four varieties, numbered but not named. Variety II is almost certainly the species as now recognized. His variety I, pl. 464, f. 4, is evidently the same. His varieties III and IV appear to be *Lycogalas*. Persoon, in 1801, did not recognize the genus. Fries, Syst. Myc. 3: 89. 1829, emended it but still included species now referred to *Brefeldia*, *Fuligo*, *Lycogala*, *Amaurochaete* and *Dictydiaethalium*. Our present concept is that of Rostafinski, Mon. 240. 1875, who included in it only the single species cited.

ROSTAFINSKIA Racib., Rozp. Akad. Umiej. 12: 78. 1884.

Type: *R. elegans* Racib., l.c. = *Comatricha elegans* (Racib.) G. Lister.

A later homonym of *Rostafinskia* Speg. 1880, q.v.

ROSTAFINSKIA Speg., Ann. Soc. Ci. Arg. 10: 151. 1880.

Type: *R. australis* Speg., l.c.

Possibly, but not certainly, a myxomycete.

An earlier homonym of *Rostafinskia* Racib., q.v.

SCYPHIUM Rost., Mon. 148. 1874.

Type: *Physarum rubiginosum* Chev., Fl. Par. 338. 1826 = *Scyphium rubiginosum* (Chev.) Rost., l.c. = *Badhamia rubiginosa* (Chev.) Rost.,

Mon. App. 5. 1876. Now equated with *Badhamia obovata* (Peck) S. J. Smith, in Martin, Brittonia 13: 112. 1961.

Not *Physarum rubiginosum* Fries, Symb. Gast. 21. 1817.

SIPHOPTYCHIUM Rost., Mon. App. 32. 1876.

Type: *S. casparyi* Rost., l.c. = *Tubifera casparyi* (Rost.) Macbr. N. Am. Slime-Moulds 157. 1899.

SPHAEROCARPA Schum., Enum. Pl. Saell. 2: 220. 1803.

Type: *S. operculata* Schum., l.c., cited by Fries as a synonym of *Craterium nutans* Fries, Syst. Myc. 3: 151. 1829, now equated with *C. minutum* (Leers) Fries, l.c.

Sphaerocarpa Schum. must be either a variant spelling or a later homonym of *Sphaerocarpus* Bull., q.v.

SPHAEROCARPUS Bull., Hist. Champ. Fr. 123. 1791.

Type: *S. viridis* Bull., l.c., p. 137 (pl. 407, f. 1. 1788) = *Physarum viride* (Bull.) Pers., Ann. Bot. Usteri 15: 6. 1795.

Not *Sphaerocarpos* Mich. ex Ludwig, Def. Gen. Pl. 501. 1760, nor *Sphaerocarpus* Adans., Fam. Pl. 2: 14. 1763 (Hepaticae).

SPUMARIA Pers., in J. F. Gmel., Linn. Syst. Nat. ed. 13. 2: 1466. 1791.

Type: *Mucilago crustacea alba* Micheli, Nov. Pl. Gen. 216. pl. 96, f. 2. 1729 = *Muccr crustacea* L., Sp. Pl. 1186. 1753 = *Spumaria mucilago* Pers., l.c. = *Mucilago crustacea* (L.) Wiggers, Prim. Fl. Holsat. 112. 1780. In current literature referred to *Mucilago spongiosa* (Leyss.) Morgan, Bot. Gaz. 24: 56. 1897, based on *Mucor spongiosus* Leyss., Fl. Hal. ed. 2. 305. 1783.

STEGASMA Corda, Ic. Fung. 5: 20. 1842.

Type: *Perichaena depressa* Libert, Pl. Crypt. 787. 1837 = *S. depressum* (Libert) Corda, l.c., p. 58.

STEMONITES auct.

Variant spelling of *Stemonitis*, used by Batsch, Elench. Fung. Cont. 1: 31. 1786, Fries, Summa Veg. Scand. 455. 1849 and others.

STEMONITIS Gled. ex Wiggers, Prim. Fl. Holsat. 110. 1780.

Type: *Clathrus nudus* L., Sp. Pl. 1179. 1753 = *S. typhina* Wiggers, l.c. Now provisionally equated with *Comatricha typhoides* (Bull.) Rost. ex A. Lister, Mycet. 121. 1894, based on *Trichia typhoides* Bull., Champ. Fr. 119. 1791 (pl. 477, f. 2. 1789, with descr.)

The genus is often cited *Stemonitis* Hill, Nat. Hist. 2: 47. 1751, or *Stemonitis* Gled., Meth. Fung. 140. 1753. Both are pre-Linnaean. There is a long tradition, dating back at least to Persoon, Ann. Bot. Usteri 20: 121. 1796, that *Stemonitis typhina* is *Comatricha typhoides*, which seems highly probable. This would make *Stemonitis* Gled. ex Wiggers an earlier and valid synonym of *Comatricha* Preuss, q.v. However, G. Lister, Jour. Bot. 51: 160-164. 1913, reports that there are four specimens of Myxomycetes in the *Clathrus* cover of the Linnean Herbarium

in London. One of these, marked in Linnaeus' hand "*Clathrus 3 nudus*" is *Stemonitis ferruginea* Ehrenb. = *S. axifera* (Bull.) Macbr. One of the other specimens is the same species, another is *S. splendens* Rost., while a fourth, labelled in Linnaeus' hand *Embolus* is, according to Miss Lister, probably the type of *Mucor embolus* L. and was identified by her as *S. fusca* Roth. But see comment under *Mucor* on Haller's figure of *Embolus nigerrimus* etc., Hist. Stirp. Helv. 8, pl. 1., f. 1.

It seems clear that the species of *Stemonitis* as used by the immediate followers of Linnaeus were very crudely defined and that the application of the names applied is often extremely uncertain.

STEMONITIS Roth, Mag. Bot. Römer & Usteri 1(2): 25. 1787.

Type: *Stemonitis fusca* Roth, l.c., p. 26.

As so typified, this becomes a later homonym of *Stemonitis* Gled. ex Wiggers, but it does preserve the genus in the sense in which it has been used for over a century.

STRONGYLIIUM Ditmar, Neues Jour. Bot. Schrad. 3(2): 55. 1809.

Type: *S. fuliginoides* Ditmar, l.c. Now equated with *Reticularia lycoperdon* Bull., Hist. Champ. Fr. 95. 1791.

It is probable that *Strongylium* Ditmar was published earlier in 1809 than *Arongylium* Link, but that is not certain since Link acknowledged that he had before him Ditmar's notes and drawings. In any event, Link, Ges. Natur. Fr. Berlin Mag. 7: 41. 1815, corrected the printer's error.

The genus was adopted by Swartz, Sv. Vet. Akad. Handl. 36: 110. 1815, for an *Amaurochaete* and by Fries, Syst. Gast. 9. 1817 for two species, one now believed to be an *Amaurochaete* and one a *Didymium*.

If *S. fuliginoides* Ditm. is correctly interpreted as a synonym of *Reticularia lycoperdon* Bull., then it is a later synonym of *Reticularia* and not available as an earlier synonym of *Amaurochaete* Rost.

STYLONITES Fries, Fungi Natal. 33. 1849.

Type: *S. fulviceps* l.c.

Cited by Rost., Mon. 106. 1874, as a synonym of *Physarum berkeleyi* Rost., l.c., 105, now equated with *Physarum flavicomum* Berk., Lond. Jour. Bot. 4: 66, 1845. But see Fries, Summa Veg. Scand. 456. 1849, and Rost., l.c., p. 307.

TILMADOCHÉ Fries, Summa Veg. Scand. 454. 1849.

Type: *Physarum leucophaeum* Fries, Symb. Gast. 24. 1818 = *Tilmadoche leucophaea* (Fries) Fries, l.c.

TIPULARIA Chev., Jour. de Physique 92: 58. 1822.

Type: *T. fulva* Chev., l.c.

Said by author to be close to *Licea*, but description does not sug-

gest a myxomycete. Not *Tipularia* Nutt., Gen. N.-A. Pl. 2: 193. 1818. (Orchidaceae).

TREMELLA L., Sp. Pl. 1157. 1753.*

As pointed out by Donk, Taxon 7: 245-248. 1958, Linnaeus' genus of 1753 was a completely heterogeneous mixture of discordant elements.

Tremella hydroides Jacq., Misc. Austr. 1: 145, pl. 16, 1778, is undoubtedly a form of what is now referred to *Ceratiomyxa fruticulosa* (Müller) Macbr., N. Am. Slime-Moulds 18. 1899 = *Byssus fruticulosus* Müll., Fl. Dan. 12: 6, pl. 718. 1777, hence was superfluous when published.

The name has become established for a genus of Heterobasidiomycetes, and should be typified by either *T. frondosa* Fries, Syst. Myc. 2: 212. 1823 or *T. mesenterica* Retz. ex Fries, Syst. Myc. 2: 214. 1823, both of which, as Donk states, involve difficulties.

TRICHAMPHORA Jungh., Crypt. Fl. Java 12, pl. 6, f. 288. 1838.

Type: *T. pezizoidea* Jungh., l.c. = *Physarum pezizoideum* (Jungh.) Pav. & Lag., Bull. Soc. Myc. Fr. 19: 87. 1903.

TRICHIA Haller, Hist. Stirp. Helv. 3: 114. 1768.

Type: *Trichia gregaria sessilis, piriformis, flava* Haller, l.c., p. 116. Now equated with *T. varia* (Pers.) Pers., Neues Mag. Bot. 1: 90. 1794, based on *Stemonitis varia* Pers., in J. F. Gmel., Linn. Syst. Nat. ed. 13. 2: 1470. 1791.

TRICHODERMA Pers., Syn. Fung. 231. 1801.

Trichoderma fuliginoides Pers., l.c. is certainly a myxomycete and may well be the same as *Reticularia lycoperdon* var. I. Bull., Hist. Champ. Fr. 95. 1791, with which Persoon compares his species, citing Bulliard's pl. 446, f. 4.

Trichoderma Pers. emend. Fries, Syst. Myc. 3: 215. 1829, is now universally used for a genus of Moniliales and the type for such application must be one of the species included in his treatment of the genus. In the same volume, l.c., p. 87, Fries cites *T. fuliginoides* as a synonym of *Reticularia umbrina* Fries, now universally accepted as a synonym of *R. lycoperdon*. Nevertheless, *Trichoderma fuliginoides* Pers. was validly published for a myxomycete 28 years before the genus was validated as a genus of Moniliales.

TRIPOTRICHIA Corda, Ic. Fung. 1: 22. 1837.

Type: *T. elegans* Corda, l.c. Now equated with *Leocarpus fragilis* (Dicks.) Rost., Mon. 132. 1874, based on *Lycoperdon fragile* Dicks., Pl. Crypt. Brit. 1: 25. 1785.

TUBIFERA J. F. Gmel., Linn. Syst. Nat. ed. 13. 2: 1472. 1791.

Type: *Stemonitis ferruginosa* Batsch, Elench. Fung. Contin. 1: 261. 1786 = *Tubifera ferruginosa* (Batsch) J. F. Gmel., l.c.

TUBULIFERA Oeder ex Jacq., Misc. Austr. 1: 144. 1778.

Type: *T. arachnoidea* Jacq., l.c. Now equated with *Tubifera ferruginosa* (Batsch) J. F. Gmel., in Linn., Syst. Nat. ed. 13. 1472. 1791≡*Stemonitis ferruginosa* Batsch, Elench. Fung. Contin. 1: 261. 1786.

Neither Oeder nor Jacquin employed binomial nomenclature consistently, but *T. arachnoidea* was published as a binomial and Jacquin refers to *Tubulifera ceratum* Oeder, in Müll., Fl. Dan. 4(11): 8, pl. 659, f. 2. 1775. Oeder's *T. cremor*, l.c., f. 1, is certainly the same. Oeder did not describe the genus, but Jacquin's discussion is clearly a combined generic and specific description. Oeder indicated the specific epithet in special type, as Jacquin did the binomial, and all three names were cited as binomials in synonymy by later authors, including Gmelin, 1791, Persoon, 1801, Fries, 1829, and many others up to the present. Curiously, in the index to his illustrations, Jacquin wrote "*Tubularia*" *arachnoidea*. "*Tubularia*" seems never to have been copied and should be regarded as an unintentional error.

A very strong case could be made for regarding *Tubulifera* as the earliest and valid, synonym of *Tubifera* J. F. Gmel., 1791, and *Tubulina* Pers. 1794, but since the genus has not been recognized for so long, it should not be revived.

TUBULINA Pers., Neues Mag. Bot. 1: 91. 1794.

Type: *T. fragiformis* (Bull.) Pers., l.c.,≡*Sphaerocarpus fragiformis* Bull., Hist. Champ. Fr. 141. 1791, (pl. 384, with descr. 1786). Now equated with *Tubifera ferruginosa* (Batsch) J. F. Gmel., Syst. Nat. ed. 13. 2: 1472. 1791.

VERRUCOSIA Teng, Contr. Biol. Lab. Sci. Soc. China 7: 124. 1932.

Type: *V. corticola* Teng, l.c.,≡*Lycogala corticola* (Teng) Teng, l.c. 8: 143. 1932. Now equated with *Lycogala flavofuscum* (Ehrenb.) Rost., in Fuckel, Jahrb. Nass. Ver. Nat. 27-28: 68. 1873.

WILCZEKIA Meylan, Bull. Soc. Vaud. Sci. Nat. 56: 68. 1925.

Type: *W. evelinae* Meylan, l.c., p. 69.

WILLKOMMLANGIA O. Kuntze, Rev. Gen. Pl. 3(1): 875. 1891.

Type: *Cienkowskia reticulata* (Alb. & Schw.) Rost., Mon. 91. 1874≡*Physarum reticulatum* Alb. & Schw., Consp. Fung. 90. 1805≡*W. reticulata* (Alb. & Schw.) O. Kuntze, l.c. Not *Cienkowskia* Regel & Rach, 1858, nor *Cienkowskyia* Solms, 1868. See *Cienkowskia* Rost.

WINGINA O. Kuntze, Rev. Gen. Pl. 3(1): 875. 1891.

Type: *Orthotricha microcephala* Wingate, Jour. Myc. 2: 125. 1886≡*W. microcephala* (Wingate) O. Kuntze, l.c.=*Clastoderma debaryanum* A. Blytt, Bot. Zeit. 38: 343. 1880. Not *Orthotricha* Hedwig, 1789. See *Orthotricha* Wingate.