A CONSIDERATION OF THE NAMES PHANEROCHAETE, MEMBRANICUM, AND GRANDINIELLA (CORTICIACEAE, APHYLLOPHORALES)

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For a number of years there has been a question concerning the correct generic name for *Thelephora velutina* DC. per Pers.: Fr. [= *Peniophora velutina* (DC. per Pers.: Fr.) Cke.] and related species. Donk (1957: 108; 1962: 223) used the name *Phanerochaete* Karst. (1889, p. 426) for the group, while Eriksson (1958, p. 115), apparently aware of the problems associated with the name *Phanerochaete,* used the "interimistic" name *Membranicium* without offering a description or the reason for doing so. This name remains a *nomen nudum* and invalid to date. Recently, however, several species have been transferred into *Membranicium* as though it had valid generic status (Hayashi, 1974). It is my opinion that these combinations are illegitimate.

Because of the existing uncertainty concerning the nomenclature of this group, it appears appropriate to review the historical development of the pertinent nomenclature and the problems involved and to establish a valid and legitimate generic name for the group.

The generic name *Phanerochaete* Karst. was lectotypified with "*P. alnea* Karst." by W. B. Cooke (1953, p. 73). This name was adopted and discussed by Donk (1957). Eriksson (1958), however, used the name *Membranicum* "ad int." (*nomen nudum*) for a similar group, "*Peniophora* sect. *Membranaceae A* Bourdot and Galzin" (1928, p. 303) (which includes *P. alnea*) and parts of "section *Radicatae* Bourd. and Galz. of *Peniophora.*" He indicated that acystidiate species such as *Corticium tuberculatum* Karst. might also be included. Donk (1962) expanded this concept of the genus but made no new combinations and continued the use of the name *Phanerochaete,* making no comment concerning *Membranicium.*

Karsten (1889) proposed *Phanerochaete* for two species, *Thelephora alnea* Fr. and *Thelophora odorata* Fr., without designating a type species. The name *Phanerochaete* must be based on one of the two original species. However, either choice presents problems if it is to be considered as type. Cooke (1953) selected the first listed, *P. alnea* (Fr.) Karst. (as "*P. alnea* Karst.") as lectotype.

Neither a type specimen nor authentic material of *T. alnea* Fr. has been found. The only vestige to serve as type for this species is the inadequate description provided by Fries (1821, p. 446). Fries' description cannot be adequately interpreted for species identification. Therefore *T. alnea* Fr. is considered here a *nomen dubium.*

Conversely, *T. odorata* is supported by an authentic specimen (UPS), having characteristics of *Scytinostroma* Donk. Since a lectotype specimen is available, *T. odorata* could serve well as the lectotype of *Phanerochaete.*

Donk (1957) implies that *P. alnea* (Fr.) Karst, auct. (non *T. alnea* Fr. sensu orig.) based on Rabenhorst and Winter Fung. europ. extracur. # 3231, 1885, could serve as neotype species for *Phanerochaete.* That collection, however, has nothing to recommend it as a neotype specimen. It was never seen by Fries and was collected near Mustiala, Finland, not in the area in which Fries normally collected. Massee (1889, p. 153) proposed the name *Peniophora karstenii* Mass. for the Rabenhorst and Winter collection, because it differed substantially from the Friesian concept of *T. alnea.* Bresadola (1903, p. 92) agreed with Massee and stated also that *T. alnea* Fr. was synonymous with *T. odorata* Fr., a decision that von Hoehnel and Litschauer (1907, p. 765) subsequently accepted. If this synonymy is correct, and there is no evidence to dispute it, *Phanerochaete* is an earlier name for those fungi now in *Scytinostroma.*

There is evidence that Karsten's original concept of *P. alnea* (Fr.) Karst. was, in fact, that of a *Scytinostroma* species. A specimen collected by Nylander at Vasa was cited after Karsten's description of *P. alnea* immediately following the original description of *Phanerochaete.* A specimen (FH) with this same data on the packet sent to Burt by Karsten

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is a species of *Scytinostroma*. Karsten's sense of the genus and species, therefore, is in doubt.

One way to maintain the name *Phanerochaete* in its present sense is to conserve *Phanerochaete* in the sense of Karsten. It is unlikely, however, that the majority of the Special Committee on Fungi and Lichens would support such conservation since it is only in the last 10 years that a number of species have been transferred to or described in *Phanerochaete.*

Conservation would serve to preserve current usage and concept but this name is neither well enough known nor does it have sufficient usage to warrant conservation.

Another approach to the problem is to accept Cooke's lectotypification of *Phanerochaete* with *P. alnea* (Fr.) Karst, a species lacking a type specimen and, therefore, with uncertain identity. *Thelephora alnea,* then, is a *nomen dubium* and *Phanerochaete* must also be considered a *nomen dubium.*

A third possibility is to lectotypify *Phanerochaete* with *T. odorata* Fr. *Thelephora odorata,* according to an authentic specimen at UPS, is a species of *Scytinostroma.* Such lectotypification, therefore, would require transferring all *Scytinostroma* species to *Phanerochaete.*

Employing either of the latter solutions (the third is probably the best) requires selecting another name for the species now in *Phanerochaete.*

In the synonymy of the name *Phanerochaete* provided by Donk (1957), the names *Grandiniella* Karst. (1895, p. 8) and *Scopuloides* (Mass.) Hoehn. et Litsch. (1908, p. 57) arc listed, *Scopuloides* was considered only provisionally by von Hoehnel and Litschauer and need not be considered further since it holds no status.

Grandiniella, on the other hand, was validly and effectively published by Karsten (1895) for *G. livescens* Karst., with "*Grandiniella mucida* (Fr.)" merely mentioned.

I examined a specimen (H) in a packet labeled *Grandiniella livescens* and containing collection data very similar to that provided for the specimen cited with the original description of the genus and species. This examination indicated that *G. livescens* is closely related to *Corticium cremeum* Bres. [= *Peniophora cremea* (Bres.) Burt.]. In that packet an annotation label by J. Eriksson indicates that the specimen is "non typus." However, I find no substantial reason to doubt that it is the specimen cited by Karsten. the habit, coloration, warted surface (due to its growing over a pyrenomycete), and the separable nature of the basidiocarp all agree with Karsten's description. The only differences I find concern the cystidia and basidiospores. The cystidia arc said to be subulate and spiny. It seems to me that Karsten meant that the cystidia are encrusted (and, therefore, appear somewhat spiny); those that have lost the encrustation tend toward subulate. His description concerning this character contradicts itself, as he also says that the apex may be up to 10 µm in diameter. Cystidia with such apices would not be subulate. The only other difference between the description and this specimen is the basidiospore size. Karsten's stated basidiospore size is 3-4 × 1–1.5 µm, or just about half of my measurements. I interpret this difference as an error by Karsten. He apparently unknowingly used the wrong objective to measure these spores and realized this error after publishing the original description. He published an amended abbreviated description (Karsten 1896, p. 45) indicating the spore size to be "6-7 = 3 mm." The specimen therefore appears to be the one cited after Karsten's description of *G. livescens.*

Grandiniella livescens Karst. was chosen as lectotype for *Grandiniella* Karst. by Clements and Shear (1931, p. 346). This choice was accepted by W. B. Cooke (1953, p. 41). Since the only other species mentioned with the description of this genus [G. ***mucida*** (Fr.) Karst.] was only mentioned incidentally, *C. livescens* is the best choice as lectotype of the genus.

I conclude that *Grandiniella* Karst. is the appropriate generic name for the species related to *P. velutina* and *P. cremea.* Some of the necessary new combination with *Grandiniella* are proposed below. Others will be proposed after the species involved have been studied further. The fate of the names *Phanerochaete* and *Scytinostroma* await further deliberations.

Grandiniella allantospora (Burds. et Gilbn.) Burds., comb. nov.

basionym - *Phanerochaete allantospora* Burds. et Gilbn., Mycologia 66: 780. 1974.

Grandiniella arizonica (Burds. et Gilbn.) Burds., comb. nov.
basionym - *Phanerochaete arizonica* Burds. et Gilbn., Mycologia 66: 785. 1974.
Grandiniella burtii (Rom. in Burt) Burds., comb. nov.
basionym - *Peniophora burtii* Rom. in Burt, Ann. Missouri Bot. Gard. 12: 278. 1925 [1926].
Grandiniella cacaina (Bourd. et Galz.) Burds., comb. nov.
basionym - *Peniophora cacaina* Bourd. et Galz., Bull. Soc. Mycol. France 28: 397. 1912 [1913].
Grandiniella calotricha (Karst.) Burds., comb. nov.
basionym - *Corticium calotrichum* Karst., Rev. Mycol. 10: 73. 1888.
Syn. *Peniophora affinis* Burt, Ann. Missouri Bot. Gard. 12: 266. 1925 [1926].
Grandiniella carnosa (Burt) Burds., comb. nov.
basionym – *Peniophora carnosa* Burt, Ann. Missouri Bot. Gard. 12: 325. 1925 [1926].
Grandiniella chrysorbizon (Torr. in Eaton) Burds., comb. nov.
basionym - *Hydnum chrysorbizon* Torr. in Eaton, Manual Bot., 3rd ed. p. 309. 1822.
Grandiniella chrysosporium (Burds. in Burds. et Eslyn) Burds., comb. nov.
basionym - *Phanerochaete chrysosporium* Burds. in Burds. et Eslyn, Mycotaxon 1: 124. 1974.
Grandiniella cremea (Bres.) Burds., comb. nov.
basionym - *Corticium cremeum* Bres., Fung. Trid. 2: 63. 1878.
Grandiniella filamentosa (Berk. et Curt.) Burds., comb. nov.
basionym - *Corticium filamentosum* Berk. et Curt., Grevillea 1: 178. 1873.
Grandiniella fuscomarginata (Burt) Burds., comb. nov.
basionym - *Peniophora fuscomarginata* Burt, Ann. Missouri Bot. Gard. 12: 335. 1925 [1926].
Grandiniella macrospora (Bres. in Bourd. et Galz.) Burds., comb. nov.
basionym - *Peniophora macrospora* Bres. in Bourd. et Galz., Bull. Soc. Mycol. France 28: 396. 1912 [1913].
Grandiniella omnivorum (Shear) Burds., comb. nov.
basionym - *Hydnum omnivorum* Shear, J. Agric. Res. 30: 476. 1925.
Grandiniella salmoneolutea (Burds. et Gilbn.) Burds., comb. nov.
basionym - *Phaneochaete salmoneolutea* Burds. et Gilbn., Mycologia 66: 787. 1974.
Grandiniella sanguinea (Fr.) Burds., comb. nov.
basionym - *Thelephora sanguinea* Fr., Elench. Fung. 1: 203. 1828.
Grandiniella singulare (G. H. Cunn.) Burds., comb. nov.
basionym - *Corticium singulare* G. H. Cunn., Trans. Roy. Soc. N. Z. 82: 325. 1954.
Grandiniella tuberculata (Karst.) Burds., comb. nov.
basionym - *Corticium tuberculatum* Karst., Hedwigia 35: 45. 1896.
Grandiniella velutina (DC. per Pers.: Fr.) Burds., comb. nov.
basionym - *Thelephora velutina* DC. per Pers.: Fr., Elench. Fung. 1: 203. 1828.

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