

Revisiones Generum Obscurorum Hyphomycetum*: Introduction

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This paper introduces a series of publications concerning described genera of Hyphomycetes of uncertain identity. The status of fifty-three genera reassessed by other authors since 1980 is reviewed.

Keywords: taxonomy, Deuteromycotina, nomenclature.

Prior to the 1950s, the Hyphomycetes encompassed a haphazard collection of form genera loosely arranged in the artificial Saccardoan system. A large number of generic names had accumulated whose affinities were not understood. In a remarkable pair of papers, Hughes (1953, 1958) first laid the groundwork for a thorough reevaluation of hyphomycete taxonomy and then applied his ideas in a revision of more than 1000 type and authentic collections of classical hyphomycete taxa. These papers were the foundation for the many substantial revisions that followed, such as the generic reviews of Barron (1968) and Carmichael & al. (1980), the dematiaceous Hyphomycete manuals of Ellis (1971, 1976) and the monograph of Indian Hyphomycetes by Subramanian (1971).

Despite these landmark contributions, a residual group of hyphomycete taxa of uncertain affinities remained. In 1974, Kendrick published a list of 394 Hyphomycete generic names that were of unknown identity, which he dubbed "The Generic Iceberg". The status of 86 of these genera was clarified by various authors and this information is included in the Hyphomycete compilation of Carmichael & al. (1980).

Beginning in 1988, a project was undertaken to deal with the remaining 308 Hyphomycete genera from Kendrick's (1974) list. The participants were volunteers from an informal group of hyphomycete

* This series is dedicated to Dr. S.J. Hughes in honour of his landmark studies on classical Hyphomycete genera.

taxonomists known as the Anamorph Information Network. A review of the post 1980 literature revealed that the status of a further 53 generic names from the "Generic Iceberg" list had been clarified. This information is reviewed below.

The result of this international collaboration is this series of papers, to be published in *Sydowia* under the title "Revisiones Generum Obscurorum Hyphomycetum", which will propose modern dispositions for the remaining 255 genera. Short papers will be published periodically that will reassess the status of genera for which type material has been reexamined. The genera for which authentic material has not been located will also be discussed. It is worth noting that many of the generic names considered are included in the draft list of generic Names in Current Use now being discussed by the nomenclatural community (Hawksworth 1991) and there should be little, if any, conflict between these two initiatives.

Genera reexamined since 1980

Acrocladium Petrak, *Sydowia* 3: 263. 1949.

T: *A. andinum* Petrak, l.c.

Considered a synonym of *Periconiella* by von Arx (1981a), who examined the holotype of *A. andinum* (W) and transferred the species to *Periconiella*.

Actinostilbe Petch, *Ann. Roy. Bot. Gard. Peradeniya* 9: 327. 1925.

T: *A. vanillae* Petch, l.c.

Sutton (1981) considered this a synonym of *Sarcopodium* Ehrenb. based on a study of authentic material (K). Samuels & Seifert (1987) and Seifert (1990) considered *A. vanillae* congeneric with the synnematous anamorphs of two *Nectria* species that are very different from the type species of *Sarcopodium*, *S. circinatum* Ehrenb. They therefore considered *Actinostilbe* a distinct genus. See comments also under *Kutilakesopsis*.

Agaricostilbum Wright, *Mycologia* 62: 680. 1970.

T: *A. palmicola* Wright, l.c.

Wright & al. (1981) and Oberwinkler & Bandoni (1982) considered this genus a member of the order Atractiellales, Heterobasidiomycetes.

Atractiella Sacc., Syll. Fung. 4: 578. 1886.

T: *A. brunaudiana* (Sacc.) Sacc., l.c.

Basionym: *Eutypella brunaudiana* Sacc., *Michelia* 1: 505. 1879.

Oberwinkler & Bandoni (1982) accepted this genus as the type of the order Atractiellales, Heterobasidiomycetes based on their examination of the type (PAD).

Basidiella M. C. Cooke, *Grevillea* 6: 118. 1878.

T: *B. sphaerocarpa* Cooke, l.c.

Considered a synonym of *Aspergillus* by Subramanian (1971) and Seifert (1985a); the latter author examined the type (K).

Botrypes Preuss, *Linnaea* (Berlin) 25: 740. 1852.

T: *B. rosea* Preuss, l.c.

Seifert (1985a) reexamined the type specimen (B), which contained no recognizable fungi.

Cercoseptoria Petrak, *Ann. Mycol.* 23: 69. 1925.

T: *C. chamaescycae* (F. L. Stevens & Dalb.) Petrak, l.c.

Basionym: *Septoriopsis chamaescycae* F. L. Stevens & Dalb., *Mycologia* 11: 4. 1918.

Deighton (1987) considered this genus a synonym of *Pseudocercospora* Speg. This synonymy was accepted by Braun (1988), who transferred the remaining hyaline members of the genus to *Pseudocercospora* Deighton. Apparently neither Deighton nor Braun saw a type specimen.

Cercosporina Speg., *An. Mus. nac. Buenos Aires* 20: 424. 1910.

LT: *C. asparagicola* Speg., l.c. selected by Clements & Shear (1931).

Sutton & Pons (1980), who examined the type specimen (LPS), agreed with the opinion of Chupp (1954) and considered the genus a synonym of *Cercospora* Fres. They also redispersed the remaining twelve original species.

Chelisporium Speg., *An. Mus. nac. Buenos Aires* 20: 463. 1911.

T: *C. hysteroioides* Speg., l.c.

Sutton (1985) combined this genus with *Sirothecium*, based on his examination of an isotype (IMI).

Chlamydosporium Peyronel, I Germe Atmosferici dei Funghi con Micelio, p.18. 1913.

T: *C. submersum* Peyronel, l.c.

Mouchacca & Sutton (1991) considered this to be a chlamydospore-like state of *Phoma eupyrena* Sacc., based on authentic material (IMI) determined by Peyronel. Mouchacca & Sutton designated the IMI specimen neotype.

Cladosterigma Pat., Bull. Soc. mycol. Fr. 8: 138. 1892.

T: *C. fusispora* Pat., l.c.

Seifert (1985a) examined the holotype (FH) and considered this a good genus, but was uncertain whether it was anamorphic or the teleomorph of a Heterobasidiomycete. The oldest available name is *C. clavariella* (Speg.) Höhnelt.

Clavularia Karsten, Meddn. Soc. Fauna Flora fenn. 9: 67. 1883.

T: *C. fusispora* Karsten, l.c.

Seifert (1985a) examined type material (H) and transferred the species to the coelomycete genus *Cornucopiella* Höhnelt. The status of the other four species previously included in *Clavularia* was also discussed.

Corallo dendron Junghuhn, Batav. Genootsch. Verhandl. 17: 7. 1838.

T: *C. leucocephalum* Junghuhn, l.c.

Samson & Seifert (1985) examined authentic material (L), which appeared to represent a diatom.

Crinula Fr., Syst. mycol. 1: 495. 1821.

T: *C. caliciiformis* Fr., l.c.

The application of the name *C. caliciiformis* has been confused for some time. Kriegelsteiner & Haffner (1985), Seifert & Okada (1990) and Aronsson (1991) have illustrated this species, which is the anamorph of *Holwaya mucida* (Schulzer) Korf & Abawi. Although the genus was accepted by Carmichael & al. (1980), the fungus illustrated is not a species of *Crinula*.

Dictyochoaeta Speg., Physis 7: 18. 1923.

T: *D. fuegiana* Speg., l.c.

Considered as of uncertain application by Carmichael & al. (1980), *Dictyochoaeta* is now widely recognized as an earlier name for *Codinaea* Maire. The status of the type species was clarified by Gamundi & al. (1977). Kuthubutheen & Nawawi (1991) keyed out thirty-eight species, most of which have now been transferred to *Dictyochoaeta*.

Didymariopsis Speg., An. Mus. nac. Buenos Aires 20: 424. 1910.

T: *D. cuphaeicola* Speg., l.c.

Deighton (1972) examined the type (LPS) and considered it identical with the *Colletotrichum* anamorph of *Glomerella cingulata* (Stonem.) Spauld. & Schrenk.

Didymobotryopsis P. Henn., Hedwigia 41: 149. 1902.

T: *D. parasitica* P. Henn., l.c.

Samson & Evans (1991) examined the holotype specimen of *D. parasitica* (B) and transferred the species to *Hirsutella*. Two other species have been described. *Didymobotryopsis isingii* Hansford (1956) was not reexamined by Samson & Evans (1991). Gjaerum (1967) considered *D. cerastii* Solheim (1960) a synonym of *Ramularia albo-rosella* (Desm.) Gjaerum.

Epilithia Nylander, Bot. Ztg. 1855: 66. 1855.

T: *E. cristata* Nyl., l.c.

Seifert (1985a) examined the type (H) and reported that it represented the hypophores of a lichen.

Floccaria Greville, Scottish Crypt. Flora 6: 301. 1828.

T: *F. glauca* Greville, l.c.

Seifert & Samson (1985) were unable to find authentic material in K or E. However, in the index to the Scottish Flora, Greville considered his species a synonym of *Coremium glaucum*, now considered a synonym of *Penicillium expansum* Link.

Gloeocercospora Bain & Edgerton ex Deighton,
Trans. Br. mycol. Soc. 57: 358. 1971.

T: *G. sorghi* Bain & Edgerton ex Deighton, l.c.

Carmichael & al. (1980) were unable to distinguish this genus from *Ramulispora* Miura. Von Arx (1983), in his revision of *Mycosphaerella* anamorphs, considered *Gloeocercospora* distinct.

Gonytrichella Emoto & Tubaki, Trans. mycol. Soc. Japan 11: 95. 1970.

T: *G. olivacea* Emoto & Tubaki, l.c.

Von Arx (1982) considered this a synonym of *Dicyma*, based on examinations of type material and cultures. It is worth noting that von Arx adopted a broad concept of *Dicyma*, including *Hansfordia* Hughes and *Basifimbria* Subram. & Lodha as synonyms. These latter genera continue to be used by some authors (Kirk 1986, Chamuris & Wang 1990).

Hyalotrochophora Finley & Morris, Amer. Midl. Nat. 77: 202. 1967.

T: *H. lignitalis* (Thaxter) Finley & Morris, l.c. p. 203

Basionym: *Everhartia lignitalis* Thaxter, Bot. Gaz. 16: 204. 1891.

Goos (1987) accepted this genus and provided an illustration, but made no mention of authentic material.

Isariella P. Henn., Hedwigia 48: 19. 1909.

T: *I. auerswaldiae* P. Henn., l.c.

Seifert (1989) emended the genus based on studies of the type specimen (S) and of a second species, *I. candida* Seifert.

Isariopsella Höhnelt, Mitt. Bot. Inst. Techn. Hochsch. Wien 6: 68. 1929.

T: *I. vossiana* (Thüm.) Höhnelt, l.c.

Basionym: *Ramularia vossiana* Thüm., Oest. Bot. Z. 29: 359. 1879.

Braun (1988) first considered *Isariopsella* to be synonymous with *Isariopsis*, but later transferred *I. vossiana* to *Phacellium* (Braun, 1990). Seifert (1985a) also examined the type and considered *Isariopsella* a synonym of *Ramularia*. See comments below under *Isariopsis*.

Isariopsis Fres., Beiträge Mykologie p. 87. 1865.

T: *I. pusilla* Fres., l.c.

Braun (1988) first accepted *Isariopsis* for synnematous *Ramularia*-like species, but later (Braun 1990) reintroduced the older genus *Phacellium* Bon. for these fungi (see discussion of that genus below).

Jacobia Arnaud, Bull. Soc. Bot. Fr. 67: 195. 1951.

T: *J. conspicua* Arnaud, l.c.

This genus was invalidly published (Art. 36) but accepted and illustrated by Carmichael & al. (1980). Pouzar (1987) considered this fungus a Basidiomycete in the Auriculariales and redescribed it as *Kriegelsteinera lasiosphaeriae* Pouzar.

Kutilakesopsis Agnihothrudu & Barua, J. Ind. Bot. Soc. 36: 308. 1957.

T: *K. macalpineae*, l.c. p. 309.

Accepted as a good genus by Carmichael & al. (1980), it was considered a synonym of *Sarcopodium* by Sutton (1981), who saw the holotype (ex Toklai Experimental Station). Samuels & al. (1990) maintained the use of *Kutilakesopsis macalpineae* for the anamorph of *Nectria flocculenta* (P. Henn & Nyman) Höhnelt. The relationship of *Sarcopodium*, *Kutilakesopsis* and *Actinostilbe* remains controversial.

Macrostilbum Pat., Bull. Soc. mycol. Fr. 14: 197. 1898.

T: *M. radicosum* Pat., l.c.

Seifert (1985a) examined the type (FH) and considered the genus a nomen dubium.

Microspatha Karsten, Rev. Mycol. 11: 207. 1889.

T: *M. glauca* Karst., l.c.

Seifert (1985a) examined the type specimen (H) and considered it the hypophore of a lichen.

Oidiopsis Scalia, Agricoltore Calabro-Siculo 27: 396. 1902.

T: *O. sicula* Scalia, l.c.

Braun (1987) recognized this genus for the anamorphs of *Leveillula* Arnaud (Erysiphales), and three species lacking known teleomorphs.

Oramasia Urries, An. Inst. bot. A. J. Cavanilles 14: 168. 1956.

T: *O. hirsuta* Urries, l.c.

Accepted by Carmichael & al. (1980) but considered a synonym of *Vermiculariopsiella* Bender by Nag Raj (1983).

Phacellium Bonorden apud Rabenhorst, Fungi eur. exs., ed. nov., ser. sec. cent III: no. 288. 1860.

T: *P. inhonestum* Bonorden, l.c. (see also Bot. Ztg. 19: 203. 1861).

This genus was not included in Carmichael & al. (1980). It has been treated variously as a synonym of *Ramularia* (Gjaerum, 1967) or as a distinct genus for twelve species of synnematosous *Ramularia*-like fungi (Braun, 1990).

Pithosira Petrak, Sydowia 3: 259. 1949.

T: *P. sydowii* Petrak, l.c.

Von Arx & van der Aa (1981) redescribed this genus, based on their examination of the type specimen (W).

Polycephalomyces Y. Kobayasi, Sci. Rep. Tokyo Bunrika Daig., Sect. B., 5: 245. 1941.

T: *P. formosus* Kobayasi, l.c.

Seifert (1985b) considered this a distinct genus and designated a neotype specimen (K).

Polycephalum Kalch. & Cooke, Grevillea 9: 23. 1880.

T: *P. aurantiacum* Kalch. & Cooke, l.c.

Seifert (1985a) examined the type specimen (K), which represented a myxobacterium.

Pritzeiella P. Henn., Hedwigia Beibl. 42: 88. 1903.

T: *P. caerulea* P. Henn., l.c.

Seifert & Samson (1985) examined the type of *P. caerulea* (S) and considered it a synonym of *Penicillium coprophilum* (Berk. & Curtis) Seifert & Samson.

Pseudocordyceps Hauman, Bull. Soc. Bot. Belg. 69: 116. 1936.

T: *P. seminicola* Hauman, l.c. p. 117.

Samson & Seifert (1985) redescribed the genus and designated a neotype specimen (BR).

Pseudogaster Höhnelt, Akad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr. 83: 38. 1907.

T: *P. singularis* Höhnelt, l.c.

Seifert (1985b) redescribed *P. singularis* based on his examination of the type (FH) and maintained the generic name.

Pucciniopsis Speg., An. Soc. cient. Argentina 26: 74. 1888.

T: *P. guaranitica* Speg., l.c.

Sutton (1973) reexamined the type (LPS) and found sterile sporodochia and no 2-celled spores resembling *Puccinia* teliospores as described in the protologue. He considered the name a *nomen dubium*. The six other described species were also discussed.

Questieriella Arnaud ex Hughes, Can. J. Bot. 61: 1729. 1983.

T: *Q. pulchra* Hughes, l.c. p. 1730.

The genus was validated by Hughes (1983), who subsequently described several additional species (Hughes 1984a,b, 1986).

Ramalia Batista, Rev. Biol. Lisboa 1: 110. 1957.

T: *R. veronicae* Batista, l.c. p. 111.

Sutton & Pascoe (1988) considered *Ramalia* a synonym of *Fusicladium* Bonorden, based on studies of type (DAR) and fresh material, and made the new combination *Fusicladium veronicae* (Batista) Sutton & Pascoe.

Ramulaspera Lindroth, Acta Soc. Fauna Fl. Fenn. 22 (3): 5. 1902.

T: *R. salicina* (Vestergr.) Lindroth, l.c.

Deighton (1988) examined authentic material (IMI) and transferred the species to *Ramularia* Unger. Braun (1990) recombined the species in *Phacellium* (see discussion of that genus above).

Rhizostilbella van der Wolk, Mycol. Zentbl. 4: 237. 1914.

T: *R. rubra* van der Wolk, l.c.

Seifert (1985b) accepted *Rhizostilbella* for the anamorph of *Nectria mauritiicola* (P. Henn.) Seifert & Samuels, commonly known as *Sphaerostilbe repens* Berk. & Curtis. The correct name for the anamorph is *R. hibisci* (Pat.) Seifert.

Sarophorum Sydow in H. & P. Sydow, Bot. Jahrb. 54: 260. 1916.

T: *S. ledermanii* Sydow, l.c.

Samson & Seifert (1985) resurrected this genus for the anamorph of *Penicillium clavariaeformis* Solms-Laubach; the correct name for the anamorph is *S. palmicola* (P. Henn.) Seifert & Samson.

Sclerostilbum Povah, Mycologia 24: 242. 1932.

T: *S. septentrionale* Povah, l.c.

Accepted as a good genus by Carmichael & al. (1980), this genus is now considered a synonym of *Tilachlidiopsis* (Stalpers & al. 1991).

Stilbellula Boedijn, Sydowia 5: 227. 1951.

T: *S. pallida* Boedijn, l.c. p. 228.

The species was recently redescribed by Seifert (1990) based on the study of the type (BO).

Stilbodendron Sydow in H. & P. Sydow, Ann. Mycol. 14: 260. 1916.

T: *S. camerunense* Sydow, l.c.

Samson & Seifert (1985) reintroduced this genus for the anamorph of *Penicillium africana* Samson & Seifert. The correct name for the anamorph is *Stilbodendron cervinum* (Cooke & Massee) Samson & Seifert.

Stilbothamnium P. Henn., Engler's Bot. Jahrb. 23: 542. 1897.

T: *S. togoense* P. Henn., l.c.

Samson & Seifert (1985) considered *Stilbothamnium* a subgenus of *Aspergillus* Micheli, transferred *S. togoense* to that genus, and

designated a neotype (BR). The name *Stilbothamnium* continues to be used for some synnematous *Aspergillus* species by some authors (Dupont & al. 1990, Wicklow & al. 1989).

Stromatographium Höhnelt, Akad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr. 83: 37. 1907.

T: *S. stromaticum* (Berk.) Höhnelt, l.c.

Seifert (1987) redescribed this species, the anamorph of *Fluviostroma wrightii* Samuels & E. Müller, based on the type (K) and additional specimens.

Tilachlidiopsis Keissler, Annl. Naturhist. Mus. Wien 37: 215. 1924.

T: *T. racemosa* Keissler, l. c.

This species, formerly known as *Sclerostilbum septentrionale* Povah, is the anamorph of *Collybia racemosa* (Pers.:Fr.) Quélet. It was redescribed by Stalpers & al. (1991), who examined the type (W).

Vermiculariopsiella Bender, Mycologia 24: 412. 1932.

T: *V. immersa* (Desm.) Bender, l.c.

Basionym: *Excipula immersa* Desm. Bull. Soc. Bot. Fr. 4: 911. 1857.

Nag Raj (1983) examined an isotype specimen (FH) and consider the genus an earlier name for *Oramasia* Urries.

Xenoplaca Petrak, Sydowia 3: 261. 1949.

T: *X. aequatoriensis* Petrak, l.c.

The genus was redescribed and accepted by von Arx & van der Aa (1981) based on their examination of the type (W).

Xenostilbum Petrak, Sydowia 13: 105. 1959.

T: *X. sydowii* Petrak, l.c. p. 106.

Considered a synonym of *Calostilbella* Höhnelt by von Arx (1981b) based on his examination of the type (W).

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