

## STUDIES IN RESUPINATE BASIDIOMYCETES—V

### Some new genera and species

W. JÜLICH

*Rijksherbarium, Leiden*

The following new taxa are proposed: *Australohydnum* gen. nov. (based on *Hydnum griseo-fuscens* Reich.), *Ceraceohydnum brunneum* gen. et spec. nov. *Crustomyces* gen. nov. (based on *Odontia subabrupta* Bourd. & Galz.), *Megalocystidium* gen. nov. (based on *Corticium leucoxanthum* Bres.), *Phlebiopsis* gen. nov. (based on *Thelephora gigantea* Fr.), and *Scotomyces* gen. nov. (based on *Corticium fallax*). Seven new combinations are proposed.

#### *Phlebiopsis* Jülich, gen. nov.

Carposoma ceraceo-gelatinosum, crassum, adnatum, pallide coloratum. Hymenophorum laeve ad odontioideum. Systema hypharum monomiticum. Hyphae hyalinae, basales distinctae, incrassate tunicatae, basales ad 10  $\mu\text{m}$  in diam., fibulis raris. Cystidia incrassate tunicata et incrustata. Basidia anguste clavata. Sporae hyalinae, tenui-tunicatae, cylindratae vel ellipsoideae, inamyloideae.

Typus: *Thelephora gigantea* Fr.

Basidiocarp annual, resupinate, effused, ceraceous. Hymenial surface even to odontoid. Hyphal system monomitic. Hyphae hyaline, cylindrical to torulose, compactly arranged, at least in the subhymenial part, more loose in the trama; the basal hyphae thickwalled and up to 10  $\mu\text{m}$  wide; clamps lacking or rare. Cystidia hyaline, thick-walled, incrustated. Basidia hyaline, narrowly clavate. Spores hyaline, thin-walled, cylindrical to ellipsoidal, not amyloid.

*Phlebiopsis gigantea* (Fr.) Jülich, *comb. nov.*; basionym, *Thelephora gigantea* Fr., Syst. Mycol. 1: 448. 1821. — Type locality: Sweden.

The type species has been placed in *Phlebia* and *Phanerochaete*. It belongs certainly not to *Phlebia* and shows only a very weak relationship with *Phanerochaete* (wide, thick-walled basal hyphae with rare or multiple clamp-connexions). There are some other species which very probably belong to this genus. They will be dealt with later on.

#### *Australohydnum* Jülich, gen. nov.

Carposoma resupinatum vel effuso-reflexum, firme membranaceum, adnatum, margine delimitata; rhizomorphae desunt. Hymenophorum hydroideum. Systema hypharum monomiticum vel indistinctum dimiticum. Hyphae hyalinae, cylindratae, hyphae subhymenii tenui-tunicatae, hyphae tramae crasse-

tunicatae (usque ad 1  $\mu\text{m}$ ), laeves, afibulatae. Cystidia (skeletocystidia) adsunt, ex hyphis generativis crescentia, pars apicis paulum incrustata. Basidia hyalina, clavata, circa 13–20  $\mu\text{m}$  longa, afibulata. Sporae hyalinae, plus minusve ellipsoideae, circa 4–6  $\mu\text{m}$  longae, tenui-tunicatae, laeves, inamyloideae.

Typus: *Hydnum griseo-fuscescens* Reichardt.

Basidiocarp annual, resupinate to effuso-reflexed, several cm large, firm-membranaceous, adnate; context homogeneous; margin determinate; rhizomorphs or hyphal strands lacking. Hymenial surface hydroid. Hyphal system monomitic or indistinctly dimitic. Hyphae hyaline, cylindrical, compactly arranged, 4–9  $\mu\text{m}$  in diam., thin-walled in the subhymenium, thick-walled in the trama (up to 1  $\mu\text{m}$ ), smooth; clamps lacking throughout. Cystidia (skeletocystidia) present, abundant, arising from thick-walled, clampless, generative hyphae; the projecting part loosely incrustated. Basidia hyaline, clavate, *c.* 13–20  $\mu\text{m}$  long; a basal clamp lacking. Spores hyaline, more or less ellipsoid, about 4–6  $\mu\text{m}$  long, thin-walled, smooth, not amyloid.

*Australohydnum griseo-fuscescens* (Reichardt) Jülich, *comb. nov.*; basionym, *Hydnum griseo-fuscescens* Reichardt in Verh. zool-bot. Ges. Wien 16: 374. 1866. — Type locality: Australia.

### **Ceraceohydnum** Jülich, *gen. nov.*

Carposoma resupinatum, effusum, ceraceum, margine indistincta, rhizomorphae desunt. Hymenophorum hydnoideum, brunneum, systema hypharum dimiticum. Hyphae generativae hyalinae, cylindraceae, compactae, circa 2–4  $\mu\text{m}$  in diam., incrassate tunicatae, fibulatae. Hyphae skeletales hyalinae, crasse tunicatae, circa 3–5  $\mu\text{m}$  in diam. Basidia hyalina, clavata, parva, fibulata, tetraspora. Sporae hyalinae, plus minusve ellipsoideae, parvae, tenui-tunicatae, laeves, inamyloideae.

Typus: *Ceraceohydnum brunneum* Jülich.

Basidiocarp annual, resupinate, effused, ceraceous; margin indistinct; rhizomorphs or hyphal strands lacking. Hymenial surface brownish, hydroid; the teeth up to 7 mm long. Hyphal system dimitic, with skeletal. Generative hyphae hyaline, cylindrical, compactly arranged, thick-walled, with clamps. Skeletals hyaline, thick-walled. Basidia hyaline, narrowly clavate, small, with smooth surface, with four sterigmata; a basal clamp present. Spores hyaline, more or less ellipsoid, small, thin-walled, smooth, not amyloid.

TYPE LOCALITY.—New Guinea

### **Ceraceohydnum brunneum** Jülich, *spec. nov.*

Carposoma resupinatum, late effusum, circa 20 cm latum, ceraceum, adnatum, margine indeterminata et sine rhizomorphis. Hymenophorum brunneum, hydnoideum, dentes usque ad 7 mm longi. Systema hypharum dimiticum. Hyphae generativae hyalinae, cylindraceae, compactae, 2.5–4  $\mu\text{m}$  in diam., crasse-tunicatae (usque ad 1  $\mu\text{m}$ ), laeves, fibulatae. Hyphae skeletales hyalinae, crasse-tunicatae, 3.5–4  $\mu\text{m}$  in diam. Cystidia desunt. Basidia hyalina, anguste clavata, 6–10  $\times$  2.5–3  $\mu\text{m}$ , tenui-tunicata, laeves, fibulata, tetraspora. Sporae hyalinae, fere globosae vel late ellipsoideae, 2.8–3.4  $\times$  2.2–2.6  $\mu\text{m}$ , tenui-tunicatae, laeves, inamyloideae.

Basidiocarp annual, resupinate, broadly effused, up to 20 cm large, ceraceous, separable; context homogeneous; margin indistinct, thinning out; rhizomorphs or hyphal strands lacking. Hymenial surface hydroid; the teeth slender, up to 7 mm long. Hyphal system dimitic, with skeletal. Generative hyphae hyaline, cylindrical, compactly arranged in the subhymenium, more loosely arranged in the trama, often branching from the clamps, 2.5–4  $\mu\text{m}$  in diam., thick-walled (up to 1  $\mu\text{m}$ ), with smooth surface; clamps present; contents homo-

geneous. Skeletals hyaline, thick-walled, 3.5–4  $\mu\text{m}$ , thin-walled, with smooth surface, with four sterigmata; a basal clamp present; contents homogeneous. Spores hyaline, subglobose to broadly ellipsoid, with small apiculus, 2.8–3.4  $\times$  2.2–2.6  $\mu\text{m}$ , not glued together, thin-walled, smooth, not amyloid or dextrinoid; contents homogenous.

TYPE.—New Guinea, Papua, Boridi, 22.XI.1935, *C. E. Carr 13470* (L).

### *Scotomyces* Jülich, *gen. nov.*

*Carposoma resupinata*, effusa, circa 100  $\mu\text{m}$  crassa, plus minusve adnata, laxe membranacea, margine indistincta, sine rhizomorphis. Hymenophorum laeve. Systema hypharum monomiticum. Hyphae hyalinae, tenui-tunicatae, cylindratae, fibulatae, guttulate. Cystidia desunt. Basidia hyalina, anguste clavata, tenui-tunicata, fibulata, tetraspora, circa 20–40  $\mu\text{m}$  longa, sterigmatis latis et usque ad 15  $\mu\text{m}$  longis. Sporae hyalinae, plus minusve late ellipsoideae, tenui-tunicatae, laeves, circa 7–9  $\mu\text{m}$  longae, guttulate.

Typus: *Corticium fallax* Cunn.

Basidiocarp annual, resupinate, effused, about 100  $\mu\text{m}$  thick, more or less adnate, soft-membranaceous; the margin indistinct; rhizomorphs or hyphal strands lacking. Hymenial surface even. Hyphal system monomitic. Hyphae hyaline, thin-walled, cylindrical, with clamps, guttulate. Cystidia lacking. Basidia hyaline, cylindrical to narrowly clavate, thin-walled, about 20–40  $\mu\text{m}$  long, with four very large and up to 15  $\mu\text{m}$  long sterigmata. Spores hyaline, more or less ellipsoid, thin-walled, smooth, about 7–9  $\mu\text{m}$  long, guttulate.

### *Scotomyces fallax* (Cunn.) Jülich, *comb. nov.*

*Corticium fallax* Cunn. in *Trans. Proc. R. Soc. N.Z.* 82: 309. 1954 (basionym). — Type locality: New Zealand.

Basidiocarp annual, resupinate, effused, up to several cm large, about 100  $\mu\text{m}$  thick, adnate or separable in small pieces, soft-membranaceous; context homogeneous; margin thinning out; rhizomorphs or hyphal strands lacking. Hymenial surface even, under a lens finely reticulate, medium brown. Hyphal system monomitic. Hyphae hyaline, mostly erect, thin-walled, 3–4.5  $\mu\text{m}$  in diam., cylindrical, with clamps at all septa, branching often from the clamps; contents guttulate; crystals lacking or few. Cystidia lacking. Basidia hyaline, cylindrical to narrowly clavate (young basidia of similar shape), thin-walled, 23–40  $\times$  4.4–6.7  $\mu\text{m}$ , with a clamp at the base, with four cylindrical to subulate, very large sterigmata (up to 15  $\times$  1.5–2.5  $\mu\text{m}$ ); contents guttulate. Spores hyaline, broadly ellipsoid to pyriform, thin-walled, smooth, 6.7–8.9  $\times$  4.4–5.5  $\mu\text{m}$ , with large apiculus not amyloid; contents guttulate; germ-tube more or less cylindrical, c. 1.5  $\mu\text{m}$  wide.

DISTRIBUTION.—Known only from New Zealand.

### *Megalocystidium* Jülich, *gen. nov.*

*Carposoma resupinatum*, effusum, plus minusve adnatum, crassum (usque ad 1.5 mm), margine byssoidea. Hymenophorum laevum. Systema hypharum monomiticum. Hyphae hyalinae, cylindratae vel torulosae, fibulatae vel afibulatae, plus minusve tenui-tunicatae, circa 2–4  $\mu\text{m}$  latae. Gloeocystidia adsunt, longa, flexuosa, globulis oleiferis completa. Basidia hyalina, longa, circa 40–60  $\mu\text{m}$ , tetraspora, cum vel sine fibulis basalis. Sporae hyalinae, plus minusve tenui-tunicatae, amyloideae, cylindratae vel ellipsoideae, apiculis parvis.

Typus: *Corticium leuxoxanthum* Bres.

Basidiocarp annual, resupinate, effused, up to 1.5 mm thick, membranaceous to ceraceous; margin byssoid or thinning out. Hymenial surface even. Hyphal system monomitic. Hyphae hyaline, cylindrical to torulose, with or without clamps, more or less thin-walled, about 2–4  $\mu\text{m}$  wide. Gloeocystidia present, long, flexuous, with oily contents or granular. Basidia hyaline, about 40–60  $\mu\text{m}$  long, four-spored; a basal clamp present or lacking. Spores hyaline, more or less thin-walled, cylindrical to ellipsoid, with small apiculus, amyloid.

TYPE LOCALITY.—Italy.

*Megalocystidium leucoxanthum* (Bres.) Jülich, *comb. nov.*; basionym, *Corticium leucoxanthum* Bres., *Fungi trident.* 2: 57, pl. 166, fig. 3. 1898.

*Megalocystidium lactescens* (Berk.) Jülich, *comb. nov.*; basionym, *Thelephora lactescens* Berk. in Hook., *Engl. Fl.* 5 (2) 169. 1836.

*Megalocystidium luridum* (Bres.) Jülich, *comb. nov.*; basionym, *Corticium luridum* Bres., *Fungi trident.* 2: 59, pl. 169. 1892.

### **Crustomyces** Jülich, *gen. nov.*

*Carposoma resupinatum*, effusum, circa 100–300  $\mu\text{m}$  crassum (sine aculeis), crustaceum, adnatum, pallide coloratum, laeve vel odontioideum aut breviter hydnoideum. Systema hypharum dimiticum. Hyphae generativae hyalinae, cylindratae vel torulosae, compacte compositae, circa 2–3  $\mu\text{m}$  latae, tenuitunicatae, fibulatae. Hyphae skeletales hyalinae. Gloeocystidia (circa 20–50  $\mu\text{m}$  longa) et/aut dendrohyphidia adsunt. Basidia hyalina, parva, circa 12–20  $\mu\text{m}$  longa, tetraspora, fibulata. Sporae hyalinae, plus minusve ellipsoideae, circa 3–4.5  $\mu\text{m}$  longae, tenuitunicatae, laeves, inamyloideae.

Typus: *Odontia subabrupta* Bourd. & Galz.

Basidiocarp annual, resupinate, effused, several cm large, about 200–300  $\mu\text{m}$  thick (without the warts or spines), crustaceous, adnate; rhizomorphs or hyphal strands lacking. Hymenial surface even, odontoid or hydroid, pale coloured. Hyphal system dimitic. Generative hyphae hyaline, cylindrical or torulose, compactly arranged in subhymenium and trama, c. 2–3  $\mu\text{m}$  in diam., rather thin-walled; clamps present. Skeletals hyaline, about 3  $\mu\text{m}$  in diam. Gloeocystidia and/or dendrohyphidia present; gloeocystidia about 20–50  $\mu\text{m}$  long. Basidia hyaline, clavate, about 12–20  $\mu\text{m}$  long, thin-walled, smooth, with four sterigmata; a basal clamp present. Spores hyaline, more or less ellipsoid, about 3–4.5  $\mu\text{m}$  long, thin-walled, smooth, not amyloid.

TYPE LOCALITY.—France.

*Crustomyces subabruptus* (Bourd. & Galz.) Jülich, *comb. nov.*; basionym, *Odontia subabrupta* Bourd. & Galz., *Hymen.* France 430. 1928.

*Crustomyces pini-canadensis* (Schw.) Jülich, *comb. nov.*; basionym, *Radulum pini-canadense* Schw. in *Trans. Am. phil. Soc., Ser. II*, 4: 164. 1832.