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TYPE STUDIES IN THE CLAVARIOID FUNGI—IX
Miscellaneous taxa, with a section on Tremellodendropsis

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Type specimens of taxa in several genera are redescribed, with a special section on types of *Tremellodendropsis* taxa.

Clavaria candelabra Mass.

Clavaria candelabra Mass. 1901 ('1899'). In Kew Bull.: 172.
≡ *Clavaricorona candelabra* (Mass.) Corner. 1950. In Ann. Bot. Mem. 1: 286.
Type (holotype): K–Straits Settlements, Selanger, no date, *Ridley 37.*

Fruitbody one, very slender, branched, 20 × 12 mm, now brown-black, cartilaginous, arising from rotting wood. Stipe 9 × 1 mm, discrete, equal through most of length, expanded slightly upward. Major branches 2,8 × 1 mm, as stipe; branching pyxidate, with 5–6 branches produced from periphery of cup, in 3 ranks. Internodes diminishing gradually; apices minute, up to 0.5 mm thick, bluntly coronate.

Tramal hyphae of branches 3–8 μm diam., hyaline, thin-walled, clamped, occasionally secondarily septate, loosely interwoven. Gloeoplerous hyphae common, 3–6 μm diam, refringent under phase contrast, hardly yellowish; contents foamy or multiguttulate. Subhymenium obliterated.

Spores approximately 4 × 3 μm, broadly ellipsoid, hardly roughened, thin-walled hyaline, amyloid.

Corner (1950: 286–287) and Dodd (1970) reported thick-walled tramal hyphae in this species, the former report including a study of the type specimen. I can find no such hyphae, but only collapsed tramals which, when viewed in certain ways appear as narrower, thick-walled structures.

The reported thick-walled hyphae seem to be the only separating character between *C. candelabra* and *Clavaria colensoi* Berk. The gelatinized hymenium of *C. candelabra* appears as a phenomenon of poor drying. Fruitbodies of both taxa are usually slender, a good mark in the field.

Massee equated *C. candelabra* with *Clavaria epichnoa* Fr., which also is slender and fruits on wood. It is a species of *Lentaria*, however, with smooth spores and no gloeoplerous hyphae.

Clavaria echinospora B. & Br.

Clavaria echinospora B. & Br. 1875. In J. Linn. Soc. (Bot.) 14: 75. (*non C. echinospora* P. Henn. 1900. In Monsunia I: 43: 141; ≡ *Clavaria fragillima* Sacc. & Syd. 1902. Syll. Fung. 16; 206.)

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Type (holotype): K-Peradeniya, Ceylon, vii. 1868, herb. Berkeley (annot. Petch), no. 676 (not seen). (No. 677, considered the type by Kew, is not.)

No. 677: Fruitbody probably 1, now in three portions (longitudinal sections), 38 × 37 mm, obpyramidal in outline, now cartilaginous and brittle above, and there dark brown. Stipe discrete, 10 × 6 mm, covered with strigose, white mycelium involving substantial substrate. Major branches several, flattened, ascending, straight and appearing stiff, rebranched in 5–6 ranks; internodes diminishing gradually; axils acute; apices very minute, irregular, acute to cusped.

Hyphae of branch trama 1.5–2.5 μm diam., thin-walled, uninflated, hyaline, clamped, parallel, adherent. Hymenium thickening; basidia 26–32 × 7–9 μm, broadly clavate, clamped, hyaline; contents homogeneous; sterigmata 4.

Spores (Fig. 1) 6.1–6.8 × 4.0–4.3 μm (E = 1.42–1.64; E^m = 1.56; L^m = 6.52 μm), generally ellipsoid, apparently hyaline; contents homogeneous; wall thin to very slightly thick (up to 0.2 μm); ornamentation variable, from bluntly echinulate to beset with saddle-shaped warts, to angular-warted.

This is not the type specimen of *Clavaria echinospora*. Spore ornamentation spans the gamut of types in the genus *Scytinopogon*, and tramal hyphae are uninflated. Berkeley considered the specimen only a variety of *Clavaria megalorhiza* which darkened on drying, but that species had been placed in *Ramaria* subg. *Echinoramaria*.

Clavaria foetida Atk.

Clavaria foetida Atk. 1908. In Annls mycol. 6: 56.
Type (Holotype): CUP–Coy Glen, Ithaca, NY, 13. viii. 1901, *A.M. Ferguson 7740.*

Accompanying note: 'Plants cylindrical, tapering below, 5–10 cm high, 3–4 mm thick, small, not or rarely joined at base, color maize yellow. Spores elliptical inequilateral, smooth, granular, 6–8 × 3. Odor foetid, resembling skunk cabbage.'

Fruitbody one, 65 × 3 mm, simple club; stipe 1 mm thick, equal, expanded at base and there covered with a very thin white mycelial felt; club narrowly fusiform, apparently hollow, somewhat sulcate or longitudinally wrinkled; apex narrowly rounded.

Tramal hyphae of club 6–20 μm diam., of short cells, appearing as cracked ice in mass, unclamped, thin-walled, strictly parallel. Hymenium thickened; basidia 40–50 × 7–9 μm, clavate, collapsed, hyaline, not refringent, not clamped; sterigmata 4, erect, slender.

Spores (Fig. 2) 5.4–7.2 × 3.2–4.0 μm (E = 1.36–2.00; E^m = 1.64; L^m = 6.01 μm), ellipsoid to narrowly ovate, flattened adaxially, thin-walled, smooth; contents opalescent; hilar appendage prominent, papillate.

Clavaria fusco-lilacina Berk.

Clavaria fusco-lilacina Berk. 1856. In J. Bot., Hooker, 8: 276.
≡ *Clavulina fusco-lilacina* (Berk.) Overeem. 1923. In Bull. Jard. bot. Buitenzorg III 5: 262.
Type (holotype): K–Panuré, no date, *Spruce 125.*

Fruitbody (Fig. 3) one, 39 × 25 mm, branched, pressed somewhat, arising from sand. Stipe 8 × 6 mm, bluntly rooting, turnip-shaped, branching almost from the base, involving particles of sand. Major branches several, arising from the fleshy extension of

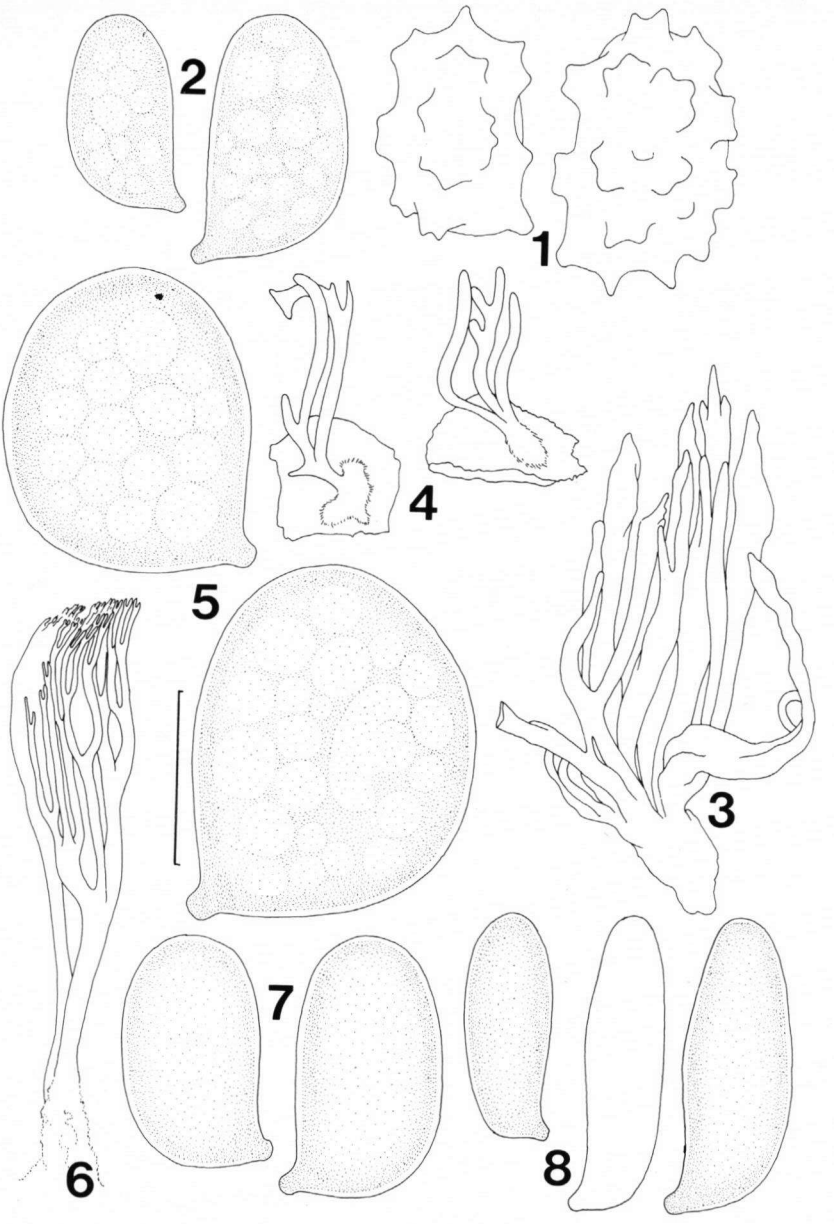


Fig. 1. *Clavaria echinospora*. — Spores. — Fig. 2. *Clavaria foetida*. — Spores. — Fig. 3. *Clavaria fusco-lilacina* — Fruitbody. — Figs. 4–5. *Clavaria humilis*. — 4. Fruitbodies. — 5. Spores. — Figs. 6–7. *Clavaria micheneri*. — 6. Fruitbody. — 7. Spores. — Fig. 8. *Clavaria patouillardii*. — Spores. (Standard bar = 5 μm for spores. For sizes of fruitbodies, see text.)

the base, curved ascending, sometimes branched dichotomously once, or more commonly simple to the apex, fleshy, somewhat flattened, now dull ochraceous brown; axils narrowly rounded; apices digitate-cristate to simple, now deep chocolate brown.

Tramal hyphae of branches 2–3.5 μm diam., hyaline, thick-walled (wall up to 0.5 μm thick), rather stiff, loosely interwoven, free, clamped.

Hymenium absent. Spores absent.

The sole fruitbody of the type specimen seems well preserved, but I can make out almost no microscopic details. Without notes on clamps, spores, cystidia and post-partal septation, I cannot accurately place the taxon, and I must treat the name as a *nomen dubium*.

One thing is certain: my treatment of the taxon from Australia (Petersen, 1983) as a simple fruitbody cannot be maintained, for the type fruitbody is obviously branched.

Berkeley surely took his colors from the dried specimen, so no reliable guide can be found in this regard. My experience, however, indicated that fruitbody color may have been tan to tan-avellaneous, which would match van Overeem's concept.

Corner (1950) included the name only in the index, and then questionably as a pyrenomycete. Elsewhere (Corner 1950: 329), he suggested that van Overeem's (1923: 262) sense of the taxon was not only a *Clavulina* (obvious from van Overeem's description and plate), but that the name was synonymous to *Clavaria leveillei* Sacc. I have kept the two separate, and have used *C. fusco-lilacina* in the assumed sense of van Overeem, having not seen his material under that name.

Clavaria humilis Cooke

Clavaria humilis Cooke. 1890. In Grevillea 19: 2.

≡ *Clavulina humilis* (Cooke) Corner. 1950. In Ann. Bot. Mem. 1: 327.

Type (Holotype): K–New Zealand, Opotiki Co., Maungaroa, no date, *Colenso 398*. Merotype: PDD.

Fruitbodies (Fig. 4) up to 4 × 1 mm, simple to twice-branched, arising from a well-developed but ill-defined mycelial mat on woody debris: color now rather bright orange.

Tramal hyphae 2.5–5 μm diam., hyaline, thin-walled, clamped, loosely interwoven. Hymenium thickening; basidia 60–75 × 7–8 μm, narrowly clavate to cylindrical, clamped; contents opalescent when immature; post-partal septation common; sterigmata 2, cornute.

Spores (Fig. 5) 8.3–10.1 × 7.2–8.3 μm ($E = 1.05–1.27$; $E^m = 1.16$; $L^m = 8.92$ μm), subglobose, flattened adaxially, refringent under phase contrast; hilar appendage broad, papillate.

I cannot find emergent, septate hyphae (cystidia) in the hymenium, but this is due to hyphal collapse and squash mounts. All other characters match what I have called *'Clavulina' trichomoides* on annotations of herbarium material. This name, of course, has no status, and must be considered a *nomen herbariorum*.

The orange color of dried material is not indicative of fresh color, especially in this genus. I see no sign of grey or white coloration, but I assume that the fresh specimen was white or pale grey.

The merotype at PDD is fragmentary, and micromorphology is almost impossible to discern.

Clavaria laetissima Berk.

Clavaria laetissima Berk. 1881. In J. Linn. Soc., (Bot.) 18: 386.
Type (holotype): K–South Queensland, Australia, no date, Hartman, *Lockyer 477.*

Fruitbody one, 65 × 40 mm, pressed, repeatedly branched, missing the base. Stipe missing. Major branches now dull orange, not cartilaginous, rebranching in open pyxidate fashion in 3–6 ranks; branches up to 2.5 mm thick; internodes diminishing gradually; axils comprising expanded cups, from the periphery of which arise 2–4 branches; apices minute, 1–2-pyxidate in final 2 mm, now dull dark orange-brown.

Tramal hyphae of branches 1.5–6 μm diam., hyaline, clamped, thin-walled, loosely interwoven, outward generally narrower. Gloeoplerous hyphae abundant in outer trama and subhymenium, up to 8 μm diam., yellow, refringent under phase contrast; contents multiguttulate to foamy. Hymenium thickening; basidia approximately 30 × 6–7 μm, narrowly clavate, mostly collapsed but hardly gelatinized, clamped; leptocystidia 1–1.5 μm diam., hyphal to slightly gnarled, abundant, protruding up 25 μm; gloeocystidia broadly lanceolate, up to 9 μm diam., yellow, refringent under phase contrast; sterigmata apparently 4.

Spores approximately 3.6 × 2.2 μm, ellipsoid, adaxially flattened, hardly roughened, hyaline, thin-walled, weakly amyloid.

In placing this species in synonymy under *Clavicorona turgida*, Dodd (1970) gave no indication that he had examined the type specimen. Its spores seem too small for *C. turgida* and its hymenium, while collapsed is not gelatinized as reported and emphasized by Dodd for *C. turgida*.

Likewise, the fruitbody is far too stout for *C. colensoi*, the spores of which come closest to those of *C. laetissima*. In short, I do not know another taxon like it, and so prefer to keep it separate.

Berkeley cited the taxon as *'Clavaria laetissima*, Pers.' an assumed *lapsus calami*. First; I can find no record that Persoon published such an epithet. Second; Berkeley supplied a Latin description, a practice he saved for new taxa.

The colors cited by Berkeley surely refer to the dried specimen, with no record of fresh colors. When fresh, I suspect that the fruitbody was quite pale, perhaps offwhite, with somewhat darker apices, perhaps the usual avellaneous shades of other similar taxa.

Clavaria micheneri B. & C.

Clavaria micheneri B. & C. in Berk. 1873. In Grevillea 1: 161.
Type (lectotype): FH – USA, Pennsylvania, no date, coll. Michener, *Curtis 3534*!; paratype, K.

Fruitbody (Fig. 6) one, 60 × 16 mm, discrete, not fragmented, narrowly obpyriform in outline, repeatedly branched, now brown to chocolate brown where fertile, dull ochre where sterile. Stipe discrete, 26 × 3 mm, laterally flattened, arising from a compact mat of mycelium (now ochre-beige), tapering to the narrow midpoint, then expanding upward. Major branches 2, erect, rebranching in 5–6 ranks, flattened; internodes diminishing

gradually; axils rounded to lunate; apices up to 3 mm long, less than 1 mm thick, elongate awl-shaped to elongate-digitate; branching dichotomous generally, often subpalmate outward; hymenium clearly unilateral.

Hyphae of hyphal mat 1–2.5 μm diam., hyaline, clamped, thick-walled (wall occasionally obscuring cell lumen). Hyphae of branch trama 2.5–4 μm diam., thin- to slightly thick-walled (wall up to 0.3 μm thick), clamped, hyaline, tightly interwoven. Hymenium thickening; basidia 32–38 × 5–6 μm, clavate, clamped; sterigmata 4.

Spores (Fig. 7) 6.5–7.6 × 4.0–4.3 μm (E = 1.64–1.91; E^m = 1.77; L^m = 7.20 μm), short-cylindrical, usually flattened adaxially, smooth, hyaline, thin-walled; contents homogeneous to univacuolate; hilar appendage abrupt, papillate.

Spore dimensions, clearly unilateral hymenium and brown color serve to separate this from *C. patouillardii* Bres.

I find no ornamentation on the hyphae of the basal mat, unlike the situation in most species of *Lentaria*.

Paratype: K – no. 3763.

Fruitbody 20 × 12 mm, arising from a clearly defined basal mycelium. Stipe 4 × 3 mm, discrete, somewhat flattened. Branches arising as lateral appendages on a stout central trunk, dichotomous. Axils very narrowly rounded; apices very acute. Basal mycelium beige-ochre (white when fresh); stipe and steile areas of branches dull orange ochre; fertile areas deep brown; apices yellow ochre.

Hyphal construction as in the lectotype, but tramal hyphae often thick-walled. Spores as in the lectotype.

Clavaria patouillardii Bres.

Clavaria patouillardii Bres. 1892. Fungi Tridentini 2: 39, pl. 146, fig. 1.

≡ *Lentaria patouillardii* (Bres.) Corner. 1950. In Ann. Bot. Mem. 1: 444.

Type (lectotype): S – herb. Bresadola, 'in nemore frondoso Cappucinone', x. 1891, leg. Bresadola, s.n. Merotype: NCU.

Fruitbodies two, very fragmented, not measurable, branched, on dead twigs, arising from an extensive tangle of ropy, white, rhizomorphic strands, involving a superficial, fragile, white cottony pruina. Stipe discrete, up to 6 × 3.5 mm, lobed in cross-section, covered with hoary, white pruina downward; major branches 2, curved-ascending; internodes almost unobservable (because of fragmentation); axils narrowly rounded to lunate; apices awl-shaped, small, often curved or talon-like. Fruitbody color now dull tan.

Hyphae of basal pruina 1–1.5 μm diam., thin-walled, clamped, here and there ornamented with rounded or hemispherical, cyanophilous, blister-like deposits. Hyphae of stipe and branch trama 1.5–3.5 μm diam., thin- to somewhat thick-walled (wall up to 0.6 μm thick), hyaline, conspicuously clamped, the clamp often greatly inflated (up to 12 μm broad) but never ornamented. Hymenium thickening greatly; basidia 35–43 × 5.5–6.5 μm, clavate, clamped; contents homogeneous; sterigmata 4, slender, straight.

Spores (Fig. 8) 6.5–8.6 × 2.5–3.2 μm (E = 2.56–3.14; E^m = 2.74; L^m = 7.86 μm), cylindrical to boletoid, with a suprahilar depression and adaxial swelling, smooth, hyaline, thin-walled; contents homogeneous; hilar appendage gradual, not prominent.

I can find very few spores, and even those present are usually in clumps, so only six spores have been measured. All were typical of the concept of the taxon presented by

Corner (1950: 444). The Bresadola specimen at Kew, cited by Corner, was not described in detail, so I cannot tell if it is part of the type, but there is a fragment of the type at NCU, and an authentic specimen at NY.

The small basidia and very narrow spores make the taxon distinct. I can find no synonyms for the epithet.

Bresadola published two descriptions and two illustrations for the species. The descriptions (above, and Iconongr. mycol. 22: 39) are virtually identical. The illustrations are not (I have access to a 1976 reprint of the *Fungi Tridentini* by Edagricole Publishing Company), with the earlier much darker and brighter than the later. I conclude that the earlier is probably closer to nature for two reasons: (i) The later illustration places *Clavaria stricta* and *C. patouillardi* on the same plate. The color of *C. (Ramaria) stricta* is very pale and washed out, and almost the same as that of *C. patouillardii*, so I judge that the whole plate is too light. (ii) Bresadola's original description states the color of the branches as 'argillaceo-fusciduli', and in some fruitbodies 'subvirescentibus', colors more faithfully rendered in the accompanying plate. Moreover, I have collected specimens in western North America which conform to these colors, even to the greenish tips.

All fruitbody characters are similar to those of some small-spored taxa of *Ramaria* subg. *Echinoramaria*, just as noted by Bresadola, who drew attention to *R. flaccida* as most similar.

The blister-like encrustation on the subicular hyphae is typical of the genus, as are the inflated but unornamented clamp connections.

According to Corner (1970: 234), *Lentaria patouillardii* is a synonymous name under *L. micheneri* (Berk. & Curt.) Corner. I have seen the type specimen of *C. micheneri* (see above) and cannot attest to this synonymy. Corner also, however, included *Clavaria pinophila* Peck as a doubtful synonym under the same name, but I find that the spores of the type of *C. pinophila* (and other modern collections) are consistently broader than those of *L. patouillardii*. I must keep those two names separate, but *C. pinophila* and *L. micheneri* may be synonymous.

Unfortunately, Bresadola did not cite specific collection data (only 'Aestate-Autumno, in nemoribus frondosis prope Tridentum') for the species. It is impossible, therefore, to conclude that the specimen above was in Bresadola's possession at the time he wrote his description, and therefore a comfortable lectotype. The collection date, however, indicates such possession.

Clavaria semivestita B & Br.

Clavaria semivestita B. & Br. 1874. In J. Linn. Soc., Bot. 14: 75.

The type was reported on earlier (Petersen, 1984). No additional taxonomic commentary is necessary, but it is apparent that specimen no. 677 was considered by Berkeley (correctly) to be composed of two discordant elements. One was mentioned under *Clavaria echinospora* B. & Br. but not as the type. The other forms the type of *C. semivestita.*

Tremellodendropsis

Although not strictly clavarioid (I restrict that term to holobasidial forms), the types reported below were examined as a foundation for another paper (Petersen, 1985). In a few cases, the specimens were examined while away from home and only partial notes were taken. It should be mentioned that Crawford's specimens (types and auxiliary) of *Tremellodendropsis* have been deposited at PDD.

Clavaria flagelliformis Berk.

Clavaria flagelliformis Berk. 1867. Flora New Zealand (Hooker): 186.
≡ *Lachnocladium flagelliformis* (Berk.) Cooke. 1892. Handb. Austral. Fungi: 179.
≡ *Aphelaria flagelliformis* (Berk.) Corner. 1953. In Ann. Bot., n.s., 17: 350.
≡ *Tremellodendropsis flagelliformis* (Berk.) Crawford. 1954. In Trans. R. Soc. N. Z. 82: 621.
Type specimen (holotype): K – New Zealand, Bay of Islands, no date, herb. Berkeley, s.n.

Fruitbodies two, branched, up to 45 × 15 mm, slender ascending, tough, color no longer discernable; stipe up to 5 × 2 mm, flattened or lobed in cross-section, arising from a small mycelial pad in silicaceous soil; branches polychotomous below, dichotomous above, flattened; internodes lengthening upward; axils acute; apices very slender, flagelliform, narrowly acute. Taste and odor unrecorded.

Tramal hyphae 2.2–4 µm diam., hyaline, somewhat thick-walled (wall up to 0.4 µm thick), clamped, free, parallel, tightly packed. Basidia not measured, 4-sterigmate, incompletely cruciately septate.

Spores 9–11.9 × 5.4–7.2 µm (E = 1.44–1.74; E^m = 1.56; L^m = 10.03 µm), ellipsoid to short-cylindrical, somewhat flattened adaxially, smooth, hyaline, thin-walled; contents opalescent to minutely granular; hilar appendage broad, short, papillate; germination by repetition absent.

In modern taxonomy, the name belongs to *Tremellodendropsis*. Crawford (1954) reported on this specimen, and her description matches the material very comfortably.

Although whole basidia were not observable, several basidial apices were seen to be incompletely cruciately septate, and not excessively inflated (basidial diameter about 9–10 µm). Sterigmata, while sturdy, were not stout or swollen.

Spore statistics place the taxon at the low end of such statistics, with an E^m of only 1.56 (see Petersen, 1985, for the range in this taxon). Most of the type specimens of Crawford's (1954) taxa produced spores with higher E^m values. The lack of germination by repetition removes this specimen (and therefore this name) from possible synonymy with *Tremellodendropsis transpusio* var. *transpusio*.

Tremellodendropsis transpusio var. inflata Crawford

Tremellodendropsis transpusio var. *inflata* Crawford. 1954. In Trans. R. Soc. N.Z. 82: 624.
Type (holotype): PPD – Nelson, Rai Valley, South Island, New Zealand, no date, *Crawford 322*.

Fruitbodies as described by Crawford. Basidia (Fig. 11) subbulbous, completely cruciately septate; sterigmata rather spindly. Spores (fig. 12) 8–11 × 6–7 µm, smooth, thin-walled, broadly ovate, flattened adaxially: germination by repetition absent.

Fruitbodies are rather short and squat, but otherwise as described by Crawford. The type specimen is in three parts: dried fruitbodies in a small packet, fruitbodies preserved in spirits, and a prepared slide of tissue and hymenium. The slide is no longer of use, but the other protions support adequate microscopic analysis.

Petersen (1985) has proposed this taxon at the species rank as *Tremellodendropsis inflata* (Crawford) Petersen.

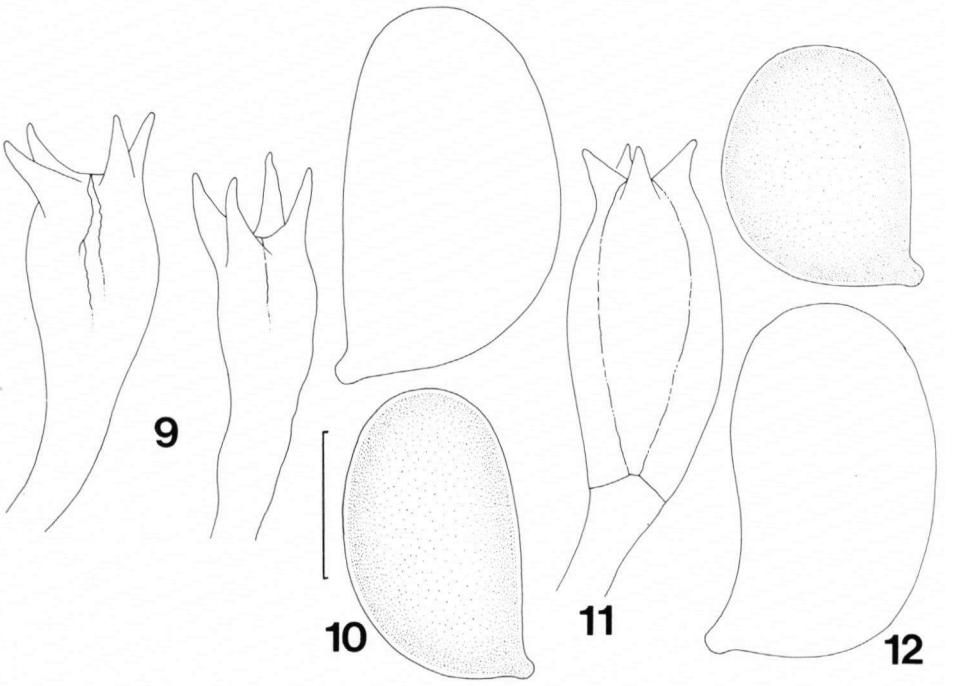
Tremellodendropsis transpusia var. minor Crawford

Tremellodendropsis transpusio var. *minor* Crawford. 1954. In Trans. R. Soc. N.Z. 82:625.

Type (Holotype): PDD – Wellington, Keith George Memorial Park, North Island, New Zealand, vi. 1949, *Crawford 241.*

Fruitbodies as described by Crawford. Hymenium not supporting microscopic analysis. Spores indistinguishable from those of *Crawford 322* and *258.*

The type specimen is in two parts: Fruitbodies preserved in spirits, and a prepared slide. The slide is no longer adequate for microscopic analysis, and the fruitbodies are not in good shape. No germination by repetition was observed.



Figs. 9–10. *Pterula tasmanica.* — 9. Basidial apices. — 10. Spores. — Figs. 11–12. *Tremellodendropsis transpusio* var. *inflata.* — 11. Basidium apex. — 12. Spores. (Standard bar = 5 μm for spores. For sizes of basidia, see text.)

Tremellodendropsis flagelliformis var. ovalispora Crawford

Tremellodendropsis flagelliformis var. *ovalispora* Crawford. 1954. In Trans. R. Soc. N. Z. 82: 621.
Type specimen (holotype): PDD – Wellington, Orangorango Ranges, Quoin Ridge, 8.viii.1948, *Crawford 157.*

Specimen represented by several dried fruitbodies in a packet. These show evident sign of discoloration toward dull orange-ochre where handled or bruised, and perhaps some vinescence (but this is obscure). There is an accompanying vial of two fruitbodies in spirits, but the accession number of the vial is questionable (either no. 258 or 157, as noted by Crawford on the vial label).

Basidia 60–75 × 9–10 μm, incompletely cruciately septate, with longitudinal septa ending indiscretely; transverse septa common, but unconnected to longitudinal septa; basidial apices occasionally sulcate.

Spores 8–10 × 5–7 μm, ovate to broadly ellipsoid, hyaline, smooth, thin-walled; hilar appendage broad, papillate; germination by repetition absent.

This name has been placed in synonym under *Tremellodendropsis flagelliformis* by Petersen (1985), with no infraspecific taxa accepted.

Clavaria pusio Berk.

Clavaria pusio Berk. 1867. Flora New Zealand, Hooker, : 185.
Type (holotype): K – New Zealand, no date, herb. Berkeley, s.n..

Fruitbodies two, up to 10 × 4 mm, branched. Stipe up to 5 × 2 mm, tough, channeled or lobed in cross-section, arising from a small ball of mycelium. Branching polychotomous; branches very slender (perhaps less than 0.5 mm thick), flagelliform, flattened somewhat.

Tramal hyphae 1.5–3 μm diam., clamped, hyaline, tightly packed, free, parallel. Basidia not supporting measurements, probably up to 80 μm long, with a long, equal stalk-like portion about 4–5 μm diam., and inflated distal portion up to 25 μm long, up to 22 μm broad, cruciately septate, with longitudinal septa divergent to outer basidial wall; sterigmata 4, stout, divergent.

Spores 11.9–14.4 × 6.5–7.6 μm ($E = 1.74–1.90$; $E^m = 1.82$; $L^m = 12.72$ μm), ellipsoid to broadly cylindrical, flattened adaxially, hyaline, smooth, thin-walled; hilar appendage broad, short, papillate; germination by repetition abundant, often with sterigmata forked.

This specimen comprises two juvenile or aberrant fruitbodies. One shows broken branches, but some apices, indicating that the living fruitbody may have been somewhat larger.

Very few spores were observed for measurement (only 3), but three others were seen with obvious sterigmata. This would seem to support the conclusion that when germination by repetition occurs, it is abundant, as also found on the type specimen of *T. transpusio* var. *transpusio*. My conclusion is that *T. pusio* and *T. transpusio* var. *transpusio* are synonymous.

Lachnocladium semivestitum B. & C.

Lachnocladium semivestitum B. & C. in Berk. 1873. In Grevillea 1: 161.

Type (holotype): K – USA, Pennsylvania, no date, coll. Michener, *Curtis 4260* (n.v.); merotype, FH!

Fruitbodies 2, up to 40 × 15 mm, pressed, branched, vase-shaped; stipe discrete, up to 15 × 2 mm, arising from soil with no discernable mat, flattened-lobed in cross-section, covered here and there with patches of minutely cottony mycelium, apparently off-white when fresh, now dull ochre and semicartilaginous. Branches in 1–3 ranks, acutely ascending, flattened, drying semicartilaginous in places; hymenium amphigenous; axils narrowly rounded to acute; lower internodes short, subapical internodes long; apices slender, long flagelliform. Color probably pale beige or pinkish ivory; no evidence of vinescence.

Tramal hyphae of branches slender, hyaline, clamped, parallel, tightly packed. Hymenium thickening; basidia not measureable, circum 14 μm broad, with incomplete longitudinal septa at maturity; sterigmata 4, stout, divergent, not sulcate.

Spores 9.7–15.5 × 5.0–6.5 μm (E = 1.59–2.69; E^m = 2.16; L^m = 12.30 μm), ellipsoid to elongate-ellipsoid, flattened adaxially, thin-walled, aguttulate (through preservation); hilar appendage broad, papillate.

Fruitbodies are typical for the complex, and would probably have been indistinguishable from those of other related taxa. The hymenium is largely collapsed and only a very few basidial apices were observable. None were seen to be transversely septate, but the longitudinal septa were obvious.

As might be expected from Coker's (1923: pl. 90, fig. 10) illustration, he used *Lachnocladium semivestitum* to represent at least two taxa. One is true to the type specimen, which he saw, but the other presumably is *Tremellodendropsis tuberosa* (Grev.) Crawford in the sense of Corner (1950).

In Corner's (1950, 1953, 1970) writings on *Aphelaria* and *Tremellodendropsis* I can find no indication that he examined this specimen. In 1950, he followed Coker's (1923) lead, placing *L. semivestitum* in synonymy under *Aphelaria tuberosa* (Grev.) Corner, but stated that no Greville specimen was to be found, and that the fungus which Greville described was not recognized in England (only in Scotland). Now that a more accurate description of *L. semivestitum* can be offered, it is obviously not contaxic with *A. tuberosa* as described by Corner (1950) and together with the apparent absence of a Greville specimen for *Merisma (Aphelaria) tuberosa* throws Corner's discussions under the latter name in doubt and confusion. Type studies must begin again, and some names (*A. tuberosa*) will be discarded in the process.

Two envelopes comprise the type specimen of *L. semivestitum*. (i) A sheet with two fruitbodies (described above), labelled in Curtis's hand '(4260) Clavaria semivestita, B. & C. Penn. a Dr. Michener (1184)'. A slide made by Burt is attached. (ii) A small envelope of note paper, labelled in large but unknown hand, 'Clavaria semivestita *BC*, 415. 1184. C. Garden'. Presumably the 'C' represents the Curtis herbarium, and the 1184 matches Michener's original number. Fruitbodies within are in better condition than those on the sheet, and represent the same taxon, but I cannot vouch for their authenticity. The handwriting perhaps is Burt's.

I am intrigued by a rather rare but consistent anomaly of spore shape. Of several hundred spores observed, five (three from fruitbodies on the sheet, two from the envelope) showed a peculiar beak-like protrusion just behind the hilar appendage. I do not know what it represents, nor its derivation, and it is a rare occurence, but must be noted in future observations. It may represent the earliest stages of secondary sterigmata formation, but if so, then some mature sterigmata should have been observed.

Pterula tasmanica Lloyd

Pterula tasmanica Lloyd. 1923. Mycol. Notes 70: 1227; fig. 2539.
Type specimen (holotype): BPI – Tasmania, no date, *L. Rodway 1267*, Cat. Lloyd no. 32715.

Annotation: 'Basidia shortly longit. divided as in *Aphelaria tuberosa*. E. J. H. Corner, March, 1951'.

Fruitbodies up to 39 × 17 mm, branched, very pale beige, with areas dark and cartilaginous. Stipe discrete, up to 12 × 2 mm, irregular in outline and covered with a felty mycelial mat in almost all instances, arising from indistinct balls of mycelium and soil. Major branches 2-several, flattened, rebranching in 1–2 ranks; internodes long, slender, more than 1 mm thick, flattened; axils very narrowly rounded; apices flagelliform, acerose, up 21 mm long. Small spots of suspected vinescent bruising around dirt specks.

Tramal hyphae of upper branches hyaline, clamped, uninflated, unagglutinated, parallel, tightly packed. Hymenium thickened, apparently unilateral; basidia (Fig. 9) not measurable, inflated apically up to 16 µm broad, thin-walled, easily broken when squashed, with very diaphanous veil septa longitudinal at the apex up to 18 m long, ending blindly; sterigmata 4, up to 13 µm long, stout, divergent, curved, sometimes causing the basidial apex to become sulcate.

Spores (fig. 10) 10.1–12.6 × 5.8–7.6 µm (E = 1.50–1.87; E^m = 1.70; L^m = 10.9 µm), ellipsoid to broadly ellipsoid, flattened somewhat adaxially, smooth, thin-walled, hyaline; hilar appendage eccentric, papillate; germination by repetition absent.

Basidia are typical of those of what Crawford (1954) called *Tremellodendropsis flagelliformis* var. *ovalispora*, and the spores overlap those of the same taxon. Spores are very scarce on the type, and some may have been over-inflated by KOH, others less so. Spore measurements must be treated generously, therefore.

No transverse basidial septa were seen, and the longitudinal septa never were connected to the basidial wall. The basidia, in short, were not tremellaceous by any definition, but, as stated by Corner (annotation), are like those of *Aphelaria tuberosa* (see above, under *Lachnocladium semivestitum*).

Tremellodendropsis transpusio Crawford

Tremellodendropsis transpusio Crawford. 1954. In Trans. R. Soc. N. Z. 82: 624.
Type (holotype): PDD – New Zealand, North Island, Wellington, Keith George Park, 10.vi.49, *Crawford 242*.

Fruitbodies as described by Crawford. Basidia completely cruciately septate, moderately inflated apically. Spores 10–11.5 × 4–5 µm, elongate-reniform to subcylindrical; germination by repetition abundant.

The type specimen includes three parts: (i) Dried fruitbodies; (ii) fruitbodies preserved in spirits; and (iii) a prepared slide. The slide is no longer useful, but both sets of fruitbodies are adequate for microscopic examination.

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