

STUDIES IN RESUPINATE BASIDIOMYCETES—IV*

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(With six Text-figures)

A new genus (*Mycostigma*) is established for *Corticium aegeritoides* Bourd. & Galz. *Trechispora spinulifera* and *Tulasnella pallidocrema* are described as new species. Two new combinations are made.

On *Corticium aegeritoides* Bourd. & Galz.

In a recent publication (Jülich, 1975) I placed *Corticium aegeritoides* Bourd. & Galz. in synonymy with *Trechispora farinacea* (Pers. ex Fr.) Libert. The reason for this was that the type material studied by me consisted of a young state of *T. farinacea* which roughly matched the description given by Bourdot & Galzin (1911, 1928) of their species. I assumed that their description of the spores was not entirely correct, as *T. farinacea* has not smooth but minutely warted spores. During my visit to the Botanical Museum in Stockholm I found an authentic specimen of *C. aegeritoides* from which I got the impression that this species of Bourdot & Galzin is different from *T. farinacea*. A careful search under a binocular lens of high magnification (50×) revealed small cream-coloured globules, less than 0.1 mm in diam., which seemed to be either pollen grains or the small imperfect state of a fungus. Contrary to this first impression, microscopic study showed the globules to be the perfect state of a basidiomycete. This was a great surprise, since these minute globules represent the smallest type of basidiocarp in the Corticiaceae.

Similar structures are known as imperfect states of Ascomycetes and of some Basidiomycetes too. Examples of the latter within the Corticiaceae are: *Aegerita candida* Pers. ex Fr. —perfect state: *Bulbillomyces farinosus* (Bres.) Jülich—, *Aegerita tortuosa* Bourd. & Galz. —perfect state: *Subulicystidium longisporum* (Pat.) Parm.—, and *Necator decretus* Mass. —perfect state: *Phanerochaete salmonicolor* (Berk. & Br.) Jülich. But *Corticium aegeritoides* is the only perfect state of a basidiomycete known to form minute *Aegerita*-like bodies.

Since these globules are invisible to the naked eye, it is not surprising that except for Bourdot & Galzin nobody ever recorded this species. It is only by chance that one can find it. Judging from the material in Bourdot's herbarium it seems likely that the samples were collected as *Trechispora farinacea* but were subsequently found to

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contain a second, far more interesting species. This *Aegerita*-like species they consequently named *Corticium aegeritoides*, and they established a new section for it within the genus *Corticium*, viz. sect. *Aegeritoides*.

The genus *Corticium* was an accumulation of often unrelated species for which in the past decades many small and more natural genera have been erected. One of the remaining species in need for re-allocation is *C. aegeritoides*. Its key characters are the minute globular basidiocarps, the hyaline, thin-walled and probably clamped hyphae, the rather small basidia, and the hyaline, thin-walled and inamyloid spores. It is beyond any doubt that this species belongs to the Corticiaceae, but it certainly is not related to the imperfect *Aegerita*-states, which never develop basidia on their surface and whose perfect states belong to such unrelated genera as *Subulicystidium* and *Bulbillomyces*. Moreover the other characters of *C. aegeritoides* do not match very well the definitions of the known genera of the Corticiaceae. A new genus is therefore proposed to accommodate this unique species.

***Mycostigma* Jülich, gen. nov.**

Carposomata globulis minutis constant, separata vel saepe aggregata sed haud confluentia, hyphis hyalinis mutuo conjuncta. Systema hypharum monomiticum. Hyphae hyalinae, cylindraceae vel paulo torulosae, tenui-tunicatae, circa 2–3 μ m in diam., probabiliter fibulatae. Cystidia vel gloecystidia desunt. Basidia hyalina, clavata, tenui-tunicata, parva, tetraspora. Sporae hyalinae, ellipsoideae, tenui-tunicatae, laeves, inamyloideae.

TYPUS: *Corticium aegeritoides* Bourd. & Galz. 1911.

Basidiocarps consisting of minute globules, separated or aggregated but never confluent, connected by a few hyaline hyphae. Hyphal system monomitic. Hyphae hyaline, cylindrical or somewhat torulose, thin-walled, c. 2–3 μ m in diam., probably with clamps. Cystidia or gloecystidia lacking. Basidia hyaline, clavate, thin-walled, rather small, probably clamped, 4-spored. Spores hyaline, ellipsoid, thin-walled, smooth, inamyloid.

***Mycostigma aegeritoides* (Bourd. & Galz.) Jülich, comb. nov.—Fig. 1**

Corticium aegeritoides Bourd. & Galz. in Bull. trimest. Soc. mycol. Fr. 27: 249. 1911 (basionym).

Basidiocarp annual, whitish to cream-coloured, globose to subglobose, more or less smooth, 0.02–0.1 mm in diam., dispersed or somewhat aggregated, never confluent, separate or connected by very few delicate hyaline hyphae; consistency membranaceous. Hyphal system monomitic. Hyphae hyaline, rather indistinct and easily collapsing, thin-walled, flexuous-cylindrical, probably with clamps, 2–3 μ m in diam.; crystals lacking. Cystidia and gloecystidia absent. Basidia hyaline, thin-walled, clavate, 11–18 \times 4.5–6 μ m, probably with clamp at base; 4-spored; sterigmata subulate and slightly curved, c. 3–3.7 \times 0.8–1 μ m. Spores hyaline, smooth, thin-walled, globose to subglobose or broadly ellipsoidal, 4–4.5 μ m in diam., with large, conspicuous apiculus, c. 1–1.2 \times 0.8–1 μ m; non-amyloid. Conidial state absent.

REACTIONS.—No part of basidiocarp amyloid, dextrinoid, or cyanophilous.

SUBSTRATE.—On petioles of ferns.

DISTRIBUTION.—Known only from France.

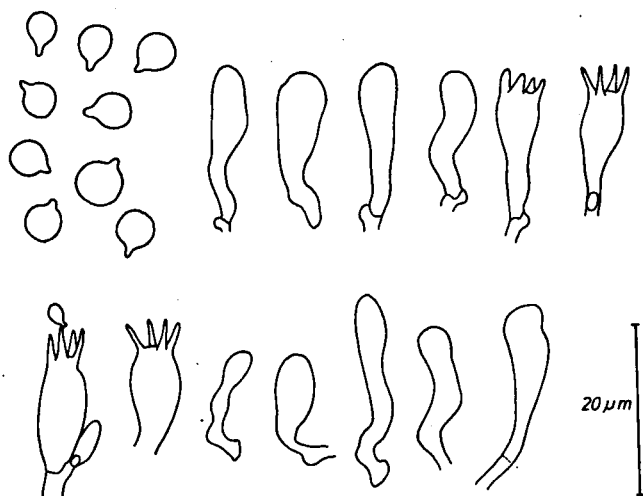


Fig. 1. *Mycostigma aegeritoides*, France, type.

MATERIAL STUDIED.—FRANCE: Allier, St. Priest, 2 Nov. 1909, *H. Bourdot* 6837 (lectotype; PC). — Aveyron, près St. Sernin, *A. Galzin* 5163 (herb. Bourdot 6950; PC). — Allier, ad filices, March 1910, *H. Bourdot* 6950 (S).

On *Corticium fuciforme* (Berk.) Wakef.

A curious fungus has several times been collected in the Netherlands; a species described more than hundred years ago from Australia. It was first collected in 1854 on Mt. Gambier, South Australia by Baron von Mueller and sent to Berkeley for identification. The latter described it in 1873 under the name *Isaria fuciformis* Berk. The specific name refers to the alga-like appearance of the fungus when dry, and the species was placed in the genus *Isaria* because of its isarioid fruitbody, from the apical part of which Berkeley described minute conidia. Berkeley's short description runs as follows: 'Pallid, slender, filiform, sparingly branched, branches acute; spores very minute, globular.' This species was reported in 1883 from Dublin and in 1884 from the southern counties of England, in both cases as a parasite of grass, especially of *Festuca ovina*. With regard to the reproduction of the fungus, the presence of globular conidia was generally accepted; Massee (1893) gave the size of the conidia as 2 μ m.

It was not until 1906, that the true affinities of the species were recognized. In this year McAlpine described the basidiocarp of the fungus and placed it in the genus *Hypochnus*. He correctly described the isarioid structures as peripheral hyphal fascicles of a resupinate basidiomycete and gave the first description of the basidia and spores,

based on Australian material, at the same time stating that conidia were not present. When no basidiocarp with hymenial layer is developed, the fungus consists of an effused glutinous layer of hyphae with gelatinized walls, closely attached to the cuticle of the grass. From this almost invisible layer the thin, clavarioid or isarioid tufts emerge, which have a bright coral pink colour when fresh and are easily discernible from a distance of several meters. These tufts are sterile. The perfect state is (in Europe) not formed until late in autumn (in Australia in June–July). This explains why most of the specimens from the Netherlands are sterile, being collected too early in the year.

Propagation of the species possibly occurs by means of basidiospores, but the fungus is probably more effectively spread in a vegetative manner by means of its projecting hyphal tufts. It is possible (as suggested already by McAlpine in 1906) that the apical part of the tuft may expand when it comes in contact with grass and there starts a fresh growth. It has also been observed that the tufts when dry are easily detached and broken into smaller pieces, which when moist are able to affix themselves to grasses and to start growing again.

The fungus has been reported from several species of grass. According to McAlpine it has been found in Australia on *Agropyron scabrum*, *Agrostis alba* var. *stolonifera*, *Bromus mollis*, *B. sterilis*, *Danthonia pilosa*, *Festuca bromoides*, and *Lolium perenne*. Cunningham (1963) adds three more species to this list: *Danthonia caespitosa*, *Lolium multiflorum*, and *Poa bulbosa*. In a wet season it also may grow over herbs. In Europe (i.e. England and the Netherlands) it is known from several grass species; the best material I saw was found on *Festuca ovina* and *Nardus stricta*. The effect on grass land is mostly not severe, but sometimes large areas are covered; McAlpine mentions an infected area of 25 km² in Victoria, Australia.

The geographical distribution of the species is very disjunct. For many years it was known only from Australia and England. At the turn of the century the question arose whether Australia got this parasite from England or vice versa. The question may remain unsolved since according to McAlpine the fungus is easily carried on seeds, and it is by no means uncommon (at least in Australia) to find the hymenium on seeds of *Lolium perenne*.

The species has been placed in *Isaria*, *Hypochnus*, *Epithele*, and *Corticium*, but it belongs to none of these genera. The systematic position among the genera of the Corticiaceae is rather difficult to establish. However, the firm membranaceous to ceraceous basidiocarp with clampless hyphae, the rather large and thin-walled spores as well as the multinucleate basal hyphal cells indicate a close relationship with *Phanerochaete*.

***Phanerochaete fuciformis* (Berk.) Jülich, comb. nov.—Fig. 2**

Isaria fuciformis Berk. in J. Linn. Soc. 13: 175. 1873 (basionym). — *Hypochnus fuciformis* (Berk.) McAlp. in Ann. mycol. 4: 549. 1906. — *Epithele fuciformis* (Berk.) Höhn. & Syd. apud H. & P. Syd. in Ann. mycol. 4: 551. 1906. — *Corticium fuciforme* (Berk.) Wakef. in Trans. Br. mycol. Soc. 5: 481. 1917.

Basidiocarp annual, resupinate, effused; the perfect stage 1–2 cm large, forming small patches on leaves and culms or seeds of grasses, rarely on basal part of hyphal tufts, adnate; consistency firm-membranaceous to ceraceous; context homogeneous, composed of closely compacted hyphae; hymenial surface pinkish when fresh, tan to cream-coloured when dry, even, not or only slightly cracked when dry; margin indistinct, thinning out; rhizomorphs or hyphal strands lacking but isarioid or

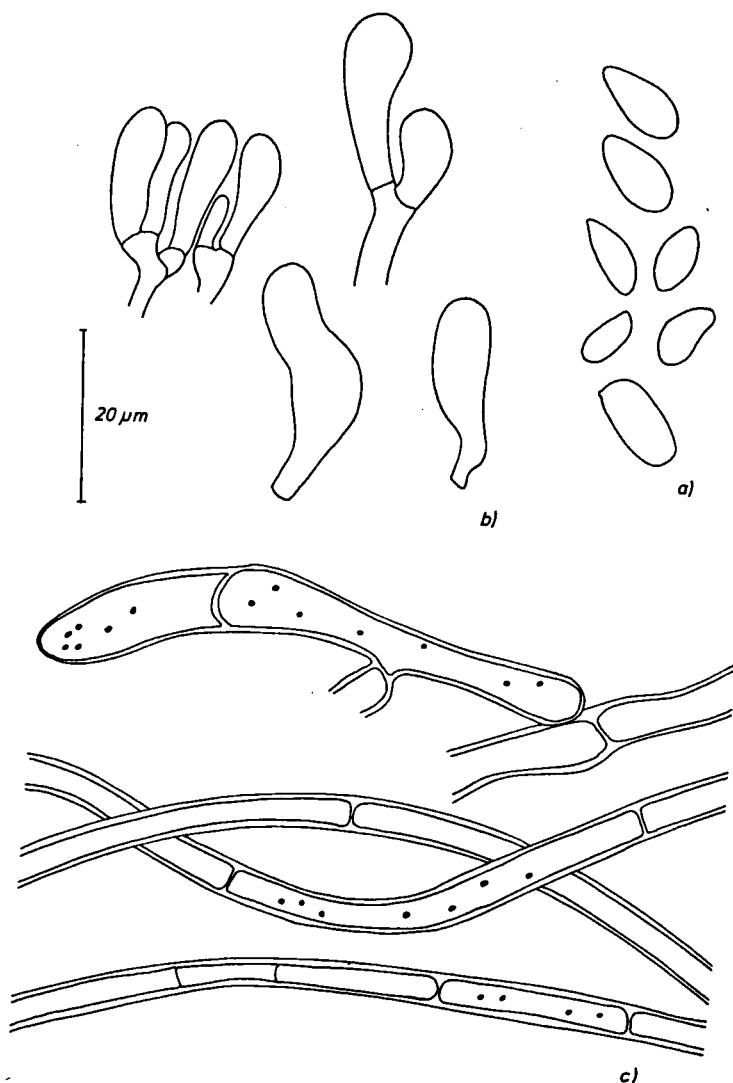


Fig. 2. *Phanerochaete fuciformis*, Netherlands. — a. L 965.299–050. — b., c. L 968.241–655.

clavarioid hyphal fascicles present. Sterile outgrowths single or branched, each long-acute or subulate, up to 3 cm long, ceraceous, bright coral pink when fresh, pale when dry, consisting of a compact mass of hyaline, slightly thick-walled, clampless hyphae. Effused mucous base of tufts sometimes spreading out, forming a hyaline, almost invisible sheath around culms and leaves of grasses and sometimes glueing different parts of grass together. At irregular intervals new hyphal tufts forming. Hyphal system monomitic. Hyphae hyaline, cylindrical, compactly arranged in trama and sterile tufts, branching often close to septa (initial stages then suggesting clamps), in subhymenium 2.5–4 μm wide and thin-walled (c. 0.2 μm), in trama and tufts 4–8 μm wide and somewhat thick-walled (c. 0.5 μm), with smooth surface or encrusted with some orange mucilage granules; clamps lacking from all septa; contents homogeneous. Cystidia or gloecystidia lacking. Basidia hyaline, clavate, 16–20–26 \times 5–8–10 μm , thin-walled, with smooth surface, clampless, with homogeneous contents, with four, stout sterigmata (c. 6 \times 2 μm). Spores hyaline, ellipsoid to fusiform, with small apiculus, 9–12 \times 5–6.5 μm , not glued together, thin-walled, with smooth surface, not amyloid; contents homogeneous.

REACTIONS.—No part of basidiocarp amyloid, dextrinoid, or cyanophilous.

SUBSTRATE.—Parasitic on culms and leaves of grasses; rarely on herbs.

DISTRIBUTION.—Australia (type locality), Tasmania, New Zealand, Great Britain, Netherlands, North America (East Coast).

MATERIAL STUDIED.—THE NETHERLANDS: prov. Gelderland, National Park Veluwezoom, 'Postbank', 5 Oct. 1968. *Ch. Matthijsse* (L 965.299–050); prov. Noord-Holland, Vogelenzangse bos, 19 Oct. 1959, *Anonym.* (L 959.41–018); prov. Zuid-Holland, Wassenaar, Meyendel, near parking lot, 25 Nov. 1957, *C. Bas 1392* (L 957.255–719); prov. Noord-Brabant, Strabrechtse Heide, 15 Oct. 1968, *W. Iven* and *G. Verver* (L 968.241–655).

NOTES.—According to Wakefield (1916) there are clamps at the hyphal septa; this could not be confirmed (also fide Cunn. 1963 hyphal septa without clamps). The 'paraphyses' described by Cunningham are probably young basidial stages.

On a new species of *Trechispora* from South-East Asia

An unknown resupinate hydroid fungus collected on a termite nest on the Solomon Islands was received from the Kew Herbarium for identification. The monomitic hyphal system as well as the mainly hyaline hyphae and hyaline to pale yellowish spores show that the specimen belongs to the Corticiaceae. The systematic position is with *Trechispora* since the basidia are rather short and the spores rather small, warted, and inamyloid. Most species of the genus *Trechispora* have a smooth hymenial surface, but three species are known which sometimes or always develop a hydroid hymenial surface, viz. *T. farinacea* (Pers. ex Fr.) Libert, *T. gillesii* (Maas G.) Libert, and *T. mutabilis* (Pers.) Libert. Of these species, *T. mutabilis* has smooth spores and *T. farinacea* a soft-membranaceous basidiocarp. The remaining *T. gillesii*, up to now known only from Central Africa, shows a stipitate-pileate basidiocarp and larger spores. This indicates that the specimen from the Solomon Islands, having different characters, belongs to an as yet undescribed species.

While looking through the collections of unidentified hydroid fungi in the Rijks-herbarium, Leiden, two more samples of this species were found, also from termite nests. The two additional findings are from Sumatra and the island Krakatau.

***Trechispora spinulifera* Jülich, *spec. nov.*—Fig. 3**

Carposoma late effusum, membranaceum, cremeum ad ochraceum. Hymenium hydnoideum, aculeis circa 2 mm longis, cylindraceis vel subulatis. Systema hypharum monomiticum. Hyphae distinctae, hyalinae vel basales brunnescentes, tenui- vel crassate-tunicatae, fibulatae, interdum inflatae, 1.5–4(–6) μm wide. Cystidia vel gloecystidia desunt. Basidia hyalina, suburniformia, 10–13(–16) \times 4.8–5.5 μm , fibulata. Sporae hyalinae vel leviter flavae, subglobose, verrucosae, 3–4 \times 2.8–3.3 μm , inamyloideae.

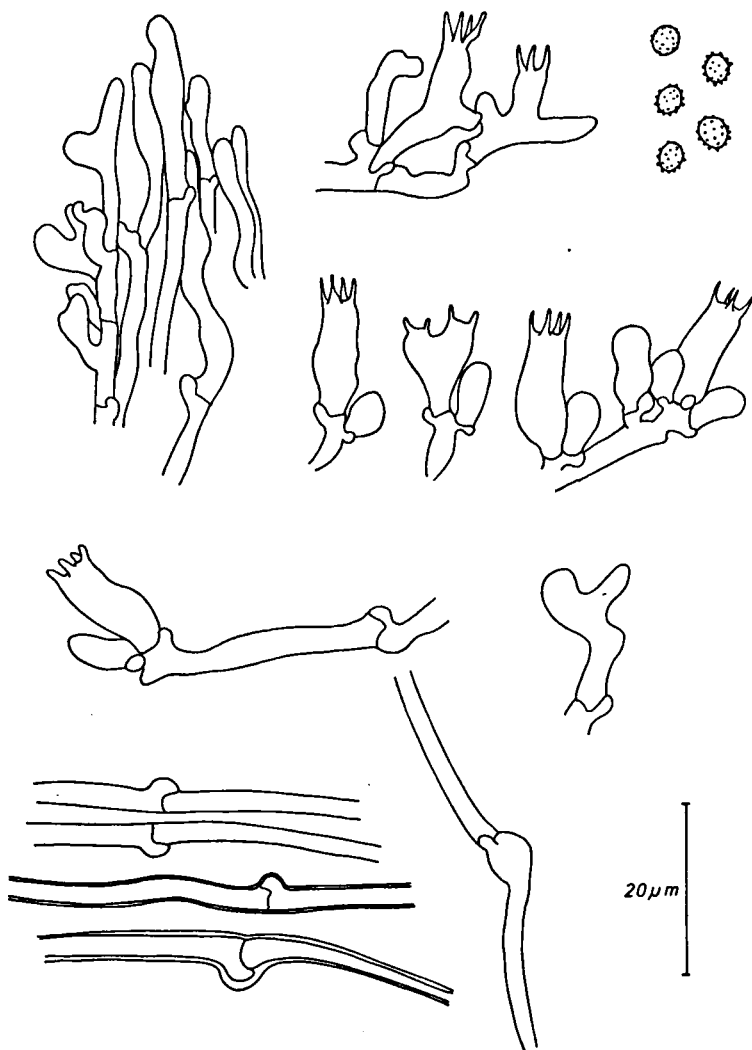


Fig. 3. *Trechispora spinulifera*, Solomon Islands, type.

Typus: 'British Solomon Islands Protectorate, Malaita Island, Dala Cocoa Research Station, .12.1975, G.V.H. Jackson (no. D 5)' (holotypus, L 974.106-264; isotypus, K).

Basidiocarp annual, resupinate, effused, several cm long, 150-350 μ m thick, firm-membranaceous, with hymenial layer somewhat ceraceous, more or less adnate; context homogeneous; hymenial surface distinctly hydroid, not cracked, cream coloured between teeth, the teeth proper dark greyish brown (in dried condition), crowded, not or only occasionally glued together, up to 2×0.2 mm; margin whitish, narrow; rhizomorphs and hyphal strands lacking. Hyphal system monomitic. Hyphae hyaline in subhymenium and trama but brown near substrate, mostly cylindrical, seldom some parts ampulliform, more or less loosely arranged in subhymenium, compactly arranged in trama, branching often from clamps or at places opposite to these, 1.5-3 μ m in diam. in subhymenium, 2-4(-6) μ m in diam. in trama, with smooth surface, the basal hyphae slightly to distinctly thick-walled (0.3-0.8 μ m); clamps always present; contents homogeneous. Cystidia and gloeocystidia absent. Basidia hyaline, suburniform when mature, rather short, sometimes pleurobasidioid, broadly ellipsoidal when young, 10-13(-16) \times 4.8-5.5 μ m, thin-walled, with smooth surface, with clamp at base; contents homogeneous; with four subulate, slightly curved sterigmata (c. 3×1 μ m). Spores hyaline to slightly yellowish when mature, subglobose, with minute apiculus, 3-4 \times 2.8-3.3 μ m, not glued together, rather thin-walled (c. 0.3 μ m), with warted surface; warts short (c. 0.4×0.3 μ m), regularly distributed over surface; contents homogeneous; wall not amyloid nor dextrinoid, not or only weakly cyanophilous.

SUBSTRATE.—Saprophytic on termite nests.

MATERIAL STUDIED.—BRITISH SOLOMON ISLANDS PROTECTORATE, Malaita Island, Dala Cocoa Research Station, Dec. 1975, G. V. H. Jackson (no. D 5) (K; L 974.106-264). — INDONESIA: Sumatra, Ondernemeng Bergen, July 1930, v. Balen (L 974.106-267); Mt. Krakatau, 18 Oct. 1933, K. B. Boedijn 2758 (L 974.106-413).

KEY TO THE HYDROID SPECIES OF TRECHISPORA

- 1a. Spores smooth, subglobose, 3.5-4.5(-5) \times 3-4(-4.5) μ m; Europe, U.S.S.R., North America
T. mutabilis (Pers.) Liberta
- b. Spores with warts 2
- 2a. Basidiocarp conchate-pileate to stipitate-pileate; spores broadly ellipsoid, 4.5-5.5 \times 3.5-4 μ m; Africa *T. gillesii* (Maas G.) Liberta
- b. Basidiocarp resupinate 3
- 3a. Basidiocarp soft-membranaceous, fragile; hymenial surface grandinioid to hydroid, soft; spores ellipsoid, 3-4(-4.5) \times 2.5-3(-3.5) μ m; Europe, U.S.S.R., North, Middle, and South America. *T. farinacea* (Pers. ex Fr.) Liberta
- b. Basidiocarp firm-membranaceous; hymenial layer somewhat ceraceous; hymenial surface hydroid; spores subglobose, 3-4 \times 2.8-3.3 μ m; South-East Asia . . . *T. spinulifera* Jülich

On a new species of *Tulasnella*

While preparing a revision of the genus *Tulasnella* my attention was drawn by *T. fuso-violacea* Bres. This is a rarely collected species, characterized by simple-septate hyphae and rather wide, cylindrical, slightly curved spores. Among the collections studied, two different types of spores are recognizable. Some specimens

(including the type collection) show rather wide spores, $10-13 \times 4.3-6.2 \mu\text{m}$; in other collections the spores are narrower, $10-13 \times 3-3.3 \mu\text{m}$. For specimens with the latter type of spores no name is available; hence a new species has to be described.

***Tulasnella pallidocrema* Jülich, *spec. nov.*—Fig. 4**

Carposoma resupinatum, adnatum, membranaceum vel crustaceum, tenue. Hymenium laeve, in vegeto dilute violaceum, sicco cremeum. Systema hypharum monomiticum. Hyphae hyalinae, efibulatae, subhymeniales tenui-tunicatae, basales tunicis incrassatis ($0.3-1.0 \mu\text{m}$), $3-5 \mu\text{m}$ diam. Cystidia et gloecystidia desunt. Basidia clavata, circa $10-12 \times 7-8 \mu\text{m}$, tetraspora; epibasidiis abrupte constrictis. Sporae hyalinae, tenui-tunicatae, laeves, cylindraceae vel suballantoideae, $10-13 \times 3-3.3 \mu\text{m}$, apiculis distinctis, inamyloideae.

Typus: 'Sweden, Upland, Danmark parish, the wood W. of Sävja (near Upsala)', 6 Aug. 1936, *S. Lundell and K. G. Ridelius* (K) (=Lundell & Nannfeldt, *Fung. exs. succ.* 472, sub *Tulasnella fusco-violacea* Bres.).

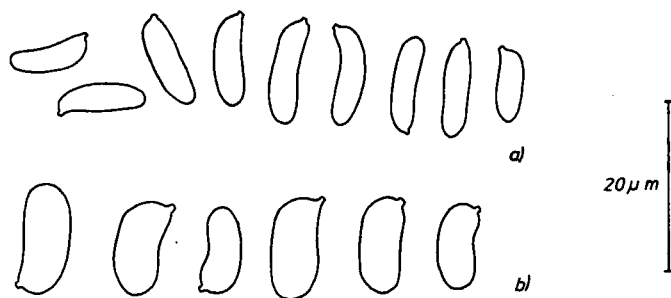


Fig. 4. a. *Tulasnella pallidocrema*, type. — b. *Tulasnella fusco-violacea* Bres., type.

Basidiocarp resupinate, adnate, membranaceous or crustaceous, thin. Hymenial surface even, light violaceous when fresh, pale cream when dry. Hyphal system monomitic. Hyphae hyaline, clampless, $3-5 \mu\text{m}$ in diam., the subhymenial ones thin-walled, the basal ones thin- to thick-walled ($0.3-1.0 \mu\text{m}$). Cystidia and gloecystidia lacking. Basidia clavate, c. $10-12 \times 7-8 \mu\text{m}$, 4-spored, the epibasidia abruptly constricted. Spores hyaline, thin-walled, smooth, cylindrical or slightly allantoid, $10-13 \times 3-3.3 \mu\text{m}$, with distinct apiculus, inamyloid.

MATERIAL STUDIED.—SWEDEN: Upland, Danmark par., the wood W. of Sävja (near Upsala), 6 Aug. 1936, *S. Lundell and K. G. Ridelius* (C, S, K) (=Lundell & Nannfeldt, *Fung. exs. succ.* 472); Småland, Femsjö, autumn 1911, *L. Romell* (S). — AUSTRIA: Nieder-Österreich, Grosse Klause bei Aspang, without date, *v. Höhnelt and Litschauer* (S).

HYPHODERMA COMPTUM (H. S. Jackson) Jülich—Figs. 5, 6

Peniophora compta H. S. Jackson in *Canad. J. Res.* 26: 138. 1948 — *Hyphoderma compactum* (H. S. Jackson) Jülich in *Persoonia* 8: 80. 1974 ('compacta').

Basidiocarp annual, resupinate, effused, up to 10 cm large, $80-150 \mu\text{m}$ thick, soft-membranaceous, separable in small pieces; context homogeneous; hymenial

surface cream-coloured, even, under lens minutely reticulate-poroid, not cracked when dry; margin pale cream-coloured, indistinct, thinning out; rhizomorphs and hyphal strands lacking. Hyphal system monomitic. Hyphae hyaline, cylindrical, somewhat compactly arranged in subhymenium, loosely arranged in trama, branching from or opposite clamps, $2.5\text{--}3.5\text{ }\mu\text{m}$ in diam, and thin-walled (c. $0.2\text{ }\mu\text{m}$) in subhymenium, $3.5\text{--}5\text{ }\mu\text{m}$ in diam. and thick-walled ($0.5\text{--}1.0\text{ }\mu\text{m}$) in trama, mostly with smooth surface, rarely somewhat granular, clamps present at all septa, contents guttulate. Cystidia (leptocystidia) present, rather abundant, of hymenial to subhymenial origin, hyaline, subulate, $30\text{--}45 \times 3\text{--}4.5\text{ }\mu\text{m}$, thin- to slightly thick-walled ($0.2\text{--}0.5\text{ }\mu\text{m}$), with smooth surface, projecting up to $20\text{ }\mu\text{m}$, with basal clamp; contents somewhat guttulate. Echinocysts present, abundant, laterally produced on basal hyphae, hyaline, globose, $4\text{--}5\text{ }\mu\text{m}$ in diam., thin-walled (c. $0.3\text{ }\mu\text{m}$), with c. ten spines (about $1.5\text{--}2.5 \times 0.5\text{ }\mu\text{m}$) regularly arranged over the whole surface, always with basal clamp; contents homogeneous or slightly guttulate. Basidia hyaline, ellipsoid when young, clavate to suburniform when mature, $14\text{--}26 \times 5.5\text{--}8\text{ }\mu\text{m}$, thin-walled, smooth, with basal clamp, with somewhat guttulate contents, with (2–)4 subulate, slightly curved sterigmata ($5\text{--}10 \times 1.5\text{--}3\text{ }\mu\text{m}$). Spores hyaline, broadly ellipsoid, $6\text{--}8 \times 4\text{--}5\text{ }\mu\text{m}$, with rather large (c. $1.5 \times 1.2\text{ }\mu\text{m}$) and distinct apiculus, not glued together, thin-walled, smooth, with guttulate contents, non-amyloid.

REACTIONS.—No part of basidiocarp amyloid, dextrinoid, or cyanophilous.

SUBSTRATE.—Saprophytic on very rotten wood of gymnosperms (e.g. *Pinus strobus*, 'white pine').

DISTRIBUTION.—Canada.

MATERIAL STUDIED.—CANADA: Ontario, Paradis Bay, Lake Timagami, T.F.R., 22 Aug. 1935, *R. Biggs* 404 (TRTC 8746) & 26 Aug. 1936, *R. Biggs* 732 (TRTC 16675); Bear Island, Lake Timagami, 18 Aug. 1944, *H. S. Jackson* (TRTC 19742, 19977, 20028, 20030); Partage to Spawm. Lake, Lake Timagami, 11 Aug. 1939, *H. S. Jackson* (TRTC 22442); Woods S. of Aurora, 16 Oct. 1938, *H. S. Jackson* (TRTC 13717, 13718).

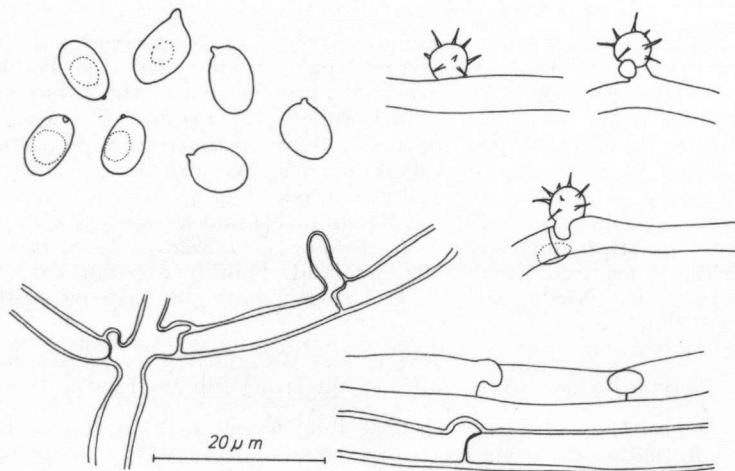


Fig. 5. *Hyphoderma comptum*, Canada, type.

The echinocysts on the basal hyphae in combination with the broadly ellipsoid spores are characteristic for this species. Larger echinocysts with somewhat different shapes are known from *Hyphoderma echinocystis* J. Erikss. & Strid, and *H. pallidum* (Bres.) Donk, but both species differ in having allantoid spores.



Fig. 6. *Hyphoderma comptum*, Canada, TRTC 20028.

Conohypha terricola (Burt) Jülich, *comb. nov.*

Peniophora terricola Burt in Ann. Mo. bot. Gdn 12: 237. 1926 (basionym).

This species is very similar to *C. albocrenea* (Höhn. & Litsch.) Jülich, but differs in having thin-walled, subulate, 60–80 μ m long cystidia.

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