Tremelloscypha and *Papyrodiscus* — Two New Genera of Basidiomycetes from Australasia

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In this paper the new genera *Tremelloscypha* and *Papyrodiscus* are described. The former, based on *T. australiensis* sp. nov., — a species widespread in Australia, occupies an isolated position in the Tremellales. The latter, based on *P. ferrugineus* sp. nov., a stereoid fungus from New Guinea, would seem to show certain affinities with the polypore genus *Flavodon* Ryv.

The specimens cited below are deposited in K unless otherwise indicated.

Tremelloscypha australiensis Reid, gen. et sp. nov.

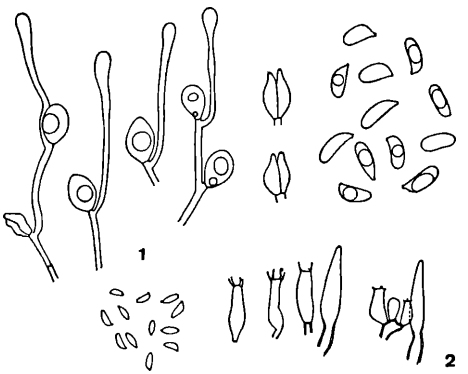
Sporophora 0.7—2.0 cm alta, 0.8—1.2 cm lata, mesopoda et infundibuliformia vel umbilicata, vel pleuropoda sed pseudo-infundibuliformia vel stipite laterali in pileum adscendentem flabellatum sensim expanso. Pileus grosse strigosus et spongiosus, fibrillis luteis dein fuscis adpressis ornatus. In specimine exsiccato superficies (fibrillis inclusis) luteo- vel ochraceo-brunnea, et fere ceraceo-cartilaginea. Superficies hymenialis inferior, decurrens, laevis, in sicco luteo- vel rufo-brunnea, pruina fusco-ardesiaco-grisea obducta. Stipes 0.5—0.8 cm altus, 0.05—0.3 cm latus, bubalinus. Caro cremeo-alba, non-gelatinosa. Systema hypharum monomiticum; hyphae laxe intertextae, 2.5—3.3 μm latae, sine fibulis, muris firmis et distinctis instructum. Hymenium crassescens, usque 100—150 μm. Basidia 11.0—13.2×10.0 μm, globosa, ovata vel pyriformia, et quadrispora. Sporae 10.0—13.2×4.5—5.0 μm, subcylindricae, anguste ellipsoideae vel leviter allantoideae, plerumque conspicue monoguttulatae, raro plus.

Sporophores 0.7—2.0 cm high, 0.8—1.2 cm wide, varying from mesopodal and either infundibuliform or umbilicate, to pleuropodal and then either pseudoinfundibuliform due to incurving of the margins of the fruitbody, or with the lateral stipe gradually expanding into the ascending flabellate pileus. Pileus coarsely strigose and somewhat spongy, with yellow then dark adpressed fibrils. In dried material the surface, including the fibrils, has an almost waxy-cartilaginous appearance and is yellowish- or ochraceous-brown. Hymenial surface inferior, decurrent, smooth, varying in dried material from yellowish or reddish brown, but covered with a dark slaty-grey pruina. Stipe 0.5—0.8 cm high, 0.05—0.3 cm wide, buff, with a conspicuous basal ball of earth. Flesh creamy-white, non-gelatinous. Hyphal structure monomitic; hyphae loosely intertwined, 2.5—3.3 μm wide, with a firm distinct wall, but lacking clamp-connections. Hymenium

thickening, reaching 100—150 μm, with hyphal branching occurring just below the basidium.

Basidia 11.0—13.2×10.0 μm, globose, ovate or obpyriform, with 4 sterigmata. Spores 10.0—13.2×4.5—5.0 μm, subcylindric, narrowly elliptic to slightly allantoid, usually with one or rarely more conspicuous guttules.

Habitat: On sandy soil, Port Campbell National Park, Victoria, Australia, coll. G. BEATON, 25. Sept. 1966. [TYPUS]; Kinchina, South Australia, coll. J. B. CLELAND, 1 Aug. 1925 [in ADW No. 16199]; Yanchup, Western Australia, coll. J. GOODWIN, Aug. 1960 [in ADW No. 16197], Porongorups, Western Australia, 7 Aug. 1962 [in ADW No. 16198].



Captions to Text-Figures

Fig. 1. *Tremelloscypha australiensis*. Basidia and spores. From type collection.

Fig. 2. *Papyrodiscus ferrugineus*. Spores, basidia, and cystidia. All × 660

Tremelloscypha appears to occupy a rather isolated position within the Tremellales. Members of the genus *Tremiscus* come closest to it in growth form, but here the texture is gelatinous, the basidia are of the Myxarioid type and the spores are oblong, elliptic, or elongate-elliptic, so that a close relationship with this genus is unlikely.

Papyrodiscus ferrugineus REID, gen. et sp. nov.

Sporophora 1.7—4.5 cm diam., dorsaliter affixa, circularia, applanata vel leviter pendula, tenuia, papyracea. Superficies superior coacto-tomentosa, conspicue zonata et uniformiter laete rufo-brunnea. Superficies hymenialis laevis, cremea sed roseo-tincta. Systema hypharum monomiticum; hyphae 3.3—5.5 μm latae, brunneae, copiose ramosae, laxe intertextae, non-fibulatae, muris tenuibus vel leviter incrassatis instructum. Cystidia fortuita, 25 (—40) μm longa, 4.5—6.0 μm lata, hyalina, fusiformia vel lanceolata, muris tenuibus instructa. Basidia 12.0—17.0×4.5—6.0 μm, hyalina, suburniformia et quadrispora. Sporae 5.0—6.2×2.0—2.2 μm, hyalinae, naviculares, non-amyloideae, muris tenuibus instructae.

Sporophores 1.7—4.5 cm diam., attached to very small twigs at the centre of the dorsal surface, and forming flattened circular or slightly pendulous, thin papery fruitbodies. Upper surface felty-tomentose, conspicuously zoned and of a uniform bright red-brown colour. Hymenial surface smooth, cream flushed with pink. Hyphal structure monomitic, consisting of hyphae, 3.5—5.5 μm wide, with thin to very slightly brown walls. These hyphae, which are freely branched and loosely entwined, lack clamp-connections at the septa.

Cystidia fortuitous. A very few thin-walled, hyaline fusiform or lanceolate sterile organs, up to 25 (—40) μm long and 4.5—6.0 μm wide may be present. Basidia 12.0—17.0×4.5—6.0 μm, thinwalled, suburniform, with 4 sterigmata. Spores 5.0—6.2×2.0—2.2 μm, thin-walled, hyaline, navicular and nonamyloid.

Habitat: on dead twigs on ground debris in mossy forest, Minj-Nona Divide, Kubor Range South of Minj, Western Highlands District, New Guinea, 9600 ft alt., coll. R. PULLEN (No. 5320), 31 Aug. 1963 [TYPUS].

The affinities of *Papyrodiscus* are uncertain but in some ways the pigmentation, hyphal structure and type of cystidial element are similar to those met with in the polypore genus *Flavodon* RYV. as exemplified by *F. flavus* (KL.) RYV. which is itself better known under the name *Irpex flavus* KL.