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A NEW COPRINUS FROM PAPUA NEW GUINEA SPORULATING IN PURE CULTURE

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From Papua New Guinea a new *Coprinus* is described, which forms basidiocarps and basidiospores in pure culture. It was isolated from material collected on two collecting trips to the area, in 1992 and 1995.

The basidiomycete flora from tropical areas is still very incompletely known, and Papua New Guinea is no exception. In 1992 and in 1995 collecting trips to Papua New Guinea were made by the second author, together with P. Diederich, P. Lambley, E. Sérusiaux, and H.J.M. Sipman. The aim of these trips was to collect ascomycetes (including their anamorphs) from undisturbed tropical forests at various altitudinal zones.

Among the pure isolates obtained from the collected material, two collections, from different years and localities, yielded fruit-bodies of a species belonging to the genus *Coprinus*. This species is characterized by a veil made up of globose, thick-walled and yellow-brown coloured sphaerocysts in combination with thin-walled setulae (= pileocystidia) with cylindrical neck and small, somewhat phaseoliform spores. These features indicate, with little doubt, that the species is new, even though only two collections exist. The species is now described.

Coprinus aureogranulatus Uljé & Aptroot, *spec. nov.* — Fig. 1

Pileus primo subglobosus, ad 20 × 15 mm demum expansus ad 50 mm, ovoideus vel campanulatus, sulcato-striatus, aureus vel flavo-brunneus, lanato-tomentosus; lamellae liberae, albae demum flavo-brunneae, obscure brunneae vel atrae; stipes usque ad 100 × 2–3 mm, albidus, sericeus, basim versus aureo-flavo tomentoso-hirsutus.

Sporae 6.2–7.8 × 4.1–5.1 × 3.7–4.3 µm, medio vel obscure rubro-brunneae, subcylindraceae-phaseoliformae apice truncatae, cum poro germinativo 1.4 µm lato; basidia 16–30 × 5.5–8 µm, tetrasporigera, 3–5 pseudoparaphysibus circumcincta; pleurocystidia absentes vel rara, cheilocystidia similia. Cheilocystidia 40–90 × 13–23 µm, lageniformia; velum e sphaerocystis crassitunicatis, flavis, incrustatis, ad 30 µm diam.; caulocystidia 60–125 × 14–22 × 10–16 µm, lageniformia; fibulae praesentes. Habitat ad ramos vel ad terram.

Holotypus: Madang Province, near Gogol river bridge, 17 km S of Madang along road to Lae, 5° 20' S, 145° 42' E, alt. 10 m, 15 Aug. 1992, no. 33271H. On branch in open forest on raised coral reef.

Type-material: cultivated in the Netherlands, prov. Utrecht, Baarn, 16 July 1996 (holotype: *Uljé 1295*, L; isotypes, CBS 753.96).

Pileus up to 20 × 15 mm when still closed, 50 mm wide when expanded, first (sub)-globose, woolly felty and golden-yellow (Mu. 10 YR 8/8) or yellow-brown to orange-brown, then ellipsoid or ovoid to campanulate and becoming smooth, sulcate striate and

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paler around centre (Mu. 10 YR 8/6), at margin cream (Mu. 10 YR 8/3). Lamellae, L = c. 26, l = 1–3, free, first white, then yellow-brown to dark brown, finally black; margin dentate. Stipe up to 100 × 2–3 mm, silky white; base slightly bulbous, up to 4 mm wide and densely covered with golden-yellow mycelium.

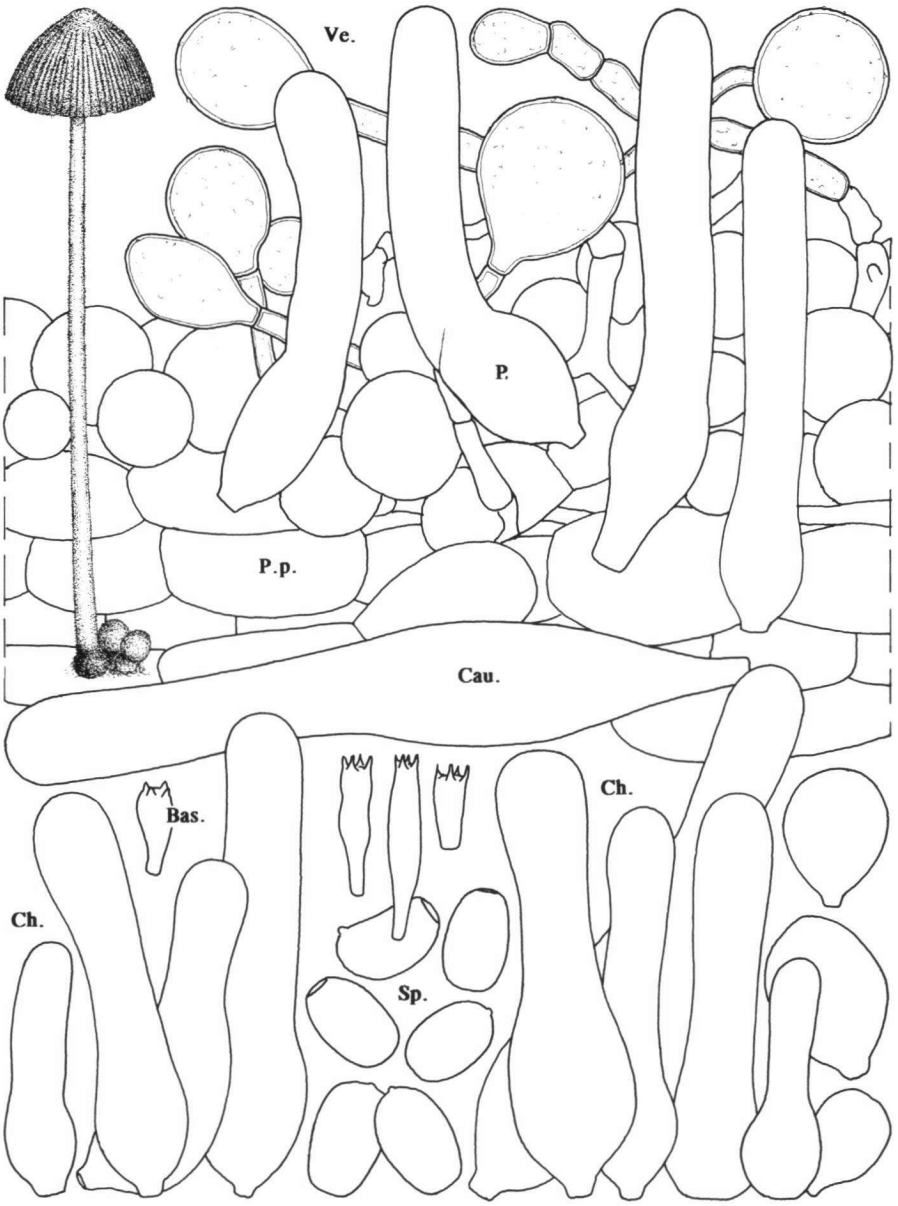

Fig. 1. *Coprinus aureogranulatus*. Sp. = spores, × 2000; P. p. = pileipellis, P. = pileocystidia, Ve. = veil, Cau. = caulocystidia, Ch. = cheilocystidia and Bas. = basidia, all × 800.

Spores [60, 3, 1] 6.2–7.8 × 4.1–5.1 × 3.7–4.3 µm, subcylindrical ellipsoid in frontal view, phaseoliform in side-view, medium to rather dark red-brown with rounded, convex or flattened base and truncate apex, with central, c. 1.4 µm wide germ pore; apiculus very small and difficult to see; Q = 1.40–1.70, av. Q = 1.50–1.55; av. L = 6.8–7.0 µm, av. B = 4.5–4.7 µm, av. W = c. 4.0 µm. Basidia 16–30 × 5.5–8 µm, 4-spored, surrounded by 3–5 pseudoparaphyses. Pleurocystidia absent or very rare and similar to cheilocystidia. Cheilocystidia 40–90 × 13–23 µm, lageniform with 8–16 µm wide, cylindrical neck, in tufts on lamellae edge; in young basidiocarps intermixed with (sub)globose cells (probably from veil). Pileipellis covered with a thick layer of globose cells intermixed with hyphoid elements and pileocystidia 60–90(–110) × 12–20 µm with cylindrical, 6–15 µm wide neck. Veil consisting of sphaerocysts, abundant, up to 30 µm in diam., thick-walled, with walls up to 1.2 µm thick, yellow-coloured and slightly incrusted, often as end cells in chains of elongate elements. Caulocystidia 60–125 × 14–22 × 10–16 µm, lageniform, in small tufts scattered on stipe. Clamp-connections absent.

Habitat & distribution — Subfasciculate on dead branches, sometimes seemingly on soil. Only known from Papua New Guinea (north-east).

Collections examined. PAPUA NEW GUINEA: Madang Province, near Gogol river bridge, 17 km S of Madang along road to Lae (5° 20' S, 145° 42' E, alt. 10 m), on branch in open forest on raised coral reef, 15 Aug. 1992, *Aptroot no. 33271H* (CBS).

Type-material cultivated in the Netherlands, prov. Utrecht, Baarn, 16 July 1996 (holotype: *Uljé 1295*, L), living culture, CBS 753.96; Madang Province, S side of Ramu valley, 11 km W of Brahman Mission. Logging site in lowland forest remnant (5° 44.9' S, 145° 19.7' E, alt. 100 m), 30 Oct. 1995, *Aptroot no. A404* (CBS). Isolated from soil in tropical forest, living culture, CBS 973.95.

Coprinus aureogranulatus belongs to subsection *Setulosi* because of the presence of setulae on stipe and pileus. On account of the structure of the veil and the shape of the pileocystidia, *C. aureogranulatus* seems rather similar to *C. disseminatus* (Pers.: Fr.) S.F. Gray (descr. Uljé & Bas, 1991: 290), but that species has darker brown sphaerocysts, longer setulae, and spores that are slightly smaller and of different shape. The spores of *C. disseminatus* are ovoid with conical base (submitriform) in frontal view and ellipsoid in side-view, whereas in *C. aureogranulatus* the spores are ellipsoid or ovoid with rounded to convex or even almost flattened base in frontal view and slightly phaseoliform in side-view. In addition, cheilocystidia are abundant in *C. aureogranulatus*, but lacking in *C. disseminatus*. In this species only the pileocystidia continue along the edge of the lamellae over a short distance near the margin of the pileus. Another neighbouring species is *C. pyrrhantes* Romagn. (Romagnesi, 1951: 128; Uljé & Bas, 1991: 288), which can have the same golden-brown colour, but the pileocystidia in that species have a much smaller, tapering neck, spores that are never phaseoliform and subglobose cheilocystidia.

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