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Two new species of *Amauroderma* (Ganodermataceae, Basidiomycetes)

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Summary – *Amauroderma grandispora* and *A. corneri* are described as new. The former is African and characterized by large, oblong ellipsoid basidiospores, while the latter is South American and characterized by a white basidiocarp when fresh, large angular pores and an almost monomitic hyphal system, giving the basidiocarps a fragile consistency.

Résumé – Deux nouvelles espèces d'*Amauroderma* sont décrites, *Amauroderma grandispora* et *A. corneri*. La première espèce provient d'Afrique et est caractérisée par de grandes basidiospores, oblongues et ellipsoïdes. La seconde provient d'Amérique du Sud; le basidiocarpe, lorsqu'il est bien frais est blanc et l'hyménium montre de grands pores anguleux; la fragile consistance du basidiocarpe est due à sa structure monomitique.

Zusammenfassung – Zwei neue *Amauroderma*-Arten sind beschrieben, *Amauroderma grandispora* und *A. corneri*. Die erste kommt in Afrika vor und ist durch grosse, längliche, ellipsoidische Basidiosporen gekennzeichnet. Die zweite stammt aus Südamerika; der Hut ist weiss wenn er frisch ist, die Poren sind eckig und das Hyphensystem ist monomitisch, deswegen ist das Fleisch zerbrechlich.

Keywords: *Amauroderma*, Africa, South America.

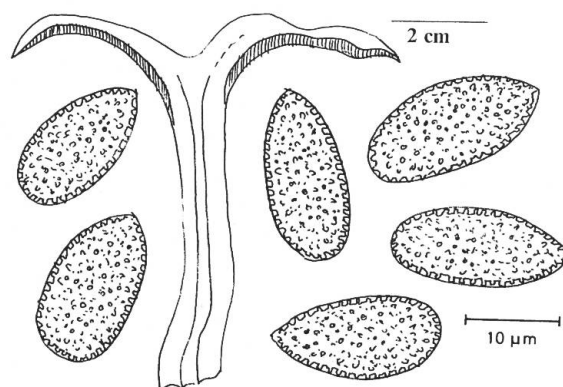


Fig. 1. *Amauroderma grandispora*, section of basidiocarp and basidiospores, from the holotype.

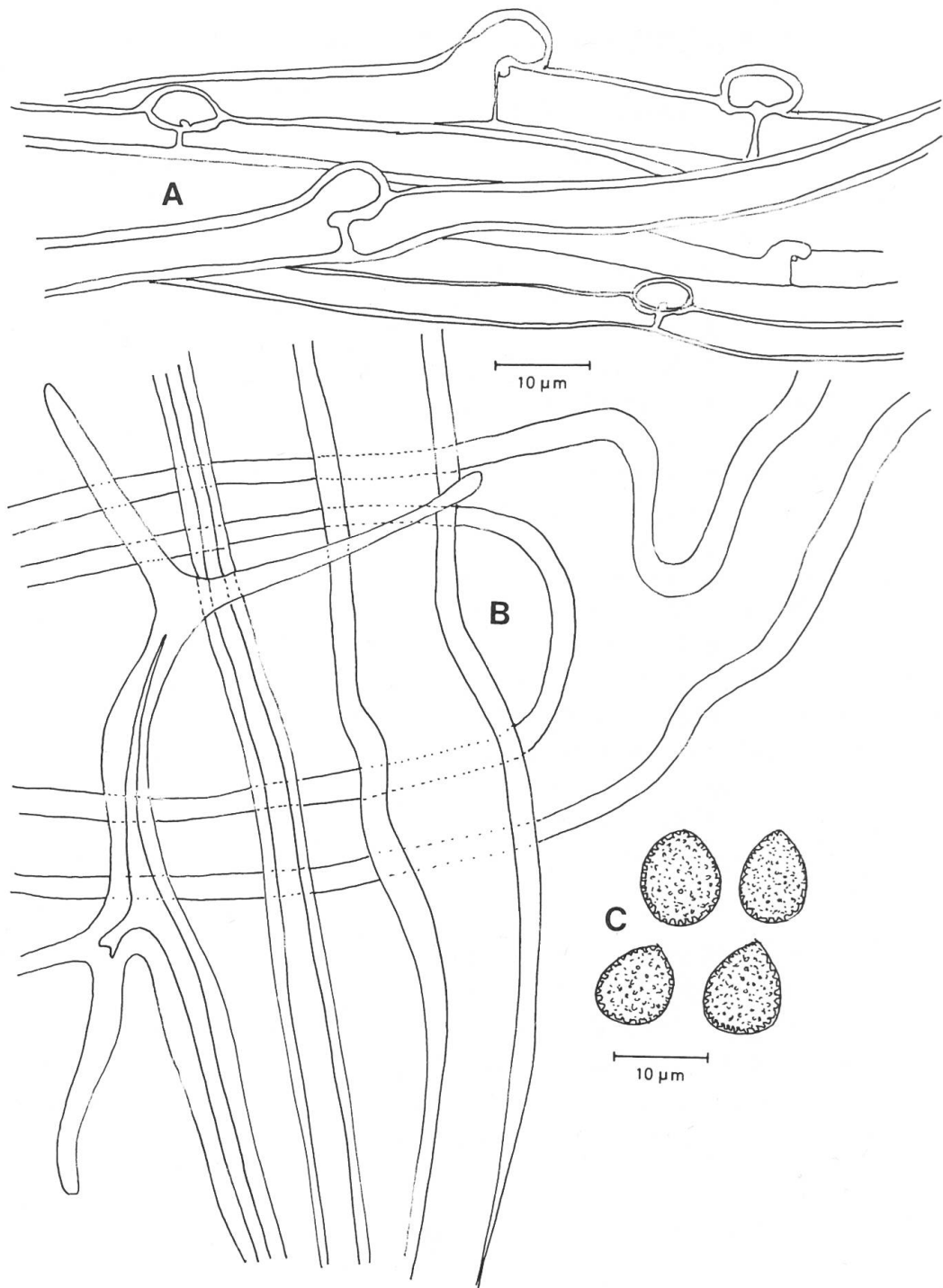


Fig. 2. *Amauroderma corneri*, A) generative hyphae from the trama, B) Skeletal hyphae from the context, C) Basidiospores. From the holotype.

Introduction

Amauroderma is a common tropical genus in Ganodermataceae characterized often by its large stipitate basidiocarps and microscopically by the rounded double-walled basidiospores in contrast to the truncate basidiospores in *Ganoderma*. Species of *Amauroderma* are conspicuous and beautiful when seen in the forest and have therefore been extensively collected. Thus, the genus is well known compared with many other short lived genera of basidiomycetes.

A survey of the genus in Africa is given in Ryvarden & Johansen 1980 while Furtado (1981) treated monographically, all species from America. Later Corner (1983) published what he called "his notes" on both *Amauroderma* and *Ganoderma* describing a number of new species in both genera from Asia. During a revision of *Amauroderma* for forthcoming polypore floras of Africa and tropical America, we came across collections which apparently represented undescribed species of *Amauroderma*, although one of them was described by Corner (1983:65) as *Amauroderma* C.

***Amauroderma grandispora* Gulaid & Ryv. nov. sp.**

Fructificatio stipitata, pileus velutinosus, fuliginei, zonatus, tubi pallide fuliginei, caro coriacea, albida, sporae ellipsoideae, 17–19 × 9–11 µm, pallide brunneus, haud dextrinoideae, systema hypharum dimiticum, hyphae generatoriae fibulatae, hyphae skeletal crassae tunicatae, haud dextrinoideae.

Holotype: Burundi, Mosso, Dunga 13. Jan. 1979, J. Rammeloo 6308, BR, isotype in O.

Basidiocarp centrally stipitate, pileus circular, up to 8 cm in diameter, applanate with a central depression, upper surface slightly undulating with radial furrows, possibly smooth when fresh, strongly concentrically zoned, dark brown in areas covered with a thin adpressed layer of hair, alternating with glabrous, narrow almost black zones. Margin sharp and undulating. Stipe up to 7 cm high and 15 mm in diameter, dark brown, dull, adpressed and velutinate, in section with a distinct dark dense cuticle under the tomentum. Stipe core wood coloured to pale ochre, duplex with an inner core of loose hyphae separated from the outer layer by a dark layer, most distinct at the base of the pileus. Pore surface first white becoming pale ochraceous by maturity, pores small, 4–5 per mm, pore openings equal the pore walls in size. Tubes up to 8 mm deep, first white, becoming brown when basidiospores develop due to their colour and darkening of the trama. Pileus context pale wood coloured, much paler than the tubes, dense and homogenous, up to 8 mm thick at the center.

Hyphal system dimitic, generative hyphae with clamps, 2–3 μm wide, skeletal hyphae solid to thick-walled, slightly sinuous, unbranched or occasionally with rare dichotomous branching, 2–6 μm wide and without reaction in Melzer's reagent.

Basidia subglobose with 4 sterigmata, 15–20 \times 14–16 μm .

Basidiospores oblong ellipsoid, pale yellow, finely echinulate, 17–19 \times 9–11 μm , no reaction in Melzer's reagent.

Habitat. Found on the ground, probably parasitic as many other *Amauroderma* species.

Remarks. *A. grandispora* is undoubtedly related to *A. argentofulvum* (Van der Byl) Doidge also from Africa (for a description, see Ryvar den & Johansen op. cit. p. 69) and characterized by cylindrical basidiospores, 13–18 \times 4.5–6, i.e. narrower and slightly shorter than the ellipsoid basidiospores of *A. grandispora*. As far as we can see from the cited literature, *A. grandispora* has the largest basidiospores recorded for any *Amauroderma* species.

***Amauroderma corneri* Gulaid & Ryvar den nov. sp.**

Fructificatio stipitata, pileus glaber, fuliginei, azonatus, tubi pallide fuliginei, caro fragilis, albida, sporae globosae, 8–10 μm in diametro, hyalinae ad pallide brunnea, dextrinoideae, systema hypharum dimiticum, hyphae generatoriae fibulatae, hyphae skeletal crassae tunicatae.

Holotype: Brazil, Sao Paulo State, Reg. Santos, Cananeia, Iha de Cardoso, 2. February 1987. Leg. L. Ryvar den 24745, SP no 213543. Isotypes in K and SP. Named in honour of professor E. J. H. Corner for his indefatigable mycological contributions.

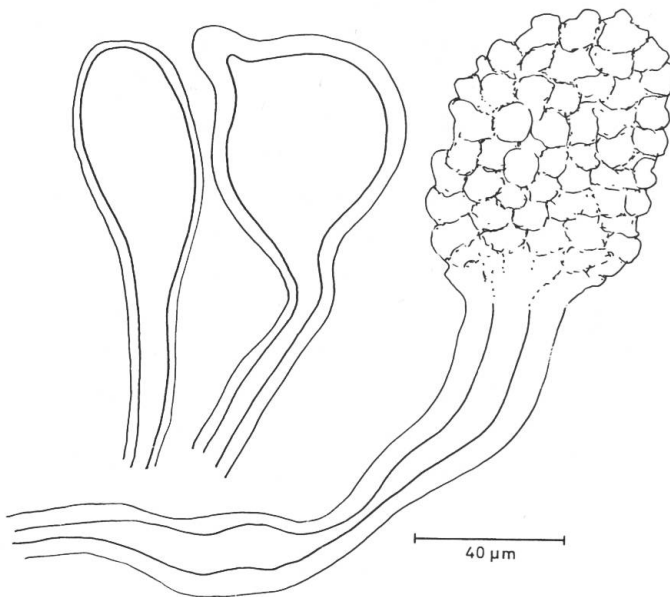


Fig. 3. *Amauroderma corneri*, types of apical swellings on the skeletal hyphae. from the holotype.

Basidiocarp funnel shaped to flabellate or spatulate with an elongated tapering stipe, up to 12 cm wide and 15 cm from base of stipe to edge of pileus, soft when fresh, fragile when dry. Upper surface glabrous, azonate, papery smooth and almost white when fresh, wrinkled with a few radial lines, then curled and ochraceous to brown when dry. Pore surface pale wood coloured when fresh, discoloured to resinous brown when dry. Pores angular thin-walled, radially elongated, 1–2 per mm to 2.3 mm long in radially direction, tubes up to 3 mm deep. Context pale cream, up to 3 mm deep at the base. Stipe rudimentary about 2 cm long and 1 cm wide and expanded to a broad disk attaching the basidiocarp to the wood.

Hyphal system dimitic, generative hyphae with clamps, hyaline, thin- to slightly thick-walled, in the context 4–12 μm wide and with large conspicuous clamps, often branched in almost right angles, in the subhymenium, 3–5 μm



Fig. 4. *Amauroderma corneri*, the holotype in fresh condition.

wide. Skeletal hyphae scattered in the basidiocarp, hyaline, conspicuously wide, 6–30 μm in diameter, thick-walled, a few ending in large smooth to tuberculate swellings, 6–30 μm wide and 100–300 μm long (chlamydospores?), a few becoming yellow, otherwise negative in Melzer's reagent.

Basidia barrel-shaped with 4 sterigmata, 12–15 \times 8–12 μm .

Basidiospores globose, finely ornamented, 7–9 μm in diameter, hyaline to pale yellow in KOH, dextrinoid in Melzer's reagent.

Habitat. On dead hardwood of unknown identity.

Distribution. Known only from Southern Brazil.

Remarks. The species is remarkable by its fan-shaped, fleshy basidiocarps which is almost whitish when fresh while all other *Amauroderma* species are coloured in shades of brown or black. Further, the hyphal texture with a dominance of the wide generative hyphae and very wide scattered skeletal hyphae is most unusual and, as far as we have seen, not reported earlier in the genus. This hyphal construction makes the basidiocarps fleshy when fresh and

fragile when dry. When collected it was not at all suspected to be an *Amauroderma* species, which usually are recognized in the field by their dark colours and stipitate basidiocarps.

Some skeletal hyphae are strongly swollen apically with a structure that may be interpreted as a chlamydospore. Most of these large swellings are smooth, but two were distinctly tuberculate.

Other specimens examined: Brazil, RO, Reserva Biologica do Jaru, 7. Sept. 1987, Leg. M. Capelari, R. Maziero & M.R. Santos no 1570, SP access no 212007.

Corner op. cit. described an *Amauroderma* Sp. C from Belem do Para in Brazil which fits this description fairly well although he indicated somewhat darker colours. However, he reports the basidiocarps as already dried naturally when he found it, which may explain this difference. Our collection was found fresh, slides taken and drying was done most carefully.

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