

New species of marasmioid genera (Basidiomycetes,  
Tricholomataceae) from tropical Africa – V.  
Marasmius violaceoides, a new species based on *M. violaceus*  
Henn. in the sense of Singer

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A new species, *Marasmius violaceoides* (Basidiomycetes, Tricholomataceae), is described for a taxon known in the modern literature as *Marasmius violaceus* Henn. sensu Singer. Revision of the type specimen of *Marasmius violaceus* showed that this taxon belongs to the genus *Gymnopus*.

**Key words:** Basidiomycetes, type revision, *Marasmius*, *M. violaceoides*, *Gymnopus*, Africa, new species.

Antonín V. (2004): Nové druhy marasmioidních rodů (Basidiomycetes, Tricholomataceae) tropické Afriky – V. *Marasmius violaceoides*, nový druh popsáný pro *M. violaceus* Henn. ve smyslu Singera. – Czech Mycol. 56: 247–252

*Marasmius violaceus* ve smyslu R. Singera (Singer 1964, 1965) je popsán jako nový druh, *Marasmius violaceoides*. Typová revize druhu *Marasmius violaceus* Henn. totiž ukázala, že tento druh patří do rodu *Gymnopus* (Pers.) Roussel.

INTRODUCTION

This paper represents the fifth and last part of a series of descriptions of new taxa of marasmioid genera from tropical Africa (Antonín 2003a, b; 2004a, b).

*Marasmius violaceus* Henn. was introduced in the modern literature by Singer (1964, 1965). However, he has never seen fresh carpophores and a type specimen. He studied only herbarium material preserved in the herbarium in Meise (BR, see list below) and probably identified herbarium specimens collected by M. Goossens-Fontana with *M. violaceus* only according to (macroscopic) similarity of both collections. A revision of a type specimen (syntype) of *M. violaceus* from the herbarium in Stockholm (S) showed that it undoubtedly represents a *Gymnopus* species, and clearly differs from *M. violaceus* s. Singer. Therefore,

it is necessary to describe a new species for the fungus called *M. violaceus* by Singer (1964, 1965).

Microscopic features are described from material mounted in Melzer's reagent, Congo Red and about 5 % KOH. For basidiospores the following factors are used: E (quotient of length and width in any one spore) and Q (mean of E-values). Authors of fungal names are cited according to Kirk and Ansell (1992), the herbarium abbreviations according to Holmgren and Keuken (1974). The colour descriptions follow Kornerup and Wanscher (1983).

#### TYPE REVISION OF MARASMIUS VIOLACEUS

**Marasmius violaceus** Henn., Bot. Jahrb. Syst. 23: 549. 1897.

Type specimen revised. Cameroon, Yaounde, in a moist virgin forest on dead leaves, 1 Oct. 1894 leg. G. Zenker 435 (syntype, S F-16255). This specimen consists of several broken carpophores loosely covered by a mould.

Original description by Hennings (1897). Pileo tenui-membranaceo, convexo-campanulato, vertice interdum applanato, radiato-striato, levi, glabro 4-10 cm diametro, margine tenui, pulchro-violaceo; stipite tereti, firmo, farcto, aequali, levi glabroque, violaceo 3-5 cm longo, 3 mm crasso, lamellis adnatis, decurrentibus, sublanceolatis, subconfertis basi interdum anastomosantibus, violaceo-subflavescentibus; sporis subglobosis, levibus 3-5  $\mu$ .

Results of the type revision. Basidiospores 6.0-8.0(-10)  $\times$  4.5-5.2(-6.5)  $\mu$ m, ellipsoid, thin-walled, non-dextrinoid, hyaline. Basidia 25  $\times$  12  $\mu$ m (only one found), 4-spored, clavate. Basidioles up to 30(-35)  $\times$  12  $\mu$ m, clavate, (sub)cylindrical, subfusoid. Cheilocystidia 11-17  $\times$  6.0-9.0  $\mu$ m, clavate, thin-walled, smooth. Pleurocystidia absent. Trama hyphae  $\pm$  cylindrical, thin-walled, non-dextrinoid, hyaline, up to 15  $\mu$ m wide. Pileipellis a cutis composed of cylindrical, radially arranged,  $\pm$  thin-walled, smooth or minutely incrustated, up to 6.0  $\mu$ m wide hyphae; terminal cells  $\pm$  adpressed, cylindrical or clavate. Stipitipellis a cutis consisting of cylindrical, parallel, slightly thick-walled, non-dextrinoid, up to 5.0  $\mu$ m wide hyphae with pale ochraceous walls in KOH. Caulocystidia absent. Clamp-connections present in all tissues.

Conclusions. The microscopic characters mentioned above, especially the structure of the pileipellis and non-dextrinoid hyphae, as well as macroscopic features, agree very well with those of the genus *Gymnopus* (Pers.) Roussel. However, I refrain to make a new combination without detailed studies of this genus in tropical Africa.

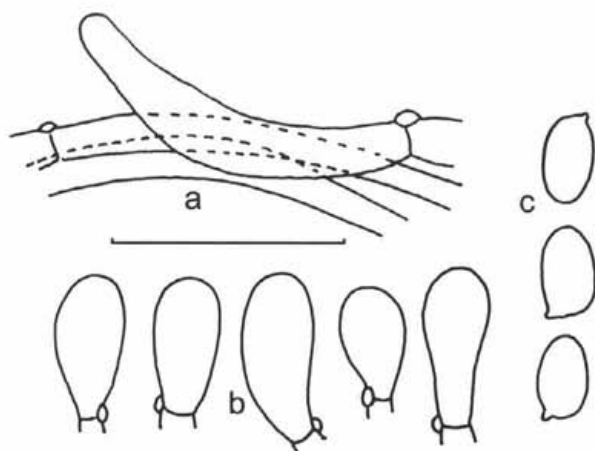


Fig. 1. *Marasmius violaceus* (syntype) - a: pileipellis hyphae, b: cheilocystidia, c: basidiospores. Scale bar = 20  $\mu$ m.

#### DESCRIPTION OF A NEW SPECIES

##### *Marasmius violaceoides* Antonín sp. nov.

Pileo 21–40 mm lato, campanulato, dein subapplanato, cum centro obtuso vel applanato, sulcato, violaceo, violaceo-brunneo, pallide violaceo striato. Lamellis confertis vel subdistantibus, L = 16–20, l = 1–2, albidis vel pallide griseo-aurantiacis, acie concolore. Stipite 110–125  $\times$  2,5–3,5 mm, non-insititio, glabro, apicem violaceo, ad basim usque obscure brunneo. Sporis 15.5–22.3  $\times$  3.3–5.0  $\mu$ m, clavatis, clavato-cylindraccis vel lacrimoideis, hyalinis, inamyloideis. Basidiis tetrasporis. Cheilocystidiis 14–24  $\times$  (4.2–)6,2–9,2  $\mu$ m, clavatis, tenuitunicatis. Pleurocystidiis absentibus. Pileipellis hymeniformis, e cellulis clavatis vel vesiculosis, 18–40  $\times$  11,5–15(–19)  $\mu$ m, laevibus. Pileocystidiis et caulocystidiis absentibus. Hyphis dextrinoideis, fibulatis. Ad folia putrida.

Holotypus: Democratic Republic of Congo, Provincia Equateur, Binga, IV. 1947 leg. M. Goossens-Fontana 680, holotypus in herbario BR 11250–74 (ut *M. violaceus*) asservatur.

Misapplication. *Marasmius violaceus* Henn. s. Singer 1964, 1965.

Pileus 21–40 mm broad, up to 30 mm high, campanulate, then rather applanate, often subumbonate, strongly sulcate except for centre (which is often rugose), striae paler violaceous coloured (pileus striped), sometimes entirely finely veined, glabrous, violaceous, violet brown or brown with slightly violaceous

tinge (11D-F5). Lamellae close to subdistant,  $L = 16-20$ ,  $l = 1-2$ , rounded-adnate to adnate, rather narrow, white, whitish or pale greyish orange ( $\pm 5B3$ ), with concolorous, entire, curved edge. Stipe  $110-125 \times 2.5-3.5$  mm, slightly attenuated towards apex, hollow, smooth, glabrous, distinctly violaceous above, more distinctly brown towards base; basal mycelium tomentose, dirty white or dirty pale ochraceous. Context thin and whitish in pileus, concolorous with surface and fibrillose, subcartilaginous in stipe; smell and taste fungoid [according to Singer (1964, 1965a) and a photograph].

Basidiospores  $15.5-22.3 \times 3.3-5.0 \mu\text{m}$ ,  $E = 3.7-4.9$ ,  $Q = 4.3$ , clavate, cylindrical-clavate to lacrimoid, hyaline, thin-walled. Basidia (28-)  $35.5-49 \times 7.0-10.0 \mu\text{m}$ , 4-spored, clavate. Basidioles  $19-46(-51) \times 5.5-11.5 \mu\text{m}$ , clavate, cylindrical or fusoid. Cheilocystidia  $14-24 \times (4.2-)6.2-9.2 \mu\text{m}$ , clavate, thin-walled, hyaline. Pleurocystidia absent. Hyphae  $\pm$  cylindrical, branched, thin-walled, up to  $11.5 \mu\text{m}$  wide. Pileipellis a hymeniderm composed of  $18-40 \times 11.5-15(-19) \mu\text{m}$ , clavate to (sub)vesiculose, thin- to slightly thick-walled, smooth cells, sometimes covered with a thin gelatinous layer. Stipitipellis a cutis consisting of parallel, cylindrical, slightly thick-walled, up to  $6.0 \mu\text{m}$  wide hyphae, with pale yellowish brownish walls in KOH. Caulocystidia absent. Clamp-connections present in all tissues.

Chemical reactions: all hyphae dextrinoid, other structures and basidiospores non-dextrinoid.

Ecology. Single, on decaying leaves in a marshy forest, on dry soil (terre ferme) and in a rain forest with *Gilbertiodendron dewevrei*.

Distribution. So far known from Cameroon, the Democratic Republic of Congo, Zambia and probably Nigeria.

Revised specimens.

CAMEROON: South West Province, Korup National Park, trail to Rengo Rock, 8 Apr. 1997 leg. P. J. Roberts K934 (K(M) 91512 and BRNM 691108). – DEMOCRATIC REPUBLIC OF CONGO: Equateur Province, Binga, Apr. 1947 leg. M. Goossens-Fontana 680 (holotype, BR 11250-74, as *M. violaceus*). – Tshopo Province, close to Batiabongena (5 km NNE), 16 Apr. 1984 leg. B. Buyck 1444 (BR 11753-16) and 1445 (BR 11752-15). – NIGERIA: ? Cross River State, Cross River, Ikom River, 1 May 1990 leg. R. A. Nicholson 418 (K(M) 16722, as *M. haematocephalus*). – ZAMBIA: Chowo Forest, 10 Dec. 1981 leg. J. Rammeloo 7806 (BR K 4397). – Ibid., leg. J. Rammeloo 7757 (BR K 4351). – Ibid., 7 Dec. 1981 leg. J. Rammeloo 7713 (BR 1999-68).

Remarks. *Marasmius violaceoides* is characterised by having a distinctly campanulate, distinctly sulcate, violaceous, striate pileus, a very long, violaceous tinged stipe, rather large basidiospores, very long basidia, clavate cheilocystidia, pileipellis cells sometimes covered with a thin gelatinous layer, and by the absence of caulocystidia. It belongs to sect. *Globulares* Kühner.

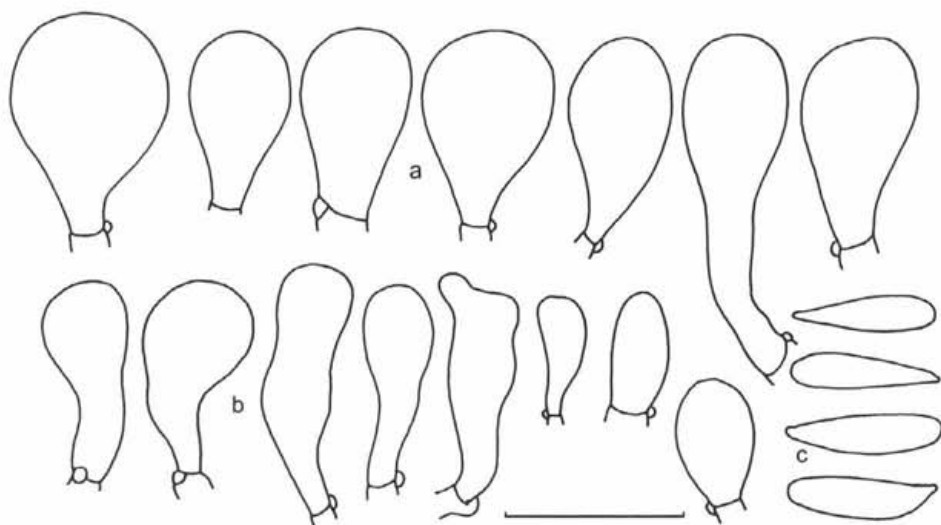


Fig. 2. *Marasmius violaceoides* (Buyck 1444 and 1445, Rammeloo 7757) – a: pileipellis cells, b: cheilocystidia, c: basidiospores. Scale bar = 20  $\mu$ m.

This species was also described by Singer (1964, 1965) and its colour picture by M. Goossens-Fontana was published by Singer (1965: Pl. 44, fig. 5), all under the name of *M. violaceus*.

Compared to other violaceous species without developed pleurocystidia, *M. musiporus* Desjardin et E. Horak has a smaller (8–25 mm), in sulci yellow coloured pileus, a smaller stipe (50–70  $\times$  1–1.5 mm) and very large basidiospores (30–40  $\times$  4.5–5  $\mu$ m); it was described from Papua New Guinea (Desjardin and Horak 1997). *Marasmius purpureostriatus* Hongo, found in Japan and Papua New Guinea, has a larger (15–50 mm), purple and white to cream striped pileus, a stipe without any violaceous tinges and larger basidiospores [19–28(-32)  $\times$  4–6  $\mu$ m] (Desjardin and Horak 1997, isotype ZT!). *Marasmius poromycenoides* Singer (Singer 1976), from South America, has a smaller (11–16 mm), reticulate pileus, strongly anastomosed lamellae, a smaller stipe (35–50  $\times$  1–1.5 mm) and small basidiospores (5.7–6.2  $\times$  3.5–3.8  $\mu$ m).

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