

Studies in marasmioid fungi – VIII. *Marasmius teplicensis*, a new species of the sect. *Sicci* growing in a greenhouse

Studie špičkovitých hub – VIII. *Marasmius teplicensis*, nový druh sekce *Sicci* rostoucí ve skleníku

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A new species, *Marasmius teplicensis* Antonín & Skála, is described from a greenhouse in the Botanical garden in Teplice (Bohemia, Czech Republic). It belongs to the sect. *Sicci*, series *Haematocephali*.

Marasmius teplicensis Antonín & Skála je popsán jako nový druh pro vědu ze skleníku botanické zahrady v Teplicích (Česká republika). Patří do sekce *Sicci*, serie *Haematocephali*.

Species belonging to the large sect. *Sicci* of the genus *Marasmius* mostly grow in tropical and subtropical regions. Only a few of them occur in temperate zone. Some of the tropical species may occur, however, in greenhouses (e.g. Antonín 1988, Antonín, Desjardin & Gsell 1992). An interesting *Marasmius* species was found in the Botanical garden in Teplice in 1989. It differs distinctly from all known species, and is, therefore, described as new.

In the description of the basidiospores, the following abbreviations are used: E, the quotient of the length and width in any one basidiospore, and Q, the mean of E-values.

Marasmius teplicensis Antonín & Skála sp. nov.

Pileus 18-33 mm latus, semiglobatus vel campanulatus, striatus, ochraceo-griseus usque brunneo-griseus. Lamellae remotae (L = 15-20), venis non conjunctae, cremae vel pallide griseo-ochraceae, acie brunnea. Stipes 30-60/1-1,5 mm, laevis, apice cremeus, basin versus brunneus usque brunneo-niger. Basidiosporae 17,5-22 x 3-5 μ m, claviformes usque lacrymiformes. Cheilocystidia 9-19 x 4-9 μ m, statura cellulis pileipellis similia. Pleurocystidia 32-74 x 6-10 μ m, cylindrica vel fusiformia, saepe cuneato-rostrata. Hyphae dextrinoidae, fibulatae. Pileipellis hymeniformis, e cellulis similibus cellulis hymenodermatis *Marasmii sicci* constructa: cellulae 12-22 x 5-12 μ m, apice diverticulis nodulosis, 2-10(-15) μ m longis, flavobrunneis vel brunneis ornatae. Hab. Ad radices palmae *Phoenixis dactyliferae* in callidario horti botanici teplicensis.

Holotypus: Bohemia, Teplice, in horto botanico, 11. II. 1989 E. Skála legit (herbario BRNM No. 553318); eodem loco 3. III. 1989 iterum E. Skála legit (topotypus, item in herbario BRNM No. 553319 asservatur).

Pileus 18-35 mm broad, hemispherical to campanulate, with slightly depressed centre, deeply radially striate, finely tomentose under the lens; ochraceous-grey when young, becoming darker with age (up to brown-grey), with darker centre, without orange or red tinge. Lamellae distant, L = 15-20 (mostly 18-19), lamellulae rare (l = 0-1), free to almost free, sometimes attached to the adnexed pseudocollarium, non-intervenose; cream coloured to pale greyish-ochraceous, with brown edge. Stipe 30-60/1-1.5 mm, thin, hollow, tough, smooth, glabrous, slightly broadened at base, with white mycelial tomentum; cream coloured above, pale brown below when young, then dark brown to black below. Flesh whitish, thin, smell very aromatical on drying.

Basidiospores 17.5-22 x 3-5(-5.7) μm , $E = (3.5-4.0-5.4)$, $Q = 4.9$, narrowly clavate to long drop-shaped, smooth, hyaline, inamyloid, thin-walled. Basidia 23-31 x 7-9 μm , clavate, 4-spored, clamped. Basidioles 16-30 x 4.0-9.0 μm , various in shape, clavate, cylindrical, fusoid, often with a large more or less apical drop, hyaline, clamped. Cheilocystidia 9-19 x 4-9 μm , in form of broom cells of the *Siccus*-type, clavate, clamped, with obtuse, slightly nodulose, yellow-brown, 2-9 x 1-2 μm large projections in upper part. Pleurocystidia 32-74 x 6-10 μm , narrowly cylindrical to narrowly fusoid, often obtusely to subacutely rostrate, clamped, hyaline. Hyphae of context dextrinoid, clamped, cylindrical or rarely slightly inflated, branched, thin-walled and hyaline, 3-17 μm wide; in cortex of stipe 3-8 μm wide, yellow-brown, thick-walled (up to 3.5 μm). Pileipellis hymeniform, composed of clavate broom cells of the *Siccus*-type, 12-22 x 5-12 μm , thin-walled in the basal part, thick-walled and yellow-brown or brown pigmented in upper part and in the nodulose, 2-10(-15) μm long projections.

H a b i t a t : On roots of *Phoenix dactylifera* as well as on bark mixed with peat-loam soil.

C z e c h R e p u b l i c : Teplice, botanical garden, on roots of *Phoenix dactylifera*, 11. II. 1989, E. Skála (BRNM 553318, Holotype). – *ibid.*, on bark mixed with peat-loam soil, 3. III. 1989, E. Skála (BRNM 553319, Holotype).

Marasmius teplicensis belongs to subsect. *Siccini* Sing. by having dextrinoid hyphae, and to the ser. *Haematocephali* Sing. by having well-developed pleurocystidia. It is characterized by the colour of the pileus, rather large basidiospores, long pleurocystidia, and obtuse, rather long projections of the broom cells. So far, it has only been collected in the type locality in the Botanical Garden in Teplice.

In Europe, only *Marasmius siccus* (Schw.) Fr. and *Marasmius skalae* Antonin are related to *M. teplicensis*. However, *Marasmius siccus* differs in having a brightly coloured ochraceous to orange pileus, the mostly concolorous lamellar edge, a developed disc at the stipe base, slightly smaller and narrower basidiospores (13.3-23.4 x 2.5-/3.2-4.4 μm), longer cheilocystidia (8-17 μm), and growing on dead leaves. *Marasmius skalae*, also found in greenhouses only, differs by having a pale, rusty-brown to ochraceous pileus, smaller basidiospores (12-/13-19 x 4-5.2 μm , $E = 2.7-4.0$, $Q = 3.3$), smaller cheilocystidia (10-12 x 4.5-7 μm), larger pleurocystidia (32-92 x 6.5-11 μm), and by growing on soil.

Marasmius fulvoferrugineus Gilliam (specimens studied: U.S.A., Tennessee, Great Smoky Mts. Nat. Park, Cades Cove, Crib Gap, 22. VII. 1991, leg. V. Antonin 91.239; *ibid.*, Gregory Ridge Trail, 29. VII. 1991 leg. V. Antonin 91.271;) from North America has closer lamellae ($L = 23-28$), smaller basidiospores (15-18 x 3-4.5 μm), and absent or rarely developed pleurocystidia. *Marasmius sierraleonensis* Beeli from Africa (Pegler 1977)

differs especially by the dull yellowish to rusty brown pileus, and absence of pleurocystidia. The South-American species *Marasmius hypophaeus* Berk. & Curt. differs by having smaller pileus (7-17 mm), more distant lamellae (L = 11-14), and apically rounded pleurocystidia (Singer 1976; lectotype FH!); *M. montagneanus* Sing. has golden-ochraceous to ferruginous pileus, concolorous lamellar edge, shorter pleurocystidia (27-43 x 5.5-11 µm), and grows on leaves (Singer 1976; holotype, LIL!); *M. tenuisetulosus* (Sing.) Sing. is distinguished by the concolorous edge of the distant lamellae (L = 13-16), smaller basidiospores (14.5-19 x 3-4 µm), and short projections of broom cells (Singer 1964). The macroscopically similar North-American species *Marasmius plicatulus* Peck (specimen studied: U.S.A., Washington, Fort Flagler State Park, 16. X. 1981, leg. G. Mueller, TENN 44672) differs in particular by having smaller basidiospores (11.2-13/-16.6/ x 4.4-6 µm), and absence of pleurocystidia (Desjardin 1987).

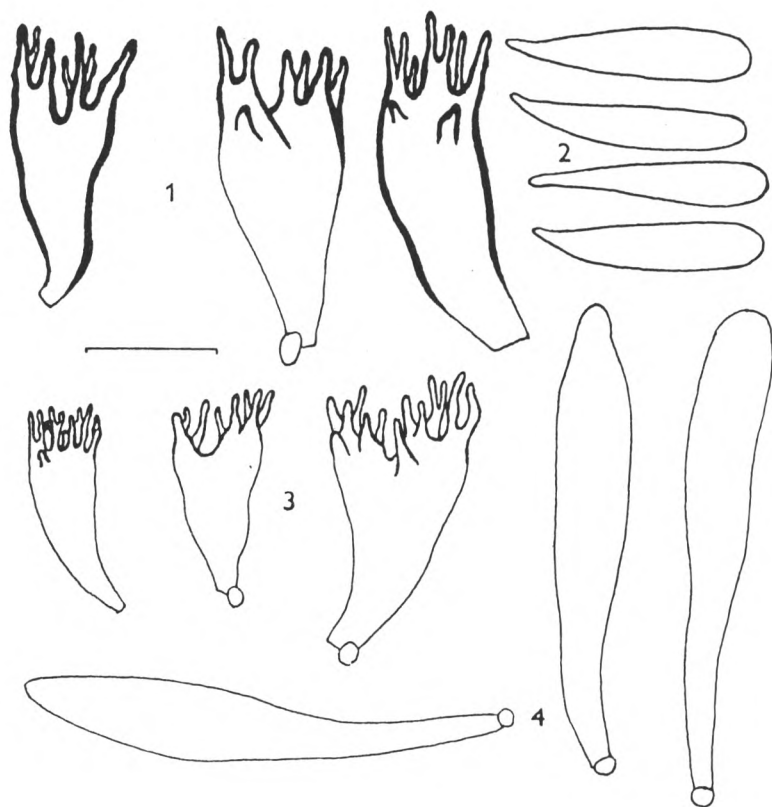
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Marasmius teplicensis (Holotype): 1. broom cells of the pileipellis, 2. basidiospores, 3. cheilocystidia, 4. pleurocystidia. Scale bar = 10 μ m.