266 Persoonia – Volume 33, 2014



Fungal Planet description sheets 267

## Fungal Planet 309 - 24 November 2014

## Marasmius vladimirii A.K. Dutta & K. Acharya, sp. nov.

Etymology. Named after Vladimír Antonín, for the contribution that he has made to further our understanding of the genus Marasmius.

Pileus 25-29 mm diam, convex to broadly convex, orange-scarlet towards margin, disc orange-chestnut, smooth, non-striate; flesh creamy white, thin. Lamellae adnexed, creamy white, 2 mm wide at the middle, thinner towards margin, lamellulae of two tiers, intervenose, edge concolorous; collarium absent. Stipe central, well developed, 2.6-3.8 cm long, 2 mm broad, more or less equal, yellowish apricot from the middle towards lower part, upper portion whitish, hollow, cartilaginous, curved, surface glabrous. Basidiospores  $7.5-11.5(-12) \times 5.5-6.5(-7)$  $\mu$ m ( $X_m = 10.9 \pm 1.7 \times 6.5 \pm 0.6$ , Q = 1.3-2.1,  $Q_m = 1.7 \pm 0.3$ , n = 30, s = 1 specimen), ellipsoid, inamyloid, uni-guttulate, guttulae more or less globose. Basidia 36-40 × 8.5-9 μm, clavate, hyaline, tetrasterigmatic, sterigmata 3-3.5 µm long. Basidioles 36-39 x 11-12 µm, clavate, hyaline. Cheilocystidia present, in the form of Siccus-type of broom cells; main body  $15.5-19(-20) \times 6-8 \mu m$ , more or less clavate, hyaline, thinto thick-walled; apical setulae (5-)8-12(-17) µm long, subacute, thin- to thick-walled. Pleurocystidia absent. Pileipellis a hymeniderm composed of Siccus-type broom cells; main body  $(20-)23-24(-39) \times 7-7.5(-8) \mu m$ , clavate to broadly clavate, regular to irregular in outline, hyaline, thin- to thick-walled, often branched; apical setulae  $(5-)7.5-8(-9) \times 2-2.5 \mu m$ , obtuse to sub-acute, thick-walled, deeply coloured. Pileus trama hyphae interwoven, 4-5 µm broad, hyaline, thin-walled, dextrinoid. Lamellar trama hyphae interwoven, hyaline, thin-walled. Stipitipellis composed of 7.5-8(-11) µm broad, hyaline, smooth, nongelatinous, thin-walled hyphae. Caulocystidia absent. Clamp connections present in all tissues.

Typus. INDIA, West Bengal, Darjeeling district, towards the way of Pandama to Lebong, upon leaf litter mixed humus, 23 July 2012, A.K. Dutta (holotype CUH AMT003; ITS sequence GenBank KF991002, MycoBank MB807384).

Notes — The absence of a collarium and the presence of Siccus-type broom cells in the pileipellis, the absence of pleurocystidia, well-developed long central stipe, and adnexed lamellae suggest that M. vladimirii belongs to sect. Sicci, ser. Leonini. Based on a megablast search of NCBIs GenBank nucleotide database, the closest hits using the 5.8S (partial)-ITS2-28S (partial) sequence had highest similarity to M. hypochroides (GenBank EU935545; Identities = 299/382 (78 %), Gaps = 17/382 (4 %)), M. araucariae var. siccipes (GenBank FJ431223; Identities = 123/135 (91 %), Gaps = 6/135 (4 %)) and M. occultatus (GenBank FJ917622; Identities = 133/150 (89 %), Gaps = 9/150 (6 %)). Marasmius vladimirii differs from M. hypochroides (characterised by a rugulose pileus, brown to dark brown coloured at the disc with a brownish orange to yellowish brown margin, a stipe apex buff with an yellowish brown to reddish brown base, basidiospores  $8-13 \times 5-8 \mu m$ ; Wannathes et al. 2009), in having a pileus coloured orangescarlet towards margin with an orange-chestnut disc, a stipe yellowish apricot towards base and whitish at the upper portion and smaller basidiospores  $(7.5-12 \times 5.5-7 \mu m)$ . The absence of caulocystidia also distinguishes the newly described taxon from M. araucariae var. siccipes (Wannathes et al. 2009). The macroscopically similar M. occultatus, known from eastern Honshu, Japan, differs from M. vladimirii by having a smaller-sized pileus (12-27 mm), the presence of white mycelioid bristles at the stipe base, basidiospores  $14-16 \times 3-4 \mu m$ , and fertile lamellar edge (Takahashi 2000). Marasmius occultatiformis, described from the Republic of Korea, differs from the newly described taxon in having a smaller pileus (12 mm broad) with inflexed margin, smaller basidiospores (7.0-8.5  $\times$  3.5-4.5  $\mu$ m, av. = 7.8 × 4.0  $\mu$ m), different sized cheilocystidia (11–19  $\times$  5–8 µm) and pileipellis cells main body (14–25  $\times$  6–10 µm; Antonín et al. 2012). Another similar taxon, M. abundans, differs by having a paler coloured, grevish orange, golden-yellow, orange, brownish yellow or ferrugineous pileus, and even larger basidiospores (12–18(–20) × 4–5  $\mu$ m; Corner 1996).

Colour illustrations. Collection site at Darjeeling hills, India; basidiomes of Marasmius vladimirii (bar = 10 mm); basidiomata showing lamellae and lamellae (10 mm); Siccus-type cells of pileipellis (10 µm); basidium (10 µm).