

Crinipellis nigrolamellata



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***Crinipellis nigrolamellata* Antonín, Fiard, Ševčíková, Dumez & Courtec., sp. nov.**

Etymology. The epithet refers to the lamellae that become black with age.

Classification — Marasmiaceae, Agaricales, Agaricomycetes.

Pileus 5–10 mm broad, convex-conical to broadly conical with a shallow central umbilicus and involute to inflated margin, then broadly conical with central umbo with distinct umbilicus, distinctly radially fibrillose, fibrils projecting up to 1 mm beyond pileus margin, margin shallowly sulcate, dark brown to black-brown (8F3–5; Kornerup & Wanscher 1978) at centre, other parts brown-argillaceous or brown (6E5), outermost part paler (\pm 8D5) or even dirty whitish in old basidiomata. *Lamellae* moderately close, L = 24–28, l = 3, emarginate and with small tooth, slightly ventricose, (greenish) grey (\pm 5D3), with finely pubescent, at first whitish edge; edge and adjacent parts becoming starchy to entirely black. *Stipe* 15–45 \times 0.5–1(–1.5) mm, cylindrical, very slightly broadened at base, insititious, entirely tomentose to adpressedly hairy, strigose at base, sometimes longitudinally striate, entirely dark brown to black-brown (concolorous with pileus centre). *Rhizomorphs* absent. *Basidiospores* (7.5–)8–9.5(–10) \times (2.7–)3–4 μm , av. 8.7 \times 3.5 μm , E = (2–)2.3–2.8(–2.9), Q = 2.4–2.5, fusoid, lacrimoid, thin-walled, colourless or greyish brownish in KOH, sometimes with one septum, non-dextrinoid. *Basidia* 17–20 \times 6–8 μm , 4-spored, clavate; rare sclerobasidia present, black in KOH. *Basidioles* 13–25 \times 3–9 μm , clavate, subcylindrical, subfusoid. *Cheilocystidia* 11–27 \times 6–8.5(–10) μm , clavate, fusoid, rarely subutriform, mostly with apical projections or (rarely) subcoralloid, less frequently simple, thin- to slightly thick-walled, colourless to often with dark (greyish) blackish contents in KOH. *Pleurocystidia* (17–)20–35 \times 6–9 μm , fusoid, sometimes subrostrate, thin-walled, mostly colourless or pale greyish in KOH. *Pileipellis* (hypotrachium) a cutis composed of cylindrical, thin- to slightly thick-walled, non-dextrinoid, 3–8 μm wide hyphae; pileus hairs up to c. 1300 \times 2–6(–9) μm , cylindrical, obtuse to subacute, thick-walled (walls up to 1.5(–4) μm), often curved especially at base, often septate or with obliterated lumen, dextrinoid, walls reddish brown in H₂O, brown-olivaceous to pale olivaceous in KOH, covered with granular or irregular brown incrustation, more frequently towards base. *Stipitipellis* a cutis composed of cylindrical, slightly thick-walled, 2–5 μm wide, walls \pm colourless or pale brownish in H₂O; stipe hairs similar to pileus ones, 15–600 \times 4–17 μm . *Clamp connections* present.

Habit, Habitat & Distribution — Solitary or in groups on fallen leaves in forests. So far known only from Martinique, France.

Typus. FRANCE, Martinique, Trinité com., Tartane, Point Rouge Reserve, Pointe à Bibi, on leaves of *Pisonia fragrans* (Nyctaginaceae), 3 Nov. 2015, R. Courtecuisse (holotype LIP 0201684, LSU and ITS sequences GenBank MT946361 and MT946363, MycoBank MB836917).

Colour illustrations. Locality (France, Martinique, Caravelle NR). From top to bottom: basidiomata; stipe hair. *Drawing:* basidia, basidiospores, cheilocystidia, pileus hairs, stipe hair, pleurocystidia. Scale bars = 1 cm (basidiomata), 10 μm (all microcharacters).

Additional materials examined. FRANCE, Martinique, Trinité com., Tartane, Caravelle Nature Reserve, Anse Four à Chau, on fallen leaves, 4 Nov. 2015, V. Antonín & R. Courtecuisse (LIP 0201685, LSU and ITS sequences GenBank MT946362 and MT946364); ibid., on fallen leaves, 17 Dec. 2001, J.P. Fiard F2480 (LIP 0701686).

Notes — *Crinipellis nigrolamellata* is characterised by a dark brown to black-brown pileus and stipe, lamellae becoming black, non-dextrinoid, narrow basidiospores, small cheilocystidia mostly with apical projections, well-developed pleurocystidia, and hairs walls reddish brown in H₂O, brown-olivaceous to pale olivaceous in KOH, and covered with brown incrustation. Black coloured lamellae are described in *C. bisulcata* known from Ecuador and Venezuela. It differs by shorter and differently shaped basidiospores, 6.3–8.5 \times 3.1–3.8 μm (mostly 7–8.5 \times 3–3.8 μm) and longer, 37–56 \times 4–7.5 μm , cheilocystidia (Singer 1942). However, Singer mentioned that the black lamellae colour of the type specimen may be caused by a bad preservation – specimens were preserved in alcohol at first and then dried. *Crinipellis brunnescens* also has lamellae brown to black with age or when where bruised. It differs by a smaller stipe, 8–12 \times 0.4–0.8 mm, larger basidiospores, 6–10 \times 4–5 μm and the absence of pleurocystidia (Kerekes & Desjardin 2009).

Other phylogenetically relatively close species never have dark coloured lamellae. Moreover, *C. malesiana* has a brown to brownish orange pileus at the margin with age, larger basidiospores, longer pleurocystidia, larger, mostly simple cheilocystidia (Kerekes & Desjardin 2009); *C. actinophora* also differs by a shorter stipe, the presence of rhizomorphs and the absence of pleurocystidia (Singer 1955, Kerekes & Desjardin 2009); *C. pallidipilus* has golden brown, then pallescent pileus hairs, a shorter stipe, abundant rhizomorphs, larger basidiospores, cheilocystidia with numerous digitate projections and lacks pleurocystidia (Antonín et al. 2014); *C. wandoensis* differs by well-developed rhizomorphs, broader basidiospores and absent pleurocystidia (Antonín et al. 2014).

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence had highest similarity to *Crinipellis* sp. (strain GL-2017, GenBank LT716050.1; Identities = 615/648 (95 %), eight gaps (1 %)) and the type of *Crinipellis pallidipilus* (strain BRNM 751595, GenBank KF380833.1; Identities = 572/603 (95 %), 11 gaps (1 %)). Closest hits using the LSU sequence are *Crinipellis setipes* (strain Bandala 4085, GenBank MN567618.1; Identities = 998/1021 (98 %), 4 gaps (0 %)) and *Crinipellis nigricaulis* (strain G1325, GenBank MK277894.1; Identities = 997/1021 (98 %), 4 gaps (0 %)).

Supplementary material

FP1149 Phylogram: Best tree from the ML analysis of the nrITS dataset for *Crinipellis nigrolamellata* and related species with *Marasmius crinis-equi* as outgroup. Phylogenetic analyses were carried out online at <http://phylogeny.lirmm.fr/> (Dereeper et al. 2008) with PhyML v. 3.0 (Guindon et al. 2010a). Multiple sequence alignments were carried out with MUSCLE v. 3.7 (Edgar 2004). Trees were constructed using TreeDyn v. 198.3 (Chevenet et al. 2006) and edited with the newly generated sequences in **bold**.

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