

Crinipellis mezzanensis, a new species from Italy

VLADIMÍR ANTONÍN^{1*}, ANTONIO TESTONI², MICHAL TOMŠOVSKÝ³

¹Department of Botany, Moravian Museum, Zelný trh 6, CZ-659 37 Brno, Czech Republic;
vantonin@mzm.cz

²G. De Vincenzi 84, I-44122 Ferrara, Italy

³Faculty of Forestry and Wood Technology, Mendel University in Brno, Zemědělská 3,
CZ-613 00 Brno, Czech Republic

*corresponding author

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Crinipellis mezzanensis is described from Mezzano Valley, Ferrara Prov., Italy. It is characterised in having moderately large basidiospores, well-developed simple cheilocystidia, absent pleurocystidia, and green-blue coloured plaques of pileipellis hyphae in KOH.

Key words: *Marasmiaceae*, Basidiomycota, ITS, Mezzano valley.

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Druh *Crinipellis mezzanensis* je popsán z údolí Mezzano v provincii Ferrara v Itálii. Jeho charakteristickými znaky jsou středně velké basidiospory, dobře vyvinuté jednoduché cheilocystidy, absence pleurocystid a hyfy pileipellis se zelenomodře zbarvenými plaky v KOH.

SHORT TAXONOMIC REPORT

***Crinipellis mezzanensis* Antonín, Testoni & Tomšovský, sp. nov.** Figs. 1, 2
(Mycobank MB 811226)

Type material. Italy, Ferrara Prov., Argenta, Valle del Mezzano, xerophytic stand with planted windbreak trees, 20 October 2012, leg. A. Testoni and R. Benea (holotype: BRNM 766629, isotype: herb. A. Testoni 584).

The DNA sequence of the ITS region of the ribosomal RNA gene was deposited in the NCBI database (accession no. KP347691).

Etymology. Named after the Mezzano Valley (Valle del Mezzano), where this fungus was found.

Description. Macroscopic characters. Pileus 20–45 mm broad, convex at first, soon plane, depressed at centre and uplifted at margin which is translucently striate, with umbo within central depression; sericeous grey to light

beige, vinaceous [Kornerup & Wanscher (1983): 10E–F4–5] at centre, gradually pallescent, almost whitish towards margin. Lamellae adnate with tooth, 4–5 mm broad, with lamellulae and anastomosed; whitish cream coloured, with regular concolorous edge. Stipe 35–50 × 2–3(5) mm, cylindrical, but becoming thicker downwards but distinctly attenuated at the base when old, fistulose, longitudinally thin-fibrillose, hairy; white in upper part, brown-grey to brown (7E3–5) towards base. Context very thin, white, with slightly aromatic smell and fungoid taste. Spore print white. Macrochemical reactions: pileus surface greenish with 6% NH₄OH and 5% KOH.

Microscopic characters. Basidiospores (8.0)9.5–10.5(11) × 5.5–6.5(7.0) μm, average 9.6 × 6.3 μm, E (quotient of length and width in any one spore) = 1.23–1.67, Q (mean of E-values) = 1.50, (broadly) ellipsoid or ellipsoid-fusoid, thin-walled, non-dextrinoid. Basidia 35–42 × 9.5–11 μm, 4-spored, clavate, clamped. Basidioles 20–45 × 5.0–11 μm, clavate, cylindrical, subfusoid, clamped. Cheilocystidia 31–60 × 8.0–12 μm, lageniform, fusoid, rostrate, obtuse, thin-walled, clamped. Trama hyphae ± cylindrical, thin-walled, non-dextrinoid, clamped, 3.0–10 μm wide. Pileipellis (hypotrachium) a cutis composed of radially arranged, cylindrical, incrustated (with plaques), slightly thick-walled, non-dextrinoid, 3.0–10 μm wide hyphae; plaques becoming green-blue in KOH. Pileus hairs up to ± 600 × 9.0 μm, cylindrical, irregular at base, often septate and with obliterated lumen, obtuse, thick-walled (walls up to 2.5 μm), dextrinoid, with yellowish greenish walls in KOH. Stipitipellis a cutis of cylindrical, parallel, slightly thick-walled, dextrinoid, clamped, 2.0–4.0 μm wide hyphae. Stipe hairs similar to those of pileus.

Notes. *Crinipellis mezzanensis* is characterised in having moderately large, (broadly) ellipsoid or ellipsoid-fusoid basidiospores, simple cheilocystidia, and by the hymenium lacking pleurocystidia. The green-blue coloured plaques of pileipellis hyphae in KOH also represent a rather unique character. Following Singer's (1986) taxonomic classification, it belongs to sect. *Crinipellis*, subsect. *Crinipellis*.

In comparison with other European species with similar basic characteristics, *C. subtomentosa* (Peck) Singer (= *C. mauretana* Maire) has a different pileus colour, smaller basidiospores [(7.0)7.5–9.6(11) × 4.2–5.5(6.0) μm], and often branched cheilocystidia. *Crinipellis pedemontana* Vizzini, Antonín & Noordel. has slightly smaller basidiospores with a different Q ratio [7.5–9.0(10) × (4.0)4.5–6.0(6.5) μm, Q = 1.7], often branched cheilocystidia, and possesses chlamydospores (Vizzini et al. 2007, Antonín & Noordeloos 2010).

The new species proposed also differs from American species such as *C. cremoricolor* R.L. Schaffer & M.G. Weaver [≡ *C. zonata* var. *cremoricolor* (R.L. Schaffer & M.G. Weaver) Redhead], which has a smaller, 11–21 mm broad,



Fig. 1. *Crinipellis mezzanensis*. Basidiocarps (Italy, Argenta, Valle del Mezzano, holotype). Photo A. Testoni.

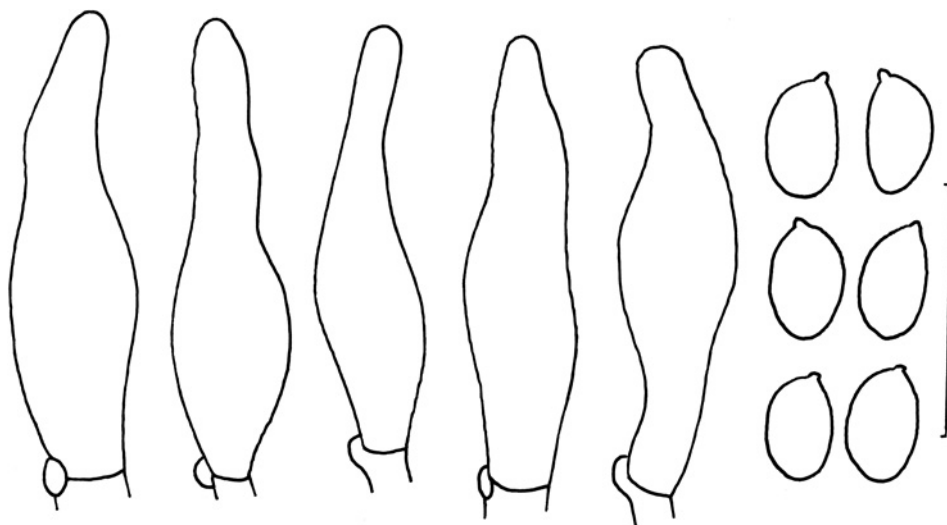


Fig. 2. *Crinipellis mezzanensis* (holotype). Cheilocystidia and basidiospores. Scale bar = 20 μm . Del. V. Antonín.

differently coloured pileus, smaller, differently shaped basidiospores ($4.7\text{--}7.0 \times 3.9\text{--}5.3 \mu\text{m}$) and differently shaped, often branched cheilocystidia (Shaffer & Weaver 1965). *Crinipellis maxima* A.H. Sm. & M.B. Walters has different basidiospores ($7\text{--}12 \times 3.8\text{--}5.5 \mu\text{m}$) (Redhead 1989), and *C. brunneoaurantiaca* Bandala, Montoya & Ryoo smaller basidiocarps with an only (2)3–9 mm broad, at centre orange-brown pileus, a 4–11 \times up to 1 mm large stipe, narrower basidiospores [$8\text{--}10(11) \times (3)4\text{--}4.5(5) \mu\text{m}$, $Q = 2.3$], and its cheilocystidia may have some apical projections (Bandala et al. 2012). *Crinipellis missionensis* Singer differs in having a fuscous and zonate pileus, smaller basidiospores [$(7.5)8.2(9.3) \times (5.4)5.5(6.8) \mu\text{m}$, and smaller cheilocystidia ($30\text{--}42 \times 4.2\text{--}7.5 \mu\text{m}$) (Singer 1976).

The macroscopically similar European species *C. sardoa* Candusso differs by smaller basidiospores [$(7.0)7.5\text{--}9.0) \times (4.0)4.5\text{--}5.7(6.5) \mu\text{m}$] and mostly branched cheilocystidia (Antonín & Noordeloos 2010, Candusso 1986).

The ITS rDNA sequence of the *C. mezzanensis* holotype (KP347691) has the closest BLASTn match (99% – 656/665 identities) with a sequence obtained from a Spanish specimen identified as *C. mauretana* JF907968 (MCVE 6725, the synonym of *C. subtomentosa*) published by Osmudson et al. (2013). Other closely related sequences (*C. zonata* sensu lato) matched $\leq 94\%$.

Revision of the sequenced specimen MCVE 6725 (Spain, La Jonquera, 23 October 1994, leg. G. Robich and F. Bersan, det. G. Robich; identified as *C. mauretana*) showed the following basic microscopic characters: basidiospores ($(7.0)7.5\text{--}9.5(10) \times 5.0\text{--}6.5(7.0) \mu\text{m}$ (50 basidiospores measured), ellipsoid, ellipsoid-fusoid, rarely sublacrimoid, and cheilocystidia $24\text{--}52 \times 9.0\text{--}16 \mu\text{m}$ (20 cheilocystidia measured), fusoid, less frequently clavate, rostrate or with 2–3 apical, up to $14 \times 1.5\text{--}2.0 \mu\text{m}$ large projections, thin-walled. Having these characters, it belongs to *C. tomentosa* (Antonín & Noordeloos 2010) and differs from *C. mezzanensis* due to its smaller basidiospores, and cheilocystidia with often apical projections.

Crinipellis mezzanensis was found in a very special habitat, tending to be xerophytic, with windbreak trees (mostly *Ulmus pumila* and *Populus* sp.) planted in a few rows. The soil is clayey, dark, and covered by ruderal vegetation. Until 1957, the Valle del Mezzano (Valley of Mezzano) used to be an inland lagoon, containing brackish water with marsh plants.

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