

A new species of *Rhodocybe* (*Agaricales, Entolomataceae*) from Catalonia (Iberian Peninsula)

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Abstract: The new species *Rhodocybe catalonica* from Catalonia (NE Iberian Peninsula) is described and discussed. A drawing of the microscopic characters, a scanning micrograph of the basidiospores and a colour illustration of the basidiomata in their natural habitat are given.

Zusammenfassung: Die neue Art *Rhodocybe catalonica* wird von Katalonien (NO der Iberischen Halbinsel) beschrieben und diskutiert. Eine Zeichnung der mikroskopischen Merkmale, ein raster-elektronenmikroskopisches Foto der Basidiosporen und eine Farabbildung der Fruchtkörper am Standort werden gegeben.

Resum: Es descriu *Rhodocybe catalonica*, una nova espècie recol·lectada a Catalunya (NE península Ibèrica). S'aporten comentaris sobre els tàxons més propers, dibuixos de les característiques microscòpiques i fotografies de les espires al microscopi elèctric (FESEM) i dels basidiomes en el seu hàbitat.

Following previous papers, VILA (2007) and VILA & al. (2007, 2008), about the genus *Rhodocybe* in Catalonia, we propose the new species *R. catalonica* VILA, CONTU, A. ORTEGA & F. CABALL., which grows in the same habitat and the same locality as *R. formosa* VILA, CONTU, F. CABALL. & A. ORTEGA and *R. minutispora* VILA, CONTU, A. ORTEGA & F. CABALL. This species was collected from an *Alnus glutinosa* (L.) GAERTN. and *Corylus avellana* L. mixed forest, where *Hedera helix* L., *Rubus ulmifolius* SCHOTT and *Polystichum setiferum* (FORSKAL) MOORE ex WOYNAR are frequent (Lamio-Alnetum glutinosae O. BOLÒS 1954; Polysticho-Coryletum O. BOLÒS 1956). This forest is located in the Serralada de Marina (near Barcelona), at 360 m s. m. In it a dense leaf-litter layer covers the soil. Therefore, the fruiting of saprotrophic agarics is abundant, especially *Mycena* and *Tubaria* species. In addition, several *Entoloma* species, such as *E. phaeodiscum* VILA & F. CABALL. and *E. venustissimum*

VILA & F. CABALL., are also common. For these reasons, we are convinced that this geographical area is of high biological and ecological interest and should be protected by the Environmental Administration of Catalonia. The material examined was included in the herbaria of J. VILA (JVG) and M. CONTU (M.C.). The holotype (LIP-JVG) in LIP (herbarium of the Faculty of Pharmacy and Biological Sciences, University of Lille, France). The spore morphology was recorded using a Field Emission Scanning Electron Microscope (FESEM), Leo (Zeiss), model 1539 Geminis.

***Rhodocybe catalonica* VILA, CONTU, A. ORTEGA & F. CABALL., spec. nova** (Figs. 1-3)
MycoBank MB 512290

Latin diagnosis: Pileus usque ad 12 mm latus, applanato-umbilicatus, flavidus, pallide flavo-brunneus vel cremeo-brunneus, fibrilloso-hirsutus. Lamellae parum confertae, obscure cremeae, cremeo-brunneae deinde flavo-salmoneae. Stipes usque ad 30 × 1 mm, centralis vel leviter excentricus, concoloro pileo, fibrillis albidis obtectus. Sporae 5,3-7,5 × 3,7-4,5 µm, Q = 1,35-1,74, late ellipsoideae vel ellipsoideae, verrucis densis, parvis vel mediis obtectae, haud apicaliter depressae. Basidia 32-40 × 6,4-8 µm, tetraspora. Lamellarum trama regularis, ex hyphis haud dextrinoideis efformata. Cystidia vel pseudocystidia nulla. Pileipellis ex hyphis cylindricis radialibus, siccis, pigmento mixto, intraparietali et incrassanti, 3,2-9,6 µm latis efformata. Hyphae haud fibuligerae. In silva mixta cum *Alnus glutinosa* et *Corylus avellana*, inter Rubos.

Typus: Hispania, Catalonia, Barcelona, Santa Maria de Martorelles, Parc de la Serralada de Marina, 1. 11. 2007, J. VILA & F. CABALLERO (LIP-JVG 1071101, holotypus). Isotypus in JVG 1071101-3.

Characters:

Pileus: up to 12 mm in diam., convex in younger specimens but depressed to umbilicate towards centre, later flattened and slightly umbilicate, sometimes with a small concentrical (circular) depression near the margin; light yellowish brown, mature sometimes with greyish hues, and yellow when younger (mainly in the apical depressed area); surface not striate or hygrophanous, fibrillose to thick fibrillose-tomentose (hairy); first margin scarcely involute, later straight and finally, in older specimens, slightly revolute.

Lamellae: adnate to sinuate and, therefore, decurrent with a little tooth, moderately crowded ($L = 15-20$), thick, slightly ventricose in younger specimens; cream, cream-yellow, later with a faint pinkish hue mixed with yellowish shades; lamellar edge entire and concolorous; lamellulae abundant (1: 3 to 1: 5).

Stipe: up to 30 × 1 mm, central to slightly eccentric, straight or sinuous; ± concolor or slightly darker than pileus, with whitish fibrils, more abundant at lower part; apical part mealy.

Context: very thin in pileus, yellowish or pale brownish; smell not distinctive.

Spores: 5,3-7,5 × 3,7-4,5 µm, average 6,1 × 3,9 µm, Q = 1,35-1,74, average Q = 1,56, broadly ellipsoid to ellipsoid, sometimes (sub)cylindrical, not amyloid or dextrinoid; smooth when immature, when mature with dense, small or moderate warts, not defining an angular perimeter.

Basidia: 4-spored, 32-40 × 6,4-8 µm, narrowly claviform to (sub)cylindrical.

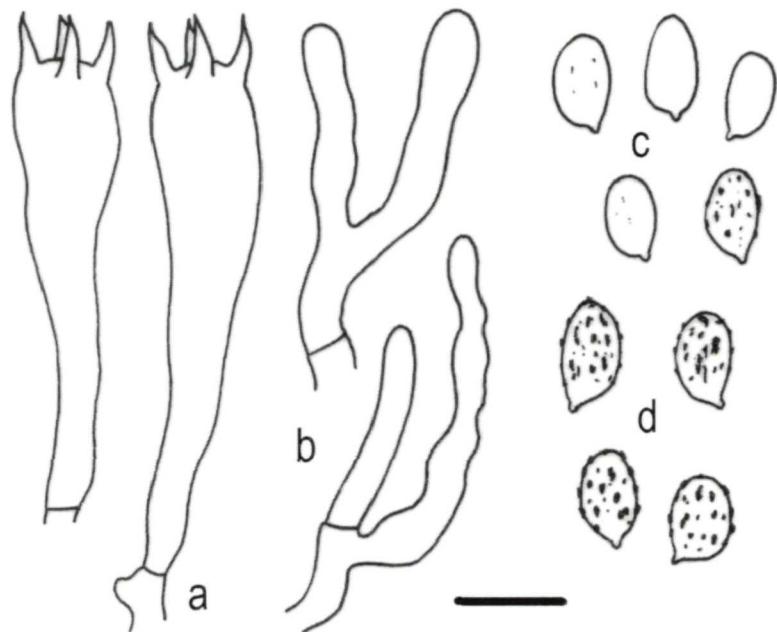


Fig. 1. *Rhodocybe catalonica* (holotype, LIP-JVG 1071101). *a* basidia, *b* hymenial sterile cells, *c* immature spores, *d* mature spores. Bar: 8 µm.

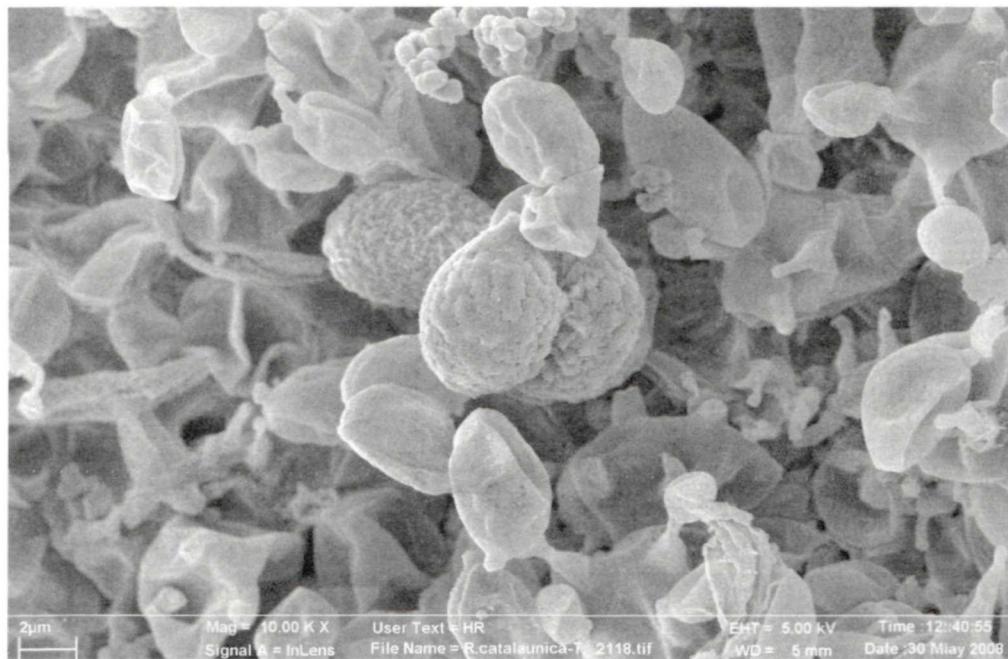


Fig. 2. *Rhodocybe catalonica* (holotype, LIP-JVG 1071101). Scanning (FESEM) micrograph of mature and immature spores.

Clamp connections: not seen.

Pseudocystidia: not seen, although there are several narrowly basidioloid to sinuate sterile cells.

Hymenophoral trama: regular, consisting of brownish cylindrical hyphae, amyloid or dextrinoid elements absent.

Pileipellis: a cutis consisting of multiseptate, cylindrical, 3.2-9.6 µm wide hyphae; pigment yellowish brown, intraparietal and slightly epiparietal encrusted.

Habitat and distribution: on granitic-meteorised soil, with humus and a significant amount of leaf litter of *Rubus ulmifolius*, in *Alnus glutinosa* and *Corylus avellana* woodlands; only known from the type locality.

Material examined: Spain: Catalonia, Barcelona, Santa Maria de Martorelles, Parc de la Serralada de Marina, 1. 11. 2007, J. VILA and F. CABALLERO (LIP-JVG 1071101, holotypus; isotypus in JVG 1071101-3).

Remarks:

According to the morphological taxonomy (BARONI 1981), *Rhodocybe catalonica* belongs in section *Decurrentes* (KONRAD & MAUBLANC) SINGER, on the basis of the lack of cystidia (or pseudocystidia) and clamp connections.

The closest species could be *Rhodocybe griseola* BARONI & HALLING, which is known from Ecuador (BARONI & HALLING 1992). However, *R. griseola* is well distinguished by its larger and slightly warted spores, the hymenophoral trama consisting of hyaline hyphae (brownish in *R. catalonica*) and the pileipellis formed by two different layers, the upper layer with hyaline hyphae. In contrast, *R. catalonica* has a pileipellis formed by a single layer with intra- and epiparietal-encrusted brownish hyphae.

Rhodocybe pallidogrisea BARONI & GATES, was described from Tasmania (BARONI & GATES 2006) and is distinguished by its pileipellis, which is also bistratified (similar to *R. griseola*), and its subglobose and wider (4.7-7.5 × 3.8-5.6 µm) spores (see protologue). In addition, the pileus is not depressed in the centre and presents a more evident greyish colour. The basidia are shorter and the context has a floury smell. The floury smell is similar to that of *R. mairei* BARONI, described from USA (BARONI 1981), and recently recorded from Europe (VILA & al. 2007). However, *R. mairei* is distinguished by the different size and shape of spores (BARONI 1981).

So, we do not know and have not found in literature any other species similar to *Rhodocybe catalonica*, which is easily distinguished on the basis of its particular macro- and micromorphological characters.

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Fig. 3. *Rhodocybe catalonica* (holotype, LIP-JVG 1071101). Basidiomata in situ. Bar: 5 mm. — Phot. J. VILA.

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