
Lyophyllum rosae-mariae sp. nov. (Basidiomycota, Agaricomycetes) from La Palma (Canary Islands, Spain)

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A new species of the genus *Lyophyllum* collected in La Palma (Canary Islands) is taxonomically delimited based on morphological data. A detailed description, microscopic drawings and a colour plate of fresh material is presented. The new species is well circumscribed by its *Lyophyllum semitale*-like habit, black lamellae in dried material and small, smooth, globose, basidiospores.

Key words – Agaricales – Lyophyllaceae – taxonomy

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Introduction

Among the collections of *Lyophyllum* P. Karst. emend. Kühner made in La Palma (Canary Islands) during a long-term field survey of Agaricales, we came across one for which we were not able to find an appropriate name.

The brown, medium-sized basidiomes have distinctly black lamellae *in siccis* and exhibit small, smooth, globose to subglobose basidiospores borne by small basidia, not exceeding 30 µm in length.

The collection was made by Rose Marie Dähncke at an altitude of 1300 m. a.s.l., in a pine forest with *Pinus radiata* Don and consists of several basidiomes in a good state of conservation.

We propose this agaric as a new species, naming it after our friend and colleague Rose Marie Dähncke, who has discovered in La Palma a large number of new taxa of Lyophyllaceae, most of them being the object of other papers in preparation.

Methods

The macroscopic descriptions are drawn from the study of fresh material by A. Vizzini. The microscopic descriptions and all micromorphological data are based on herbarium material revived in 2% KOH and stained in Congo red and Phloxin B. Cotton blue was utilized to highlight the siderophilous granulation in the basidia. Spore size range and mean values are based on the measures of 32 spores.

In the microscopic descriptions the following abbreviation is used: Qm for the average quotient of length and width of the spores.

Abbreviations of author citations follow the Index Fungorum Authors of Fungal Names website (<http://www.indexfungorum.org/Names/AuthorsOfFungalNames.asp>).

Herbarium abbreviations are according to Holmgren and Holmgren (1998). All the material examined is housed at TO-HG (Herbarium generale del Dipartimento di

Biologia Vegetale, Università degli Studi di Torino, Italy).

The Latin description of the new species has been deposited in Mycobank (<http://www.mycobank.org/DefaultPage.aspx>).

Results

Lyophyllum rosae-mariae Contu & Vizzini, **sp. nov.** Figs 1–4
Mycobank 515100

Etymology – named after the contemporary amateur mycologist Rose Marie Dähncke, who has studied the mycota of central Europe and Canary Islands over many years, discovering a large number of interesting species, including some new ones.

Pileus 3–5.5 cm latus, parce carnosus, convexus, ad medium interdum obtuse umbonatus, brunneus, levis, siccus, haud striatus. Lamellae modice confertae, uncinato-adnatae, griseo-brunneae, tactu brunnescentes, in sicco nigrae. Stipes 4–4.5 × 0.8–0.9 cm, cylindricus sed ad basim leviter inflatus, griseo-brunneus, fibrillosus. Caro parce conspicua, brunnea, in siccis nigrescens. Odor saporque debiles. Sporae 3.5–4.5 × 3–4.2 µm, hyalinae, subglobulosae vel globulosae, leves. Basidia 22–30 × 6–7.5 µm, tetraspora. Cellule marginales nullae vel incospicuae. Pilei cutis ex hyphis iacentibus, radialibus, 2.5–5 µm latis efformata, suprapellis gelata. Fibulae numerosae.

Holotypus – Hispania, Insulae Canariae, in insula La Palma dicta, ad locum dictum Pared Vieja, 15.X.2001, leg. R.M. Dähncke (TO HG1724).

Pileus 3–5.5 cm, not very fleshy, not cartilaginous, convex with a subparaboloid margin, not or obtusely umbonate, hygrophorous, ochraceous-brown when wet, and fading to paler hues, smooth, dry, not striate. Lamellae normally crowded, thickish, uncinato-adnate, brownish grey, taking a wood-brown tinge when handled but not bluing afterwards. Stipe 4–4.5 × 0.8–0.9 cm, cylindrical, slightly enlarged downwards, pale brown, appressed fibrillose, apex covered by a white pruina. Context thin, ochraceous-brown in the pileus, paler in the stipe. Smell and taste faint. Dried material brown except for the blackish lamellae.

Spores [n. = 32] 3.5–4.5 × 3–4.2 µm, on average 4 × 3.5 µm, Qm = 1.1, hyaline, cyanophilous, globose to subglobose, usually with a single large oil-drop, smooth, thick-walled when old (Fig. 2). Basidia 22–30 × 6–7.5 µm, four-spored, clavate (Fig. 3), with siderophilous granulation becoming well visible also in cotton blue; subhymenium ramoso to subcellular. Hymenophoral trama regular, made up of thin, hyaline hyphae. Cystidia and marginal cells none. Pileipellis consisting of a differentiated cutis of radially arranged, 2.5–5 µm wide, smooth, cylindrical hyphae, with intraparietal pigment (Fig. 4); suprapellis an ixocutis. Clamps present at all septa. Thromboplerous hyphae not seen.

Known distribution – Canary Islands, Spain.

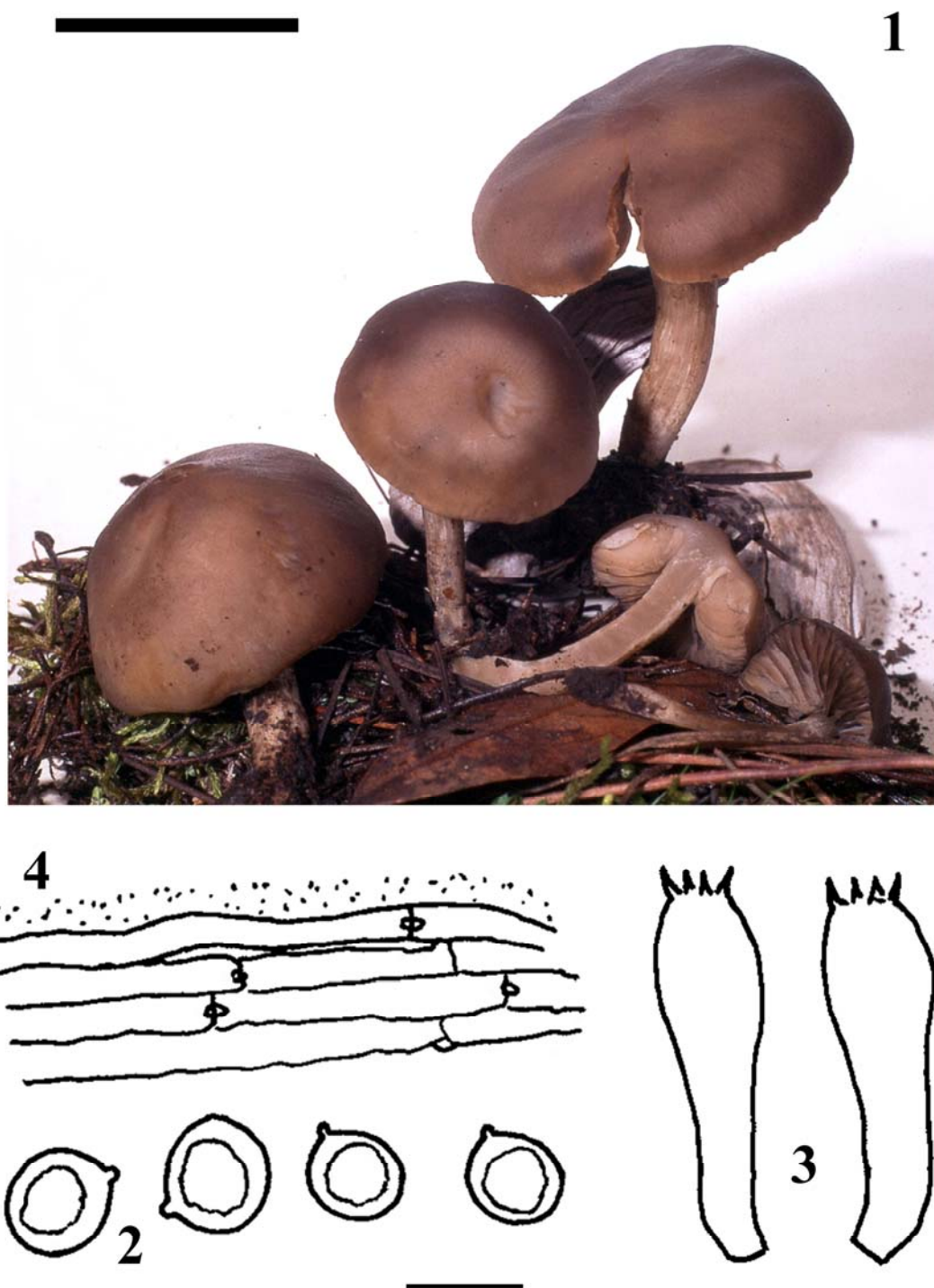
Material examined – Spain, Canary Islands, La Palma, Pared Vieja, in a pine wood with *P. radiata*, 1300 m. a.s.l., 15 Oct. 2001, leg. RM Dähncke (TO HG1724, holotypus).

Discussion

This species is characterized by browning lamellae which become black only in dried specimens, a brown, smooth, convex pileus, the context lacking any smell and taste and, micro-morphologically, by the small, smooth mostly globose basidiospores, not exceeding 6 µm in length, the small basidia, and the gelatinized suprapellis.

No taxa exhibiting a similar suite of features is reported in the European literature. *Lyophyllum helvella* (Boud.) Cléménçon is easily separated by the darker tinges of the pileus, the usually revolute pileus margin, the grey, not browning lamellae, the compact context and, microscopically, by the larger size of both basidiospores and basidia and the more distinctly gelatinized suprapellis (Cléménçon, 1983, 1986, Bon 1999, Musumeci & Contu 2008).

Lyophyllum subeustygium Fern. Sas., Pérez-De-Greg. & Contu, known only from Spain, differs in having darker tinges in the pileus, grey lamellae which discolour black when handled or bruised, darker, often rooting stipe, mealy-smelling context and larger, subglobose to broadly ellipsoid basidiospores borne by bigger basidia (Fernandez-



Figs 1–4 *Lyophyllum rosae-mariae* (TO HG1724, holotypus). 1 Basidiomes. 2 Spores. 3 Basidia. 4 Pileipellis. Bars: 1 = 3 cm; 2–4 = 5 μ m.

Sasia et al. 2004, Lopez Alvarez & Rodriguez Diaz 2008). The similar *L. eustygium* (Cooke) Clémençon has paler tinges all over and larger basidiospores and basidia (Clémençon 1982a, 1986, Bon 1999).

Lyophyllum paelochroum Clémençon has brown tinges both in pileus and stipe, but its lamellae and context blacken right away when bruised, the context has a mealy smell and taste

and basidia and spores are much larger (Clémençon 1982b) *L. amariusculum* Clémençon, which is very similar to the former, differs in the very same features and, additionally, for the darker tinges in pileus, stipe and gills and in the bitter taste (Clémençon 1982a, 1986, Bon 1999, Consiglio & Contu 2002).

Among the extra-European species keyed out by Cléménçon & Smith (1983), we have excluded *L. leptosarx* Cléménçon & A.H. Sm. on account of its fuscous then greyish pileus, clearly bluing context, naked, not fibrillose stipe, context strongly smelling like “green corn”, larger and stouter basidia and bigger basidiospores, which are described as broadly ellipsoid, “5.4-7.2 × 4.5-5.9 μm” in the protologue, and *L. ochrocinerascens* Cléménçon & A.H. Sm. on the grounds of its shortly-decurrent, grey-staining lamellae, the white-pruinose, yellowish then greyish pileus and the much larger basidiospores and basidia.

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References

- Bon M 1999 – Flore Mycologique d’Europe. Les Collybio-marasmioides et ressemblants. Documents Mycologiques Mémoire hors-série n. 5. Amiens, 1–171.
- Cléménçon H 1982a – Type studies and typifications in *Lyophyllum* (Agaricales). I. Staining species. Mycotaxon 15, 67–94.
- Cléménçon H 1982b – A new species of *Lyophyllum* (Agaricales) from Europe. Nova Hedwigia 36, 125–128.
- Cléménçon H 1983 – Un nouveau *Lyophyllum* noirissant. Mycologia Helvetica 1, 39–41.
- Cléménçon H 1986 – Schwärzende *Lyophyllum*-Arten Europas. Zeitschrift für Mykologie 52, 61–84.
- Cléménçon H, Smith AH 1983 – New species of *Lyophyllum* (Agaricales) from North America and a key to the known staining species. Mycotaxon 17, 379–437.
- Consiglio G, Contu M 2002 – Il genere *Lyophyllum* P. Karst. emend. Kühner, in Italia. Rivista di Micologia 45, 99–181.
- Fernandez-Sasia R, Pérez de Gregorio M-A, Contu M 2004 – Una nuova specie di *Lyophyllum* (Tricholomataceae) a carne annerente dalla Spagna. Micologia e Vegetazione Mediterranea 19(1), 3–8.
- Holmgren PK, Holmgren NH 1998 – (continuously updated). Index Herbariorum. A global directory of public herbaria and associated staff. New York Botanical Garden’s Virtual Herbarium. <http://sweetgum.nybg.org/ih/> (accessed 15/April/2010).
- Lopez Alvarez C, Rodriguez Diaz J. 2008 – Contribucion al conocimiento del *Lyophyllum subeustygium*: primera cita en el Principato de Asturias(España). Micologia e Vegetazione Mediterranea 23, 126–134.
- Musumeci E, Contu M. 2008 – 110 anni dopo Boudier – Un’ulteriore stazione di *Lyophyllum helvella* in Francia. Schweizerische Zeitschrift für Pilzkunde 86, 46–50.