

***Cotylidia muscigena*, a new record from Canary Islands**

F. ARENAL¹, M. VILLARREAL² & V. RUBIO²

¹ *PharmaMar, S.A.U. Microbiology Dpt. R&D Drug Discovery.
Edificio Parque Científico de Madrid (PCM). Santiago Grisolia, 2. PTM 28760
Tres Cantos, Madrid (Spain).*

² *Dpto. de Protección Vegetal. Centro Ciencias Medioambientales (CCMA-CSIC).
Serrano, 115, E-28006 Madrid, Spain.
E-mail: farenal@pharmamar.com, mvillarr@ccma.csic.es*

Résumé – *Cotylidia muscigena* L. Remy à été récolté à La Palma (Îles Canaries). C'est la première citation de cette espèce en dehors de la région alpine-boréale du continent européen. Le matériel examiné est décrit et illustré.

Abstract – *Cotylidia muscigena* L. Remy is reported from La Palma (Canary Islands). This is the first record of this taxon, out of the alpine-boreal areas of the European continent. A description and illustration of the material studied, as well as a colour photograph, are provided.

***Cotylidia* / *Podoscyphaceae* / *Hymenochaetoid* clade / Canary Islands / La Palma Island**

INTRODUCTION

Cotylidia muscigena is a rare species known originally from France, Finland and Norway, at alpine-boreal areas. This report represents the first record of this taxon outside of the alpine-boreal areas, indicating that it probably is widespread and has a wider ecology that previously assumed, but may be overlooked on account of the small basidiocarps. It was found in the Canary Islands (La Palma Island) at the Los Tilos World Biosphere Reserve, in a montane lauroid temperate forest (*Pruno-Lauretalia* Oberd. 1965) of the Macaronesian Region (Azores, Madeira and Canary Islands). This kind of forests had its origin at the temperate-subtropical flora, extant at the end of the Tertiary Era in the Mediterranean Region, and disappeared along the Pleistocene glaciations. Its present geographical location at the Canary Islands, between 400-1000 m altitude at the northern and north-eastern slopes, is influenced by the horizontal precipitation phenomenon originated by the humid Atlantic winds (aliseos) (Bramwell & Bramwell, 1990). So this region, due to its special ecological features, constitute a very different habitat and ecology from the original alpine-boreal area.

* Correspondence and reprints: farenal@pharmamar.com

MATERIALS AND METHODS

The description of *C. muscigena* has been made based on the examination of one collection with numerous fresh basidiomata (8) in different stages of development. Specimens were prepared on slides with lactophenol cotton blue and observed under a Nikon Labophot-2 light microscope. Drawings were made with the aid of a camera lucida device and photographs were taken with a digital camera Kyocera Finecam S4, at highest macro magnification. All the authors names are abbreviated according to Index Fungorum (<http://www.indexfungorum.org/Names/Names.asp>).

RESULTS

Cotylidia muscigena L. Remy, *Bull. trimest. Soc. mycol. Fr.* 53(4): 469. 1964

Basidiocarp single or in pairs, pileus flabelliform (it is not necessary to say pileate when you then tell that the pileus is so and so) to spatulate, rarely entire, frequently deeply lobulate, erected or inflexed pseudoinfunduliform, 2-5 mm, thin, papery, whitish to pale ochraceous, slightly zonate, hairy above by projecting pilocystidia (under the lens), margin involute or revolute, deeply lacinate. Hymenial surface smooth, setulose under the lens, paler than the pileus. Stipe 2-5 × 0.2-0.4 µm, cylindrical, equal, somewhat bulbous at the substrata attachment, whitish to beige, somewhat darker than the pileus, very hairy by hyphae and caulocystidia, with whitish mycelial cords. Context very thin, white. Smell and taste absent.

Basidiospores 5-7 × 2-2.5 µm, lacrymoid to subcylindrical, smooth, thin walled, inamyloid, non cyanophilous, with a poorly developed hilar appendix. Basidia narrowly clavate, 15-20 × 4-5 µm, 4-spored, with short sterigmata up to 1.5 µm long, forming a dense, phleboid palisade Cystidia numerous through the hymenial surface, hyaline, thin to slightly thick walled (– 1.2 µm), very protruding, up to 120 µm long and 6-12 µm wide, rarely septate, sometimes encrusted apically with oxalate-calcium crystals. Hyphae of the pileipellis 1.5-2.5 µm wide, hyaline, straight, parallel, very compacted, thin walled, simple-septate, supporting numerous cylindrical to claviform pilocystidia shorter than hymenial cystidia, aseptate. Hyphae of the stipe similar to the cuticle, with long cylindrical to filiform caulocystidia indistinctly septate, up to 150 µm long. Hyphal system monomitic, sparsely branched in the trama, densely branched and interwoven in the subhymenium. Clamp connections absent at all septa.

Habitat: Under *Erica arborea* L., *Laurus azorica* (Seub.) Franco and *Apollonias barbujana* (Cav.) Borne forest, between mosses.

Material studied: Spain, Canary Islands, La Palma Island, Road to Casa del Monte, 800 m.; 27 Jan 2005. F. Arenal & M. Villarreal. AH33908 (8 basidiocarps).

DISCUSSION

The genus *Cotylidia* currently includes 12 species with papery flesh texture, monomitic hyphal system, absence of clamp connections, inamyloid spores and long protruding hymenial cystidia (Boidin *et al.*, 1998; Lonati, 2000).

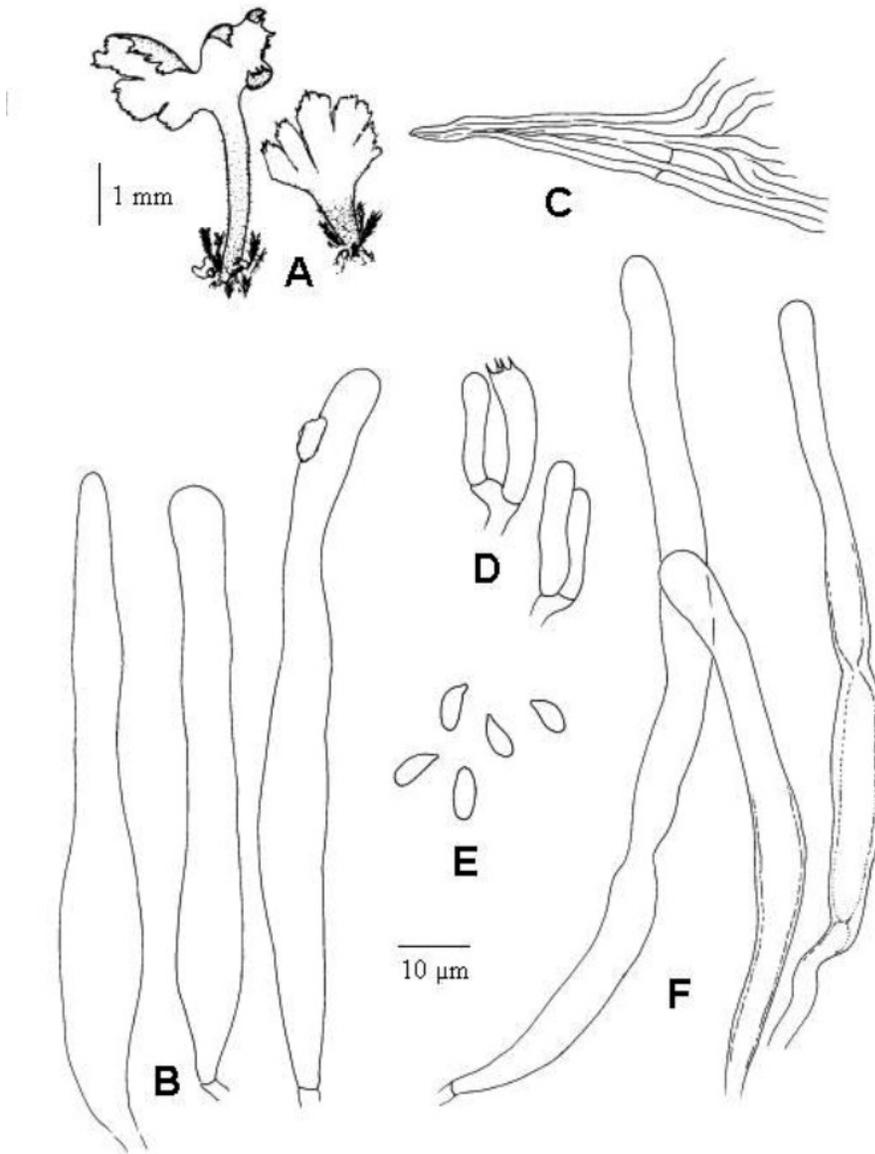


Fig. 1. *Cotylidia muscigena* L. Remy. **A.** Basidiomata **B.** Detail of a lacinia in the pileipellis **C.** Hymenial cystidia **D.** Basidium and basidioles **E.** Basidiospores **F.** Caulocystidia. Bars; 1 mm for macroscopy and 10 µm for microscopic features.

For a long time the genus was included in the *Thelephoraceae* (Welden, 1958), but after the genus was transferred to *Podoscyphaceae* (Reid, 1965) together with genera such as *Cymatoderma*, *Podoscypha*, *Steropsis* and *Inflatostereum* and it always has been treated under the stipitate steroid fungi. Recent molecular studies



Fig. 2. *Cotylidia muscigena* L. Remy. AH33908. Bar 1 mm.

in the Aphyllophorales show that genera *Cymatoderma*, *Podoscypha*, *Hypochnicium* and *Sarcodontia* are monophyletic, and should be included in the order Podoscyphales (Boidin *et al.*, 1998; Kim & Jung, 2000). However *Cotylidia* represents a different *phylum* as it is included in the hymenochaetoid clade, together with some other gilled bryophilous agaricoid taxa such as *Contumyces*, *Loreleia*, *Rickenella* or *Sphagnomphalia* (Moncalvo *et al.*, 2002).

C. muscigena differs from *C. undulata* (Fr.) P. Karsten on the absence of greyish-yellow or grey-brown colours, longer cystidia and cylindrical to lacrymoid basidiospores (ellipsoid in *C. undulata*). A macroscopically similar species is *C. carpatica* (Pilát) Huijsman that differs by shorter spores and cystidia, while *C. guttulata* L. Remy that differs in having yellow-ochraceous pileus, shorter cystidia and guttulated spores. A recently described species, *C. marsicana* Lonati, differs in size, shorter hymenial cystidia, different spore shape and very different ecology (Lonati, 2000).

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