



## *Marasmiellus celebanticus* (Agaricales, Omphalotaceae), a new species of *Marasmiellus* sect. *Candidi* collected in the Mediterranean area

MIQUEL-ANGEL PÉREZ-DE-GREGORIO<sup>1,\*</sup>, ALFREDO VIZZINI<sup>2,\*.§</sup>, MARCO CONTU<sup>3</sup>, CARLES ROQUÉ<sup>4</sup> & ENRICO ERCOLE<sup>2</sup>

<sup>1</sup>Pau Casals 6, 1.1ª, E-17001 Girona, Spain. E-mail: miquelpg@gmail.com

<sup>2</sup>Dipartimento di Biologia Vegetale, Università di Torino, Viale Mattioli 25, 10125 Torino, Italy. E-mail: alfredo.vizzini@unito.it

<sup>3</sup>Via Marmilla 12, 07026 Olbia (OT), Italy. E-mail: mecontu@interfree.it

<sup>4</sup>Facultat de Ciències. Dpto. Ciències Ambientals. Universitat de Girona. Campus Montilivi s/n, E-17071 Girona, Spain. E-mail: scutellinia@gmail.com

\*These authors contributed equally to this work

§Corresponding author

### Abstract

*Marasmiellus celebanticus*, collected in the coastal area of northeast Spain, is illustrated and described as a new species on the basis of morphological features and ITS sequence analysis. According to molecular data it is close to *M. candidus* in section *Candidi*, in which it occupies an isolated position due to its brown pileus and clavate cheilocystidia.

**Key words:** Basidiomycota, Agaricomycetes, marasmioid fungi, taxonomy, Spain

### Introduction

The genus *Marasmiellus* Murrill (Agaricales, Omphalotaceae) traditionally encompasses fungi characterized macroscopically by collybioid or omphalioid basidiomes with white, yellowish, pinkish or brownish pilei and insititious stipes usually pale at apex and darkening towards the base. Microscopically, members of *Marasmiellus* form hyaline, smooth, thin-walled and inamyloid spores, cheilocystidia are often present while pleurocystidia, on the contrary, are usually absent, and the pileipellis is a cutis, sometimes with transition to a trichoderm, with or without a well-developed *Rameales*-structure (elements with diverticulate or finger-like projections). The species so far known are usually gregarious, saprobic, more rarely phytoparasitic, and grow on all kinds of plants, and in some cases they are host-specific (Singer 1973, 1986, Pegler 1977, 1983, 1986, Corner 1996, Desjardin 1985, 1987, 1997, Antonín & Noordeloos 1993, 2010).

Species characterized by tetrahedral spores or with a conspicuous lateral bulge, by cheilocystidia and pileocystidia that are diverticulate and often with a capitate terminus, and a pileipellis of densely diverticulate hyphae, included by Singer (1973) in sect. *Nigripedes* Singer, were later segregated by Horak (1987) in the new genus *Tetrapyrgos* E.Horak (= *Pterospora* Métrod, 1949, *nom. ill.*). This taxonomic placement was supported by Wilson & Desjardin (2005) based on molecular data (nLSU rDNA sequences).

*Marasmiellus* includes about 250 species distributed almost worldwide (Kirk *et al.* 2008). Mata *et al.* (2004, 2006) and Wilson & Desjardin (2005) have shown its polyphyletic nature. According to Wilson & Desjardin (2005) and Antonín *et al.* (2010), *M. juniperinus* Murrill, the type species of *Marasmiellus*, clusters with species of *Gymnopus* (Pers.) Roussel sect. *Vestipedes* (Fr.) Antonín, Halling & Noordel. in the *Marasmiellus* clade, whereas *M. candidus* and allied species, form together with *Tetrapyrgos* (type: *T. atrocyanea* (Métrod) E.Horak) species, the *Tetrapyrgos* clade.