

## Contribution to a monograph of marasmioid and collybioid fungi in Europe

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While preparing a new edition of the book *A Monograph of marasmioid and collybioid fungi in Europe*, the authors publish new taxonomic findings, which will be included there. One taxon, *Marasmiellus corsicus* Noordel., Antonín & Moreau, from Corsica, is described as a new species, two new names, *Gymnopus bisporiger* Antonín & Noordel. and *Marasmiellus maritimus* Contu & Noordel., and 10 new combinations in the genera *Gymnopus* and *Mycetinis* are proposed.

**Key words:** *Marasmiellus*, *Gymnopus*, *Mycetinis*, new species, new combinations, taxonomy.

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V rámci přípravy nové verze monografie marasmioidních a collybioidních hub v Evropě jsou publikovány taxonomické novinky, které se objeví v této knize. Je popsán jeden nový druh, *Marasmiellus corsicus* Noordel., Antonín & Moreau z Korsiky, jsou navržena dvě nová jména, *Gymnopus bisporiger* Antonín & Noordel. a *Marasmiellus maritimus* Contu & Noordel., a deset nových kombinací v rodech *Gymnopus* a *Mycetinis*.

### INTRODUCTION

Since the publication of our monographs on marasmioid and collybioid fungi in Europe (Antonín and Noordeloos 1993, 1997) a critical new edition has become necessary in order to include new species, new records, and changed taxonomic concepts in the groups concerned. Phylogenetic studies using molecular markers (e. g. Mata et al. 2004, Matheny et al. 2006, Moncalvo et al. 2002, Owings and Desjardin 1997, Wilson and Desjardin 2005) have radically changed our insight in the generic relationships, and forced us to re-evaluate morphological and ecological characters which formed the base of earlier classifications. As a result some new generic concepts have been accepted by Antonín and Noordeloos (2008), such as *Mycetinis* Earle for *Marasmius* section *Alliacei* Kühner, and the re-installment of the generic name *Gloiocephala* Masee. The present paper describes

a new species of the genus *Marasmiellus* from the island of Corsica, France, and lists a number of new names and combinations to be included in the monograph.

## RESULTS

### NEW SPECIES

***Marasmiellus corsicus*** Noordel., Antonín & Moreau, **spec. nov.**

Fig. 1

(MycoBank MB511557)

**Latin diagnosis.** Pileus 10–15 mm latus, convexus, margine deflexus, haud hygrophanus, haud striatus, cremeus vel pallide brunneus, minute squamulosus. Lamellae medio distantes, adnate-emarginatae, cremeae, acie flocculosae. Stipes 15–20 × 1 mm, cylindraceus, pseudoinstitutus, pallide brunneus, minute albo-pruinosis. Carne membranacea. Odor saporque inconspicuus. Sporae 9,0–12,5 × 3,5–4,5 µm, E = 2,5–3,3, Q = 2,8, ellipsoideae vel cylindraceae, tenuitunicatae, inamyloideae. Basidia tetrasporigera, 24–32 × 7,0–8,0 µm, basim fibulata. Acies lamellarum steriles. Cheilocystidia 18–32 × 10–15 µm, clavata. Pileipellis cutis vel trichoderma e hyphis diverticulatis constituta. Caulocystidia abundantia, clavata, 21–38 × 8,0–12 µm. Fibulae praesentes. Ad lignam *Quercus ilicis*.

**Holotypus** (hic designatus): Gallia, Corsica, Porticcio, 4. XI. 2000, P.-A. Moreau 00110414 (in herbario L asservatur).

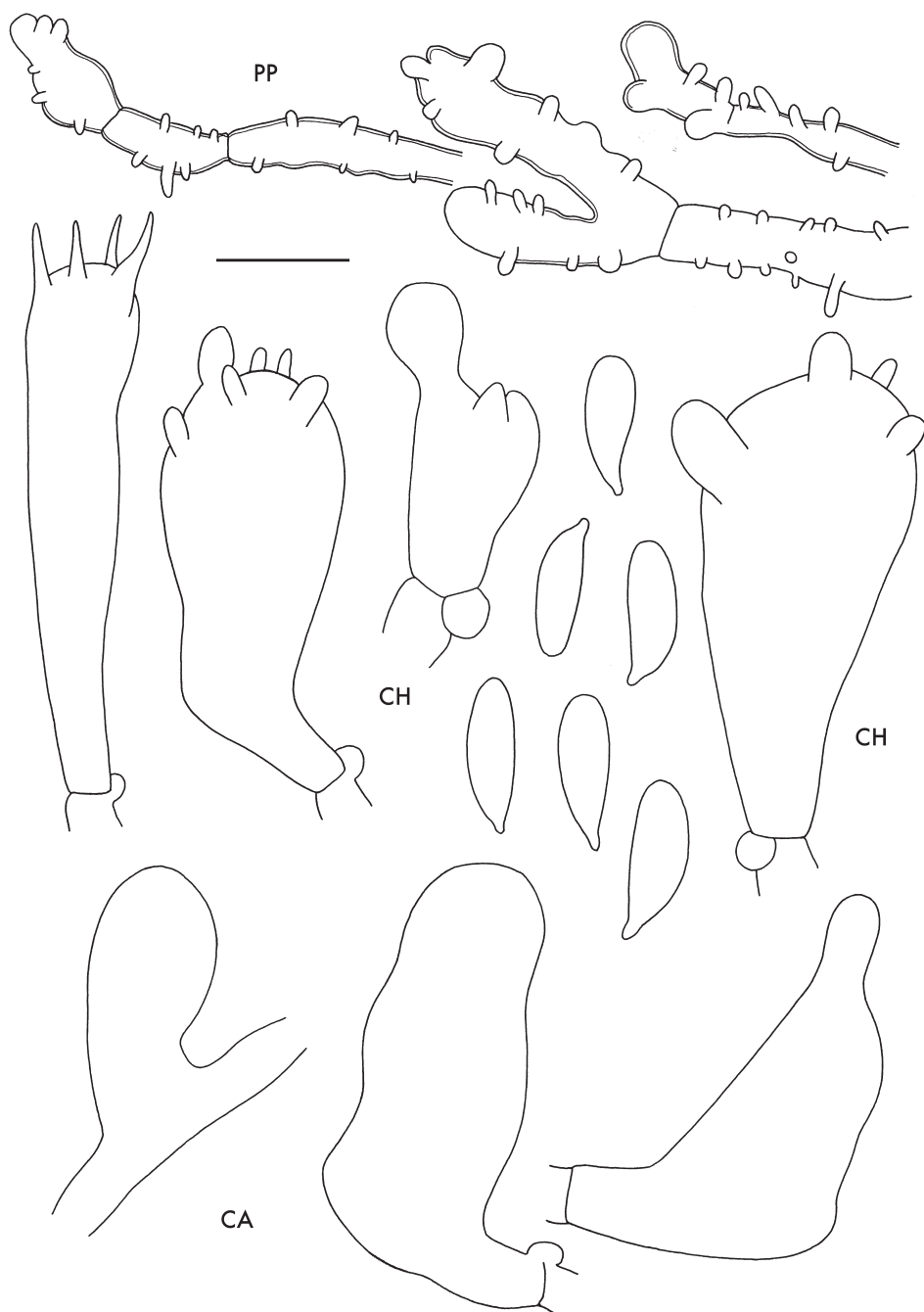
**Etymology.** Named after the island of Corsica, France.

**Pileus** 10–15 mm broad, convex with deflexed margin, not hygrophanous, not translucently striate, creamy pale brown with minute darker squamules, particularly at centre. **Lamellae** moderately distant, L = about 25, l = 3–5, adnate-emarginate, white to cream with flocculose, concolorous edge. **Stipe** 15–20 × 1 mm, cylindrical, pseudoinstitious, pale brown, densely white pruinose all over. **Context** thin. **Smell** and **taste** indistinct.

**Spores** 9.0–12.5 × 3.5–4.5 µm, E = 2.5–3.3, Q = 2.8, narrowly ellipsoid to cylindrical, thin-walled. **Basidia** 24–32 × 7.0–8.0 µm, 4-spored. **Lamella** edge sterile. **Cheilocystidia** 18–32 × 10–15 µm, clavate, weakly ‘en brosse’ (broom-cells) with few to many finger-like apical excrescences. **Pleurocystidia** none. **Hymenophoral trama** regular, made up of thin-walled, cylindrical, up to 6.0 µm wide hyphae. **Pileipellis** a cutis to trichoderm of radially arranged, more or less thin-walled, up to 8.0 µm wide, cylindrical, diverticulate hyphae with brownish zebra-incrusting pigment. **Pileitrama** regular, made up of cylindrical, up to 7.0 µm wide hyphae. **Stipitipellis** a cutis of parallel, slightly thick-walled, up to 5.0 µm wide hyphae with abundant irregularly clavate **caulocystidia**, 21–38 × 8.0–12 µm. **Clamp-connections** abundant.

**Chemical reaction.** No part of basidiocarp amyloid or dextrinoid.

**Habitat.** Saprotrophic on twigs of *Quercus ilex*.



**Fig. 1.** *Marasmiellus corsicus*. Pileipellis (PP), basidium, cheilocystidia (CH), spores, caulocystidia (CA). Bar = 10  $\mu$ m. All figures from holotype.

Collection examined. France, Corsica, Porticcio, 4 Nov. 2000, P.-A. Moreau 00110414 (L).

**Notes.** *Marasmiellus corsicus* is distinguished by its relatively pale pileus with very fine brownish squamules and densely pruinose, pale brown stipe, which is not significantly darker coloured towards base. Microscopically the long, narrow spores remind those of *M. ramealis* var. *macrosporus* (Courtec.) Antonín & Noordel., which differs by having a more pronounced Ramealis-structure in the pileipellis, coralloid caulocystidia, and 2-spored basidia. *Marasmiellus maasgeesterani* Robich & Campo is also similar, but differs by having darker coloured basidiocarps, much broader spores [(9–)10–12(–13.5) × 5–6.5(–7.5) μm], less distinctly diverticulate pileipellis hyphae, and differently shaped cheilocystidia.

#### NEW NAMES AND NEW COMBINATIONS

##### ***Gymnopus bisporiger* Antonín & Noordel., nom. nov.**

(Mycobank MB511578)

*Marasmiellus bisporigerus* Noordel. & Uljé in Antonín & Noordeloos, *Libri botanici* 17: 179. 1997, non *Marasmiellus bisporiger* Singer, *Nova Hedwigia*, Beih. 44: 324. 1973. – *Micromphale bisporigerum* Noordel., *Persoonia* 13: 258. 1987 (nom. prov.).

**Notes.** When describing *Marasmiellus bisporigerus*, Noordeloos & Uljé unintentionally created an illegitimate homonym of *Marasmiellus bisporiger* Singer 1973. By proposing the new name *Gymnopus bisporiger*, the present authors correct this unfortunate mistake. For detailed macroscopic and microscopic descriptions and drawings of microscopic characters, see Noordeloos (1987, as *Micromphale bisporigerum*), and Antonín and Noordeloos (1997, as *Marasmiellus bisporigerus*).

The gelatinised pileipellis with nodulose hyphae make this taxon a good species of *Gymnopus* sect. *Gloeonemae*. It is distinguished from *Gymnopus foetidus* (Sowerby: Fr.) J. L. Matta & R. H. Petersen and *G. perforans* (Hoffm.: Fr.) Antonín & Noordel. by its tiny basidiocarps, 2-spored basidia, and clampless hyphae.

##### ***Marasmiellus maritimus* Contu & Noordel., nom. nov.**

(Mycobank MB511690)

*Marasmiellus roseotinctus* Contu & Noordel., *Österr. Z. Pilzk.* 16: 181. 2007, non *Marasmiellus roseotinctus* Pegler, *Persoonia* 4: 111. 1966.

**Notes.** Describing their taxon, Contu and Noordeloos (2007) omitted the existence of the species *Marasmiellus roseotinctus* described by Pegler (1966) from Uganda. Therefore, the necessary new name for the European species is proposed here.

***Gymnopus* sect. *Androsacei* (Kühner) Antonín & Noordel., **comb. nov.****

(MycoBank MB511559)

Basionym. *Marasmius* sect. *Androsacei* Kühner, Botaniste 25: 91. 1933. (as '*Androsaceae*').

Notes. This proposed new combination, as well as the following two, are based on the results of studies e. g. by Mata et al. (2004), Matheny et al. (2006) and Wilson and Desjardin (2005). These studies showed that the type species of *Marasmius* sect. *Androsacei* Kühner (= *Setulipes* Antonín 1987) and *Micromphale* Grey 1821 belong to the /*gymnopus* clade.

***Gymnopus quercophilus* (Pouzar) Antonín & Noordel., **comb. nov.****

(MycoBank MB511564)

Basionym. *Marasmius quercophilus* Pouzar, Česká Mykol. 36: 1. 1982.

***Gymnopus perforans* (Hoffm.: Fr.) Antonín & Noordel., **comb. nov.****

(MycoBank MB511562)

Basionym. *Agaricus perforans* Hoffm., Nomencl. Fung. 1: 215, pl. 4, fig. 2. 1789.

The following three species belong to the clade /*gymnopus* (for references see above), hence necessary combinations are proposed.

***Gymnopus potassiovirescens* (Contu) Antonín & Noordel., **comb. nov.****

(MycoBank MB511560)

Basionym. *Collybia potassiovirescens* Contu, Boll. Gruppo Micol. Bres. 43(1): 4. 2000.

***Gymnopus pyrenaicus* (Bon & Ballara) Antonín & Noordel., **comb. nov.****

(MycoBank MB511561)

Basionym. *Collybia pyrenaica* Bon & Ballara, Bull. Trim. Féd. Mycol. Dauphiné-Savoie 147: 10. 1997.

***Gymnopus vernus* (Ryman) Antonín & Noordel., **comb. nov.****

(MycoBank MB511565)

Basionym. *Collybia verna* Ryman, Bot. Notiser 131: 197. 1978.

Notes. In the first edition of our monograph (Antonín and Noordeloos 1997), this species was mentioned as *Gymnopus nivalis* (Luthi & Plomb) Antonín & Noordel. However, this combination is based on invalid basionym as Luthi and Plomb (1967) did not mention the holotype specimen in their description of *Marasmius nivalis*.

Moreau (1998) showed that *Collybia verna* Ryman is identical with *M. nivalis*. The formal combination in the genus *Gymnopus* is proposed here.

The studies by Mata et al. (2004) and Wilson and Desjardin (2005) showed that species of *Marasmius* sect. *Chordales* Fr. are monophyletic within /omphalotaceae. Wilson and Desjardin (2005) accepted the generic name *Mycetinis* Earle for it, and already made some combinations. The necessary new combinations for European taxa are proposed here.

***Mycetinis scorodoni* var. *virgultorum*** (Malençon & Bertault) Antonín & Noordel., **comb. nov.**

(MycoBank MB511566)

Basionym. *Marasmius scorodoni* var. *virgultorum* Malençon & Bertault, Trav. Inst. Sci. Cherifien, Ser. Bot. 33: 382. 1975.

***Mycetinis querceus*** (Britzelm.) Antonín & Noordel., **comb. nov.**

(MycoBank MB511567)

Basionym. *Marasmius querceus* Britzelm., Bot. Centralbl. 68: 7. 1896.

***Mycetinis epidryas*** (Kühner) Antonín & Noordel., **comb. nov.**

(MycoBank MB511568)

Basionym. *Marasmius epidryas* Kühner, Ann. Soc. Linn. Lyon 79("1935"): 115. 1936.

***Mycetinis kallioneus*** (Huhtinen) Antonín & Noordel., **comb. nov.**

(MycoBank MB511569)

Basionym. *Marasmius kallioneus* Huhtinen, Mycol. Helvetica 1: 342. 1985.

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