

The mycoflora of Roman coastal woodlands
7th contribution: some species of the WWF oasis of Macchiagrande:
Chaetocalathus craterellus and *Crepidotus calolepis*

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In this seventh contribution dedicated to the knowledge of the mycoflora of Roman coastal woodlands, the authors describe two species collected in the Macchiagrande (RM) World Wildlife Fund oasis, i.e. *Chaetocalathus craterellus* and *Crepidotus calolepis*. The two species are described in detail and illustrated with (colour photographs and) line drawings; their taxonomy is briefly discussed.

Key words: Basidiomycetes, *Chaetocalathus*, *Crepidotus*, *Chaetocalathus craterellus*, *Crepidotus calolepis*, taxonomy, Italy, Latium.

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Článek je věnován mykofloře římských lesnatých území. Autoři popisují dva druhy sbírané v Macchiagrande (RM) – území pod ochranou Světového fondu pro ochranu přírody a to *Chaetocalathus craterellus* a *Crepidotus calolepis*. Oba druhy jsou podrobně popsány a vyobrazeny, jejich taxonomie je krátce diskutována.

PRELIMINARY NOTE

This contribution has been realised as part of the work of the “group” working on the Study of the Distribution of Fungal Species of the strictly Mediterranean area of Latium. This group is formed by mycologists belonging to the CRSM (Centro Romano Studi Micologici, Rome), NM (Nuova Micologia, Rome) and A. Mico. L. (Associazione Micologica Laziale, Ostia Lido).

Chaetocalathus craterellus (Durieu et Lév.) Singer

Syn.: *Agaricus craterellus* Durieu et Lév.

Pleurotus craterellus (Durieu et Lév.) Fayod

Calathinus craterellus (Durieu et Lév.) Quél.

Pleurotellus craterellus (Durieu et Lév.) Quél.

Crinipellis craterellus (Durieu et Lév.) Pat.

Lachnella craterellus (Durieu et Lév.) Locq.

Pleurotellus patelloides P. D. Orton

Macroscopic characters

Habit: pleurotoid.

Cap: 0.3–1.2 (–1.8) cm across, generally resupinate, conchate, subspheric at first, later expanded campanulate, flattened at last. The cuticle is white, off-white or cream white and looks silky or densely felt-like, even hirsute, due to the presence of clusters of minute hairs. The margin is hirsute and becomes sulcate only in adult specimens. Towards the disc, near the point where the carpophore is attached to the substrate, the coloration is more intense, more or less cream.

Hymenophore: constituted by gills of the same colour as the cap, crowded in young specimens, converging in a more or less excentric point opposite to where the cap is attached to the woody substrate. At this point an almost invisible pseudostipe may be present, like a tiny projection on the pileal surface. The lamella edge can be slightly ventricose in adult specimens.

Flesh: very exiguous to absent, reviving after being remoistened. Smell and taste not distinctive.

Ecology: the specimens described and illustrated here were found on November 11th, 2001, numerous and abundant in different spots, on dead twigs of *Smilax* in Mediterranean scrub, in the Macchiagrande WWF oasis (cartographic reference IGM 3732 Fregene), at sea level, on consolidated sandy soil. Their occurrence was observed the same day also on other dried out woody debris. Tree species occurring in this locality include *Quercus ilex*, *Erica arborea*, *Arbutus unedo*, *Pistacia lentiscus* and *Phyllirea angustifolia*. The species has also been observed in the Castelfusano pineland (RM), in a similar environment.

Microscopic characters

Spores: smooth, thin-walled, hyaline, dextrinoid with Melzer's reagent; ellipsoid, sometimes with an irregular outline because of an enlarged but not rounded base, in other cases slightly constricted; apiculus small. The spores measure 7.0–8.5 (–9.0) × 5.5–6.5 (–7.0) μm .

Basidia: claviform, 4-spored, measuring (25–) 27–32 × (6–) 7–8.5 μm , bearing medium to small-sized sterigmata.

Cheilocystidia: lobate, coralloid, with several irregularly shaped ends. They measure 25–40 (–80) × 5–10 (–13) μm , the terminal elements reaching 2.5–4 μm across.

Pleurocystidia: not observed.



Chaetocalathus craterellus (Durieu et Lév.) Singer. Basidiomata



Crepidotus calolepis (Fr.) P. Karst. Basidiomata

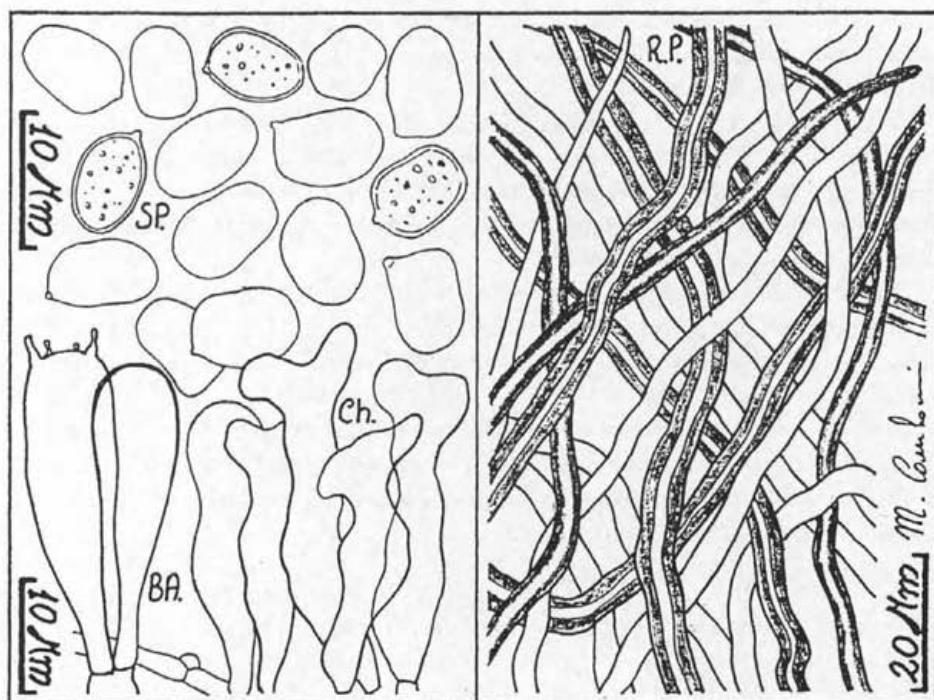


Fig. 1. *Chaetocalathus craterellus*: spores, basidia, cheilocystidia, pileus covering.

Pileipellis: composed of elongate elements, $160-42(-500) \times (3.0-4.0-6.5(-8.0)) \mu\text{m}$, similar to setae, with a thick wall (up to $2 \mu\text{m}$ across), tapering but with a blunt end, dextrinoid with Melzer's reagent.

Clamp connections: present and abundant.

Discussion

Chaetocalathus craterellus is the only species of the genus *Chaetocalathus* Singer occurring in Europe, while many other species exist in other parts of the world. Macroscopically this fungus has a pleurotoid habit and could be confused, if the colour of the gills is not observed, with some species in the genus *Crepidotus*. On the other hand, microscopically it closely resembles species of the genus *Crinipellis* Pat. (morphology of cheilocystidia, spores and pileipellis). Kühner's (1980) remark is worth being reported: "En 1942, [Singer] a séparé, dans un genre *Chaetocalathus* Sing., ceux des *Crinipellis* dont le chapeau est fixé au support par le sommet, en écrivant que les crins de la surface piléique sont, comme ceux des *Crinipellis* mésopodes, pseudoamyloïdes ou amyloïdes. Il est pour nous évident que *Chaetocalathus* ne peut être admis que comme sous-genre de *Crinipellis*".

Nevertheless, *Chaetocalathus* is nowadays considered by several authors as an autonomous genus within the tribe *Marasmieae* Fayod ex Schroet. (Antonín et Noordeloos 1997, Bon 1999).

In Europe *C. craterellus* is widely distributed and has been recorded in Albania (Antonín 1993), Croatia (Antonín and Noordeloos 1997), France (Bidaud 1987), Germany, Great Britain (Watling and Gregory 1989), the former Yugoslavia (Stropnik et al. 1988), Portugal and Spain (Pascual-Vidal 1989, Siquier et al. 1998).

As for Italy, the species has earlier been recorded by Perco (1988) and Lonati (1995). This latter record, which is the first for Latium, is atypical for absence of the cheilocystidia and shows remarkable similarities with plate 360 published in Lonati (2000).

Macroscopically, *C. craterellus* is strikingly similar to *Pleurotellus hypnophilus* (Berk.) Fayod (compare Zuccherelli 1993); to separate these two taxa it is sufficient to observe the spore morphology: *P. hypnophilus* has ellipsoid-cylindric spores with a lesser diameter (2.6–3.0 μm).

***Crepidotus calolepis* (Fr.) P. Karst.**

Syn.: *Agaricus calolepis* Fr.

Crepidotus mollis var. *calolepis* (Fr.) Pilát

Crepidotus mollis subsp. *calolepis* (Fr.) Norstein

Crepidotus fulvotomentosus Peck

Crepidotus calolepidoides Murrill

Macroscopic characters

Habit: conchate to conical-conchate during the first development stages, later, when mature, even completely flattened.

Cap: semicircular, laterally attached to the substrate, small to medium, measuring (1.5–) 2.0–4.0 (–5.5) cm across. Surface dry to moderately gelatinous due to the presence of a thin separable pellicle, uniformly covered by many little brownish, rusty brown or rusty orange scales. The scales are usually denser next to the point of attachment to the substrate. The cap colour is yellow, dull yellow, pale ochre-yellow; in immature fruiting bodies the surface is definitely paler next to the cap margin, also because the squamules, not yet well developed, are rarer. Margin thin, regular.

Gills: crowded, white at first, later pale greyish, brownish grey, finally brownish ochre. This colouring process starts from the centre of the carpophore, while the outer part of the gills remains paler for a long time.

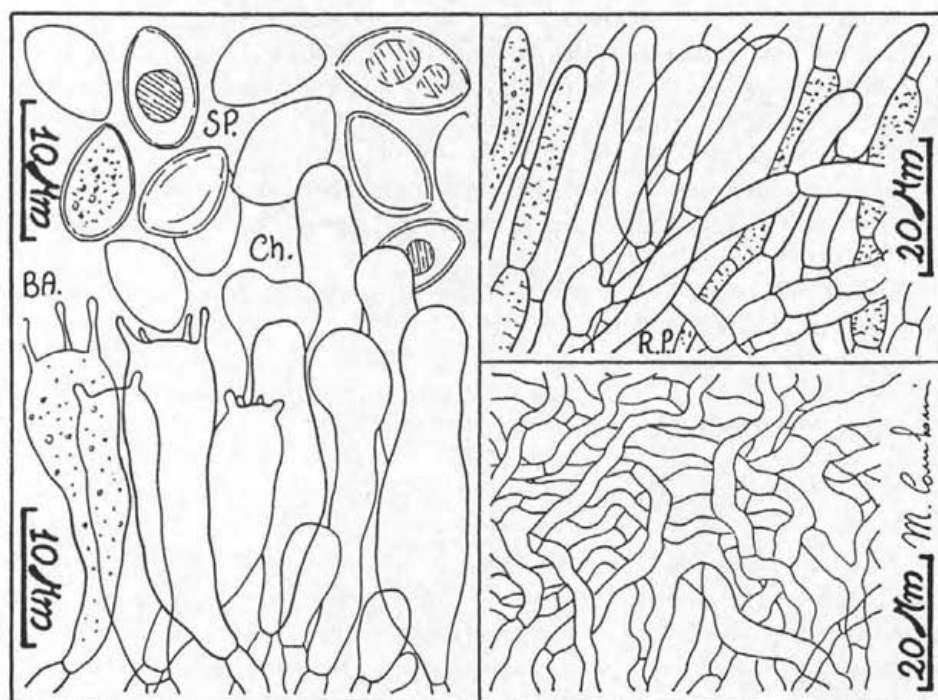


Fig. 2. *Crepidotus calolepis*: spores, basidia, cheilocystidia, structure of the scales of the pileus covering, structure of the white mycelial felt.

Stipe: absent to hardly recognisable. Next to the attachment of the fruiting body to the substrate it is always possible to observe a distinct white mycelial felt, which later retracts and diminishes as the fruiting body develops.

Flesh: white to cream white, elastic. Smell and taste not distinctive.

Ecology: the specimens described and illustrated here have been collected on a decaying *Quercus robur* stump, next to the Macchiagrande WWF oasis (cartographic reference IGM 3732 Fregene), at sea level, on consolidated sandy soil. Other collections have been made all along the Latium coasts, in several localities, always on fallen trunks or branches of broad-leaved trees (S. Severa, Castelfusano, Decima Malafede, Tre Cancelli, Lido dei Pini and Parco Nazionale del Circeo). The species is also common in inland areas of Latium.

Microscopic characters

Spores: smooth, moderately thick-walled, ochraceous with a yellowish hue; irregularly ellipsoid to ellipsoid or almost amygdaliform, measuring (7.5-) 8.0-10.0 × 5.0-6.0 (-6.5) µm; germ pore absent, apiculus rather small.

Basidia: claviform to cylindrical-claviform, 4-spored, measuring (17-) 20-28 (-32) \times 6-7 μm ; sterigmata rather long, up to 6-7 (-9) μm .

Cheilocystidia: 30-45 \times 7-10 (-13) μm , claviform to apiculate, sometimes lageniform or slightly constricted.

Pleurocystidia: not observed.

Pileipellis: the scales are formed by evenly arranged long, catenulate hyphae, with a rough to strongly encrusted surface. The terminal cell, not well differentiated, measures 15-50 \times 5-11 (-13) μm .

The attachment to the substrate is formed by irregularly arranged, tangled and contorted hyphae, with a diameter of 2.5-5 (-6.5) μm .

Clamp connections: not observed.

Discussion

Crepidotus calolepis belongs to subgenus *Crepidotus* (= subgenus *Gelocutis* Pilát, nom. inval.), which is principally characterised by smooth spores, short hyphae in the pileipellis and absence of clamp connections. This subgenus corresponds to the *C. mollis* complex, which comprehends *C. mollis*, *C. calolepis* and *C. calolepis* var. *squamulosus* (= *C. mollis* var. *squamulosus*).

We follow the systematics proposed by Senn-Irlet (1995). According to this study, *C. mollis* is characterised by fruiting bodies devoid of scales on the cap, which is uniformly yellowish or cream yellowish, and by spores measuring 7-10 \times 5-6.5 μm (8-11 \times 5-7 μm according to Ortega et Buendia, 1989).

On the other hand, *Crepidotus calolepis* var. *calolepis* and *C. calolepis* var. *squamulosus* are recognisable due to the occurrence, of evident reddish orange, reddish, brown red to brown minute scales on the cap. While in *C. mollis* the pileipellis hyphae are smooth to only weakly encrusted, in *C. calolepis* they are always encrusted, sometimes in a very obvious way. The distinction between var. *calolepis* and var. *squamulosus* is made on the basis of the spore size:

- 7-10 \times 5-7 μm in var. *calolepis*;
- 8.5-12 \times 6-7.5 μm in var. *squamulosus*.

Further data may be found in Senn-Irlet (loc. cit.: Fig. 35 and Table IV).

Crepidotus calolepis is a species with a prevalently Mediterranean distribution, even if it has been recorded also from Great Britain and Ireland (Watling et al. 1989, fruiting bodies of reduced size, 5-15 mm), boreal Europe (Norstein 1990), Denmark (Lange 1938), Moldova (Roux 1997), Estonia, Sweden and North America (Senn-Irlet, loc. cit.). Numerous records exist for the Mediterranean area; besides those already cited we can mention Italy, Portugal (Hausknecht et Reinwald 2001) and Spain (Pascual et Vidal 1989).

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