

ON TWO INTERESTING AGARICS FROM AN ARTIFICIAL ISLAND
IN THE LAGOON OF VENICE (ITALY)

GIOVANNI ROBICH*

Two unusual agarics, viz. *Anellaria phalaenarum* (Fr.) Mos. and an unknown *Conocybe* species, collected on an artificial island in the Lagoon of Venice are fully described and shortly discussed.

The Venetian Mycological Society has started a systematic inventory of mushrooms in the Lagoon of Venice (Italy) and the adjoining regions. At present 71 plots for this research have been selected, including gardens and parks, small deciduous lowland forests, pine-woods and coastal areas, natural and artificial islands. In a period of only about two years the members of the society have recorded about 500 different species, some of which being very interesting.

Man-made artificial islands have already been created in historic times from mud as a result of regular dredging of the canals of the town in the glorious years of the Republic of Venice. Later some of the tidal flats in the lagoon were reclaimed with demolition material and artificially silted up. These areas are called 'Casse di colmata', and among other things used for industrial settlements. The intertidal flats, called 'barene', subject to tides, alternate with higher, sandy elevations with forest. In spite of the artificial origin of these zones, they offer some botanically very interesting areas.

The present paper deals with two interesting Agarics collected in a location on one of these artificial island in the Lagoon of Venice called 'Cassa di colmata A', where is a little study farm. Exsiccata of the specimens studied have been deposited in the Natural History Civic Museum in Venice.

Anellaria phalaenarum (Fr.) Mos.—Fig. 1

Agaricus phalaenarum Fr., Epicr.: 235. 1838. — *Panaeolus phalaenarum* (Fr.) Quéf., Champ. Jura Vosges 1: 151. 1872. — *Anellaria phalaenarum* (Fr.) Mos., Röhrl. Bläuterp., 3. Aufl.: 225. 1967.

Pileus 15–25 mm broad, paraboloid or hemispherical, pale brownish grey or sordid grey tinged with brown, uniformly coloured when young, later with darker centre and paler marginal zone, somewhat viscid when moist, becoming weakly rimose on drying, smooth, without visible veil remnants. Lamellae not very crowded, adnate, ventricose, grey, variegated at first then black-brown with whitish edge. Stipe 60–80 × 2–4 mm, cylindrical, only slightly broader at the base, pale whitish brown, with faint reddish tinges near the base, solid or fistulose, not very firm, minutely striate in upper part, pruinose all over. Context grey, compact. Smell weak, somewhat aromatical (caramel). Taste not distinctive. Spore-print black.

* Via Orlanda, 141/c, I-30030 Campalto/Venezia, Italy.

Spores 16–19(–22) × 8–12 μm, ellipsoid to ovoid, usually almost hexagonal, dull, fairly dark brown, thick-walled, often with one or two large oil-drops, with indistinct apiculus, with evident, hyaline germ-pore. Basidia 20–26 × 14–16 μm, 4-spored, cylindrical to clavate with narrowed base, with short, relatively broad sterigmata. Lamella edge sterile. Cheilocystidia 28–40 × 12–17 μm, variable in shape from globose to clavate, utriform or broadly lageniform, hyaline, smooth, thin-walled. Pleurocystidia: chrysocystidia with granulose contents turning blue in lactic blue, 45–55 × 15–20 μm, fusiform to clavate with narrow base and distinctly mucronate apex, scattered. Subhymenium composed of globose elements, 12–22 μm in diameter. Hymenophoral trama composed of cylindrical elements, 5–20 μm wide. Pileipellis a mixed hymeniderm of globose to elliptical elements, and cylindrical, branched hyphae with in places pigmented walls, at margin also chrysocystidia similar to pleurocystidia present. Caulocystidia 50–60(–70) × 10–11(–14) μm, cylindrical to subfusiform with subcapitate apex. Stipitipellis composed of 3–5 μm wide cylindrical hyphae. Stipititrama composed of cylindrical, 8–30 μm wide hyphae. Lactiferous hyphae numerous in hymenophoral trama. Clamp-connections not observed.

H a b i t a t.—Gregarious on horse dung.

C o l l e c t i o n d e s c r i b e d.—ITALY: Venice, Lagoon, artificial island 'Cassa di Colmata A 9 Sept. 1989, *G. Robich.*

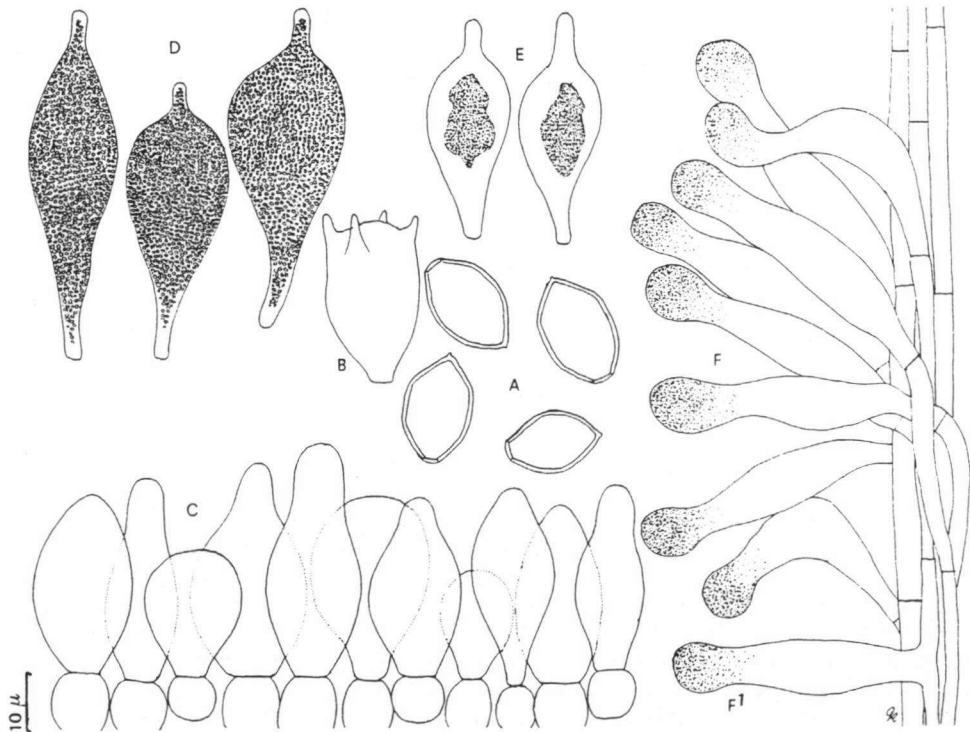


Fig. 1. *Anellaria phalaenarum.* — A. Spores. — B. Basidium. — C. Cheilocystidia. — D. Pleurocystidia. — E. Pileocystidia. — F. Caulocystidia.

Anellaria phalaenarum is accepted here in the sense of Ola'h (1969) and Kühner & Romagnesi (1953). Singer (1987) rejects the name *A. phalaenarum* for this species and uses the name *A. sepulchralis* (Berk.) Sing.

In literature the pileus diameter ranges from 4 to 8 cm (Ola'h, l.c.), 4–9 cm in Kühner & Romagnesi (l.c.) and 4.5 cm (Malençon & Bertault, 1970). The collection described in the present paper probably represents poorly developed specimens, since the pileus diameter is considerable smaller. However, the fruit-bodies were fully mature, considering the variegated lamellae and the sporulating basidia. *Anellaria phalaenarum* is generally described as a species without visible veil (Malençon & Bertault, l.c.) or with a very fugaceous veil (Ola'h, l.c.) and the stipe is always devoid of an annulus, which is a good distinctive character against *A. semiovata*. The chrysocystidia have a granular content, that is hyaline, not yellow, but turns blue in lactic blue. Contrary to the generic description of Singer (l.c.) no clamp-connections have been observed.

***Conocybe* spec. (subg. *Conocybe*, sect. *Conocybe*)**

Pileus 15–35 mm, campanulate to hemispherical, expanding, when moist pale brown to ochraceous-fulvous with darker centre, translucently striate at margin, slightly corrugated at centre, pallescent on drying. Lamellae L = 24–32, l = 1, distant, ascending, adnate, not very broad, ochraceous brown with white edge. Stipe 30–55 × 1.5–3 mm, cylindrical, somewhat flexuose, fistulose, sometimes slightly enlarged at base, ochraceous white, striate lengthwise, pruinose all over, rooting in substrate with up to 20 mm long pseudorrhiza. Context thin, slightly thicker at centre of pileus, brownish. Smell and taste indistinct.

Spores 11–14.5 × 6.5–9.5 µm, ellipsoid to subovoid, thick-walled, brown, with distinct apiculus and distinct germ pore, with yellow-brown granular contents, often with one or two very large oil-drops. Basidia 22–34 × 10–12 µm, 2-spored, clavate or spheropedunculate with slender base and rather broad sterigmata. Lamella edge sterile. Cheilocystidia 20–22 × 6–7 µm, lecythiform with 3.5–4 µm wide capitulum, hyaline, thin-walled. Pleurocystidia not observed. Pileipellis a hymeniderm of globose to spheropedunculate elements, 28–48 × 13–29 µm, often with long pedicel. Subpellis composed of 4–11 µm wide, cylindrical often slightly encrusted hyphae. Pileitrama made up of cylindrical to inflated hyphae, 7–18 µm wide with non-encrusted walls. Stipitipellis densely beset with caulocystidia. Caulocystidia of two types: lecythiform ones measuring 13–22 × 4–6.5 µm, sparsely intermixed with obovate to lageniform elements 30–35 µm long and up to 4 µm wide. Clamp-connections present in all parts of carpophore.

Habitat.—Gregarious in corn field.

Collections examined.—ITALY: Venice, Lagoon, artificial island 'Cassa di Colmata A', 9 Sept. 1989, *G. Robich*.

After studying this collection I first thought to recognize *Conocybe neoantipus* (Atk.) Sing. in section *Pilosellae* on account of the lageniform caulocystidia and scattered flexuose hair-shaped elements (not depicted here) in combination with the relatively thick-walled spores and rooting stipe. Kühner (1935) described *Conocybe siliginea* var. *neoantipus* as a variety of *C. siliginea* growing on dung with a rooting stipe. According to Watling (1982) the real *C. neoantipus* has extremely thick-walled, broadly ellipsoid to ovoid spores. But the

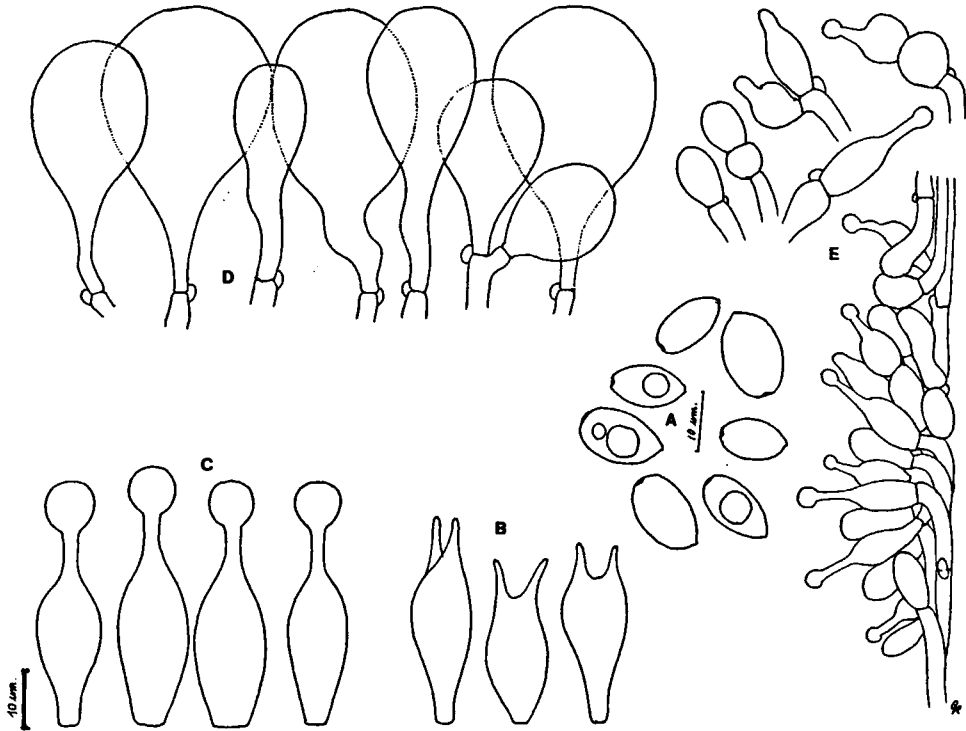


Fig. 2. *Conocybe* spec. — A. Spores. — B. Basidium. — C. Cheilocystidia. — D. Pileipellis. — E. Caulocystidia.

numerous lecythiform caulocystidia definitely place our specimens in section *Conocybe* (Watling, l.c.). *Conocybe alboradicans* Arnolds (Arnolds, 1982) comes close, but clearly differs in spore-size, although this difference may be due to two-spored versus four-spored specimens, as is the case in many *Conocybe* species. *Conocybe fimetaria* (Watling, 1986) is described with a non-rooting stipe and lageniform caulocystidia, and therefore also different from our species. *Conocybe pinetorum* (Watling & al., 1986) is also close, but has no rooting stipe, larger spores, and grows under *Pinus sylvestris* in humose soil. For the time being our collection has to remain unnamed, awaiting more material and additional information.

ACKNOWLEDGEMENTS

The author wishes to thank Dr. C. Bas (Leiden) and Dr. R. Watling (Edinburgh) for valuable comments and references to literature. Mrs. Marina Crivellari (Venezia) is thanked for the English translation of this paper, and Mr. Enrico Bizio for valuable advice.

REFERENCES

- ARNOLDS, E.J.M. (1982). Ecology and coenology of macrofungi in grasslands and moist heathlands in Drenthe, the Netherlands, vol. 2 & 3. *In* *Bibliotheca mycol.* 90.
- KÜHNER, R. (1935). Le genre *Galera*. *Encycl. mycol.* 7. Paris.
- KÜHNER, R. & ROMAGNESI, H. (1953). Flore analytique des champignons supérieurs. Paris.
- MALENÇON, G. & BERTAULT, R. (1970). Flore des champignons supérieurs du Maroc, tome 1. Rabat.
- OLA'H, G.M. (1969). Le Genre *Paneolus*, Essai taxonomique et physiologique. *In* *Rev. Mycol., Mém. hors Série* no. 10.
- SINGER, R. (1987). The agaricales in modern taxonomy. 4th ed. Koenigstein.
- WATLING, R. (1982). *Bolbitiaceae*. *In* Henderson, Orton & Watling (eds.), *British Fungus Flora*, vol. 3. Edinburgh.
- (1986). Observations on the *Bolbitiaceae* 28. The *Conocybe pubescens* (C. Gillet) Kühner complex. *Galerula neoantipus* and its various interpretations. *In* *Bol. Soc. micol. Madrid* 11: 91–96.
- WATLING, R., ESTEVE-RAVENTOS, F. & MORENO, G. (1986). Observations on the *Bolbitiaceae* 27. A new *Conocybe* of conifer forests. *In* *Bol. Soc. micol. Madrid* 11: 85–89.