

NOTES ON AGARICALES—II

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(With 21 Text-Figures)

*Galerina uncialis*, originally described as a species growing on mossy trunks, but found to be growing in abundance on terrestrial mosses, is redescribed and compared with other annulate species of *Galerina* of the open country. *Pholiota pumila* sensu F. H. Möller is redescribed as *Galerina moelleri* nov. spec., and *Galera pumila* f. *oreina* J. Favre reduced to the synonymy of *Galerina moelleri*. *Pholiota pumila* var. *subferruginea* Möller & Lange is regarded as a nomen dubium. Attention is drawn to the fact that *Galerina unicolor* (Vahl ex Sommerf.) Sing. in its original sense is a terrestrial species. The new combination *Galerina praticola* is proposed, and the microscopical description of the species supplemented.

For several years I have collected in the coastal dunes a species of *Galerina*, growing in abundance on mosses during late autumn, and which I was not able to determine. It has the general appearance of *Galerina marginata* and the microscopical characters of *G. uncialis*. After also having collected the true *G. uncialis* on mossy trunks, I realized that the specimens from the dunes represent a large terrestrial form of *G. uncialis*, which thus far was known only as a truncicolous species. As I could not find any morphological differences between the two forms except their dimensions (and even these overlap), there is no reason to separate taxonomically both forms (for description see p. 308).

As no record of a terrestrial form of *G. uncialis* could be found in literature, I checked the other European annulate, field-inhabiting species of *Galerina*.

Several of the species which were taken into consideration appeared insufficiently known, hence I have brought together all available information.

*Agaricus pumilus* Pers., Syn. Fung. 317. 1801; ex Fr., Syst. mycol. 1: 263. 1821. — *Pholiota pumila* (Pers. ex Fr.) Gill., Hym. 432. 1876. — *Galera pumila* (Pers. ex Fr.) J. Favre, Champ. sup. Zone alp. 149. 1955 (not validly published; basonym not cited). — *Galerina pumila* (Pers. ex Fr.) M. Lange in Medd. Grönland 148 (2): 37. 1957 (not validly published; basonym not cited).

Judging from the description I think *Agaricus pumilus* Pers. should be placed in *Agrocybe* Fayod. Unfortunately there is no type in Persoon's herbarium at Leiden. However, there is material of *Agaricus semiorbicularis* Bull., which Persoon (1828: 163) placed as a variety under *A. pumilus* and which without any doubt belongs to *Agrocybe*. Moreover, the citation of Schaeffer's Plate 203 (1770) by Persoon, at first

(1801) with a question mark, but afterwards (1828) more positively, also points to a species of this genus.

Because in his "Systema" Fries (1821) almost verbally copied Persoon's description, his *Agaricus pumilus* Pers. ex Fr. consequently is the same species of *Agrocybe*.

In his "Elenchus Fungorum" (1828: 29), Fries gave a new interpretation of *Agaricus pumilus*, which is the basis of the present misapplication of this name and its isonyms to a species of *Galerina*.

*Agaricus pumilus* Pers. ex Fr. sensu Fr., Elench. Fung. 29. 1828; Icon. sel. Hym. 2: 5, pl. 105 fig. 4. 1877.

This is a pale, slender *Galerina* growing in fields and resembling *G. marginata*. From the illustration and the description alone it is in my opinion impossible to conclude precisely which species of *Galerina* is represented.

In the herbarium at Uppsala there are six collections of a fungus, all from meadows in the neighbourhood of Femsjö, determined as *Pholiota pumila* by Dr. S. Lundell. To one of these collections he added a note stating that he knew this fungus only from Femsjö and that it is apparently a pale, terrestrial form of *Galerina marginata*.

I have been unable to find constant differences between *Pholiota pumila* sensu Lundell and *Galerina marginata*. Among the large number of collections of *G. marginata* in the Uppsala herbarium several are quite similar to *Pholiota pumila* sensu Lundell, but were collected on wood.

Very likely *Agaricus pumilus* sensu Fr. 1828 is identical with *Pholiota pumila* sensu Lundell and I consider both of them forms of the very variable *Galerina marginata*. Because the latter is as yet not well defined, notes on the dried material of *Pholiota pumila* sensu Lundell follow:

Cap 5–15 mm across, convex to plano-convex, without or with a faint umbo, ochraceous or rusty ochraceous, smooth and glabrous. Gills 18–25 with 1–3 lamellulae between each pair, broadly adnate to subdecurrent, dull rusty ochraceous brown, with whitish edge. Stalk 17–30 × 0.3–2 mm, cylindrical, concolorous, not or hardly darker at base, pruinose and often slightly costate at apex, with fugacious fibrillose or submembranaceous, whitish annulus; basal part with scattered white fibrils; base somewhat whitish tomentose.

Spores 8.5–10.5 × 5–6.5 μ, ellipsoid-subamygdaloid with slightly conical apex, rather rough, with conspicuous, large plage, with exospore hardly loosening, moderately pseudoamyloid, pale brownish yellow in NH<sub>4</sub>OH, moderately darkening in KOH. Basidia 4-spored. Pleurocystidia 54–68 × 13–15 (apex 3–5) μ, broadly ventricose-fusiform with tapering necks. Cheilocystidia 48–58 × 8–14 (apex 2–4) μ, smaller and more slender than pleurocystidia. Cuticle hardly distinguishable, a very thin gelatinous layer formed by very thin hyphae. Trama of gills subregular, consisting of hyphae up to 25 μ thick. Clamps present.

Collections examined.—

SWEDEN: S m å l a n d, Femsjö, 18 Sept. 1940 (UPS 2085), 26 Sept. 1940 (UPS 2086), 1 Oct. 1940 (UPS 2087), 1 Oct. 1940 (UPS 2088), and 2 Oct. 1940 (UPS 2089); all leg. S. Lundell s.n.

*Pholiota pumila* (Pers. ex Fr.) Gill. *sensu* F. H. Möller, *Fungi Faeröes* 1: 229, fig. 106. 1945.

This species, extensively described by Möller, bears a striking external resemblance to the terrestrial form of *Galerina uncialis*. Thanks to the kindness of Dr. M. Lange, I was enabled to examine material from the Faroes and Greenland.

*Pholiota pumila sensu* Möller differs from *G. marginata* by the large, slightly ornamented spores ( $9.5-12.5 \times 6.5-8 \mu$ ) and from *G. uncialis* by the presence of pleurocystidia, large spores, etc. It certainly deserves specific rank, but is in need of a new name, because in this case *Pholiota pumila* is a misapplied name, as has been pointed out in the foregoing.

I propose the name *G. moelleri* (see p. 310), to honour the Danish mycologist who gave the first clear description of this species and who contributed so much to the knowledge of the European Agaricales.

*Pholiota pumila* var. *subferruginea* Möller & Lange *apud* Lange, *Fl. agar. dan.* 3: 59. 1938 (not validly published); 5: vii. 1940. — *Galerina subferruginea* (Möller & Lange *apud* Lange) Kreisel in *Feddes Rep., Beih.* 137: 163. 1957.

Occasionally one comes across these names in enumerations of species, but it is difficult to find out what exactly they stand for.

Lange (1938: pl. 109 fig. F.) depicts a fungus which has much in common with *Galerina moelleri* on account of its smooth spores and slender, bottle-shaped cystidia. In this connection, however, it may be remarked that the spores and cystidia of *Pholiota unicolor* and *P. marginata* illustrated on the same plate (fig. A, A', and B) are very similar! In the description neither the ornamentation of the spores, nor the presence or absence of pleurocystidia are mentioned.

Neither Dr. M. Lange (in litt.), nor Mr. F. H. Möller (in litt.) were able to trace authentic material. Consequently, the figure of Lange (1938: pl. 109 fig. F) has to be considered type. As both lectotype and type-description lack information on some of the most important features in the genus *Galerina*, the name *Pholiota pumila* var. *subferruginea* has to be abandoned as a nomen dubium.

Mr. H. Kreisel (in litt.) informed me that he did not preserve the material on which he reported under the name of *Galerina subferruginea*. The description suggests *G. uncialis* on account of the hair-like cheilocystidia, thickening towards the base, and the rough spores, measuring  $8.2-10 \times 5-6 \mu$ .

Thanks to the kindness of Dr. R. W. G. Dennis, I was enabled to examine the material of *Pholiota pumila* var. *subferruginea* as recorded by Pearson (1952: 111). The spores were found to be  $9.6-10.8(-14.9) \times 5.6-6.1 \mu$ , moderately rough, with plage, with exospore not or hardly loosening; the cheilocystidia and pleurocystidia (the latter overlooked by Pearson)  $(30-50-75) \times 9-18$  (neck  $2.5-7 \mu$ ). This collection belongs to a group of terrestrial species close, or forms belonging, to *G. marginata*.

It is quite possible that *Pholiota pumila* var. *subferruginea* is identical with *Pholiota pumila sensu* Fr. (1828), Lundell. It is, however, impossible for me to substantiate this suggestion. Mr. F. H. Möller informed me that the type-locality is cultivated now.

*Galera pumila* f. *oreina* J. Favre, Champ. sup. Zone alp. 204. 1955.

The late Dr. J. Favre was so kind as to send to me some specimens of this Alpine fungus. It differs widely from *G. uncialis* by the very slightly roughened spores, and the broad necks (3–4.5  $\mu$ ) of the cystidia. The pleurocystidia were overlooked by Favre. This fungus does not differ essentially from *G. moelleri* (see p. 310).

*Pholiota praticola* F. H. Möller, Fungi Faeröes 1: 231. 1945.

An examination of the type revealed slender, rough spores with a conspicuously loosening exospore, and cheilocystidia with rather broad necks (2.5–5  $\mu$ ) (see p. 313).

*Agaricus unicolor* Vahl in Fl. dan. 6 (18): 7, pl. 1071 fig. 1. 1792; ex Sommerfelt, Suppl. Fl. lapp. Wahl. 261. 1826. — *Galerina unicolor* (Vahl ex Sommerf.) Sing. in Beih. bot. Zbl. (Abt. B) 56: 170. 1936.

It may seem strange to compare this species with a terrestrial one, because the name *Galerina*, or *Pholiota unicolor* has nearly always been applied to a wood-loving species. Yet Vahl stated, "In pratis Norvegiae". Vahl's plate shows a fungus which may represent anyone of the field-inhabiting annulate species of *Galerina*. As further information is lacking, I prefer to consider *Agaricus unicolor* Vahl a nomen dubium.

If one wants to indicate material of the validating author (Sommerfelt) as type, *Agaricus unicolor* Vahl ex Sommerf. would indeed be a wood-inhabiting species. Sommerfeldt mentioned, "Hab. in acervis assularum putridarum Saltdalen Nordlandiae passim". Then, however, one should rather write "(Sommerf. non Vahl)".

*Agaricus marginatus* Batsch, Elench. Fung., Cont. 2: 65, pl. 37 fig. 207. 1789; ex Fr., Epicr. 169. 1838. — *Galerina marginata* (Batsch ex Fr.) Kühner, Genre Galera 225. 1935.

Although, as a rule, this species grows on wood, terrestrial forms are occasionally met with. Perhaps *G. marginata*, in Europe, comprises a group of species, including some terrestrial ones. I am unable to disentangle these at the moment, since such an attempt requires a greater number of collections with detailed field-notes, as are actually at my disposition.

*Galerina marginata* s.l. is characterized by a more or less annulate stalk, broad (8–20  $\mu$ ) pleurocystidia, and moderately to very rough spores, 8.5–10.5  $\times$  5–6.5  $\mu$ , darkening in KOH, with more or less loosening exospore.

*G. uncialis* is easily distinguished from *G. marginata* by the lack of pleurocystidia and the very thin necks of the cheilocystidia. These two species are sometimes very similar as to habit.

*Pholiota muscigena* Quél. in C.R. Ass. franç. Av. Sci. 14: 446, pl. 12 fig. 5. 1886 (Champ. Jura Vosges, Suppl. 14: 4). — *Dryophila unicolor* var. *muscigena* (Quél.) Quél., Ench. Fung. 69. 1886.

This pale, slender, vernal species, growing on mosses in peat bogs, looks rather characteristic, to judge from the figure and the description. Confusion with *Galerina uncialis* seems impossible. Authentic material or material from the type locality (coast near Bordeaux) is needed to record the microscopical features.

*Galerina jaapii* Smith & Singer in Mycologia 47: 574. 1955 [= *Galerina mycenoides* (Fr.) Kühner sensu Jaap, Kühner].

I mention this species for the sake of completeness only. It stands rather apart among the annulate, field-inhabiting species of *Galerina* on account of its slender stipe, which is naked except for a thin annulus, and of its membranaceous cap. The large, nearly fusiform spores, the 2-spored basidia, the absence of pleurocystidia and the cheilocystidia with broad necks and (sub)capitate apices, preclude any confusion with the other species treated in this paper.

*Agaricus rufidulus* Kalchbr. apud Fr., Hym. europ. 226. 1874. — *Pholiota rufidula* (Kalchbr. apud Fr.) Sacc., Syll. Fung. 5: 761. 1887.

The description of this vernal species from Hungary with its umbilicate cap and marginal veil, strongly reminds one of *Tubaria furfuracea* sensu lato.

I have compared *Galerina uncialis* with all of the descriptions of new species of *Galerina*, recently published by Smith and Singer (Smith 1953, Smith & Singer 1955, 1958), but could not find any that might be conspecific.

As appears from the foregoing there are at present known at least five field-inhabiting annulate species of *Galerina* in Europe, viz. *G. jaapii*, *G. moelleri* (= *Pholiota pumila* sensu F. H. Möller), *G. praticola*, *G. uncialis*, and *G. marginata*. The first three are exclusively terrestrial; *G. uncialis* grows also on mossy trunks, and *G. marginata* grows as a rule on wood.

In the classification of the genus *Galerina* as proposed by Smith & Singer (1957), the five species mentioned above represent four stirpes belonging to two sections. They certainly do not form a natural group. Yet some of them are very difficult to distinguish without the microscope. Especially *G. uncialis*, *G. moelleri*, and *G. marginata* sensu lato look sometimes very similar and, hence, I use only microscopical features in the key below.

PROVISIONAL KEY TO THE ANNULATE, FIELD-INHABITING SPECIES OF GALERINA IN EUROPE

1a. Pleurocystidia absent.

- 2a. Cheilocystidia with necks very slender, 1-3(-4)  $\mu$  broad, sometimes subcapitate. Spores 7.5-10  $\times$  5-6.5  $\mu$ , very rough, with tightly fitting exospore.

*G. uncialis* (p. 308)

- 2b. Cheilocystidia with broader necks or distinctly capitate. Spores larger or with loosening exospore.

- 3a. Spores with conspicuously loosening exospore. . . . . 5a

- 3b. Spores with tightly fitting exospore, 11-15  $\times$  5.5-7.5  $\mu$ . *G. jaapii*

1b. Pleurocystidia present.

- 4a. Spores slightly to moderately rough, slightly to moderately darkening in KOH, 9.5-12.5  $\times$  6.5-8  $\mu$ , with tightly fitting exospore. Pleurocystidia 50-85  $\times$  7-14  $\mu$ .

*G. moelleri* (p. 310)

- 4b. Spores rough to very rough, moderately to strongly darkening in KOH or with loosening exospore.

- 5a. Spores 10.5-13  $\times$  6-7.5  $\mu$ , slender, with conspicuously loosening exospore, hardly darkening in KOH. Cheilocystidia 35-60  $\times$  5-14  $\mu$ . Pleurocystidia similar but scarce. *G. praticola* (p. 313)

- 5b. Spores rarely exceeding  $10.5 \mu$ , darkening in KOH, with exospore loosening or not. Pleurocystidia mostly  $10\text{--}20 \mu$  wide.

Terrestrial forms of *G. marginata* and related species

### GALERINA UNCIALIS (Britz.) Kühner

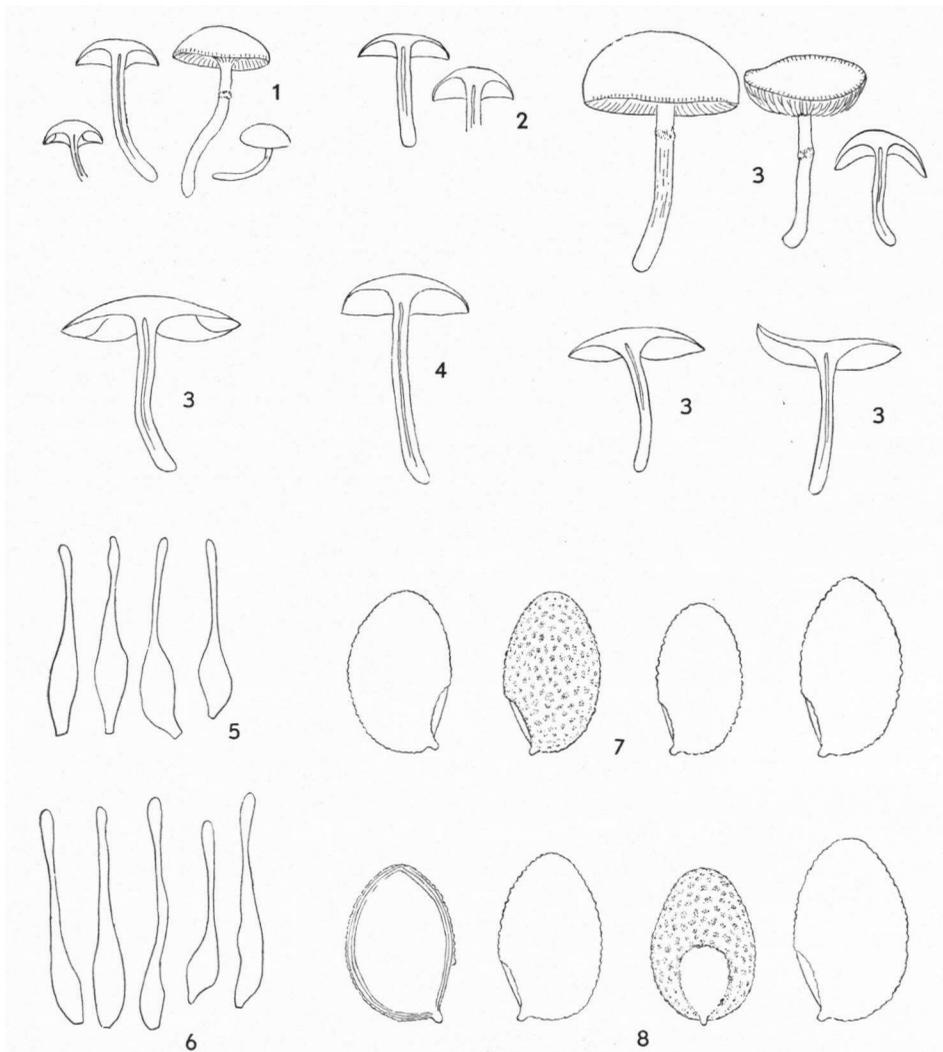
*Agaricus uncialis* Britz. in Ber. naturw. Ver. Schwaben 30: 21, fig. 231. 1890; Hymen. Südbayern 6: 21, tab. 248, fig. 231. 1890 (non vidi); in Bot. Zbl. 77: 397. 1899. — *Naucoria uncialis* (Britz.) Sacc., Syll. Fung. 11: 59. 1895. — *Galerina uncialis* (Britz.) Kühner, Genre Galera 217. 1935.

Fruit-bodies small to very small, gregarious, sometimes subfasciculate. Cap  $5\text{--}22\text{--}(30)$  mm, hemispherical to plano-convex, rarely to plano-concave, sometimes conico-convex, margin slightly involute at first, sometimes revolute in old specimens, smooth and glabrous, rather fleshy, hygrophanous; when moist, yellowish orange-brown to orange-brown when young, darker with age, to dull reddish brown, slightly paler near margin, somewhat shiny and greasy; when dry, pale ochraceous buff to rusty buff with centre slightly browner, dull. Gills  $15\text{--}28$ , with  $(1\text{--})3\text{--}7\text{--}(10)$  small ones between each pair, rather distant to rather crowded, adnate or adnexed, subdecurrent in small specimens, with edge slightly concave or straight at first, becoming ventricose, from brownish ochraceous to rather dark rusty brown (Séguy 191); edge whitish. Stalk  $12\text{--}27 \times 0.8\text{--}3$  mm, cylindrical or slightly attenuated or thickened towards base, pale yellow-brown to dull orange-brown, becoming dark reddish brown near base, slightly pruinose at top, with white fibrillose annular zone; lower part with appressed white to isabella fibrils, glabrescent with age; base somewhat whitish to brownish tomentose. Flesh glassy yellow-brown when moist, dark reddish brown in base of stalks of old specimens, much paler when dry. Taste and smell strong, farinaceous. Spore print rather dark reddish rusty brown ( $\pm$  Séguy 146).

Spores  $7.5\text{--}10\text{--}(10.5) \times 5.0\text{--}6.5 \mu$ , broadly subamygdaloid to ellipsoid, very rough, with distinct plage, with tightly fitting exospore, yellow-brown in water, ferruginous in  $\text{NH}_4\text{OH}$ , rather dark reddish brown in KOH. Basidia  $24\text{--}35 \times 6.5\text{--}9 \mu$ , 4-spored, cylindrical to clavate, often slightly constricted in the middle, sometimes mixed up with similarly shaped or wrinkled yellowish bodies. Pleurocystidia none. Cheilocystidia numerous,  $33\text{--}61 \times 6\text{--}12 \mu$ , slender to very slender lageniform or fusiform with long, very slender necks,  $1\text{--}3\text{--}(4) \mu$  broad, rarely subcapitate, rarely with yellowish contents. Trama of gills regular to subregular, beneath subhymenium with  $2\text{--}4 \mu$  wide hyphae, in centre hyphae  $8\text{--}12 \mu$  wide, pale orange in water; subhymenium very thin,  $5\text{--}10 \mu$ , ramose-subcellular. Cuticle  $40\text{--}70 \mu$  thick, with subradial to interwoven,  $2\text{--}4 \mu$  wide hyphae, upper layer of  $20\text{--}50 \mu$  thick gelatinizing when growing older. Trama of cap with  $4\text{--}15 \mu$  wide hyphae, which are interwoven in centre and upper part and radially arranged above gills. Trama of stalk with longitudinal hyphae  $2\text{--}4 \mu$  in diameter near surface, up to  $15 \mu$  in centre, gradually passing into trama of cap; outermost hyphae slightly spaced and interstices filled with hyaline matter. Pigment in all parts of trama incrusting, yellow-brown, becoming darker in  $\text{NH}_4\text{OH}$  and KOH; some hyphae of cuticle and of surface of stalk with yellowish opaque intracellular matter; vascular hyphae scarce in all parts of trama, opaquely yellowish. Clamps present.

Habitat.—In late autumn on mosses in coastal dunes, sometimes on mossy trunks (Bas 1180). In nine out of the ten collections mentioned below associated with *Hypnum cupressiforme*.

Collections examined.—



Figs. 1-8. *Galerina uncialis* (Britz.) Kühner: 1-4—carpophores  $\times 1$ ; 5-6—cheilocystidia  $\times 500$ ; 7-8—spores  $\times 2500$  (1, 5 and 7 from *Bas 1180*; 2 from *Maas Geesteranus 8125*; 3, 6 and 8 from *Bas 1184*; 4 from *Bas 746*).

NETHERLANDS:

Friesland: Terschelling, Boschplaat, 21 Oct. 1956, *W. J. Reijnders 2191* (herb. Reijnders).

Noord-Holland: Castricum, 3 Oct. 1954 and 13 Oct. 1954, *G. D. Swanenburg de Veye* (L).

Zuid-Holland: Katwijk, 28 Oct. 1951, *R. A. Maas Geesteranus 8125* (L); Leiden, 12 Dec. 1956, *C. Bas 1180* (L); Noordwijk, 19 Dec. 1954, *C. Bas 746* (L);

Noordwijk—Katwijk, 13 Dec. 1956, *C. Bas 1184* (L); Oostvoorne, 11 Nov. 1957, *C. Bas 1376* (L); Wassenaar, 6 Nov. 1957, *R. A. Maas Geesteranus 12449* (L); Wassenaar 25 Nov. 1957, *C. Bas 1391* (L).

*Galerina uncialis* has been recorded from the Netherlands twice before, viz. by Schweers (1939: 37; name only, no material preserved), and by Herregods (1951: 155). I studied the collection mentioned by the latter (G e l d e r l a n d: Deutekom, Gaanderen, Dec. 1937, *Schweers*) of which there is dried material (herb. Huijsman 824), material in alcohol (no. 3459), and a water-colour in the Rijksherbarium at Leiden. It proved to be a terrestrial form of, or a species close to, *G. marginata*, for it has broadly ventricose pleurocystidia with rather broad tapering necks.

The large terrestrial form of *G. uncialis* is much more common in the Netherlands than the small truncicolous one, which is smaller because of poor growing-conditions. Among normal, terrestrial specimens one finds sometimes small specimens which are quite similar to the truncicolous form.

In the classification of the genus *Galerina* as proposed by Smith & Singer, *G. uncialis* belongs to stirpes *Triscopa* of section *Mycenopsis*. Macroscopically this species has a strong resemblance to species of stirpes *Autumnalis* and *Marginata* of section *Naucoriopsis*.

#### ***Galerina moelleri* Bas, spec. nov.**

*Galera* (*Naucoriopsis*) *pumila* (Fr.) J. Favre sensu F. H. Möller f. *oreina* J. Favre, Champ. sup. Zone alp. 204. 1955.

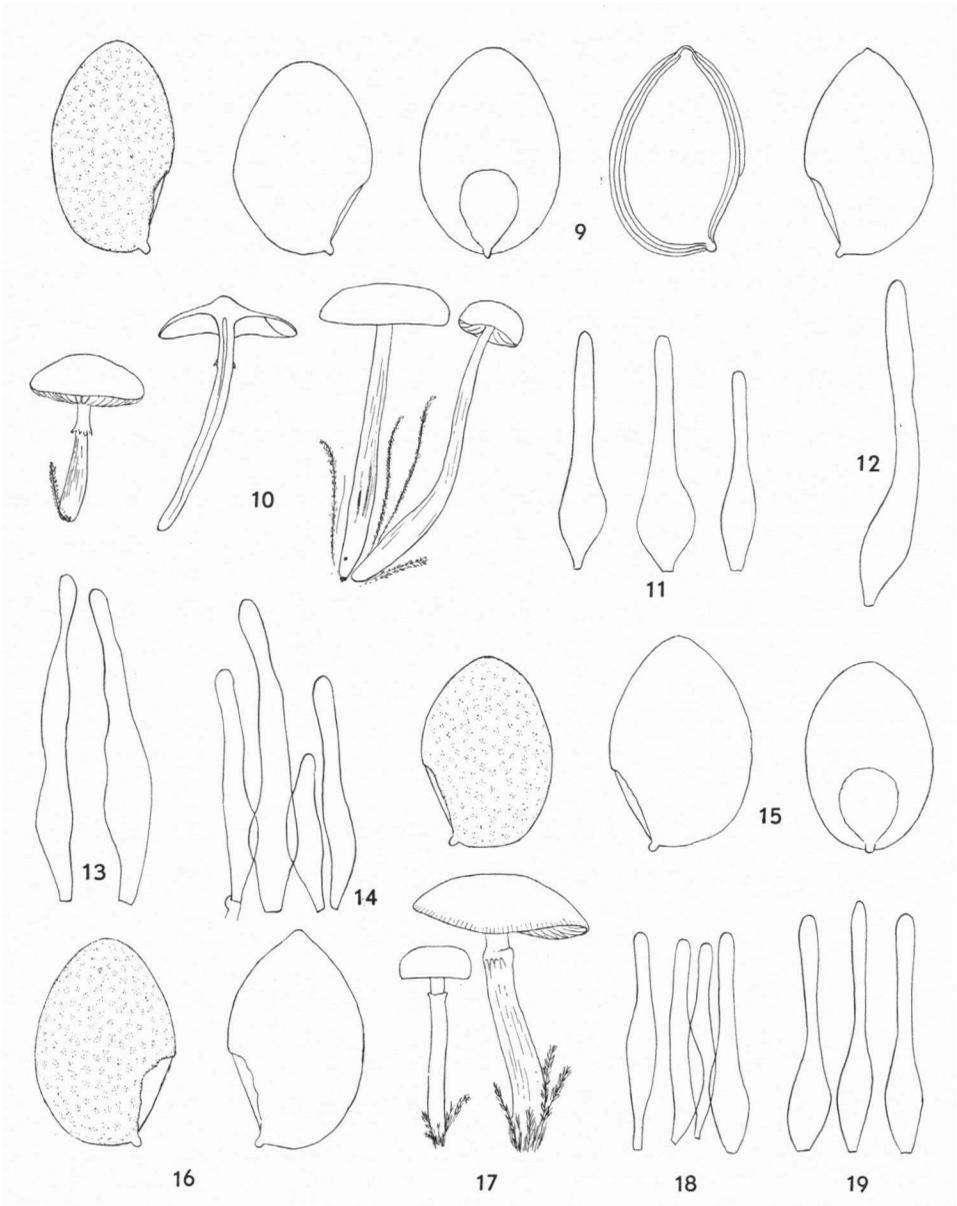
MISAPPLICATIONS.—*Pholiota pumila* (Pers. ex Fr.) Gill. sensu F. H. Möller, Fungi Faerøes 1: 229, fig. 106. 1945. — *Galerina pumila* (Pers. ex Fr.) M. Lange in Medd. Grönland 148 (2): 37. 1957.

Pileus 10–20(–30) mm latus, convexus, ferrugineo-brunneus, substriatus, subviscidus; lamellae subdistantes, adnatae vel subdecurrentes; stipes 20–35 mm longus, 2–7 mm crassus, sursum pallidus, pruinosis, deorsum albo-fibrillosus, demum pallide brunneus, annulatus vel subannulatus; sporae 9.5–12.5 × 6.5–8 μ, subrugosae; cheilocystidia 40–65 × 5–14 μ, anguste ventricosa; pleurocystidia cheilocystidiis similia, sed majora, usque ad 85 μ longa.

In pratis muscosis borealibus et alpinis. Typus in Herbario Musei Botanici Hauniensis: F. H. Moeller sine no, Faerøes Österö Slattaratinde, 17 VII 1938, sub nomine *Pholiotae pumilae*.

For detailed descriptions and figures of the macroscopic characters, I refer to Möller (l.c.), and also to Favre (l.c.). However, I may add my notes on the microscopical features.

Spores 9.5–12.5(–13.3) × 6.5–8 μ, broadly ellipsoid-ovoid, sometimes with faint apical papilla, slightly, rarely moderately, roughened to nearly smooth, plage present and rather conspicuous, exospore not loosening, pale yellowish-brownish in NH<sub>4</sub>OH, slightly to moderately darkening in KOH (paler than spores of *G. marginata* in KOH), slightly to moderately pseudoamyloid. Cheilocystidia 40–65 × 5–14 (neck 3–5.5) μ, slender lageniform, to subcylindrical, rarely subcapitate. Pleurocystidia present, but sometimes rare, 50–85 × 7–14 (neck 3–5.5) μ, similar in shape to cheilocystidia or more slender. Basidia 4-spored. Cuticle con-



Figs. 9-19. *Galerina moelleri* Bas: 9, 15, and 16—spores  $\times 2500$ ; 10 and 17—carpophores  $\times 1$ ; 11, 14, and 18—cheilocystidia  $\times 500$ ; 12, 13, and 19—pleurocystidia  $\times 500$  (9-12: from type; 10: after Möller; 13-15: from *Terkelsen 42*; 16, 18, and 19: from *Favre s.n.*, 20 Aug. 1943, Haut val Sessenna; 17: after Favre).

sisting of a layer of filiform, 2–5  $\mu$  wide hyphae; upper part gelatinized. Clamps present.

Habitat.—On mosses in alpine and boreal fields and marshes (not on *Sphagnum*).

Distribution.—Greenland, Faroes and Alps. Probably also Iceland (P. Larsen, 1932: 542, "*Pholiota marginata*"; Christiansen, 1941: 211, "*Pholiota marginata*"; M. Lange, 1949: 297, "*Pholiota praticola*"), and Lappland (M. Lange, 1957: 37, "*Galerina pumila*").

Collections examined.—

GREENLAND: Godthåb, 12 Aug. 1955, *F. Terkelsen 14* (in part) (C); Egedesminde, 16 Aug. 1955, *F. Terkelsen 42* (C); Godhavn, 23 Aug. 1955, *F. Terkelsen 76* (C); Christianshåb, 4 Sept. 1955, *F. Terkelsen 127* (C).

FAROES: Osterø, Slattaratinde, 17 July 1938 (type) and 5 Aug. 1938, *F. H. Möller s.n.* (C); Saxen, 23 July 1938, *F. H. Möller s.n.* (C).

SWITZERLAND: Canton des Grisons, Haut val Sessenna, 20 Aug. 1943, *J. Favre s.n.* (herb. Favre).

This species is rather well characterized by the large and slightly roughened spores with tight exospore, the slender cheilo- and pleurocystidia, and habit. It certainly belongs to stirps *Autumnalis* of section *Naucoriopsis* of the genus *Galerina* as defined by Smith & Singer (1957: 452).

*Galerina moelleri* has many features in common with another terrestrial species within this stirps, viz. *G. subochracea* A. H. Smith (1953: 917). However, the spores of *G. moelleri* are considerably larger.

Terrestrial species close, or forms belonging, to *G. marginata* may show a great resemblance to *G. moelleri* but are distinguishable by smaller spores which become considerably darker in KOH, by a more strongly ornamented, often slightly loosening exospore, and by broader pleurocystidia.

Möller and Favre both overlooked the pleurocystidia. However, I observed them in all collections mentioned above, though they may be rare. Especially in the type, of which the cells are hard to re-inflate, it is difficult to find the pleurocystidia. Nevertheless I have chosen this collection as type, because Möller's figures were drawn after it.

Favre made the Alpine fungus a form of *Pholiota pumila* sensu Möller (that is, *Galerina moelleri*), on account of its larger spores, shorter cystidia, and more conspicuous annulus. I found the following measurements: fungus from Faroes, spores 9.3–12.3 (–13.3)  $\times$  6.2–8.1  $\mu$  and cystidia (pleurocystidia included) 42–77  $\times$  8.5–14  $\mu$ ; Alpine fungus, spores 10.7–12.4  $\times$  7.2–8  $\mu$  and cystidia (pleurocystidia included) 40–67  $\times$  5–11  $\mu$ . I do not think these differences are really significant. The more or less pronounced annulus is also a variable character, as may be seen from Möller's illustration.

The following collections cited by Möller under *Pholiota pumila* do not belong to *Galerina moelleri*: Faroes: Nolsø 1938, *N. Petersen s.n.* (small, smooth spores with pore; chrysocystidia—Strophariaceae); Strömö, Legnumvatn 30 VII 1938; *F. H. Möller s.n.* (*Galerina praticola*?, see p. 313).

From the collections recorded by M. Lange from Greenland under the name *Galerina pumila*, the following are to be excluded: *M. Lange 125* (rather small and

very rough spores, very broad cystidia—aff. *G. marginata*); *Terkelsen 14* in part (very large smooth spores). I did not study Scholander's collections from Greenland.

***Galerina praticola*** (F. H. Möller) Bas, *comb. nov.*

*Pholiota praticola* F. H. Möller, *Fungi Faeröes* 1: 231, fig. 107b, pl. 2 fig. 4. 1945. — Type: Faroes, Nolsö, 25 VIII 1938, F. H. Möller *s.n.* (C).

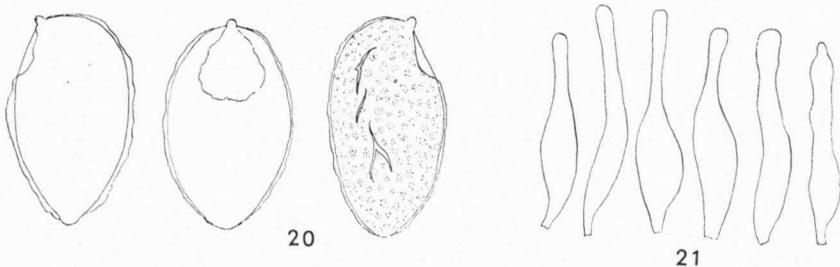
According to Möller, this is a pale, slender, terrestrial fungus resembling *G. marginata*. For a complete macroscopic description, I may refer to Möller. A study of the type revealed the following microscopical features:

Spores 10.6–12.8(–13.5) × 6.1–7.6  $\mu$ , slender, amygdaliform, moderately rough with smooth plage, with a rather conspicuously loosening exospore, pale brownish golden yellow in  $\text{NH}_4\text{OH}$ , hardly darkening in KOH, very faintly pseudoamyloid. Cheilocystidia 35–60 × 5–14  $\mu$ , necks 2.5–5  $\mu$ , tips 3–6  $\mu$ , slender fusiform or sub-cylindrical, sometimes subcapitate, rarely capitate. Pleurocystidia present but rare, similar to the cheilocystidia. Cuticle a layer of subradial, cylindrical, 3–7  $\mu$  broad hyphae. Clamps present.

I was not aware of the importance to be attributed to the presence or absence of a gelatinous pellicle, when I studied the type, and therefore did not pay sufficient attention to this character. From the description of the outer characters one would expect such a pellicle to be present.

*Galerina praticola* may be distinguished from *G. moelleri* by the slender spores with loosening exospore and from *G. marginata* by the large, faintly pseudoamyloid spores, hardly darkening in KOH.

The collection, F. H. Möller, 30 July 1938, Faroes, Strömö, Legnumvatn (C) named *Pholiota pumila*, may also be mentioned here, for it has the same slender spores with loosening exospore. However, the spores are slightly smaller, 9.5–12.3 × 5.4–6.1  $\mu$ .



Figs. 20–21. *Galerina praticola* (F. H. Möller) Bas: 20—spores × 2500; 21—cheilocystidia × 500 (20–21: from type).

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