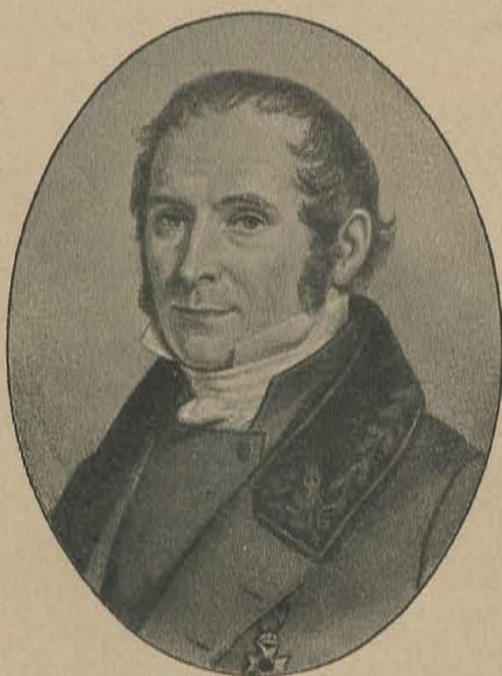


Dubbel de Koch

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FRIESIA

NORDISK MYKOLOGISK TIDSSKRIFT



BIND IV

HEFTE 3

KØBENHAVN 1951

INDHOLD

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REDAKTION:

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Udgivet af Foreningen til Svampekundskabens Fremme
Rolighedsvej 23, København V.

Trykningen afsluttet Januar 1952.

DANISH PSALLIOTA SPECIES

Preliminary Studies for a Monograph on the Danish Psalliotae

Part II. *)

By F. H. MØLLER

B. FLAVESCENTES

KEY TO GROUPS

1. *Majores* Fr. p. p. Ring well developed, with squamose underside. Medium-sized to large species (pileus 5—25 cm broad). Spores most frequently middle-sized to large. With marginal cystidia.
 - a. Spores up to 9μ long. Pellicle becoming deep yellow on friction.
 - a. Flesh with distinct almond- or anise-smell. Spores 5— 9μ long. Schäffer reaction positive.
 - VI. *The Augusta group*. Pileus with fine, more or less sparse, brown scales on a pale ground. Underside of ring areolately squamose. Marginal cystidia in chains, bladder-shaped to cylindrical. Large species in woods or parks Type *P. augusta*.
 - VII. *The Arvensis group*. Pileus white or yellow, smooth or with almost concolorous scales. Underside of ring often with more or less distinct cog-wheel. Marginal cystidia not in chains. Medium-sized species from pastures, gardens or woods Type *P. arvensis*.

*) Part I, see Friesia 4: 1—60. 1950.

- β. Flesh not smelling of almonds, often with a faint smell of ink or carbolic. Schäffer reaction negative. Spores small, $4-6 \times 3-4 \mu$.

VIII. *The Xanthoderma group*. Pileus white, brown, or dark grey, often squamose. Underside of ring as a rule with coarse scales along the edge. Marginal cystida balloon-pearshaped. Medium-sized species in gardens, parks, or woods Type *P. xanthoderma*.

- b. Spores large (mostly c. $9-12 \times 5-7 \mu$). Pellicle becoming less yellow on friction.

IX. *The Macrospora group*. Pileus white or yellow with concolorous or yellow scales. Underside of ring areolately squamose. Flesh thick, somewhat rufescent when broken, often with a transient slight smell of almonds, then with a disagreeable smell (urine, mouldy straw, and the like). Schäffer reaction capricious. Large, compact species in pastures or woods Type *P. macrospora*.

2. *Minores Fr.* Ring slightly developed: small, thin, without a scaly underside, simple. Small species (pileus usually 3—5 cm broad). Spores small ($4-6 \mu$ long). With marginal cystidia (see, however, *P. comtula*).

X. *The Semota group*. Pileus white, yellow, or lilac, often squamose. Ring simple. Flesh thin, smelling of almonds. Schäffer reaction positive. Small species, often in woods Type *P. semota*.

Note. The rather small *P. silvicola* whose spores are small ($5-6 \times 3-4 \mu$) and often with only slight remnants of the veil on the underside of the ring, belongs to the *Arvensis group*, while the often just as large *P. purpurascens*, owing to the slightly developed, simple ring and other characters, has its natural place in the *Semota group*.

1. MAJORES Fr. p. p.

VI. THE AUGUSTA GROUP

Large, slender species. Pileus beautifully brown-squamose on a white or yellow ground. Gills somewhat narrow, pale or flesh-colour.

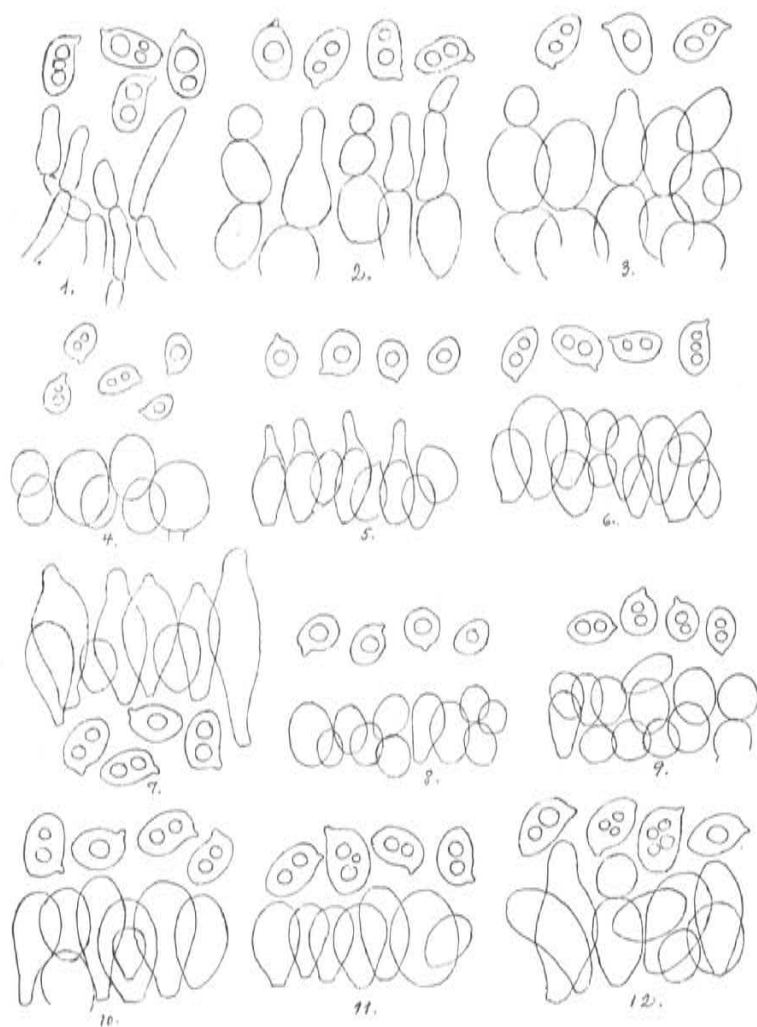


Fig. 15. Spores (1000:1) and cystidia (500:1) of: 1—3. *Psalliota augusta* (3 different finds). 4. *P. silvicola*. 5. *P. tenuivolvata*. 6. *P. abruptibulba*. 7. *P. macrocarpa*. 8. *P. nivescens*. 9. *P. nivescens* v. *parkensis*. 10. *P. leuco-tricha*. 11. *P. arvensis*. 12. *P. fissurata*.

Gill edge sterile, light-coloured. Ring sheathed above, areolately squamose on underside. Flesh white, often faintly yellowish red in stem, smelling of almonds. Marginal cystidia bladder-shaped to cylindrical, forming chains. Spores ovate, medium-sized. Schäffer reaction positive. In woods or parks.

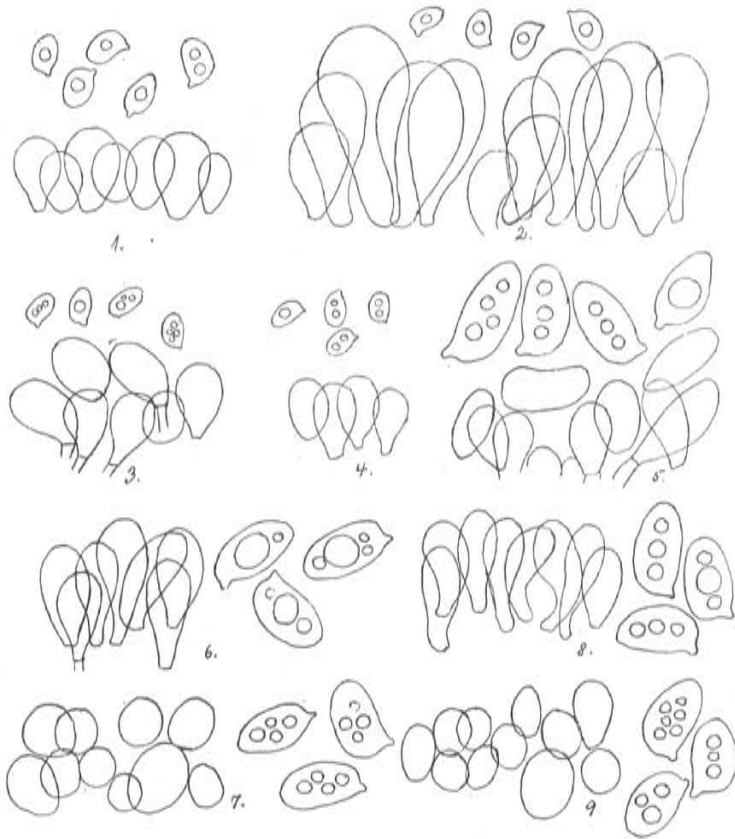


Fig. 16. Spores (1000:1) and cystidia (500:1) of: 1. *Psalliota xanthoderma*. 2. *P. phaeolepidota*. 3. *P. meleagris* (from Potsdam 1937). 4. *P. meleagris* v. *obscurata*. 5. *P. straminea*. 6.—7. *P. excellens* (2 different finds with varying cystidia). 8.—9. *P. macrospora* (2 different finds).

***Psalliota augusta* Fr.**

Fig. 20. Plates XXII—XXV.

Fries, Epicr., p. 212, 1836.

Syn.: *Agaricus* (*Psalliota*) *perrarus* Schulz., Verh. zool.-bot. Ges. Wien 29, p. 493, 1879.

— *Bresadolae* Schulz., Hedw. 24, p. 135, 1885 (nom. nud.); Saccardo, Syll. Fung. V, p. 1005, 1887; non *P. Bresadolae* sensu Baar 1937 (see under *P. macrospora*).

Psalliota praenitens Beck, Verh. zool.-bot. Ges. Wien, p. 611, t. 15, fig. 9, 1889.

Agaricus peronatus Mass., Eur. Fung. Fl., p. 204, 1902.

Psalliota perrara Schulz. sensu Ricken, Blätterp., p. 235, 1912; sensu Lange, Studies VI, p. 5, 1926.

— *subrufescens* (Peck) sensu Lange, Fl. Ag. Dan. IV, p. 55, 1939.

Icon.: Fries, Sver. ätl. och gift. Svamp., t. 38, 1860—1866.

Konrad & Maublanc, Icon. sel. Fung., t. 27, 1926.

Lange, Fl. Ag. Dan. IV, t. 135 B and t. 136 B 1939 (sub. nom. *P. subrufescens*).

Pileus 10—20 cm, at first almost globose or with obtuse apex (cubiform), then flatly campanulately expanded, as a rule with flattened, sometimes umbonate centre, when quite small everywhere dull brownish or tawny ("Cinnamon-Brown" to "Cinnamon"), sometimes with pale flocci from a universal veil; the pellicle, however, soon breaks up into dense, more or less brown to tawny fibrillose scales or fibrils, or into sparse, often concentric, broader scales, the centre in all cases remaining entire, forming a dark, 3—4 cm broad, concolorous surface, surrounded by the often neatly arranged scales on a whitish or straw-coloured ground. On friction the ground however becomes shot with a deeper yellow ("Apricot Yellow") as indeed the rest of the fruit body also. Gills free, crowded, narrow or somewhat narrow, at first pale but immediately after the rupture of the ring more or less flesh-colour ("Pale Pinkish Buff" to "Congo Pink"), finally blackish brown. Edge sterile, pale. Stem more or less slender, 10—20 cm × 20—30 mm, usually thicker downwards where the base is deeply imbedded in needles or leaves and is sometimes provided with a rooting mycelial strand, 2—3 mm thick; rarely cylindrical, pithy, later fistulose or more hollow even when young, and then filled with a cobweb-like loose tissue, white, often faintly rosy above the ring, particularly if the gills are a vivid red, when touched dark yellow in spots ("Apricot Yellow"), when older tinged with yellow, always naked and shining above the ring, below the ring towards the base white flocculose-squamose, often naked upwards towards the ring, but also frequently, especially when young, clad with belts of more or less coarse, and often outward curved, white, later tawny scales. Ring sheathed above, white, then tinged with yellow ("Straw Yellow"), thin, lax, often ruptured, broad, plicate, placed

high, smooth above, the underside dentate along the thickened edge and inwards areolate-squamose with white or later slightly tawny scales. Flesh thin, white, with age more or less flesh-coloured ru-bescent ("Pinkish Buff") in the base of the stem and outer layers. Smell pleasant, almond-like. Schäffer reaction positive. Spore powder brownish black, "Bone Brown" ("Anilin Black"); L. c. 3 (c. 2); S. 117 (116).

Spores oval-ovate, with one or several guttae, $7-8(-9) \times 4.5-5(-6) \mu$. Basidia 4-spored, clavate, $20-36 \times 7-10(-11) \mu$. Sterigmata $2-4 \mu$ long. Marginal cystidia: the edge densely beset with a broad border of hyaline, finally brown, spherical, oval, ovate, cylindrical or obtusely conical cells, in chains, and therefore often very protuberant, the outermost cell as a rule attenuated upwards, all easily deciduous, the links of the chain being loosely connected, so that the edge should be studied in young fruit bodies in the microscopical examination. The size of the cells varies greatly: $6-30(-50) \times 4-18 \mu$.

Gregarious, particularly in old *Picea* plantations, often in parks, but also under deciduous trees (*Quercus*, *Fraxinus*, *Ulmus*, *Aesculus*) and *Taxus*. Widely dispersed, but not quite common. August—October.

Falster: Halderup Skov; Korselitze-Skovene; Lindeskoven near Nykøbing; Systofte Skov; Nykøbing Vesterskov. — Fyn: Near Årup, Ravnholt, and Hunderup (J. E. Lange); Bøllevej near Nyborg; Juelsberg Skov. — Jylland: Hjarup (Poul Larsen). — Lolland: Flintinge Byskov; Frejlev Skov; Fuglsang Storskov; Grønge Skov; Hestekobbel near Fuglsang; Høvænge-Skoven near Nysted; Knuthenborg Park; Krenkerup Park (Lindh. Hansen); Lysemose (Sev. Petersen); Nybøllelund Skov; Nørrerod Skov; Stryhnskov near Vesterborg (H. Westergaard); Sæbyholm Skov; Sølstedgårds Skov. — Sjælland: Hjortenæs Skov (Sev. Petersen); Jægersborg Dyrehave (J. P. Jensen); Copenhagen: Søndermarken (M. Lange, Ø. Winge).

In colour as well as in the covering with scales on the pileus and stem and in the colour of the gills *P. augusta* varies greatly, so that in the course of time independent species have been erected from its forms, thus in Europe *P. perrara* Schulz., *P. praenitens* Beck, and *P. peronata* (Mass.), a circumstance which, however, is also due to the fact that it has been misinterpreted, particularly in Central Europe, where Fries's above-cited plate has not been known, nor his good description in Monogr. I, p. 403.

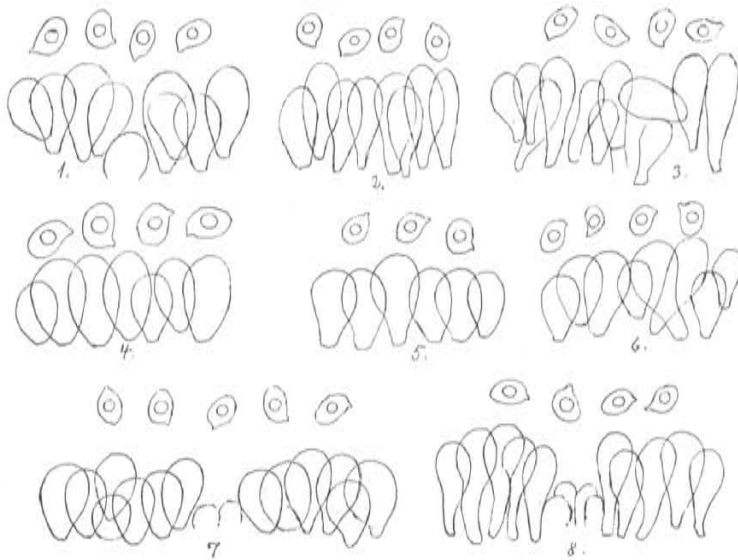


Fig. 17. Spores (1000:1) and cystidia (500:1) of: 1. *Psalliota purpurascens*. 2. *P. lutosa*. 3. *P. xantholepis*. 4. *P. luteo-maculata*. 5. *P. purpurella*. 6. *P. semota*. 7. *P. impudica*. 8. *P. arenicola*.

After 30 years' investigation in nature, in connection with which numerous water-colours (c. 30) have been done, and descriptions given of finds received and especially of my own finds from woods in the Danish islands, supplemented by studies of the literature and discussions with other interested persons (especially J. P. Jensen), I have come to the conclusion that we are only concerned with a single species, and that it is difficult even to segregate varieties from Danish material. It is true that J. E. Lange identified a dark-squamose oakwood form, having distinctly red gills and a hollow stem with curved scales, with *P. subrufescens* (Peck), an interpretation which, however, Alexander H. Smith (see *Studies in the Genus Agaricus*, p. 115, 1940) does not accept, and which Peck's original figures (N. Y. State Museum, Rep. 48, t. 7, figs. 1—9, 1895) do not confirm (see fig. 18). This dark *P. augusta* occurs under *Aesculus* too, as well as under *Taxus* and *Picea*, and is microscopically indistinguishable from lighter, squamose forms of *P. augusta*, which may also occur with pink gills and a hollow stem. As to *P. praenitens* Beck, which has much in common with *P. subrufescens* sensu Lange, this is also synonymous with *P. augusta* Fr. (see fig. 19) like *P. peronata* Mass. (see Pearson, *Rev. List of Brit. Ag. and Boleti*, p. 186,

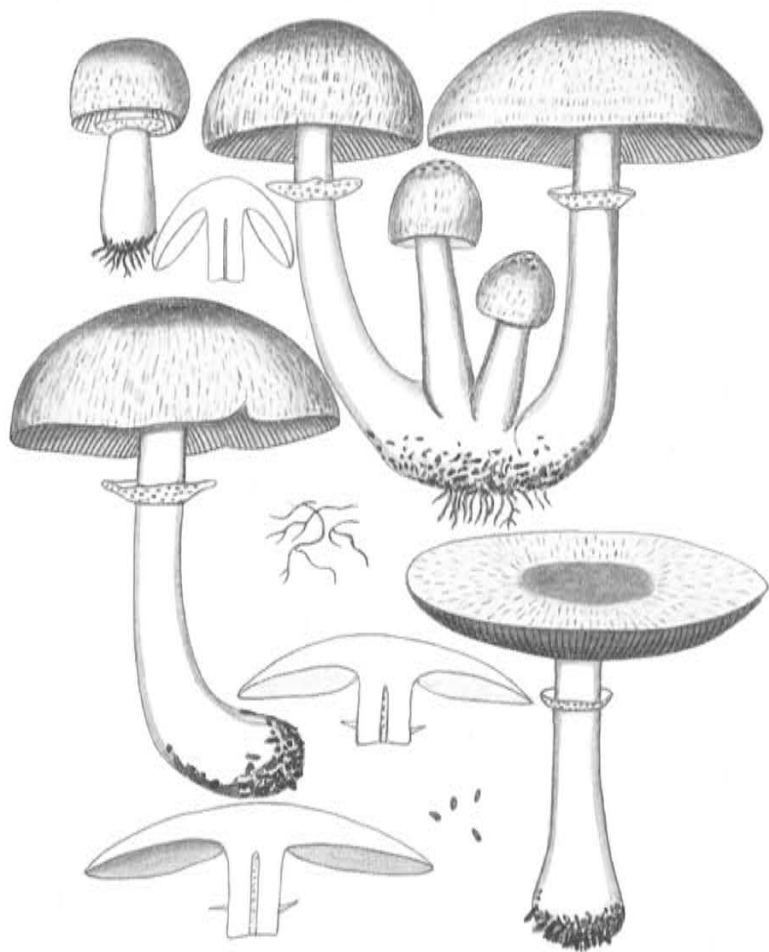


Fig. 18. *Agaricus subrufescens* Peck.
Sketch executed after Peck's coloured figures (1:2).

1948). Incidentally, Beck, like Ricken, interpreted *P. augusta* erroneously, namely as large-spored, as may be seen in his survey of mushrooms growing in woods (Zur Kenntnis der Waldegertlinge, Pilz- und Kräuterfr. 5, p. 43, 1921), in which, besides *P. augusta* Fr. sensu Ricken, he describes *P. praenitens* with even more characters in common with the genuine *P. augusta* than was the case in his original diagnosis.

Maublanc, Pilát, and others also unite *P. perrara* with *P. augusta*, but Alexander H. Smith maintains *P. perrara*



Fig. 19. *Agaricus (Psalliota) praenitens* Beck.
Sketch after Beck's black figures (1:1).

(Schulz.) sensu Bresadola as an independent species found in California, more yellow squamose with yellow mycelium and larger spores (sp. $8-10(12) \times 4-5(6)\mu$), and Meinhard Moser (Sydowia, Ann. Myc. Ser. 2, IV, p. 115, 1950) mentions the same from Tirol (sp. $8-10 \times 4-5\mu$, while spores of his *P. augusta* measure $7-9 \times 5.2-6\mu$), but Kalmár, Budapest, is inclined to regard (in lit.) *P. perrara* sensu Bres. as a confusion of *P. augusta* Fr. with *P. perrara* and states that in Hungary the spores of *P. perrara* are almost the same as in the Danish *P. augusta*, namely $8-9 \times 5-6\mu$. Kalmár, who does not know *P. augusta* Fr. from Hungary, regards *P. perrara* as a southern form or variety of *P. augusta*, growing under deciduous trees (*Quercus*), and writes in his letters that it resembles *P. subrufescens* sensu Lange, and that Konr. & Maubl., t. 27 (*P. augusta*) and Schweiz.-Pilzt. I, t. 27, 1947, represent *P. perrara*. *P. elvensis* B. et Br., which is often stated to be closely related to *P. augusta*, does not belong here, as it is merely a drought form of *P. vaporaria* (Vitt.), since practically all other characters than the curved scales of the pileus agree with that species. Boudier's careful description and figure (Icon. Myc. IV, p. 67, t. 134, 1905—

1910), to which Rea refers, fully shows this, and Pearson, with whom the author has communicated on the subject of finds of *P. elvensis* in England, has approved this interpretation (in. lit.). Cooke, Illustr. t. 522, no. 539 (*P. Elvensis* Berk.) also represents *P. vaporaria* (Vitt.), while *P. Elvensis* sensu W. G. Smith, Field and Cult. Mushrooms, fig. 9, and *P. villatica* sensu W. G. Smith, fig. 12, must be interpreted as *P. subperonata* Lange. *Agaricus giganteus* Schaeff., Icon., t. 84, previously interpreted as *Pholiota caperata*, is a ringless *P. augusta* Fr.

Hence it must be emphasized that *P. augusta* Fr. both occurs under *Picea* and *Taxus*, with which trees it probably forms mycor-

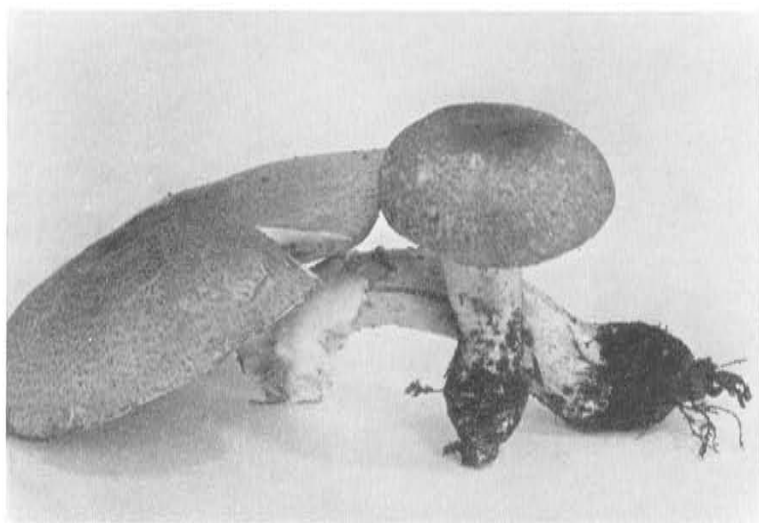


Fig. 20. *Psalliotia augusta* Fr.
Photograph from nature (1:2). The black fibres at the base of the stipes are mycorrhiza from *Picea Abies*.

rhiza (see fig. 20), and under *Quercus*, *Ulmus*, *Aesculus*, and *Fraxinus*; that it often has bright red gills, a fact which many mycologists do not seem to have noticed (see, however, Alexander H. Smith, l. c.); and that the stem is more or less hollow, at any rate when full-grown. The scales of the cap may be almost as delicate as hairs and yellow, or broad and dark brown, owing to which the cap may have almost the same appearance as in *Lepiota procera* — such a form seems to be presented as *P. perrara* by Ferdinandsen & Winge in *Mykologisk Ekskursionsflora*, pp. 316—317, 1943, which

the finder, Ø. Winge, however, seems inclined to regard as an independent, perhaps new, species.

From Meinhard Moser I have received a watercolour of a form, quite white with faintly yellow scales on the cap. The same form was found by the present writer in 1950 in Søllestedgård Skov. It greatly resembles *P. excellens* but has not the large spores of the latter.

VII. THE ARVENSIS GROUP

Medium-sized to large species. Pileus white or yellow, smooth or with concolorous scales. Gills narrow, pale or flesh colour. Gill edge sterile, pale. Stem often slender and hollow. Ring sheathed above, on the underside with cog-wheel or dentate edge. Flesh white, or in the stem slightly flesh-coloured. Smell almond- or anise-like. Marginal cystidia subglobose, rarely clavate to bottle-shaped. Spores ellipsoid. Schäffer reaction positive, strong. In woods, gardens, fields or meadows. Compare the *Xanthoderma* group.

KEY TO SPECIES

- | | | | |
|----|---|---|-------------------------|
| 1. | { | Stem slender with abruptly swollen, bulbous base, which is often more or less marginate or flattened. Pileus naked, rarely cracking into scales. In woods, mostly on needles ... | 2 |
| | | Stem clavately swollen towards base or almost cylindrical. Rarely in dense wood. Only one species on needles | 5 |
| 2. | { | Spores 5—6 μ long. Base of stem more or less globose. Deciduous woods or coniferous woods | 3 |
| | | Spores longer (6—8 $\times$ 4—5 μ). Base of stem marginate-bulbous. Under <i>Picea</i> | 4 |
| 3. | { | Small, thin-fleshed species. Ring with or without obsolete cog-wheel. Pileus 5—8 cm, white or sulphur-colour, turning dark yellow on the slightest pressure. Stem thin. Spores 5—6 $\times$ 3—4 μ . In deciduous and coniferous woods | 1. <i>P. silvicola</i> |
| | | Large, thick-fleshed species. Ring with marked cog-wheel. Pileus 8—12 cm, white or sulphur-coloured, turning less yellow on pressure. Stem thick. Spores 5—6.5 $\times$ 4—5 μ . In woods under <i>Picea</i> | 2. <i>P. tenuivolva</i> |

- | | | | |
|----|---|---|--|
| 4. | { | Pileus 8—12 cm, white. Stem at base markedly marginate-bulbous or flattened. Marginal cystidia globose-balloon-shaped | 3. <i>P. abruptibulba</i> |
| | | Pileus 10—15 cm, white. Base of stem with marginate or somewhat rounded bulb. Marginal cystidia globose-balloon-shaped to bottle-shaped | 4. <i>P. macrocarpa</i> |
| 5. | { | Spores roundish, c. $5-6 \times 4-4.5 \mu$. Pileus and stem white, merely turning faintly yellow with age. Stem subcylindrical | 6 |
| | | Spores elongate, c. $7-8 \times 4.5-5 \mu$. Pileus white, alutaceous or ochre with age, and often more or less cracking into scales. Stem clavate downwards | 7 |
| 6. | { | Pileus 10—15 cm. Stem very short, as a rule stuffed-pithy. Flesh thick, white or faintly yellow with age. In fairy rings in pastures or in groves and gardens | 5. <i>P. nivescens</i> |
| | | Pileus 5—10 cm. Stem at least as tall as the pileus is broad, hollow. Flesh thin. In parks and groves | 5 a. <i>P. nivescens</i> var. <i>parkensis</i> |
| 7. | { | Pileus 8—12 cm, densely clad with white, matted hairs and often also with white, erect, pointed squamules. In woods, especially under <i>Picea</i> | 6. <i>P. leucotricha</i> |
| | | Pileus naked or when young subfloccose. Amongst grass ... | 8 |
| 8. | { | Pileus 8—15 cm. Stem slender (8—10 cm in height), smooth. Ring with well-developed cog-wheel or rather coarsely dentate on the underside. In meadows, in gardens under trees, occasionally in light woods, now and then on chaff or on turf-piles | 7. <i>P. arvensis</i> |
| | | Pileus 5—10 cm, often radially cracking into scales. Stem 5—8 cm high, frequently granulose-squamose just under the ring. Ring with numerous small teeth at the edge. In meadows near the shore | 8. <i>P. fissurata</i> ✕ |

1. *Psalliota silvicola* (VITT.) FR.

Fig. 21. Plate XXVI.

Fries, *Epier.*, p. 213, 1836 (sub. nom. *P. campestris* var. *silvicola*).
 Syn.: *Agaricus campestris* var. *silvicola* Vittadini, *Fung. mang.*
 d'Ital., p. 43, 1835.

Pratella flavesceus Gillet, Champ., p. 564, 1878, t. 576 (384), 1878—1890.

Agaricus silvicola (Vitt.) sensu Peck, N. Y. State Mus., Mem. 4, p. 164, 1900.

Psalliota silvicola (Vitt.) sensu Ricken, Vademecum, p. 144, 1920.

Psalliota silvicola (Vitt.) sensu Rydberg: Ingelström, Svampbok, p. 101, 1940.

Icon.: Vittadini, Fung. mang. d'Ital., t. VII, figs. 7—9, 1835.

Peck, N. Y. State Mus., Mem. 4, t. 59, figs. 1—7, 1900.

Hans Walty, Schweizer-Pilztafeln II, t. 34, 1944.

Pileus 5—8 cm, ovate, sometimes obtuse above, then expanded and often with flattened centre, shining, white, but soon turning sulphur-coloured ("Sulphur Yellow"), on slight pressure becoming dark lemon yellow spotted (dark "Lemon Chrome", "Apricot Yellow"), naked. Gills free, crowded, narrow, long pale, then only faintly red ("Pale Pinkish Buff") before beginning to turn dark, finally blackish brown. Edge sterile, pale. Stem thin, 6—8 cm $\times$ 10—15 mm, subcylindrical but always with a slightly marginate or rounded, abruptly swollen, bulbous base, to which fairly stout mycelial strands are attached, hollow, white, sometimes reddish above the ring where later it turns black, otherwise like the cap shot with a deep lemon yellow when touched; silky, naked. Ring sheathed above, white or yellowish, thin, fairly broad, obliquely pendulous, placed high, smooth above, on the underside at the edge frequently with few thin, white or yellow scales, but occasionally quite naked. Flesh thin, white or faintly reddish, particularly in the stem ("Pale Pinkish Buff"). Smelling of anise. Schäffer reaction positive. Spore powder dark brown ("Mummy Brown"; L. g. 8; S. 701).

Spores ovate, frequently with 1—2 guttae, 5—6 $\times$ 3—4 μ . Basidia 4-spored, clavate, 20—24 $\times$ 5—7(—8) μ . Sterigmata 2 μ long. Marginal cystidia numerous, oval or globose-balloon-shaped, hyaline, 10—20 $\times$ 7—20 μ .

In small groups of 2—3 fruit bodies, growing in light woods of *Fagus* or *Picea*. Here and there. August—October.

Falster: Søndre Kohave near Nykøbing; Korselitze-Skovene. — Fyn: Bølløvænge near Nyborg. — Jylland: Frøslev Plantage. — Lolland: Flintinge Byskov; Fuglsang Storskov; Maltrup Skov. — Sjæl-

land: Glæne Skov; Marienlyst Skov near Vordingborg; Vintersbølle Skov.

P. silvicola is here taken in a narrower sense than has previously been the case in Denmark and in many other places. See further fig. 21 and the notes on *P. abruptibulba*. It differs from the latter,

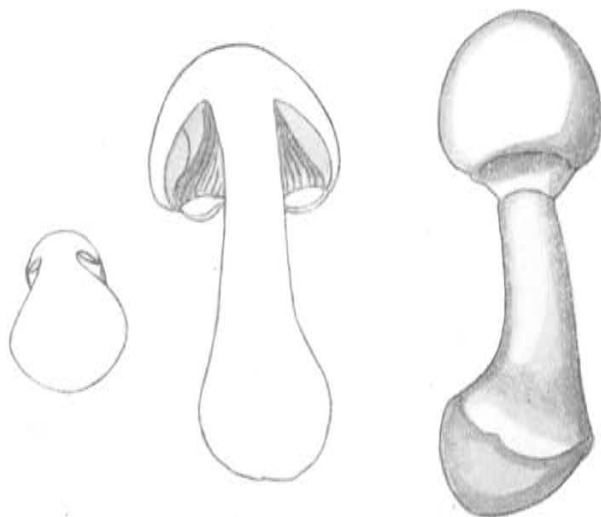


Fig. 21. *Agaricus campestris* var. *silvicola* Vitt.
Sketch executed after Vittadini's coloured figures (1:1). Miss E. M. Wakefield writes (in lit.): "The figures are of a very young, unexpanded specimen, in which the stem might be solid".

which is very closely related to it, in being smaller, in a more rounded, bulbous base, in the cog-wheel on the underside of the ring being slightly developed or absent, and in smaller spores. Further, it is more sensitive to pressure. Merely by lying in a basket together with *P. abruptibulba* the difference shows, as it is found to be much spotted with yellow both on the cap and stem upon arrival at its destination, while the fruit bodies of *P. abruptibulba* only become dark yellow upon more rough treatment. *P. silvicola* is distinguishable from the slender forest species of the *Campestris* group (especially *P. aestivalis* var. *flavotacta*) by its pale gills as well as by the marginal cystidia and the small spores. Compare also *P. tenuivolvata*.

P. xanthoderma resembles both *P. silvicola* and *P. abruptibulba*, but is especially recognisable by its negative Schäffer reaction and the absence of any almond or anise smell.

2. *Psalliota tenuivolvata* sp. n.

Fig. 22.

Diagnosis. Pileus 8—12 cm, e conico-campanulato vel hemisphaerico expansus, medio saepe applanato, sericeo-nitens, albus vel sulphureo-tinctus, vulneratus luteo-maculatus, prope marginem initio late floccoso-squamosus, squamis sat latis, albis, adnatis. Lamellae liberae, confertae, subangustae, e pallidis dilute incarnatae, denique fuscae, acie sterili, pallida. Stipes validus, 10—13 cm $\times$ 25—30 mm, cylindricus, basi rotundato-tuberculata, usque ad 40 mm crassa, cavus, medulla floccosa impletus, albus, postremo lutescens, vulneratus luteo-maculatus, nitens, initio supra tuberculam squamis veli paucis, albis obsitus. Annulus superus, albus, subtenuis, latus, reflexus, supra levis, infra squamis in orbem locatis, crassis, albis, tandem lutescentibus ornatus. Caro subcrassa, alba, postremo in basi stipitis lutescens, odore amygdalino.

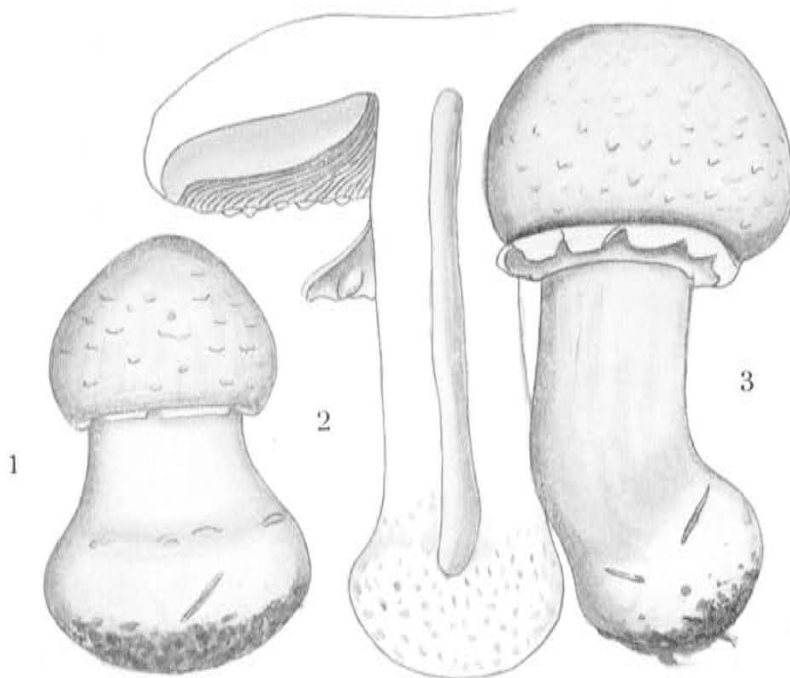


Fig. 22. *Psalliota tenuivolvata*.

Figures drawn from nature (2:3). 1. From Odinsalakär. 2.-3. From Åreskutan in Jämtland.

Sporae acervatim fuscae, late ovatae, 1—(2)-guttulatae, 5—6.5×4—5 μ . Basidia 4-sterigmatica, clavata, 26—30×8—9 μ . Sterigmata 3—4 μ longa. Cystidia aciei lamellarum numerosa, ovalia, saepe ampullacea, hyalina, 9—11 μ lata.

Gregaria in silvis coniferis Sueciae. Julio.

Differt a *P. macrocarpa* et *P. abruptibulba* sporis minoribus, a *P. silvicola* annulo crassiore, statura maiore, et a *P. nivescens* habitatione in silvis abiegnis, stipite elatiore etc.

Description. Pileus 8—12 cm, at first conico-campanulate or semiglobate and then with slightly flattened centre, later expanded, flatly convex, silky, white or with a sulphur-yellow tinge, when bruised bright yellow ("Apricot Yellow"), when young with white, rather broad, floccose scales towards the edge, from the partial veil. The margin of the cap, when expanded, with dentate seam. Gills free, crowded, rather narrow, pale, later pale flesh colour ("Pale Pinkish Buff"), finally dark. Edge sterile, pale. Stem stout, 10—13 cm×25—30 mm, cylindrical with distinctly roundish, bulbous base (up to 40 mm thick), hollow with cobweb-like pith, white, with age shot with yellow downwards, when bruised dark yellow-spotted like the cap, shining, at first with coarse velum scales just above the base. Ring sheathed above, white, rather thin, broad, obliquely pendulous, placed above the middle of stem, smooth above, on the underside with a circle of coarse, finally slightly yellow scales. Flesh fairly thick, white, finally, in old individuals, yellowish at the base of the stem. Smell somewhat like almonds. Schäffer reaction positive. Spore powder blackish brown.

Spores shortly ovoid, 1 (or 2)-guttulate, 5—6.5×4—5 μ . Basidia 4-spored, clavate, 26—30×8—9 μ with sterigmata 3—4 μ long. Marginal cystidia numerous, oval to bottle-shaped, hyaline, 9—11 μ broad.

In small groups under *Picea*, July 1950. Not in Denmark but in Jämtland (Sweden) in the Odinsalakär near Östersund; at Åre on Åreskutan (found twice here by M. Lange).

The above-mentioned species is evidently closely allied to *P. macrocarpa* and *P. abruptibulba*, but it has spores like those of *P. nivescens*, which, however, differs from it by the shorter, as a rule massive, stem and its occurrence in pastures or gardens, never in coniferous woods. *P. nivescens* var. *parkensis* and *P. silvicola* are

much smaller fungi. When young it bears a passing resemblance to *Amanita citrina*, fairly solid remnants of a membranous universal veil being then seen on the cap and stem.

It is not inconceivable that it might be found in Denmark, hence it is included in this survey.

3. *Psalliota abruptibulba* (Peck) Kauffm.

Fig. 23. Plate XXVII.

Kauffman, The Agaricaceae of Michigan, p. 237, 1918.

Syn.: *Agaricus abruptibulbus* Peck, N. Y. State Mus., Bull. 94, p. 35, 1905.

- *silvicola* (Vitt.) sensu Peck, N. Y. State Mus., Rept. 46, p. 135, 1893.
- *arvensis* (Schff.) Fr. v. *abruptus* Peck, N. Y. State Mus., Rept. 48, p. 239, 1895.
- *abruptus* Peck, N. Y. State Mus., Mem. 4, p. 163, 1900.
- Psalliota arvensis* (Schff.) Fr. sensu Ricken p. p., Blätterp., p. 236, 1912; Vademecum, p. 144, 1920.
- *arvensis* (Schff.) Fr. v. *silvicola* (Vitt.) sensu Lange, Studies VI, p. 7, 1926.
- *silvicola* (Vitt.) Fr. sensu Lange, Fl. Ag. Dan. IV, p. 57, 1939.
- *abruptibulba* (Peck) Kauffm. sensu Rydberg: In-gelström, Svampbok, p. 101, 1940.

Icon.: Krombholz, Abbild., t. 23, figs. 11—12, 1836 (sub. nom. *Ag. edulis* Bull.).

Peck, N. Y. State Mus., Mem. 4, t. 59, figs. 8—14, 1900 (sub nom. *Ag. abruptus*).

Lange, Fl. Ag. Dan. IV, t. 138 B, 1939 (sub nom. *P. silvicola*).

Hans Walty, Schweizer-Pilztafeln I, t. 28, 1947 (sub nom. *P. arvensis*).

F. H. Møller, Den nye Svampebog, fig. 122, 1947 (sub nom. *P. silvicola*).

Pileus 8—12 cm, ovate-campanulate, finally expanded with slight umbo, usually without flattened centre, silky, beautifully white, when bruised dark lemon yellow-spotted as in *P. silvicola*, naked or floc-cose-squamulose towards the margin. Gills free, crowded, narrow,

long pale, then greyish flesh-coloured ("Pale Grayish Vinaceous"), finally blackish brown. Edge sterile, pale. Stem slender and frequently ascendant, 10—12 cm × 10—20 mm, either cylindrical or a little thicker towards a broad, marginate-bulbous base, 20—30 mm broad, often flat underneath and obliquely developed (see the cited figures of Krombholz), hollow, white, often slightly reddish at apex, but there finally turning black with age, shining, naked, or with light, floccose squamules below. Ring sheathed above, white, thin, broad, often plicate and partly torn, obliquely pendulous, placed high, smooth above, on the underside with a circle of angular, white, gradually yellowish scales, which may form a cog-wheel with teeth cut off straight. Flesh thin (c. 1 cm thick over the stem), white in the cap, but flesh-coloured in the outer layers of the stem ("Pale Grayish Vinaceous"), smelling of almonds. Schäffer reaction positive. Spore powder dark brown, ("Mummy Brown"; L. g 8; S. 701).

Spores ovally ovate, often with 2 guttae, 6—8 × 4—5 μ . Basidia 4-spored, clavate, 20—30 × 7—8 μ . Sterigmata 2—3 μ long. Marginal cystidia numerous, oval or globose-balloon-shaped, hyaline, 8—30 × 7—20 μ .

In small groups, sometimes with 2—3 fruit bodies united at the base, growing in light *Picea* woods where they are often deeply imbedded in old, loose needles. Fairly common. July—November. Found by the author in the following localities:

Falster: Halderup Skov; Hannenov Skov; Lindeskoven; Systofte Skov; Nykøbing Vesterskov. — Fyn: Bøllevej near Nyborg; wood north of Tvinde; Æble Skov at Sulkendrup. — Jylland: Frøslev Plantage. — Lolland: Flintinge Byskov; Fuglsang Storskov; Maltrup Skov; Orebygårds Storskov; Ryde Skov; Sølstedgårds Skov. — Sjælland: Hesede Plantage; Kalby Ris; Ravnsholt Hegn; Rettestrup Plantage.

In nature it may be difficult to distinguish large specimens of *P. abruptibulba* from small individuals of *P. macrocarpa* which also occurs exclusively in *Picea* woods. Microscopically, however, there is a slight difference. The small *P. silvicola* has a more rounded, bulbous base and a thinner ring (see further the Key).

Peck gave an excellent description of *P. abruptibulba*. Thus he emphasized the relationship with *P. arvensis* as regards the ring, and the somewhat stylized figures showed its characters so clearly, particularly the peculiar form (see fig. 23) of the bulbous base of the

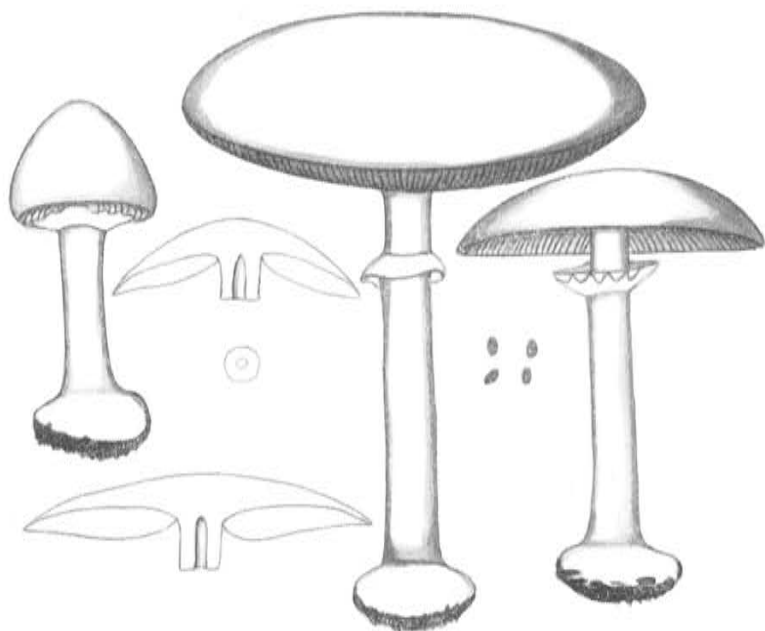


Fig. 23. *Agaricus abruptibulbus* Peck.
Sketch executed after Peck's coloured figures (1:2).

stem, the very slender stem, the double ring, and the size, that no one need doubt about its identity with the above-described species. Alexander H. Smith and several other mycologists in the U.S.A. and elsewhere, however, identify Peck's species with *P. silvicola* (Vitt.). This however, is opposed to Fries's view, the latter having referred the above-cited figures of Krombholz, which plainly represent *P. abruptibulba*, to *P. arvensis*, and in addition, in accordance with Vittadini's figure of *P. silvicola* (see fig. 21) describes the latter in such a way that there cannot be any question of *P. abruptibulba* ("stipite... subbulboso, annulo simplici, ... lamellis ex albido fuscentibus ... Similis *A. arvensis*, sed annulo etc. distinctus").

4. *Psalliota macrocarpa* sp. n.

Plate XXVIII.

Syn.: *Psalliota arvensis* (Schff.) Fr. sensu Ricken p.p., Blätterp., p. 236—237, 1912.

Diagnosis. Pileus 10—20 cm, ex ovato vel hemisphaerico expansus, medio saepe subumbonato, raro applanato, sericeo-nitens, albus, sulphureo-tinctus, denique centro alutaceo, vulneratus luteo-maculatus, levis, marginem versus tamen distincte flocculoso-squamulosus, squamulis adpressis, concoloribus. Lamellae liberae, confertae, angustae, e pallidis incarnatae, demum obscure fuscae, acie sterili, pallida. Stipes elatus, saepe curvatus, 10—18 cm × 25—35 mm, subcylindricus, ad basim bulbosus, bulbo marginato vel rotundato, cavus, albus, apice saepe e roseo cinerescente, nitens, nudus, basim versus tamen floccoso-squamulosus. Annulus superus, albus, sensim ex parte sulphureus, subcrassus, latus, reflexus, supra levis, infra squamosus, squamis 1 mm crassis, albis vel lutescentibus, saepe radiatim dispositis. Caro tenuis, alba, in stipite plus minusve incarnata, odore amygdalino.

Sporae acervatim fuscae, ovato-ovales, 1—2-guttulatae, (6—)7—8(—10) × 4.5—5(—5.5) μ . Basidia 4-sterigmatica, clavata, 20—28(—40) × 7—9(—10) μ . Sterigmata 2—3(—4) μ longa. Cystidia aciei lamellarum numerosa, nunc globoso-vesiculosa, nunc ampullacea, hyalina vel fusca, 10—40(—64) × 8—18(—22) μ .

Subgregaria in silvis abiegnis (*Picea*) Daniae. Autumno.

A *P. abruptibulba*, cui valde proxima, fere tantum statura maiore et cystidiis fusiformibus distincta. Differt quum a *P. silvicola* tum a *P. tenuivolvata* sporis maioribus.

Description. Pileus 10—20 cm, ovate or semi-globate, rarely with flattened centre, finally expanded and often slightly umbonate, silky, beautifully white, gradually with a sulphur yellow tinge and when old with the centre alutaceous ("Tilleul-Beige"), when bruised dark yellow in spots (dark "Lemon Chrome"); smooth, towards the margin but distinctly floccose-squamose. The margin with a narrow, thin, dentate velum fringe as in the preceding species. Gills free, crowded, narrow, pale, then flesh colour ("Pale Flesh Color"), finally blackish brown. Edge sterile, pale. Stem high, often bent owing to the weight of the cap, 10—18 cm × 25—35 mm, subcylindrical but with a bulbous base which is either distinctly marginate or rounded, cut off straight below, hollow, white, often beautifully pink ("Pale Congo Pink") at the apex, then turning grey; shining, naked, but floccose-squamulose towards the base. Ring sheathed above, white, by degrees partly sulphur-coloured ("Sulphur Yellow"), fairly thick, broad, obliquely pendulous, placed high, smooth above but

with coarse scales (1 mm thick) on the underside, often forming a cog-wheel and as a rule becoming yellow. Flesh thin, white in the cap, at the apex of the stem more or less flesh colour ("Pinkish Buff") outwards. Smell of almonds. Schäffer reaction positive. Spore powder dark brown ("Mummy Brown"; L. g8; S. 701 or darker: "Bone Brown"; L. c3; S. 117).

Spores ovally ovate with 1—2 guttae, (6—)7—8(—10) $\times$ 4.5—5(—5.5) μ . Basidia 4-spored, clavate, 20—28(—40) $\times$ 7—9(—10) μ with sterigmata 2—3(—4) μ long. Marginal cystidia numerous, varying greatly in form and size, globose-balloon-shaped — bottle-shaped, hyaline or brown, 10—40(—64) $\times$ 8—18(—22) μ .

In small groups on needles in older, light *Picea* woods; not outside woods. Rather infrequent. September—November.

Falster: Halderup Skov; Oustrup Kirkeskov; Korselitze-Skovene. — Lolland: Flintinge Byskov; Fuglsang Storskov; Ryde Skov; Sæbyholm Skov. — Sjælland: wood near Harrestedgård.

Ricken says about this species: „Auf gehäuften Nadeln entwicklet er (*P. arvensis*) eine Riesenform (25 cm) mit nacktem, hohlem, typisch gerandet-knolligem, schliesslich schwärzendem Stiel, die vielfach mit *augusta* (Fr.) verwechselt wird.“ Thus Ricken thinks that it only occurs on heaped-up needles and so is a more luxuriant form of *P. abruptibulba*, but it is not the depth of the layer of needles which causes the size of the fruit body, nor is it merely a form, though perhaps a variety, of *P. abruptibulba*. It cannot be confused with *P. excellens* (*P. augusta* sensu Ricken) and *P. tenuivolvata* if the spores are examined. *P. leucotricha* has a woolly-tomentose cap and is much smaller. By the large, bulbous base and the habitat it can be distinguished from *P. arvensis*.

Late in the year there occur many large spores on larger basidia with longer sterigmata than normal (for dimensions see brackets above). The marginal cystidia tend to be fusiform or bottle-shaped, and the bulbous base is often more rounded, the scales on the ring thicker, and the margin of the pileus more floccose-squamose than in *P. abruptibulba*.

5. *Psalliota nivescens* sp. n.

Fig. 24. Plates XVIII b and XXIX.

Icon.: Cooke, Illustr., t. 523, no. 540, 1881—1891 (see fig. 24).

Berkeley, Outl., t. 10, fig. 4, 1860.

Diagnosis. Pileus 10—15 cm, hemisphaericus, centro interdum applanato, dein expansus, sericeo-nitens, albus vel leviter sulphureus, tactu flavo-maculatus, nudus vel ambitu flocculosus, interdum tempestate sicco areolato-squamosus. Lamellae liberae, confertae, angustae, diu pallidae, dein dilute incarnatae, tandem obscure fuscae, acie sterili, pallida. Stipes curtus, 8—10 cm $\times$ 35—50 mm, cylindricus, basi tamen plerumque attenuata, interdum subfusiformis et cavus, ceterum dense medullatus, albus, tactu flavo-maculatus, sericeo-nitens, saepe minute furfuraceus, tandem nudus. Annulus superus, albus, 1—2 mm crassus, margine crassiore, latus, reflexus, supra levis, infra squamosus, squamis in orbem locatis, magnis, rotundatis, ex albis ochraceis. Caro subcrassa, in medio pilei 2—3 mm crassa, marginem versus tenuis, alba, interdum sulphureo-vel flavo-maculata, praecipue in stipite, odore amygdalino.

Sporae acervatim fuscae, late ovatae, uniguttulatae, 5—6(—7) $\times$ 4—4.5(—5) μ . Basidia 4-sterigmatica, clavata, 20—30 $\times$ 6—8 μ . Sterigmata 2—3 μ longa. Cystidia aciei lamellarum numerosa, ovato-vesiculosa vel late clavata, interdum ampullacea, hyalina, 9—16 (—30) $\times$ 6—12 μ .

In pascuis et pratis Daniae, saepe circulos magnos formans vel gregaria in hortis. Aestate-autumno.

Description. Pileus 10—15 cm, semi-globate, sometimes with flattened centre, then expanded, silky, white or slightly sulphur-coloured ("Sulphur Yellow"), spotted lemon colour ("Lemon Chrome") when touched, smooth or slightly flocculose towards the margin, in dry weather breaking into scales. The margin with a narrow velum fringe. Gills free, crowded, narrow, long pale, later pale flesh colour ("Pale Flesh Color", "Flesh Color") at length blackish brown. Edge sterile, light-coloured. Stem short, 8—10 cm $\times$ 35—50 mm, cylindrical, often, however, with narrower base, sometimes inflated in the middle and then hollow, as a rule with a dense pith, white, but like the cap becoming yellow when touched, silky, often with a few loose, concolorous, round, furfuraceous scales, naked with age. Ring sheathed above, white, 1—2 mm thick, edge thickest, broad, obliquely pendulous, placed a little above the middle of the stem, smooth above, on the underside with a circle of coarse, roundish, white, later ochraceous scales. Flesh fairly thick, 2—3 cm thick over the stem, but thin towards the margin of the cap, white, sometimes with sulphur-coloured or lemon-coloured spots, mostly in the

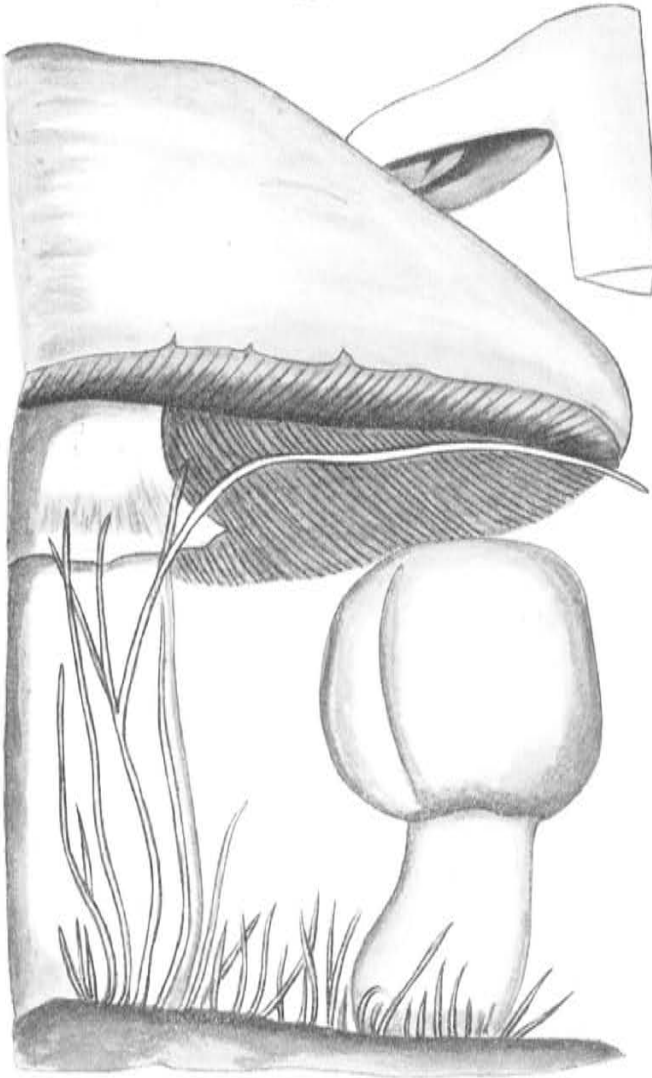


Fig. 24. *Agaricus (Psalliota) arvensis* sensu Cooke.
Sketch after Cooke, Illustr., t. 523, no. 540 (4:5).

stem. Smell like almonds. Schäffer reaction positive. Spore powder brownish black ("Bone Brown"; L. c3; S. 117).

Spores shortly ovate, 1-guttulate, $5-6(-7) \times 4-4.5(-5) \mu$. Basidia 4-spored, clavate, $20-30 \times 6-8 \mu$. Sterigmata $2-3 \mu$ long. Marginal cystidia numerous, ovate-balloon-shaped to shortly clavate, hyaline, $9-16(-30) \times 6-12 \mu$.

In large, vigorous fairy rings, killing the grass in meadows and pastures, or gregarious in gardens. Fairly frequent, probably the most widely distributed of the wild species in this group. June—September.

Falster: Field near Korselitze; pasture near Skørringegård; Nykøbing cattle show ground; gardens in Nykøbing. — Fyn: Meadow near Aunslev. — Glæne: Vestfjed. — Lolland: Alholm Park; Grænge on lawn; Horslunde in meadows; Krenkerup Park; meadow near Krungerup; Lindelse near Nakskov in meadow; eastern side of Røgbølle lake; Tvedegård near Svinsbjerg in meadow. — Vigsø in Smålandshavet. — Sjælland: Hillerød (Julio Grandjean, Renée Desomville).

This species bears some external resemblance to species of the *Macrospora* group, but when young the flesh is pure white and the spores are small. The cap is long pure white, and does not acquire the ochre colour that the succeeding more long-spored species of the *Arvensis* group soon assumes with age. Cooke, Illustr., t. 523, no. 540, 1881—1891, seems to represent this species, since the flesh is white, the stem is smooth and the form and habitat agree excellently. Konrad referred this figure to *P. arvensis* (Schff.) Fr. and attributed large spores to this species, a view which the author does not share. Also, Berkeley's figure of *P. arvensis* (Outl., t. 10, fig. 4) bears an unmistakable resemblance to *P. nivescens*.

Under trees in groves and parks there occurs a variety which is smaller and has a slenderer stem. It has the same microscopical characters as the type, but is not an inhabitant of pastures and does not form fairy rings.

5a. *Psalliota nivescens* var. *parkensis* var. n.

Fig. 25.

Diagnosis. Pileus tantum 5—8 cm latus; stipes 6—9 cm × 15 mm, cavus; lamellae latiores; caro in pileo 10—15 mm lata.

Sporae 5—6.5(—8) × 4—5(—5.5) μ ; basidia 24—28 × 6—7(—8.5) μ ; cystidia aciei lamellarum globosa, ovata vel ovalia, 10—22 × 7—12 μ .

A typo differt statura graciliore, fere ut *P. arvensi* sensu restr. Gregaria in hortis, nemoribus etc. Daniae. Aestate-autumno.

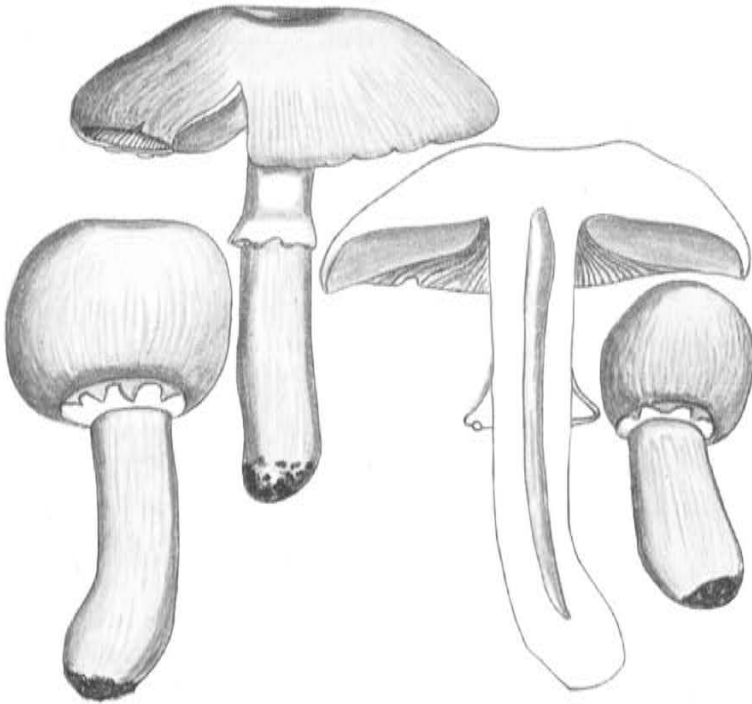


Fig. 25. *Psalliota nivescens* var. *parkensis*.
Figures drawn from nature (3:4).

Christiansø near Bornholm. — Falster: Stubbekøbing Anlæg; Zoological Garden and Vesterskovanlægget at Nykøbing; Lolland: Høvængeskoven near Nysted.

P. macrocarpa as well as *P. nivescens* are often attacked by *Mycogone perniciosa*.

6. *Psalliota leucotricha* sp. n.

Plate XVIII a.

Icon.: Michael, Führer f. Pilzfreunde I, t. 62, 1918; ibid. I, t. 53, 1924 (sub nom. *P. arvensis*)?

Diagnosis. Pileus 8—12 cm, ovatus vel campanulatus, dein expansus, regulariter convexus vel centro applanato, sericeo-nitens, albus vel stramineus, tactu obscure flavo-maculatus, mox omnino

ochraceus, intricato-lanatus et squamulosus, squamulis erectis, adspersis, acutis. Lamellae liberae, confertae, angustae, diu pallidae, dein griseo-incarnatae, denique fuscae, acie sterili, pallida. Stipes 8—12 cm altus, prope apicem 15—20 mm crassus, deorsum clavatus, ibique 30—40 mm crassus, e floccoso-medullato cavus, albus vel cremeus, tactu flavo-maculatus ut in pileo, denique sub annulo dilute ochraceo-incarnatus, supra annulum sericeo-nitens et nudus, ceterum deorsum lanato-squamulosus. Annulus superus, albus, tactu flavo-maculatus, tenuis, saepe ruptus, latus, reflexus, supra levis, infra prope marginem squamosus, squamis numerosis, rotundatis, minoribus, albis vel dilute ochraceis. Caro subtenuis, alba, in stipite tandem obscure ochracea, odore amygdalino.

Sporae acervatim fuscae, ovatae, 1—2-guttulatae, (6—)7—8 × 4.5—5 μ . Basidia 4-sterigmatica, clavata, 21—32 × 8—9(—11) μ . Sterigmata 2—3 μ longa. Cystidia aciei lamellarum numerosa, rotundata, ovalia, vesiculosa vel late clavata, hyalina, 8—32 × 7—20(—26) μ .

Saepe gregaria. In silvis abiegnis Daniae. Autumno.

Species ob pileum dense araneoso-lanatum facile ab affinibus dignoscenda.

Description. Pileus 8—12 cm, ovate or campanulate, then expanded, often slightly flattened in the centre, silky, white or straw colour ("Straw Yellow"), on pressure with dark lemon-coloured spots ("Lemon Chrome"), soon with age turning ochre-coloured all over ("Yellow Ochre"), densely clad with white, matted hairs and small, erect, pointed squamules. The margin with a narrow velum zone. Gills free, crowded, narrow, long pale, then greyish flesh colour ("Pale Grayish Vinaceous"), at length blackish brown. Edge sterile, light-coloured. Stem fairly slender, 8—12 cm high, 15—20 mm thick above, downwards gradually clavately swollen and here 30—40 mm thick; loosely tomentose-pithy, then very hollow, white or cream colour ("Cream Yellow"), like the cap with yellow spots when touched, becoming pale ochre flesh colour ("Ochre Buff") under the ring with age; silky, and quite naked above the ring, but below the ring covered like the cap with a tomentose layer in quite young fruit bodies (Velum universale). Ring sheathed above, white, lemon colour like the cap when touched, thin, and often torn, broad, pendulous, placed high, smooth above, on the underside at the margin with numerous round, rather small, white or light ochre-coloured scales. (c. 15 in all). Flesh rather thin, white, ochraceous reddish

("Ochraceous Buff") in the stem with age. Smell of almonds. Schäffer reaction positive. Spore powder dark brown.

Spores ovate, 1—2-guttulate, (6—)7—8×4.5—5 μ . Basidia 4-spored, clavate, 21—32×8—9(—11) μ . Sterigmata 2—3 μ long. Marginal cystidia numerous, round, oval or balloon-shaped to shortly clavate, hyaline, 8—32×7—20(—26) μ .

In light *Picea* woods, often gregarious. More rare than *P. abrupti-bulba* which grows in the same localities. September—October.

Als: Nørreskov. — Falster: Halderup Skov; Kragelyngen near Skørtingegård; Lindeskoven near Nykøbing. — Fyn: Bøllevej near Nyborg. — Jylland: Frøslev Plantage. — Lolland: Fuglsang Storskov; Maltrup Skov; Nøbbøllegårds Skov near Holeby; Ryde Skov.

In some respects this species resembles the succeeding one, but is best distinguished from it and all other species of the group by its tomentose covering.

In Schweizer-Pilztafeln II, t. 32, 1944, H. Walty has a figure and description of *P. vaporaria* Otto which as regards its habitat (spruce needles) and external appearance is very like a drought form of *P. leucotricha*, but a tomentose covering of the cap is not mentioned, and no spore dimensions are given. The rules of nomenclature, however, prohibit the use of Walty's name. Otto described his fungus in 1816, but before that time the name *vaporarius* had been used by Persoon (Synopsis, p. 418, 1801) for the dark, brown, squamose fungus which was later described by Vittadini and Secretan, and which Vittadini also figured under the name of *P. vaporaria* (see Danish Psalliota Species, Friesia IV, p. 40 and fig. 8, 1950). This was in 1835, the year before Krombholz published his *Agaricus vaporarius* Otto (Krombh. Abb., p. 16, t. 26, figs. 14—15, 1836), a species belonging to the *Arvensis* group and not very different from Walty's fungus, but which is not then entitled to the name *P. vaporaria*.

7. *Psalliota arvensis* (SCHAEFF.) FR. sensu restr.

Fig. 26. Plate XXX.

Fries, Syst. Mycol. I, p. 282, 1821; Epicr., p. 213, 1836.

Syn.: *Agaricus arvensis* Schaeffer, Icon., t. 310—311 p.p., 1770.

Psalliota cretacea Fr. sensu Ricken, Blätterp., p. 236, 1912;
non Fr., Quél., Cooke.

Psalliota arvensis (Schaeff.) Fr. subsp. *exquisita* (Vitt.) Møll.
et Schäff., Ann. Myc. 36, p. 78, 1938.

non *P. arvensis* sensu Ricken, Kauffman, Baar, Hans Walty etc.
Icon.: Fries, Ätl. och gift. Svamp., t. 4, 1860.

Lange, Fl. Ag. Dan. IV, t. 138 A, 1939.

J. Schäffer: Michael, Führer f. Pilzfreunde, no. 55, 1939.

Pileus 7—15 cm, ovate-globate, then expanded, sometimes sub-umbonate or somewhat flattened in the centre, silky, white, upon pressure with dark lemon-coloured ("Lemon Chrome") spots, during growth turning alutaceous or pale ochre ("Chamois", "Warm Buff"), smooth or near the margin at first white floccose, often breaking radially into scales in dry weather, with a fringe of velum along the edge. Gills free, crowded, narrow, long pale, then greyish flesh-coloured ("Pale Grayish Vinaceous"), at length blackish brown. Edge sterile, light-coloured. *Stem* slender, 8—13 cm × 15—30 mm, clavately swollen towards base and here 20—35 mm thick, hollow, of the same colour as the cap, though often less yellow; silky, naked, when young floccose towards the base. Ring sheathed above, white, becoming yellow, thin, broad, obliquely pendulous, placed high, smooth above, on the underside with coarse, white or ochre yellow scales which often form a cog-wheel with somewhat blunt teeth. *Flesh* thin, white, with age becoming gradually somewhat ochraceous in the stem. Smell like almonds. Schäffer reaction positive. Spore powder dark brown ("Mummy Brown"; L. g 8; S. 701).

Spores ovate, 1—2-guttulate, 7—8(—9) × 4.5(—5.5) μ . *Basidia* 4-spored, clavate, 22—30 × 7—9 μ . *Sterigmata* 3—4 μ long. *Marginal cystidia* numerous, ovate-balloon-shaped, oval or sometimes shortly clavate, hyaline, 11—26 × 9—18(—21) μ .

Gregarious in meadows, on dikes, now and then on old piled turf or on decaying chaff and old hay, also in gardens on lawns and on the outskirts of woods. Not common but occasionally occurring in quantity in the same locality for several years running. June—October.

Als: Danebod High School, on a lawn. — Falster: Systofte Skov. — Lolland: Alholm; Albuen; Holmeskoven near Saxkjøbing; Nagelsti Enge; Bjergestykkerne near Orebygård; Lilleø and Kejlsø in Guldborgsund. — Germany: Meadow near Potsdam; here gathered in company with J. Schäffer in quantity in 1937.

The cited illustrations by Jak. E. Lange and Jul. Schäfer are good representations of this species. Fries's plate (see fig. 26), which has given rise to misinterpretation, e.g. by Konrad

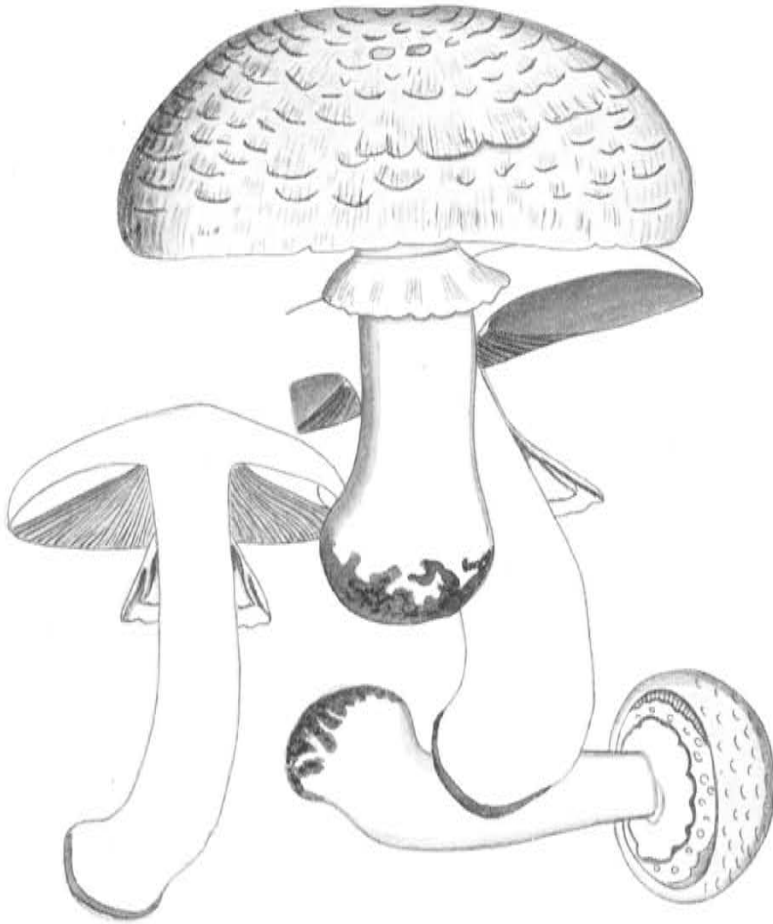


Fig. 26. *Psalliota arvensis* Fr.
Sketch executed after Fries, *Atl. och gift. Svamp.*, t. 4 (c. 1:2).

(Grands Agaricus, Schweiz. Zeitschr. f. Pilzk. IX, p. 2—8, 1931) shows a species to which scarcely any of the Danish species of the *Arvensis* group from coniferous woods, nor *P. nivescens*, can be referred, whereas Fries's figures, particularly the slender ones, may better be interpreted as representations of the above-described *P. arvensis* sens. restr.



Fig. 27. *Agaricus exquisitus* Vitt.
Sketch drawn after Vittadini's plate (3:4).

As here interpreted, *P. arvensis* cannot be synonymous with *Ag. exquisitus* Vitt., Vittadini's species being too thickset for this (see fig. 27), more reminiscent of the low-stemmed *P. nivescens*, since the white colour of the cap and the white flesh (according to Vittadini: finally faintly flavescent in the stem) and the habitat "in ruderatis, ad latera viarum" are common characters, while *P. nivescens* is not generally markedly hollow-stemmed, like *A. exquisitus*. Ricken has called *P. arvensis* sens. restr. *P. cretacea* Fr., a name unfit for use because *P. cretacea* is not a *Psalliota* species but *Lepiota naucina* Fr. To use the name *P. arvensis* for a markedly woodland species such as *P. abruptibulba*, as has been done by

Ricken, Baar, Hans Walty and others, will not do, because according to its meaning the name *arvensis* should be used for a species growing outside woods; and further, the name *abruptibulba* is older than the works of these authors. See also my comments on the related species of the *Arvensis* group.

8. **Psalliota fissurata** sp. n.

Plate XIX b.

*found Oct. 1952
v. R. R. Schaeffer*

Diagnosis. Pileus 5—10 cm, ex hemisphaerico expansus, saepe subumbonatus vel in medio applanatus, sericeo-nitens, primo albidus vel alutaceus, levis, tactu luteo-maculatus, dein mox ochraceus, saepe praecipue marginem versus radialiter diffractus, rimis pallidis. Lamellae liberae, confertae, subangustae, e pallidis incarnatae vel dilute roseae, denique fuscae, acie sterili, pallida. Stipes curtus et pro ratione crassus, 4—8 cm $\times$ 20—25 mm, sursum attenuatus, sine bulbo, dense medullatus, dein anguste fistulosus, albus, deorsum ochraceus, sericeo-nitens, primo sub annulo granulatus, granulis 1 mm latis, rotundatis, albis, denique nudus. Annulus superus, albus, tenuis, sat latus, reflexus, supra levis, infra squamosus prope marginem, squamis numerosis, minoribus, rotundatis, ex albis ochraceis. Caro pro ratione tenuis, alba, in stipite ad postremum saepe dilute incarnata, odore amygdalino.

Sporae acervatim fuscae, ovatae, guttulae, 7.5—8(—9) $\times$ 4.5—5(—6) μ . Basidia 4-sterigmatica, clavata, 26—32 $\times$ 7—8 μ . Sterigmata 3—4 μ longa. Cystidia aciei lamellarum numerosa, variabilia: fere globosa (12—17 $\times$ 9—14 μ), vesiculosa (20—24 $\times$ 11—14 μ), late clavata vel ampullacea (28—40 $\times$ 12—19 μ).

Subgregaria in pratis litoralibus Daniae. Autumno.

A *P. arvensi*, cui valde affinis, praecipue stipite curtiore, pileo mox fissurato-squamoso et forma cystidiorum dignoscitur.

Description. Pileus 5—10 cm, at first semiglobate, then convex, often slightly umbonate or with somewhat flattened centre, shining, at first whitish or alutaceous, smooth with dark lemon yellow spots ("Lemon Yellow") on pressure, then already while young ochre yellow ("Ochraceous Buff") and as a rule radially cracked, like *Inocybe*, with pale fissures between the yellow patches of the rigid, dry pellicle particularly towards the edge. Margin of cap inflexed with faint velum zone. Gills free, crowded, rather

narrow, at first pale, then flesh colour or pale pink ("Pale Grayish Vinaceous", "Pale Cinnamon-Pink") and at length blackish brown. Edge sterile, light-coloured. Stem short and comparatively thick, 4—8 cm $\times$ 20—25 mm, thicker towards the base, without distinctly marked, bulbous base, with a fairly firm and narrow pith, then fistulose, with age ochraceous yellow downwards like the cap; shining, when young with round, white grains towards the ring, easily dropping off, 1 mm broad, otherwise naked. Ring sheathed above, white, thin, rather broad, pendulous, smooth on upper side, but with numerous roundish, white or gradually ochraceous scales, 2 mm broad, on the underside in a circle along the edge. Flesh rather thin, white, often at length slightly flesh colour in the stem. Smell somewhat like almonds. Schäffer reaction positive. Spore powder dark brown ("Mummy Brown"; L. g8; S. 701).

Spores ovate, with one large or several small guttae, 7.5—8 (—9) $\times$ 4.5—5 (—6) μ . Basidia 4-spored, clavate, 26—32 $\times$ 7—8 μ . Sterigmata 3—4 μ long. Marginal cystidia numerous, variable in form, from subglobose (12—17 $\times$ 9—14 μ) to balloon-shaped (20—24 $\times$ 11—14 μ) or broadly clavate to bottle-shaped (28—40 $\times$ 12—19 μ).

In small groups, amongst grass in meadows near the shore, where it is more frequent than *P. arvensis*. Widely distributed. July—October.

Falster: Bøtø Nor; Hasseløvej in Nykøbing, in garden. — Fyn: Holckenhavn Nor. — Lolland: Strand meadow near Maltrup Skov; strand meadow near Majbølle; strand meadow near Frejlev Skov. — Sjælland: Strand meadow near Næstved (Johs. Ferdinand); Glæne: Vestfjed. — Vigsø in Smålandshavet.

Received from N. F. Buchwald from various other localities.

This species, which the author has known since 1939, only differs from *P. arvensis* by its occurrence in meadows near the shore, its small scales placed in a circle on the ring, its short, stocky stem with a fairly firm and narrow pith, and more especially by the fact that the pellicle is only pure white when quite young, but already before the bursting of the veil becomes distinctly ochre yellow and most frequently cracks radially, almost like an *Inocybe* (hence the name *fissurata*), with narrow, lighter-coloured fissures between the yellow patches of the pellicle. The tendency to form bottle-shaped marginal cystidia seems to be the only demonstrable microscopic difference from *P. arvensis*, to which it may perhaps approximate by inter-

mediate forms. As here described, it can, I hope, be distinguished from *P. arvensis*.

P. Richonii Rich. et Roze, which Konrad & Maublanc regard as a dubious or little known species, has certain characters in common with *P. fissurata*.

VIII. THE XANTHODERMA GROUP

Medium-sized species. Pileus whitish or darkly squamose with grey, black or brown scales. Gills narrow, flesh colour or pink. Edge of gills sterile, pale. Stem slender, smooth, with bulbous base. Ring sheathed above, dentate or with cog-wheel on the underside. Flesh when broken flavescent or rubescent. Smell disagreeable, of carbolic or ink, but often slight. Marginal cystidia balloon- or pear-shaped. Spores ellipsoidic, small. Schäffer reaction negative. In light woods and parks under deciduous trees.

KEY TO SPECIES

- | | | | |
|----|---|--|--|
| 1. | { | Pileus white or yellowish grey, often at length radially cracked at the margin. Resembling <i>P. silvicola</i> or <i>P. abruptibulba</i> | 1. <i>P. xanthoderma</i> |
| | { | Pileus brown or blackish with dense, small scales | 2 |
| 2. | { | Pileus cinnamon brown squamose. Flesh not easily turning yellow or red when cut. Marginal cystidia fairly large, 18—50×12—34 μ . Spores 4.5—6×3—3.5 μ . Habit like <i>P. silvatica</i> , but stem smooth | 2. <i>P. phaeolepidota</i> |
| | { | Pileus more darkly squamose. Marginal cystidia smaller, 10—20×8—14 μ , and spores 4—5×3 μ | 3 |
| 3. | { | Pileus with dense and small, dark brown scales. Stem and ring on friction at once becoming shot with yellow, then purplish brown. Flesh when broken changing colour in the same way. Gills rather broad | 3. <i>P. meleagris</i> |
| | { | Pileus with dense, blackish grey squamules as in <i>Tricholoma terreum</i> . Pellicle of stem only turning yellow when rubbed, and the flesh only becoming faintly pink or not changing colour at all when cut. Gills narrow | 3 a. <i>P. meleagris</i> v. <i>obscurata</i> |

1. *Psalliota xanthoderma* (GENEV.) RICH. et ROZE

Plate XXXI.

Richon et Roze, Atlas Champ. Fr., p. 53, t. XVII, figs. 5—9, 1885.

Syn.: *Agaricus xanthodermus* Genevier, Bull. Soc. Bot. Fr. 23, p. 31, 1876.

Pratella campestris v. *silvicola* Vitt. sensu Gillet, Champ., p. 562, 1878, t. 581 (386), 1878—1890.

Pratella cretacea (Fr.) sensu Quél., Fl. myc., p. 73, 1888, non Fr.

Agaricus iodoformicus Speg., Ann. Mus. Nac. Buenos-Aires 6, p. 141, t. 5, figs. 16—23, 1898.

Icon.: Rolland, Bull. Soc. Myc. Fr. 5, t. 3, fig. 1, 1889 (sub nom. *P. arvensis*).

Maublanc, Champ. comest. et ven. I, t. 23, 1926.

Konrad et Maublanc, Icon. sel. Fung., t. 30, 1929.

J. Schäffer: Michael, Führer f. Pilzfreunde I, no. 58, 1939.

Hans Walty, Schweizer-Pilztafeln I, t. 29, 1947.

Pileus 5—10 cm, campanulate, then flatly convex and often with flatly depressed centre, silky, white, alutaceous ("Tilleul-Buff"), or a little greyish with age, darkest at the centre, on friction becoming vividly and rapidly dark lemon yellow spotted ("Lemon Chrome"), naked, but the rigid pellicle tends to break up into larger or smaller patches, separated by narrow fissures, longitudinally cracked at the margin. The margin with a narrow fringe of veil. Gills free, crowded, narrow, at length rather broad, at first pale, then for a long time dark flesh colour ("Deep Vinaceous"), finally blackish brown. Edge sterile, pale, denticulate. Stem fairly slender, 6—10 cm × 12—15 mm, subcylindrical but with a markedly bulbous base, slightly marginate or rounded, up to 20 mm thick, and carrying a mycelial strand (c. 1 mm thick); at first pithy but rapidly rather broadly hollow, white, when rubbed or scraped with a nail at once showing chrome yellow ("Lemon Chrome") spots, particularly at the base, with age the apex turning blackish; silky, naked. Ring sheathed above, white, often yellow-spotted at the edge, rather thin towards the stem, fairly broad, and long somewhat projecting, placed high or almost in the middle, smooth or minutely striped from the gills above, with a circle of coarse, often slightly yellowish teeth on the underside, or with a coherent downwards directed collar. Flesh thin, white, often chrome yellow at the base in full-grown fruit

bodies or in spots in other places, when broken turning more or less yellow, leaving a faint red tinge after a short time. In old individuals the flesh is often blackish at the centre of the cap and at the top of the stem. Smell when fresh more or less of ink or carbolic, more pungent when boiled. Schäffer reaction negative. Spore powder blackish brown, a little darker than "Mummy Brown"; L. g8; S. 701.

Spores sub-ovate with 1 or 2 guttae, $5-6.5(-7) \times 3.25-4(-4.25) \mu$, but also only $5-5.5 \times 3.75-4 \mu$ (small form with collar on underside of ring from Jægersborg Dyrehave, J. P. Jensen leg.). Basidia 4-spored, clavate, $20-28 \times 6-7 \mu$. Sterigmata 3μ long. Marginal cystidia in a rather thin border, globately oval or balloon-shaped to pear-shaped, $10-20(-34) \times 8-14(-27) \mu$.

Gregarious under deciduous trees or bushes in large gardens, parks, or copses. Rare. July—October.

Bornholm: Hasle old churchyard (N. M. Petersen). — Jylland: Silkeborg Nordskov. — Lolland: Krageskoven near Priorskov. — Sjælland: Boserup Skov, growing under *Picea* and *Sambucus* in numerous specimens; Jægersborg Dyrehave (J. P. Jensen); Gentofte (E. Dehn); Copenhagen in parks, e.g. Fælledparken (N. F. Buchwald); grove near Emdrup Sø (J. P. Jensen); Rude near Holsteinborg (Johs. Ferdinand). — Norway: Oslo (Chr. Bøhme, I. Jørstad). — Germany: Potsdam at Sanssouci, frequent.

The above species can be distinguished from *P. silvicola* and *P. abruptibulba* by the immediate yellowing of the flesh upon friction and by the chemical reaction. In Denmark too mushroom eaters have had to throw away canned or fresh individuals on account of the disagreeable smell which often does not appear till after cooking. Transitional forms between this and the two succeeding species are not known in Denmark, and the author, who in company with J. Schäffer gathered and examined *P. xanthoderma* as well as *P. meleagris* in Potsdam, throughout regarded these two as separate species and is inclined to believe that if so great an authority as R. Maire had not shown the way by extending the specific term of *P. xanthoderma* to comprise dark squamose species as varieties, recent European investigators would probably long ago have abandoned this view. Nor has anybody in the U.S.A. attempted to refer *P. placomyces* Peck, which is frequently considered identical with *P. meleagris*, as a variety to *P. xanthoderma*. On the other hand, *P. ammophila* Men. and *P. xanthoderma* v. *lepiotoides* (Maire) seem to be so close to *P. xanthoderma* that they are varieties or forms of

it. For his variety Maire cited Cooke's figure of *P. cretacea* (Illustr., t. 524, no. 542, 1881—1891), which perhaps merely represents a sun-cracked and darkened *P. xanthoderma* and therefore cannot be Schäffer's "Rebhuhnform" of *P. meleagris*, though Schäffer once thought so. Further, *P. flavescens* Rich. et Roze (Atl. Champ., p. 42, t. XVII, figs. 17—21, 1885), which is identical with *P. cretacea* v. *flavescens* sensu Quél., Fl. myc., p. 73, 1888, and which is mentioned by Rydberg from Sweden under the name of *P. flavescens* Gill. as differing from *P. xanthoderma* by its flesh turning a much deeper yellow, must be regarded as a variety of the latter (or as a very closely allied species), while on the other hand *P. flavescens* Gillet is simply *P. silvicola* (Vitt.).

2. *Psalliota phaeolepidota* sp. n.

Plates XX b and XXXII.

Diagnosis. Pileus 5—8 cm, campanulatus, vel hemisphaericus et subtruncatus, dein expansus et subumbonatus vel in medio applanatus, sericeo-nitens, in fundo albido diffracto-squamulosus, squamulis numerosis, minutis, pilosis, rufescentibus, medio sine squamulis, rufo. Lamellae liberae, confertae, angustae, e pallidis pulchre incarnatae, tandem fuscae, acie sterili, pallida, denticulata. Stipes 5—8 cm $\times$ 10—12 mm, basi 20 mm lata, plus minusve marginato-vel rotundato-tuberculata, radice filiformi (1 mm cr.) praeditus, sursum attenuatus, cavus, niveus, interdum tamen supra anulum leviter roseus, sericeo-nitens, nudus. Annulus superus, albus, sporis saepe fuscus, membranaceus, plerumque lacerus, latus, reflexus, supra subtiliter striatus, infra squamis in zona dispositis, tenuibus, angustis, fere linearibus, fuscis ornatus; interdum pars inferior annuli radialiter fissa. Caro tenuis, alba, dissecta obsolete incarnata, praecipue in stipite, ubi interdum in basi rufo-maculata vel flavo-tincta, odore debili, nonnumquam nauseoso, natura incerta, nec acidulo, nec amygdalino (ut in *P. meleagri*?).

Sporae acervatim fuscae, ovatae, uniguttulatae, $4.5-6 \times 3-3.5 \mu$. Basidia 4-sterigmatica, clavata, $20-23 \times 6-7(-8) \mu$. Sterigmata 2.5μ longa. Cystidia aciei lamellarum numerosa, fasciculata, vesiculosa vel late clavata, hyalina, $18-50 \times 12-34 \mu$.

Gregaria in silva minore sub arboribus frondosis, in solo fere nudo. Dania. Autumno.

Differt a speciebus in "*Silvatica*-group" stipite toto nudo non nigrescente, a *P. meleagri* cystidiis maioribus.

Description. Pileus 5—8 cm, at first campanulate or semi-globate with obtuse apex, finally expanded with slight umbo or flattened centre, silky, outside the dull, reddish brown (pale "Cinnamon-Brown") centre on a light ground with numerous delicate, fibrillose squamules of the same colour as the centre, so that the distribution and character of the scales are almost the same as in *P. meleagris*. The edge has often larger or smaller cuticular patches of the very thin veil. Gills free, crowded, narrow, at first pale, in the expanding stage a beautiful flesh colour ("Pinkish Buff"), at length blackish brown. Edge sterile, pale, denticulate. Stem 5—8 cm $\times$ 10—12 mm, attenuated upwards, with bulbous base up to 20 mm broad, rounded or slightly marginate, with a mycelial strand (1 mm thick); hollow, chalk white, though sometimes pale pink above the ring, silky, naked. Ring sheathed above, white, but often dirtied with the spore powder above, membranaceous and frequently torn, but when whole it is broad, obliquely pendulous, minutely striated on the upper side, on the white underside with a circle of thin, narrow, almost linear, blackish brown scales. In one instance a cog-wheel had been formed. Flesh thin, white, but when cut turning slowly slightly flesh-coloured („Pale Grayish Vinaceous"), most deeply in the stem; sometimes, however, deeper red brown („Orange-Vinaceous") spots appear in the base of the stem, together with a pale yellow ("Straw Yellow") colour. Smell sometimes strong and unpleasant, if for instance, you have gathered many individuals in a paper bag and smell them, but of the individual fruit bodies it may often be so slight that you hardly notice it, not acidulous like pine wood nor smelling of almonds, but mostly perhaps as in the other members of the group. Schaffer reaction negative. With anilin oil the flesh and pellicle of the cap stain purple, with soda-lye dark lemon yellow. Acids give no reaction. Spore powder brownish black ("Bone Brown"; L. c3; S. 117).

Spores ovate with one gutta, $4.5-6 \times 3-3.5 \mu$. Basidia 4-spored, clavate, $20-23 \times 6-7(-8) \mu$. Sterigmata 2.5μ long. Marginal cystidia numerous, tufted, balloon-shaped or broadly clavate, hyaline, $18-50 \times 12-34 \mu$.

Gregarious on almost naked forest soil in a small grove of deciduous trees in company with *P. purpurascens*. September 1946—1950, every year.

Lolland: Sundby Færgesgård in the garden. — Sjælland: Halsnæs near Frederiksværk, according to a water-colour done by R. Hestehave, 2/6 1939.

This species which is much like the typical form of *P. silvatica* differs from all species of the *Silvatica* group by its quite naked, chalk white stem, which does not turn blackish with age, and by the chemical composition of the flesh. By the size of the cystidia the species differs so much from *P. meleagris* that it cannot be referred to Schäffer's "Rebhuhnform" of *P. meleagris* (see Michael-Schäffer, Führer f. Pilzfreunde I, no. 58, 1939), all the more since Schäffer himself has declared that this is "eine blosse belanglose Form des Perlhuhnchampignons", which "wächst stets in Minderzahl zwischen diesem" (Schweiz. Zeitschr. f. Pilzk. XVI, p. 152, 1938), while *P. phaeolepidota* despite several years' observations of numerous fruit bodies always is a constant pure brown, and always shows faint flesh-colour reactions upon breaking of the fruit bodies. Anilin oil stains the flesh yellow to orange colour in *P. xanthoderma* and *P. meleagris*.

3. *Psalliota meleagris* SCHÄFF.

J. Schäffer, Zeitschr. f. Pilzk. 4, p. 28, 1925 ("Perlhuhnform");
ibid. 6, p. 106, 1927 ("Rebhuhnform").

Syn.: *Psalliota xanthoderma* subsp. *meleagris* Schäff., Michael, Führer f. Pilzfreunde I, no. 58, 1939.

Icon.: J. Schäffer: Michael, Führer f. Pilzfreunde I, no. 58, 1939.

a) „Perlhuhnform“

Pileus 5—12 cm, semi-globate or campanulate, then expanded and often with flattened centre or umbonate with dark sooty brown ("Mummy Brown") centre, and towards the margin, on a whitish ground later becoming darker, set with delicate and dense, sooty brown or dark greyish brown ("Deep Brownish Drab"), adnate squamules. Gills free, crowded, rather broad, at first quite pale, later a beautiful pink ("Vinaceous-Pink"), and at length blackish brown. Edge sterile, pale, denticulate. Stem slender, 6—10 cm × 10—12 mm, cylindrical with a round or sometimes slightly marginate, bulbous base, very hollow, white, but on bruising or rough handling at once showing bright lemon yellow ("Lemon Chrome") spots, particularly at the base; and after a moment the spots turn purplish brown ("Deep Brownish Vinaceous"); very shining and often with wavy lines across (see also J. Schäffer's illustrations). Ring sheathed above, white, but when touched immediately yellow and

then with purplish brown spots like the stem, thin near the stem, thicker at the edge, broad, obliquely pendulous, placed high, smooth or minutely radially striped above, on the underside with a zone of roundish, often yellowish brown teeth. Flesh thin, white, frequently dark lemon yellow ("Lemon Chrome") at base of stem even in young fruit bodies, when cut quickly shot with lemon yellow, after which the yellow turns purplish brown. Smell disagreeable, like ink, sometimes like sweat or mouldy straw. Schaffer reaction negative. Spore powder "trübbraun" (J. Schaffer).

Spores obliquely ovate, 1—2-guttulate, $4-5 \times 3 \mu$. Basidia 4-spored, clavate, $18-22 \times 5-6 \mu$, with sterigmata 2μ long. Marginal cystidia in small colonies, balloon- to pear-shaped or roundish, hyaline, $10-20 \times 10-14 \mu$.

Gregarious, growing on moist soil under deciduous trees in copses. August (Schaffer: July—September).

Germany: Potsdam near Havel between Mohrlache and Phaueninsel, numerous fruit bodies, old and young.

The above description has been based on fruit bodies from the aforementioned locality, gathered there with J. Schaffer in 1937.

b) „Rebhuhnform“

Observed once in Denmark (Lolland: Gammel Fredskov near Nysted), brought to the author by the finder (Agnes Hansen) in a single defective specimen, hence no thorough description was given. The spores were $5 \times 3 \mu$, the basidia 5μ broad, and the marginal cystidia were pear-shaped, 9μ broad. Reactions on the cuticle of the stem: with formalin and nitric acid O, with anilin oil orange yellow. Schaffer reaction negative.

3a. *Psalliota meleagris* SCHÄFF. var. *obscurata* (MAIRE) comb. n.

Plate XX a. *)

R. Maire, Bull. Soc. Myc. Fr. 26, p. 192, 1910 (sub nom. *Agaricus xanthodermus* Gen. v. *obscuratus*).

Syn.: *Psalliota silvatica* sensu Bres. var. *nigricans* Beck, Pilz- u. Kräuterfr. 5, p. 42, 1921.

Icon.: Bresadola, Fung. Trid. I, t. 90, 1881; Icon. Myc., t. 830, 1931.

*) See, however, p. 208, lines 3—12.

Differs from the main species in the following characters: Pileus with quite black, dull centre and the scales towards the margin blackish with a slightly brownish tinge on a grey ground, so that the colour and coating are exactly as in *Tricholoma terreum* (see Lange, Fl. Ag. Dan. I, t. 22 C, 1935). Gills conspicuously narrow and long white, even at the time when the ring becomes detached, later only pale flesh colour ("Pale Grayish Vinaceous") before they become dark. Stem turning yellow on pressure as in the main species, but not so readily, and not assuming a purplish brown colour in the yellow parts. Flesh white, stem and cap shot in spots with lemon yellow when cut, but only slightly tinged with flesh colour in the upper part of the stem near the outer side. Schaffer reaction negative. Spore powder dingy brown ("Saccardos Umber"; L. 06; S 132).

Spores obliquely ovate, 1—2-guttulate, (4—)5×3 μ . Basidia 4-spored, clavate, 18—22×5.5—6 μ , with sterigmata 2 μ long. Marginal cystidia balloon- to pear-shaped, 15—18×8—12 μ in sterile border.

Gregarious. Rare. September—October, 1943.

Lolland: Saxkjøbing, in garden under fruit trees on bare soil. (Lindh. Hansen).

Probably Maire's variety is identical. His diagnosis runs as follows: A typo differt squamis fusco-atris, lamellis angustissimis ex albo griseo-purpureis dein fusco-purpureis. *P. xanthoderma* v. *grisea* Pears. has a paler grey cap (according to water colours kindly sent by Pearson) and a different form of spores. *P. silvatica* sensu Bres. is probably identic but has too large spores.

The existence in England of *P. xanthoderma* v. *grisea* Pears., which is actually more closely related to *P. meleagris* than to *P. xanthoderma*, together with the two Danish variants of *P. meleagris*, shows that the latter is somewhat rich in forms. This applies — perhaps even in a higher degree still — to the closely related parallel species *P. placomyces* in the U.S.A., as Alexander H. Smith has indeed partly indicated ("*Ag. placomyces* is rather variable"). After perusing the somewhat copious literature concerning *P. placomyces* from that country the author thinks it safe to say that in the Western States (California, Oregon, Washington) the descriptions given of *P. placomyces* (see works by W. A. Murrill, Hotson & Stuntz, Zeller) vary a good deal from those of the species in the Eastern States (cp. e.g. works by Peck, Kauffmann, V. O.

Graham, L. C. C. Krieger). It is a curious fact too that in the West it is said to be poisonous, like *P. meleagris* in Europe, while in the Eastern States it is described as esculent. But the American illustrations too show differences in *P. placomyces* even within the eastern parts of U.S.A., compare for instance the coloured original

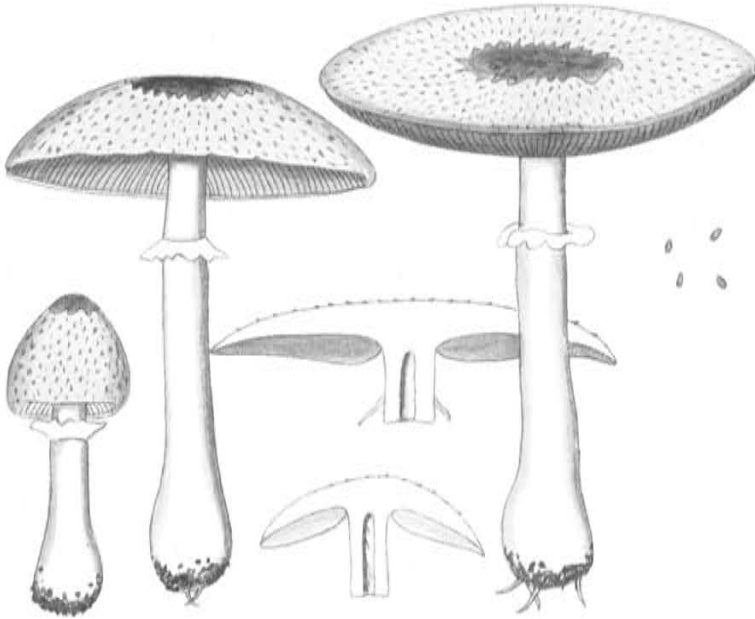


Fig. 28. *Agaricus placomyces* Peck.
Sketch executed after Peck's coloured figures (c. 3:5).

pictures of the species of which fig. 28 is a copy (Peck, N.Y. State Mus., Rept. 48, t. 9, figs. 7—12, incidentally very different from pictures of *P. meleagris*) with photographs published by Alexander H. Smith, Krieger and others. The form that agrees best with the above-described *meleagris* type is the Pacific form, particularly in its very dark scales on the cap, and the change from yellow to purplish brown of the cuticle of the stem on pressure. When Kauffmann in 1927 (or perhaps 1926) received water colours and exsiccata of *P. meleagris* from J. Schäffer he declared in his reply that the identity of the two species was not very probable. Later, according to Smith (Studies in the Genus *Agaricus*, p. 125, 1940), he thought, in all probability, that Schäffer's species was

identical with a species found in Oregon, which differed so much from *P. placomyces* that he believed it to be a new species.

Though Smith would indentify *P. placomyces* with *P. meleagris*, the present writer thinks it best to defer this till both have been more closely examined. If they should then prove to be so close to each other that it would be advisable to unite them the name *P. meleagris* should, as the youngest, give place to the American name of 1878, and in that case the present dark-squamose varieties of *P. meleagris* and *P. xanthoderma* can with good reason be subordinated to *P. placomyces*, so that their names will be: *P. placomyces* v. *obscurata*, *P. placomyces* v. *grisea* etc.

IV. THE MACROSPORA GROUP

Large species. Pileus white or yellow, often densely floccose-squamose. Gills as a rule narrow, flesh colour. Gill edge sterile, pale. Stem stout, frequently rooting and densely floccose-squamose. Ring sheathed above, areolate-squamose on the underside. Flesh thick, whitish, turning red in the stem when broken. Smell more or less of almonds, often at length disagreeable. Marginal cystidia roundish to clavate. Spores ovally ovate, large. Schäffer reaction positive or capricious. In meadows, more rarely in woods.

KEY TO SPECIES

- | | | | |
|----|---|--|-------------------------|
| 1. | { | Pileus at first on a light ground with numerous small, adpressed, ochre yellow, fibrillose scales. Stem short. Smells strongly of almonds. In fairy rings in meadows | 1. <i>P. straminea</i> |
| | | Pileus at first concolorous, at first white or alutaceous, floccose-squamose all over. Faint smell of almonds. In meadows or in woods | 2 |
| 2. | { | Stem tall. Pileus and stem pure white. Habit much like <i>P. augusta</i> , but the scales of the cap and stem white. In woods, particularly under <i>Picea</i> | 2. <i>P. excellens</i> |
| | | Stem short. Pileus whitish or yellowish, often quite ochre yellow in dry weather, but then very much cracked and split. In fairy rings in meadows | 3. <i>P. macrospora</i> |

1. *Psalliota straminea* MøLL. et SCHÄFF.

Plate XIX a.

F. H. Møller et J. Schäffer, Ann. Myc. 36, p. 78, 1938.

Syn.: *Psalliota arvensis* (Schaeff.) Fr. subsp. *macrospora* Møll. et

Schäff. var. *straminea* (Møll. et Schäff.). Schäff., Michael:

Führer f. Pilzfreunde, no. 57, 1939.

Icon.: J. Schäffer: Michael, Führer f. Pilzfreunde, no. 57, 1939.

Pileus 8—12 cm, semiglobate, then expanded, often with flattened centre, shining, straw yellow ("Straw Yellow") with small, adpressed, ochre yellow ("Primuline Yellow"), fibrillose scales. Upon pressure shot with sulphur yellow ("Sulphur Yellow"); in dry weather the pellicle cracks so that whitish fissures are seen between the yellow areas. Margin of cap abruptly inflexed, after the ring has split with a broad, thin seam. Gills free, crowded, narrow, pale, then flesh colour ("Light Congo Pink"), finally blackish brown. Edge sterile, pale. Stem compact, rather short, 5—7 cm $\times$ 20—25 mm, somewhat fusiform or subcylindrical with a pointed, rooting base, densely pithy, sometimes partly hollow, white, turning yellow ("Cream Buff") on pressure, at first clad with loose, concolorous scales or flocci. Ring sheathed above, white, membranaceous towards the stem, 1—2 mm thick at edge, fragile, broad, obliquely pendulous, placed high, smooth above, areolate-squamose on the underside, the scales rather small and gradually becoming yellowish. Flesh thick and firm, white, when bruised rosy flesh colour, particularly in the stem ("Pinkish Buff", "Cinnamon-Buff"). Smell pleasant, somewhat like almonds. Schäffer reaction positive, but slight (orange yellow).

Spores ovally ovate, often oblique, with 1 to several guttae, 10—13(—15) $\times$ 5.5—6(—7) μ . Basidia 4-spored, clavate, 30—34 $\times$ 9—10 μ . Sterigmata 4—5 μ long. Marginal cystidia numerous, shortly clavate, or oval. 18—28 $\times$ 8—14 μ .

In fairy rings in meadows. Rare. September—October.

Lolland: Frejlev in meadow, many individuals in a ring.

The beautiful yellow, sparse scales of the pileus are characteristic of this species in contrast with the other species of the group, likewise the pleasant, strong smell of almonds. *P. lepiotoides* Schulz, non Berk. et Br. (Michael, Führer f. Pilzfreunde, no. 50, 1924), which occurs in the Færøes (F. H. Møller, Fungi of the Færøes, figs. 6,

93, p. 205, 1945), bears some resemblance to it, but the spores are too small ($9-10 \times 5-6 \mu$). J. Schäffer, to whom watercolours of the Danish find from Frejlev were sent, has accepted the determination, though these specimens differed from the brief diagnosis in Ann. Myc. 36, p. 78, by the pleasant, almond-like smell, but since this diagnosis was based on fruit bodies sent from Holstein, the smell of almonds may have passed away on the journey.

2. *Psalliota excellens* nom. nov.

Fig. 29. Plate XXXIII.

Syn.: *Psalliota augusta* Fr. sensu Ricken, Blätterpilze, p. 235, 1912; Vademecum, p. 143, 1920; sensu Beck, Pilz- u. Kräuterfr. 5, p. 44, 1921; sensu Singer, Zeitschr. f. Pilzk. 1, p. 24, 1922; sensu Hans Walty, Schweizer-Pilztafeln II, t. 30, 1944.

Icon.: Hans Walty, Schweizer-Pilztafeln II, t. 30, 1944 (sub nom. *P. augusta*). The illustrations, however, do not show the slender stem of *P. excellens*.

Diagnosis. Pileus 10—15 cm, hemisphaericus globosusve, dein expansus, plerumque medio plano, sericeo-nitens, centro saepe opaco, compactus, pulchre albus, dein sulphureo-tinctus, vulneratus luteo-maculatus, initio praecipue marginem versus dense floccoso-squamosus, squamulis pilosis, concoloribus, paulum secedentibus, densis. Lamellae liberae, confertae, angustae, diu pallidae, dein incarnatae, denique fuscae, acie sterili, pallida. Stipes validus, 10—14 cm $\times$ 30—40 mm, deorsum subclavatus, interdum cylindricus, farctus, raro fistulosus, albus, apice saepe roseo, sub annulo crasse striatus, deorsum furfuraceo-squamosus, squamis concoloribus, secedentibus ut in pileo. Annulus superus, albus, fere membranaceus, sed margine 1—1.5 mm crasso, fragilis, latus, reflexus, subapicalis, supra levis, infra saepe areolato-squamosus, squamis rotundatis, concoloribus. Caro compacta, alba, praecipue in partibus inferioribus stipitis plus minusve lateritia vel dilutior, fere incarnata, odore debili, amygdalino.

Sporae acervatim fuscae, ovato-ovales, pluriguttulatae, 9—11(—12) $\times$ 5—6.5(—7) μ . Basidia 4-sterigmatica, clavata, (24—)28—32(—48) $\times$ 9—12 μ . Sterigmata 3.5—4.5 μ longa. Cystidia aciei lamellarum numerosa, globosa, ovalia, ovata, vesiculosa vel late clavata, hyalina, 10—38 $\times$ 5—16 μ .

Gregaria in silvis abiegnis (Picea) Daniae, interdum in silvis frondosis (*Fagus*). *P. augusta* Fr. sensu Ricken eadem est.

Description. Pileus 10—15 cm, semiglobate or globate, then expanded, often with flattened centre, silky (though centre often dull), beautifully white, later with a sulphur yellow tinge, on rough handling lemon yellow ("Strontian Yellow") spotted; already when very young densely floccose-squamose, particularly towards the margin, with small, at length somewhat deciduous, white scales. The margin long inflexed with dentate border after the rupture of the ring. Gills free, crowded, narrow, long pale, then flesh colour ("Light Congo Pink"), at length blackish brown. Edge sterile, pale. Stem tall, 10—14 cm $\times$ 30—40 mm, slightly clavately thickened towards base, occasionally cylindrical, somewhat rooting, densely pithy, rarely slightly hollow, white, but not rarely a beautiful pink colour ("Pinkish Buff") upwards; in the lower half loosely scaly with white or pale, often rather coarse, furfuraceous scales; up towards the ring (where the stem has elongated) coarsely striate and devoid of scales; above the ring silky, naked. Ring sheathed above, white, c. 1—1.5 mm thick at the edge, thinner towards the stem, fragile, broad, obliquely pendulous, placed high, smooth on the upper side, with concolorous, globose scales on the underside, particularly near the edge, often distinctly areolate-squamose. Flesh thick, firm, white, when broken more or less brick-red-pink ("Pinkish Cinnamon") or of a paler flesh colour, most deeply tinged in the lower parts of the stem. Smell almond-like but slight. Schaffer reaction positive. Spore powder brownish black ("Bone Brown; L. c3; S.117).

Spores ovally ovate, with several guttae, 9—11(—12) $\times$ 5—6.5 (—7) μ . Basidia 4-spored, clavate, (24—)28—32(—48) $\times$ 9—12 μ . Sterigmata 3.5—4.5 μ long. Marginal cystidia numerous, globose, oval, ovate or balloon-shaped to broadly clavate, hyaline, 10—38 $\times$ 5—16 μ .

Gregarious in woods under *Picea*, occasionally in deciduous woods (*Fagus*). Rather infrequent. August—October.

Als: Nørreskov. — Falster: Halderup Skov; Systofte Skov. — Fyn: Ravnholt Sønderskov. — Lolland: Flintinge Byskov; Fuglsang Storskov; Grønge Skov; the wood near Priorskov (purely deciduous); Krageskoven near Priorskov. — Sjælland: Kastrup Storskov near Fuglebjerg.

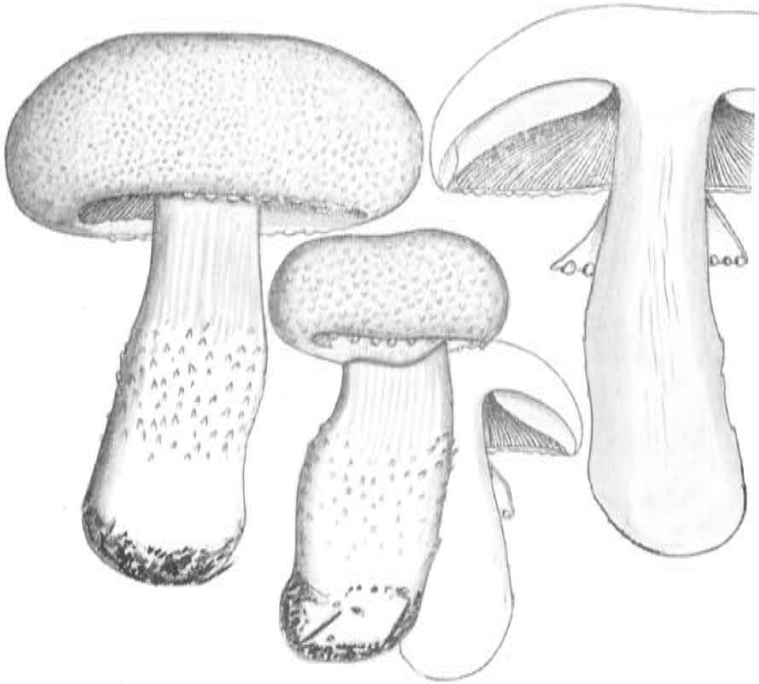


Fig. 29. *Psalliota excellens*.
Figures executed from nature (1:2).

It is probable that *P. excellens* has previously been referred to *P. arvensis* sensu lat. But all the white species from coniferous woods in the *Arvensis* group more easily turn yellow and become a deeper yellow on pressure and have much smaller spores, thus also the large *P. macrocarpa*. Owing to its size, its slender stem, and its occurrence under *Picea* it may be mistaken for a light-coloured *P. augusta* Fr. (see fig. 29); and experienced mycologists like Ricken and many other able investigators, particularly in Central Europe, have indeed referred it to that species, probably especially owing to the somewhat unsatisfactory description of the latter in Fries, Hym. Eur. But Fries's good figures of *P. augusta* in Ätl. och gift. Svamp., and his earlier description in Mon. Hym. dispel all doubt as to how this should be interpreted.

The large, at first snow-white *P. excellens*, with the concolorous scales on the cap and stem catches the eye far away in the dark fir wood and at once renders it recognisable, and the microscopic examination after one's return home clinches the matter. On the

other hand, *P. excellens* is closely allied to the succeeding species, *P. macrospora*, growing in meadows, from which it is actually only distinguishable by its slenderer growth, its purer colour, and its occurrence in woods.

3. ***Psalliota macrospora*** (MøLL. et SCHÄFF.) comb. n.

Plate XXXIV.

- F. H. Møller & J. Schäffer, Ann. Myc. 36, p. 78, 1938 (sub nom. *P. arvensis* subsp. *macrospora*).
- Syn.: *Psalliota villatica* (Brond.) sensu Bresadola, Fung. Trid. 1, p. 54, 1884; sensu Ricken, Vademecum, p. 142, 1920; sensu Lange, Studies VI, p. 6, 1926; sensu Pearson, Trans. Brit. Myc. Soc. 29, p. 204, 1946.
- Agaricus villaticus* (Brond.) sensu Saccardo, Syll. Fung. 5, p. 999, 1887. (Non *Psalliota villatica* (Brond.) sensu Rich. et Roze, Atl. Champ. Fr., p. 49, t. XV, figs. 1—6, 1885; non sensu Baar, Bull. Soc. Royal. Belg. 70, p. 42, 1937; non sensu Konrad et Maublanc, Agaricales, p. 102, 1948).
- Psalliota augusta* Fr. sensu Konrad et Maublanc, Agaricales, p. 104, 1948.
- *Bernardii* QuéL. sensu Rea, Trans. Brit. Myc. Soc. 3, p. 285, t. 14, 1911; Brit. Bas., p. 83, 1922.
- Agaricus arvensis* (Schaeff.) Fr. sensu Konrad, Schweiz. Zeitschr. f. Pilzk. 9, p. 2—8, 1931.
- Psalliota Bresadolae* Baar (non Schulzer) p. p. in Bull. Soc. Royal. Bot. Belg. 70, p. 48, 1937.
- *urinascens* Møll. et Schöff., Ann. Myc. 36, p. 79, 1938.
- *collina* Vel. Novitates Mycol., p. 152, 1939.
- Icon.: Bresadola, Fung. Trid. I, t. 60, 1884; Icon. Myc., t. 829, 1931.
- Lange, Fl. Ag. Dan. IV, t. 139 C, 1939.
- J. Schäffer: Michael, Führer f. Pilzfreunde, no. 57, 1939.
- Hans Walty, Schweizer-Pilztafeln II, t. 31, 1944.
- F. H. Møller, Den nye Svampebog, fig. 121, 1947.

Pileus 10—15 cm, semiglobate or campanulate, then expanded, often with flattened, later a little depressed centre, not rarely with a deep furrow across, shining, white or alutaceous ("Light Buff"),

on hard pressure becoming pale lemon yellow ("Citron Yellow"), sometimes in dry weather quite ochre yellow ("Chamois"), markedly floccose-squamose everywhere with concolorous scales, which, however, later partly drop off, in the centre sometimes cracking when dry. Margin long inflexed and with dentate seam from the veil. Gills free, crowded, narrow, long pale, then flesh colour ("Pale Grayish Vinaceous"), finally blackish brown. Edge sterile, pale. Stem short and thick, 5—10 cm $\times$ 25—35 mm, frequently fusiform with rooting, pointed base that often breaks when the fungi are gathered, with firm, narrow pith, occasionally slightly hollow, concolorous with cap, more or less coarsely floccose-squamose with white or pale yellow scales, easily rubbed off. Ring sheathed above, white, thin, often torn, broad, obliquely pendulous, smooth above, loosely dentate at the edge on the underside, and towards stem with furfuraceous, areolate, white, later yellow scales. Flesh thick and firm, white, shot with flesh colour or rust ("Buff-Pink" or "Cinnamon-Rufous") when cut in the stem, particularly towards the base. Smell slight, almond-like after strong friction of the pellicle, very soon after gathering smelling of mouldy straw or urine. Schaffer reaction positive or negative. Spore powder brownish black, ("Bone Brown; L. c3; S.117).

Spores ovally ovate, with several guttae, 8—12(—14) $\times$ 5.5—6.5(—7) μ . Basidia 4-spored, clavate, 26—44 $\times$ 8—11(—12) μ . Sterigmata 3—5 μ long. Marginal cystidia numerous, ovate-balloon-shaped, 8—31 $\times$ 6—16 μ (in rare cases clavate), hyaline, 25—40 $\times$ 6—8(—10) μ .

Gregarious or in fairy rings, killing the grass, in meadows, often in shore meadows. Fairly frequent. July—October.

Bornholm: Lyneborggårds Løkke. — Falster: Eged (clavate cystidia). — Fyn: Årup (N. F. Buchwald). — Kejlsø in Guldborgsund. — Lolland: Egholm near Torrig Skov (G. Ebbesen); Fiskema'en (Lindh. Hansen); Horslunde, several localities in meadows; Knuthenborg Park; Krenkerup in Borremose (sometimes with clavate, sometimes with short cystidia). — Jylland: Meadow near Randers (A. Hauerbach). — Vigsø in Smålandshavet.

In 1938 *P. urinascens* Möll. et Schöff. was erected on Danish fruit bodies from Fyn and Lolland with broad gills and negative Schaffer reaction. Later investigations have shown that the form of the cystidia as well as the breadth of the gills may vary in the above-described species, also the smell of gathered individuals which as a

rule becomes disagreeable (compare with this Pearson's excellent description of *P. macrospora* in Trans. Brit. Myc. Soc. 29, p. 204, 1946). Hence it will be best provisionally to abandon *P. urinascens* and regard this name as a synonym.

As will appear from the list of synonyms, *P. macrospora* has had several names. Much speaks in favour of the supposition that *Agaricus villaticus* Brond. is identic (see fig. 30). Baar's name *P. Bresau-*

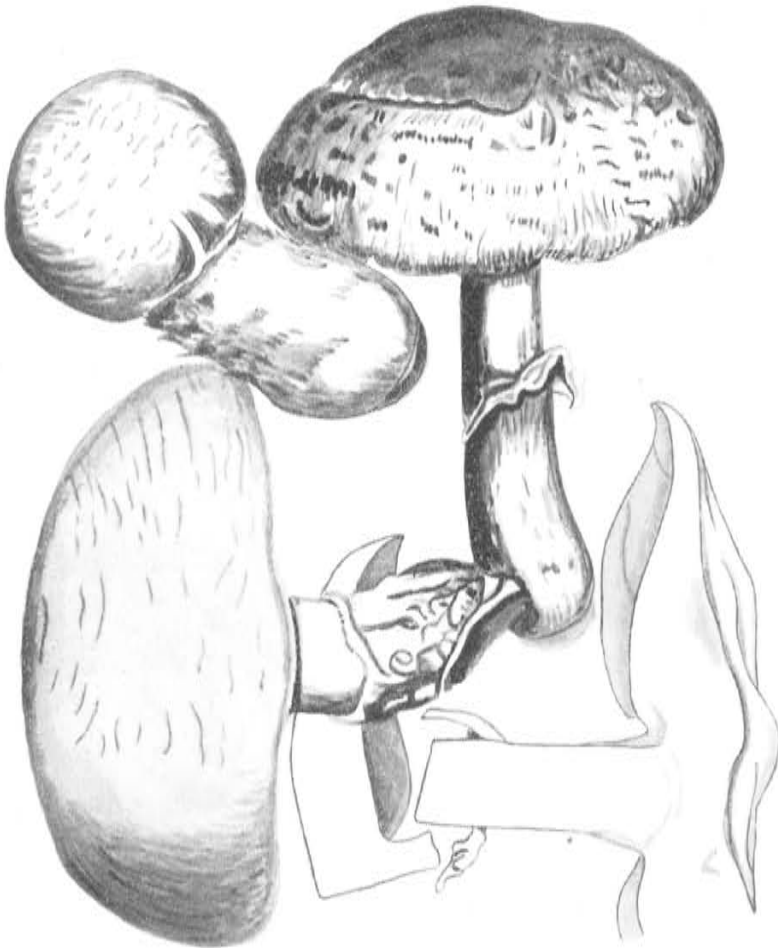


Fig. 30. *Agaricus villaticus* Brond.

Sketch executed after J. Schäffer's copy of Brondeau's plate (c. 3:5). The two figures to the left very much resemble *P. macrospora* (*P. villatica* sensu Bres.) and none of the others especially reminds one of *P. vaporaria* (Vitt.) or *P. bispora*.

dolae comprises both *P. excellens*, (*P. augusta* sensu Rick.), and *P. macrospora*, and was suggested as a substitute for the name *P. villatica* (Brond.) sensu Bres. without Baar being quite sure that *P. augusta* Fr. and *P. perrara* Schulz. (= *P. Bresadolae* Schulz.) were different species. *Ag. crocodilinus* Murr. and especially *P. lecensis* Harz are closely related.

2. MINORES Fr.

X. THE SEMOTA GROUP

Small species. Pileus white or yellow, often with vinaceous, radiating fibrils. Gills as a rule pale or pink. Edge of gills mostly sterile. Stem pithy-hollow, as a rule thicker towards base. Ring sheathed above, simple. Flesh thin, white or yellow when broken. Smell almond-like. Marginal cystidia, when present, roundish-ovate to balloon-shaped-clavate or clavate. Spores ovate, under 6μ long. Schäffer reaction positive. In woods, meadows, or gardens.

KEY TO SPECIES

- | | | | |
|----|---|---|---------------------------|
| 1. | { | Gills pink-flesh-coloured. Pileus 2—3 cm, white or yellowish. In meadows or lawns | 1. <i>P. comtula</i> |
| | { | Gills grey or slightly red. As a rule in woods | 2 |
| 2. | { | Pileus 5—8 cm, reddish brown or lilac. Stem 12—15 mm thick above the bulbous base | 3 |
| | { | Pileus 2—5 cm, lilac, white, or yellowish. Stem thinner | 4 |
| 3. | { | Pileus with dense, reddish brown radial fibrils and a few small scales. Under <i>Fagus</i> | 2. <i>P. brunneola</i> |
| | { | Pileus reddish lilac with numerous purplish brown radial fibrils and scales. In mixed wood | 3. <i>P. purpurascens</i> |
| 4. | { | Stem thinner towards base or subcylindrical, short. Pileus 3—5 cm, with faint, spot-like, purplish brown or yellow scales on the disc. | 4. <i>P. lutosa</i> |
| | { | Stem with abruptly swollen or clavate base | 5 |

5. { Pileus 3 cm, conico-convex, white with minute, purplish brown radial fibrils. Gills very narrow (2—5 mm). Stem slender, clavate at base, 2—3 mm thick in the middle. In woods 5. *P. dulcidula*
6. { Pileus not conical. Gills broader. Stem with clavate or abruptly swollen, bulbous base 6
6. { Pileus 4—5 cm, pale with sparse, argillaceous, fibrillose scales. Stem with bulbous base. Cystidia clavate. Under *Abies* 6. *P. xantholepis*
7. { Pileus with more or less purplish tinge, especially on disc. 7
7. { Pileus 3 cm, floccose, straw yellow with purplish brown centre. Stem rather short and thick, floccose, with bulbous base. Becomes a deep yellow when touched. Spores $5.5-6 \times 3.75-4 \mu$. Under *Picea*. Compare *P. semota* 7. *P. luteo-maculata*
8. { Pileus lilac or vinaceous, at any rate in the centre of cap. Stem rather slender. Spores $4-5 \times 2.5-3.75 \mu$ 8
8. { Pileus 2—4 cm, quite vinaceous and covered with purple radial fibrils and squamules. Gills broad. Stem slender, clavate at base, c. 5 mm thick in the middle. Spores $4-5 \times 2.75-3.75 \mu$. Under *Picea* 8. *P. purpurella*
8. { Pileus 4—5 cm, at first white, later with purple or vinaceous radial fibrils, finally mixed with yellow, turning somewhat grey. Gills narrow. Stem slender, with abrupt, bulbous base, 6—8 mm thick in the middle. Spores $4.5-5 \times 2.5-3 \mu$. Mostly under *Picea* 9. *P. semota*

1. *Psalliota comtula* FR.

Fries, *Epier.*, p. 215, 1836.

Icon.: Fries, *Icon. sel.*, t. 130, fig. 1, 1884.

Cooke, *Illustr.* t. 533, no. 552, 1881—1891.

Lange, *Fl. Ag. Dan.* IV, t. 136 A, 1939.

Pileus 2—3 cm, ovate-semiglobate, often a little flattened in the centre, at length quite flat, silky, white, at length pale yellow ("Cream-Buff"), particularly in the centre, naked. Gills free,

crowded, narrow, rosy-flesh-colour ("Buff-Pink"), finally dark brown. Stem 3 cm × 3—4 mm, thicker at the base, sometimes cylindrical, pithy-fistulose, white, gradually turning yellow like the cap, especially at the base, silky, naked. Ring sheathed above, white, thin and weak, narrow, at first erect, then obliquely pendulous, high-placed, simple. Flesh thin, white, becoming yellow ("Cream-Buff") particularly at the base of the stem. Smell like almonds.

Spores ovate, 1-guttulate, $4.5-5.5(-6) \times 3(-3.5) \mu$. Basidia not examined. According to J. E. Lange marginal cystidia are lacking.

In meadows in small groups. Rare. September.

Bornholm: Common near Akirkeby.

Fries describes the cap, stem, and ring as white at first, then turning yellow (Epicr., p. 215; Monogr. I, p. 407; Hym. Eur., p. 281), and so, as will indeed appear from the above description, it belongs with other small species to the *Flavescentes*. Unfortunately the author has had no opportunity of confirming or disproving Lange's statement that the species lacks marginal cystidia, so that this point calls for further examination; for similar Danish species, not included in the ensuing survey, have unmistakable marginal cystidia.

The systematic treatment of the *Semota* group presents great difficulties, partly because the spores and cystidia as well as the condition of the ring are not good distinguishing characters, partly because the colour of the fruit bodies varies a great deal according to the age. Thus owing to the pellicle and flesh turning yellow, the original colours are changed or veiled, and finally many of the species are rare and only occur in a few specimens at a time. Great caution must therefore be exercised in erecting new species, of which there are probably more in Denmark than the three described below.

2. *Psalliota brunneola* LANGE

Lange, Fl. Ag. Dan. V, p. VII, 1940; Studies XII, p. 90, 1938; Fl.

Ag. Dan. IV, p. 60, 1939.

Icon.: Lange, Fl. Ag. Dan. IV, t. 140 C, 1939.

"Medium, rather short-stemmed. Cap 5.5—7 cm, convex, rather thick-fleshed, everywhere densely covered by innate, minute fibrils and fibrillose squamules of a dull brownish crimson or purplish brown colour, edge pallid. Gills somewhat distant, white when

young, then pale chocolate with a slight tinge of lilac. Stem white, glabrous, rather short and somewhat conical, sub-bulbous, slightly rhubarb-yellow to the touch (like the cap) with a thin, white ring, the edge of which is slightly thicker. Flesh white, becoming somewhat rhubarb-yellowish with age, from base up. Odour rather pronounced.

Spores ovate, $4.75-5 \times 3.5 \mu$, diaphanous, rather pallid. Cystidia on gill-edge obovate, rather large, $10-18 \mu$ broad. Basidia 4-spored.

Met with once [Morten Lange], near Nyborg, in wood of *Fagus*, on boggy ground (black humus).

The species differs from *P. rubella* by a more fleshy and more densely fibrillose cap and lack of any flesh-colour in the gills. *P. fulveola* (Lasch) Fr. is probably identical. The only real difference (in the Friesian description) is the fulvo-denticulate edging of the gills. But as all parts of the fruit-body have a tendency to turn somewhat fulvous, the cystidia at the gill-edge may also take on the same tint. Lasch's species is, however, not too well known, even Fries had not seen it, except in dried specimens. *P. arvensis* var. *purpurascens* Cke. is evidently a near relative of *P. brunneola* (and not of *P. arvensis* which has larger spores) although its colours are vivid. All these forms should be further studied."

The above is quoted verbatim from J. E. Lange's description in Fl. Ag. Dan. IV, pp. 60—61, 1939, since so far the species, as far as I know, has only been found by Morten Lange.

3. *Psalliota purpurascens* (COOKE) comb. nov.

Plates XXI a and XXXV.

Syn.: *Agaricus arvensis* (Schaeff.) Fr. var. *purpurascens* Cooke, Illustr., t. 541, no. 584, 1881—1891.

Pileus 6—8 cm, semiglobate, then expanded, often finally with slightly depressed centre, silky, on pale vinaceous ("Pale Vinaceous-Pink") ground from the centre out towards the margin which is whitish, covered with adpressed scales and fibrils of purplish brown ("Deep Purplish Brown") colour. Margin with a thin, white fringe from the veil. Gills free, crowded, rather broad, long pale, then grey with a very faint tinge of red, finally brownish black. Edge sterile, denticulate. Stem somewhat short, $5-6 \text{ cm} \times 10-15 \text{ mm}$,

base up to 20 mm thick, clavate with vigorous, often yellow, mycelial strand, hollow, white, base when touched turning bright yellow ("Apricot Yellow"), silky, naked. Ring sheathed above, white, but soon turning yellow, membranaceous, rather narrow, at first erect, then obliquely pendulous, almost median, simple. Flesh thin, whitish, at length deep yellow in lower part of stem where it has turned yellow externally ("Light Cadmium" or "Lemon Yellow"). Smell of almonds. Schäffer reaction positive. Spore powder brownish black ("Bone Brown"; L. c3; S. 117).

Spores ovate, 1-guttulate, $4.5-5.5(-6) \times 3-3.5(-4) \mu$. Basidia 4-spored, clavate, $18-28 \times 6-8 \mu$. Sterigmata $2-3 \mu$ long. Marginal cystidia numerous, ovate-balloon-shaped, $13-30 \times 8-18 \mu$, mostly $12-14 \mu$ broad.

In small groups in light places in woods of mixed trees (*Abies*, *Picea*, *Ulmus*, *Acer* etc.) or in hedges and parks. Rare. August—September.

Fyn: Æble Skov near Sulkendrup (Frede Terkelsen). — Lolland: Garden of Sundby Færggård (the last couple of years); Kramnitse, behind the dike; Rykkerup Skov (a light-coloured form). — Sjælland: Langebæk Skov near Kalvehave.

The above is a good species, plainly distinguishable from *P. semota*. On account of its size Cooke took it for a variety of *P. arvensis*, but it belongs to the *Semota* group.

4. *Psalliota lutosa* sp. nov.

Plate XXI d.

Diagnosis. Pileus 2.5—5 cm, hemisphaericus, dein expansus, saepe umbilicatus, sericeo-nitens, medio dilute umbrino, interdum purpureo-tincto, ambitu ochraceus, squamulosus, squamulis ochraceis, debilibus, tenuioribus, concentricis, margine albo, nudo. Lamellae liberae, confertae, latae, e pallidis cinereae, dein fuscae, acie sterili, pallida. Stipes curtus, $2-3.5 \text{ cm} \times 5-7 \text{ mm}$, deorsum attenuatus ut in *P. campestri*, rariore cylindricus, medullato-fistulosus, albus, tactu sub annulo lutescens, sericeo-nitens, nudus. Annulus superus, albus, tenuis, angustus, reflexus, medius, simplex. Caro subcrassa, alba, in basi stipitis lutescens, odore amygdalino.

Sporae acervatim fuscae, ovatae, uniguttulatae, $4-5 \times 3-3.5 \mu$. Basidia 4-sterigmatica, clavata, $20-22 \times 5-7 \mu$. Sterigmata $2-3 \mu$

longa (4μ l. in basidiis 2-sterigmaticis). Cystidia aciei lamellarum numerosa, late clavata, hyalina, $20-26 \times 7-13\mu$.

Gregaria. Praecipue in hortis graminosis, in campis et in pratis Daniae. Aestate-autumno.

Description. Pileus 2.5—5 cm, semiglobate, then flattened, often with a navel, silky, with light umber brown ("Wood Brown") centre and outside this ochre-coloured ("Honey Yellow"), or entirely ochre-yellow in the central portion which has often, in addition, a faint purplish tinge, round this are seen ochre yellow or light umber brown, weak, thin, adpressed, concentric squamules; margin white, naked. Gills free, crowded, broad, pale, then grey, finally brownish black. Edge sterile. Stem short, $2-3.5 \text{ cm} \times 5-7 \text{ mm}$, narrower towards base as in *P. campestris*, rarely cylindrical, pithy-fistulose, white, becoming yellow ("Buff-Yellow") below the ring when touched, silky, naked. Ring sheathed above, white, thin and narrow, pendulous, median, simple. Flesh rather thick, white, turning yellow ("Maize Yellow") at the base of the stem. Smell of almonds. Schaffer reaction positive.

Spores ovate, 1-guttulate, $4-5 \times 3-3.5\mu$. Basidia 4-spored, clavate, $20-22 \times 5-7\mu$. Sterigmata $2-3\mu$ long (4μ long in 2-spored basidia). Marginal cystidia numerous, broadly clavate, hyaline, $20-26 \times 7-13\mu$.

Gregarious. On lawns, in stubble fields, in meadows or in light woods (wood paths), probably rare. August—October.

Falster: Nykøbing, in garden. — Lolland: Strand meadow near Priorskov. — Sjælland: Soderup near Hedehusene in stubble field (Ø. Winge); Hesede Plantage in wood path under deciduous trees; Tisvildeleje on the sand of the shore (Morten Lange).

5. *Psalliota dulcidula* SCHULZ.

Fig. 31.

Kalchbrenner et Schulzer, Icon. sel. Hym. Hung., p. 29, 1874.
Syn.: *Psalliota dulcidula* Schulz. sensu Lange, Studies VI, p. 11, 1926;

Fl. Ag. Dan. IV, p. 61, 1939; non Severin Petersen, Danske Agaricaceer, p. 382, 1907—1911.

Icon.: Kalchbrenner et Schulzer, Icon. sel. Hym. Hung., t. 17, fig. 1, 1874.

Lange, Fl. Ag. Dan. IV, t. 135 C, 1939.

"Cap only 3 cm broad, conic-convex, then expanding and somewhat umbonate, umbo comparatively fleshy. The fundamental colour of the cap is white (slightly brownish in the middle), but it is everywhere (rather sparsely) set with minute, innate, silky, dark purplish-brown fibrils (especially in the centre). The gills are narrow (2 mm), pallid grey, with a slight flush of brown. The stem is 4—5 cm × 2 mm (base swollen to about 5 mm), slightly fibrillose-squamulose, whitish (yellow to touch) with yellowish flesh and a rather narrow, thin ring. The smallest of our *Psalliotas*, well characterized by the umbonate cap. — *P. minima* Rick. differs in having broad, ventricose gills.

Spores broadly ovate, $5 \times 3.5 \mu$. Basidia 4-spored. Sterile cells obovate spheric, about 10μ broad.

Fyn: Erholm, near Årup, solitary in wood of *Fagus* and *Picea*, Sept. 1913."

The above description is copied verbatim from J. E. Lange, Studies in the Agarics of Denmark VI, p. 11, 1926, this being a fuller description than that of Lange's latest work, Fl. Ag. Dan. IV, p. 61, 1939. Lange's species has also been found in Jægersborg Dyrehave (Sjælland) by J. P. Jensen, and in Bohemia by K. Kult, Prague (in lit.).

For comparison I give the original picture of *P. dulcidula* (see fig. 31). The Hungarian mycologist Kalmár says (in lit. ^{28/3} 1950) that neither he nor any other now living Hungarian investigators

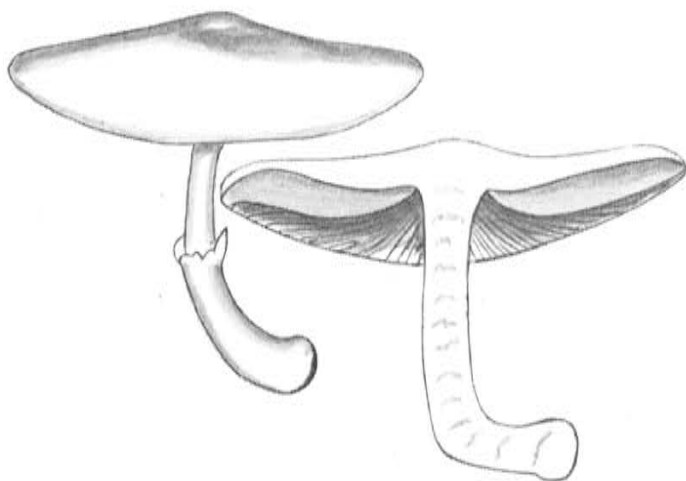


Fig. 31. *Psalliota dulcidula* Schulz.
Sketch executed after Kalchbrenner et Schulzer's figures (1:1).

have found *P. dulcidula*, and that they only know it from Schulzer's description. Konrad & Maublanc regard both this species and *P. sagata* Fr. as "Espèces douteuses ou mal connues." The figure of *P. sagata* in Flora Dan., t. 1008, fig. 2, is more like a *Pholiota* than a *Psalliota*.

6. *Psalliota xantholepis* sp. n.

Plates XXI c and XXXVI.

Diagnosis. Pileus 3—5 cm, hemisphaericus, dein expansus, sericeo-nitens, initio omnino argillaceus, mox in fundo albo squamosus, squamis pilosis, argillaceis, dispersis, adpressis, centro sine squamis. Lamellae liberae, confertae, sat latae, e pallidis cinereae, denique fuscae, acie sterili. Stipes 4—5 cm × 10 mm, cylindricus, ad basim bulbosus, bulbo rotundato, usque ad 15 mm lato, cavus, albus, tactu lutescens, sericeo-nitens, nudus. Annulus superus, albus, membranaceus, saepe laceratus, simplex. Caro tenuis, alba, postremo in stipite lutescens, odore amygdalino.

Sporae acervatim fuscae, ovatae, uniguttulatae, 4—5.5 × 3 μ . Basidia 4-sterigmatica, clavata, 18—20 × 5—6 μ . Sterigmata 2.5 μ longa. Cystidia aciei lamellarum numerosa, late clavata, 16—30 × 6—11 μ .

Gregaria in silva abiegna (*Abies*) Daniae semel lecta. Autumno.

Description. Pileus 3—5 cm, semiglobate, then expanded, silky, at first argillaceous ("Aniline Yellow"), but very soon the pellicle breaks up into adpressed, argillaceous, sparse, fibrillose scales, between which the white ground peeps out. In the centre of the cap, however, the pellicle is unbroken. Gills free, crowded, rather broad, pale, then grey, without a tinge of red, finally dark. Edge sterile. Stem 4—5 cm × 10 mm, cylindric, with round, bulbous base (up to 15 mm broad); hollow, white, becoming argillaceous on pressure ("Primuline Yellow"), silky, naked. Ring sheathed above, white, membranaceous, often torn and with bits left on the edge of cap and on the stem, simple. Flesh thin, white, becoming yellow ("Primuline Yellow") in the stem with age. Smell of almonds. Schäffer reaction positive.

Spores ovate, 1-guttulate, 4—5.5 × 3 μ . Basidia 4-spored, clavate, 18—20 × 5—6 μ . Sterigmata 2.5 μ long. Marginal cystidia numerous, shortly clavate, 16—30 × 6—11 μ .

Found in a small group under *Abies* on needles. Rare. October. Lolland: Fuglsang Storskov 1949.

The above seems to be a good species.

7. *Psalliota luteo-maculata* sp. n.

Plate XXI b.

Diagnosis. Pileus 3—4 cm, hemisphaericus, dein expansus, sericeo-nitens, stramineus, medio purpureo-tincto, tactu illico luteus, sub lente minute flocculosus, margine dentato-appendiculato. Lamellae liberae, confertae, sat latae, e pallidis cinereae, tandem fuscae, acie sterili. Stipes 3—4 cm $\times$ 5—7 mm, cylindricus, ad basim abrupte bulbosus, bulbo usque ad 13 mm lato, medullato-fistulosus, albus, tactu illico lutescens, sericeo-nitens, sub annulo minute flocculosus ut in pileo. Annulus superus, albus, tenuis, 4—5 mm latus, reflexus, simplex. Caro subtenuis, alba, mox lutescens, odore amygdalino.

Sporae acervatim fuscae, ovatae, uniguttulatae, $5.5-6 \times 3.75-4 \mu$. Basidia 4-sterigmatica, clavata, $22 \times 7 \mu$. Cystidia aciei lamellarum numerosa, vesiculosa, $16-24 \times 10-15 \mu$.

Subgregaria, in silva abiegna (*Picea*) Daniae semel lecta. Augusto.

Differt a *P. semota*, cui persimilis est, stipite curtiore, pileo et stipite minute flocculosis, sporis maioribus.

Description. Pileus 3—4 cm, semiglobate, then flattened, silky, straw yellow ("Straw Yellow") with purplish brown ("Vinous-Brown") centre, turning dark yellow on the slightest touch ("Apricot Yellow"), under the lens minutely flocculose. At the margin small teeth from the veil. Gills free, crowded, rather broad, pale, later grey, finally dark. Edge sterile. Stem 3—4 cm $\times$ 5—7 mm, cylindrical with a somewhat marginate, suddenly swelling, bulbous base, up to 13 mm broad; pithy-hollow, white, but becoming deep yellow on the least touch ("Apricot Yellow"), silky, under the lens minutely floccose in the portion under the ring. Ring sheathed above, white, thin, 4—5 mm broad, obliquely pendulous, simple. Flesh somewhat thin, white, soon becoming deep lemon yellow ("Apricot Yellow") both in the cap and stem. Smell almond-like. Schäffer reaction positive.

Spores ovate, 1-guttulate, $5.5-6 \times 3.75-4 \mu$. Basidia 4-spored, clavate, $22 \times 7 \mu$. Marginal cystidia numerous, balloon-shaped, $16-24 \times 10-15 \mu$.

Found once in a small group under *Picea* among needles. Rare. August.

Lolland: Fuglsang Storskov (1937).

This species bears some resemblance to *P. semota* and grows on the same kind of ground but is more short-stemmed, and minutely floccose everywhere on the cap and lower part of stem; it turns a deeper yellow to the touch and has slightly larger spores.

8. *Psalliota purpurella* nom. n.

Syn.: *Psalliota amethystina* Quél. sensu Lange, Studies VI, p. 10, 1926.

Icon.: Patouillard, Tab., no. 654, 1883—1889 (sub nom. *Ag. rubellus*).

Decary, Bull. Soc. Myc. Fr. 43, Atlas, t. 22, 1927 (sub nom. *Ag. rubellus*).

Lange, Fl. Ag. Dan. IV, t. 135 A, 1939.

Diagnosis. Pileus 2.5—3.5 cm, hemisphaericus, dein expansus, tandem planus, sericeo-nitens, vinaceus vel rubro-lilaceus, medio obscuriore, dense fibrillosus, fibrillis innatis, radialiter dispositis, lilaceis, in margine fragmentis veli albis ornatus. Lamellae liberae, confertae, latae, e pallidis griseae, paulum rubro-tinctae, denique fuscae, acie sterili. Stipes 3—4 cm × 4—5 mm, basi clavata, usque ad 10 mm crassa, saepe ascendens, anguste fistulosus, albus, tactu lutescens, sericeo-nitens, nudus. Annulus superus, albus, membranaceus, 1—3 mm latus, simplex. Caro tenuis, alba, in stipite denique dilute ochracea, odore amygdalino.

Sporae acervatim fuscae, ovatae, uniguttulatae, 4—5 × 3—3.75 μ . Basidia 4-sterigmatica, clavata, 17—21 × 6 μ (basidia 2-sterigmatica usque ad 32 × 6.25 μ). Cystidia aciei lamellarum numerosa, vesiculosa, hyalina, 17—25 × 10—13 μ .

Solitaria vel subgregaria in silvis abiegnis (*Picea*) Daniae. Rara. Aestate-autumno.

Differt a *P. semota* statura minore, lamellis latioribus et colore pilei omnino purpureo. *P. amethystina* sensu Lange (non Quélet) eadem est.

Description. Pileus 2.5—3.5 cm, semiglobate, then expanded, at length plane, silky, vinaceous or reddish lilac ("Dark Vinaceous"), with a darker centre, densely fibrillose with radiating, innate, lilac fibrils, at the margin with white remnants of the veil. Gills free, crowded, broad, pale, then greyish with a slight reddish tinge ("Brownish Drab"), at length dark. Edge sterile. Stem 3—

4 cm×4—5 mm, base clavate, up to 10 mm thick, often ascending, with narrow tube, white, becoming yellow ("Wax Yellow") when touched, silky, naked. Ring sheathed above, white, very thin, c. 1—3 mm broad, placed just above the middle of the stem, simple. Flesh thin, white, turning yellow ("Wax Yellow") with age at the base of the stem. Smell like almonds. Schäffer reaction positive. Spore powder brownish black ("Bone Brown"; L. c3; S.117).

Spores ovate, 1-guttulate, 4—5×3—3.75 μ . Basidia 4-spored, clavate, 17—21×6 μ (2-spored basidia up to 32×6.25 μ). Marginal cystidia numerous, balloon-shaped, hyaline, 17—25×10—13 μ .

Solitary or two or three individuals together under *Picea* among needles. Rare. July—September.

Falster: Nykøbing Vesterskov 1921—1922 and 1926—1927. — Fyn: "Nye Have" near Hesselager (J. E. Lange). — Jylland: Frederikshåb Plantage (P. Larsen). — Lolland: Flintinge Byskov.

This pretty little species does not agree entirely with the description of *P. amethystina* Quél. so it has been given a new name. In France it has been identified with *P. rubella* Gill., but the latter is more squamulose and larger and has the same bulbous base as *P. semota*. Quélet's species is probably identical with *P. semota* Fr. sensu Ricken, Lundell (see under *P. semota* Fr.).

Ag. cinchonensis Murr. and *Ag. rhopalopodius* Pat. seem closely related.

9. *Psalliota semota* Fr.

Plate XXXVII.

Fries, Monogr. Hym. Sueciae II, p. 347, 1863.

Syn.: *Pratella rubella* Gill., Champ., p. 565, 1878.

— *amethystina* Quél., Fl. mycol., p. 71, 1888.

Psalliota silvatica (Schaeff.) Fr. var. *amethystina* Quél., Assoc. Franç., p. 4, 1884.

— *sagata* Fr. sensu Cooke, Illustr., t. 968, no. 1177, 1881—1891.

— *semota* Fr. sensu Ricken, Blätterp., p. 238, 1912.

— *semota* Fr. sensu Nannf. & Lund., Fungi exsicc., no. 924, 1941.

— *rubella* (Gill.) f. *pallens* Lange, Studies VI, p. 10, 1926.

— *pallens* (Lange) Rea, Appendix II to Brit. Bas., p. 37, 1932.

Icon.: Gillet, Champ., t. 102, 1878.

Ricken, Blätterp., t. 62, fig. 3, 1912.

Lange, Fl. Ag. Dan. IV, t. 137 A, 1939.

Pileus 3—5 cm, semiglobate, then expanded and subumbonate, silky, at first whitish, but soon with minute, lilac squamules in centre ("Dark Vinaceous") and with minute, vinaceous ("Purplish Vinaceous"), radial fibrils from the centre out towards the white margin, at length becoming yellow and somewhat greyish, so that the delicate colours pass into a dirty mixture of more or less brick red ("Testaceous" or "Micado Brown"). Gills free, crowded, narrow, particularly towards the stem, pale, then grey with a pink tinge ("Pale Vinaceous Drab"), at length blackish brown. Edge sterile. Stem rather tall, 4—6 cm × 6—8 mm, thicker towards base and there abruptly swollen, roundish or somewhat flattened, up to 15 mm broad, bulbous base; hollow, white, the base turning ochre yellow ("Yellow Ochre") with age or when bruised, silky, naked. Ring sheathed above, white, gradually yellow, thin, weak, narrow, at first erect, then obliquely pendulous, placed high, simple. Flesh thin, whitish, soon ochre yellow at the base of stem. Smell of almonds. Schäffer reaction positive. Spore powder blackish brown ("Mummy Brown"; L. g 8; S. 701).

Spores ovate, 1-guttulate, $4-5 \times 2.5-3.5 \mu$. Basidia 4-spored, clavate, $14-20 \times 4.5-6 \mu$, with sterigmata 2μ long. Marginal cystidia numerous, balloon- to pear-shaped, hyaline or brownish, $12-26 \times 8-14 \mu$, mostly 12μ broad.

In small groups, often under *Picea*, but sometimes in deciduous woods or in meadows. Not common. August—October.

Bornholm: Deciduous wood near Blykobbe station. — Falster: Korselitze-Skovene; Lindeskoven near Nykøbing; Søndre Kohave near Nykøbing. — Jylland: Frøslev Plantage. — Lolland: Fuglsang Storskov; Storskov near Guldborg; Lindeskoven near Vindeholme; Ravnsby Hestehave. — Sjælland: Palme Vænge near Fuglebjerg; Vestfjed on Glæne (among grass without trees).

This species is very much like *P. luteo-maculata*, but has a shining, smooth cap, and like *P. purpurella*, which is smaller and deeper coloured.

All modern authors consider Fries's figure of *P. semota* (Icon. sel., t. 131, fig. 1) unsatisfactory. As his description also does not seem to correspond very well to any known species of this group,

it is understandable that recent authors have not been able to identify the species, and it has been given other names (see list of synonyms). However, the excellent Swedish mycologist Seth Lundell, who has devoted considerable effort to the clearing up of the Friesian species, regards the above-described species as the genuine *P. semota* Fr., an interpretation which, incidentally, was first put forward by Ricken, and holds that *P. rubella* f. *pallens* Lange is synonymous with that species. Quélet describes *P. amethystina* as having a "subbulbeux" stem and the cap "blanc avec le centre rose, lilacin ou amethyste". As synonymous with *P. amethystina* he further cites *P. rubella* sensu Rich. et Roze, Atl. Champ. Fr., t. XVIII, figs. 1—5; these figures, however, are merely free copies of Gillet's plate representing *P. rubella* Gill. (t. 102, 1878), as in fact Richon et Roze themselves state in the text. In 1884 Quélet regarded *P. rubella* Gill. as a form of *P. rufiophylla* Lasch, later (1888, Fl. myc.) as belonging to *P. silvatica*, to the latter of which he had originally (1884) referred *P. amethystina*, too, as a variety. Comparing all this with Quélet's description of *P. amethystina* the present author has come to the conclusion that this species must be synonymous with the species interpreted by Lange as *P. rubella* Gill., and regarded by Lundell as *P. semota* Fr.

ADDITIONS

***Psalliota impudica* REA**

Fig. 32. Plate XXXVIII.

Rea, Appendix II to Brit. Bas., pp. 37, 50, 1932.

Pileus 4—8 cm, semiglobate, then flatly convex often with flat top, sometimes subumbonate, when quite small with unbroken chocolate brown ("Vandyke Brown" or "Warm Sepia") pellicle, but already early breaking up into concentric or more frequently more irregularly distributed larger or smaller, fibrillose scales of loose composition round a continuous disc in the middle, chocolate brown like the disc, but also clad with shaggy, brown fibrils, particularly towards the margin, all scales and fibrils being set off by the tomen-

tose, whitish ground, darkening with age. The margin has white velum remnants of the ring. Gills free, crowded, narrow, at first pale, then beautifully pale pink ("Pale Congo Pink"), at length blackish brown. Edge sterile, pale. Stem slender, 6—9 cm×10—15 mm, thicker downwards and with a roundish, bulbous base, up to 20 mm broad, provided with long, branched, white mycelial strands, 1—1.5 mm thick, which can connect the fruit bodies; narrowly hollow, white, but often with an adpressed membranous zone just above the base, of the same brown colour as the scales of the cap; naked above the ring, but otherwise everywhere fibrillose-floccose, by which character the species is distinguished from the brown, squamose species of the *Xanthoderma* group. Ring sheathed above, white,

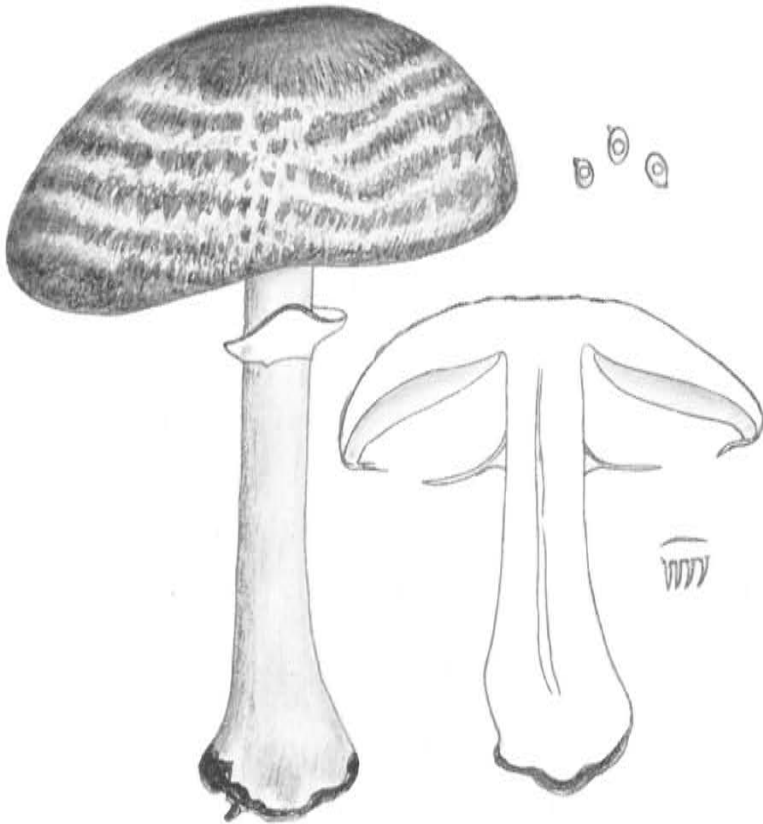


Fig. 32. *Psalliotia impudica* Rea.
Sketch drawn after a watercolour by Mrs. Violet Astley-Cooper
(1:1).

thin, broad, placed high, simple, without scales on the underside. Flesh somewhat thin, when broken flushing slightly in the stem ("Shell Pink"). Smell on friction as of *Lepiota cristata* or *Lycoperdon*. Schäffer reaction negative. Spore powder blackish brown ("Mummy Brown"; L. g 8; S. 701).

Spores ovate, 1-guttulate, $4.5-5 \times 3 \mu$. Basidia 4-spored, clavate, $23-26 \times 6 \mu$. Sterigmata $2-3 \mu$ long. Marginal cystidia numerous, tufted, globose to balloon-shaped, $12-20 \times 10-16 \mu$.

In dense groups, growing in loose, black mould under coniferous trees. Rare. September—October.

Fyn: Wood near Brændegård Sø (Vald. Pedersen, Frede Terkelsen).

The above-described species has been referred to *P. impudica* Rea, particularly because of the resemblance to a watercolour (see fig. 32) lent to the author and executed by Rea's daughter, Mrs. Violet Astley-Cooper (see Danish Psalliota Species, Friesia IV, p. 33, 1950). But Rea's description too agrees with it in its broad features. However, the flesh flushes somewhat (Rea has: flesh persistently white), and the long mycelial strands referred to above are not mentioned by Rea, nor are the marginal cystidia. On the other hand, the dimensions of the spores agree (Rea: $4-5 \times 3 \mu$).

P. variegata has persistently lighter brown spore powder (re-examined when *P. impudica* was found). It grows among needles, while the above-described species was found on loose mould into which the thick mycelial strands branch similarly as in *Collybia platyphylla*. Further the cap of *P. variegata* has more contrasting colours owing to the sparse, brown scales on the white ground, while in *P. impudica* the space between the larger scales is partly filled with smaller ones, so that the scales are less conspicuous. Nevertheless the two species are closely allied. *P. silvatica* has strongly flushing flesh and *P. phaeolepidota* has an entirely naked stem and belongs to the *Xanthoderma* group. The short-stemmed *P. lanipes* has quite another habit and turns a deeper red.

Frede Terkelsen, who sent the author numerous fruit bodies in two large batches, states that owing to the disagreeable *cristata*-smell he felt disinclined to eat it. The smell, which it has in common with *P. variegata*, is no doubt also a good distinguishing character when you have to separate these two in nature from other species of the *Silvatica* group.



Fig. 33. *Psalliota arenicola* Wakef. et Pears.
Above: Figures drawn from nature (1:2); below: Figures executed after
Mr. A. A. Pearson's watercolour (c. 2:3).

***Psalliota arenicola* WAKEFIELD et PEARSON**

Fig. 33.

A. A. Pearson, New Records and Observations III in Trans. Brit.
Myc. Soc. 29, Part 4, p. 205, 1946.

Pileus 3—5 cm, convex, silky, white or slightly yellowish white, naked, margin with weak, denticulate velum zone. Gills free, crowded, comparatively broad, pale flesh colour ("Pale Cinnamon Pink"), at length dark with sterile, pale edge. Stem comparatively long, 4—5 cm × 5—10 mm, subcylindrical or somewhat thinner downwards just above the small, bulbous base, half buried in blown sand, densely pithy or partly with a thin tube, slightly flesh colour above

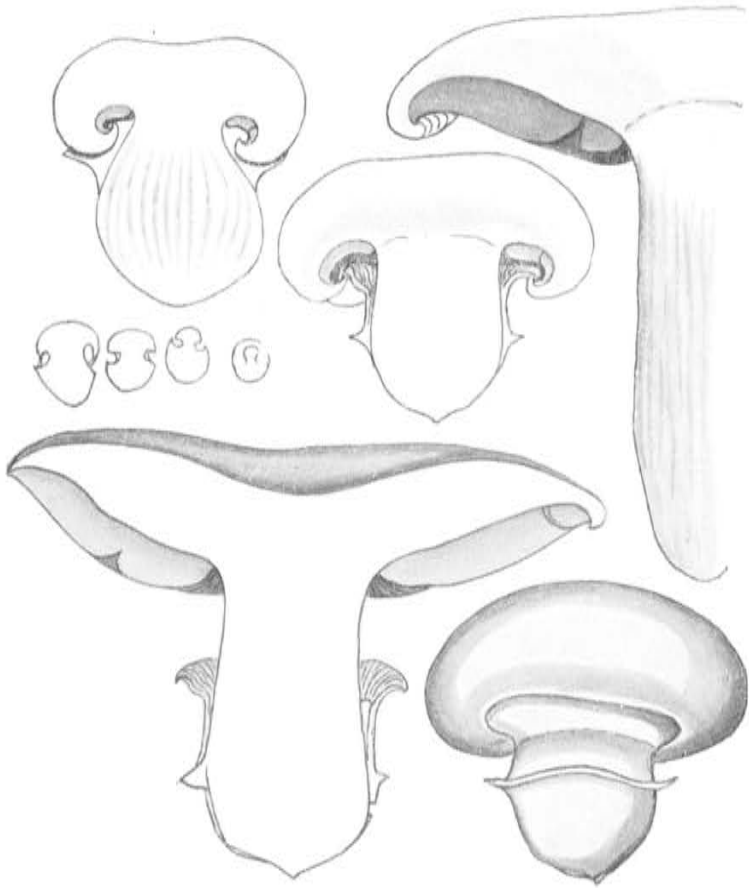


Fig. 34. *Agaricus campestris* A. *edulis* Vitt.
Sketch executed after Vittadini's good figures (c. 3:4).

the ring ("Pale Pinkish Buff"), pure white below the ring, covered with silky fibrils. Ring peronate, very narrow, erect, forming the termination of a membranaceous sheath running to the base of the stem. As in *P. edulis* a lower, smaller ring may also occur, or slight remains of one. Flesh thin, white, slightly flesh-coloured in stem ("Pale Flesh Color"). Smell weak, acidulous. Spore powder brownish black ("Bone Brown"; L. c3; S.117).

Spores roundish oval, 1-2-guttulate, $6.5-7 \times 4.75-5 \mu$ (c. 5 p.c.: $8 \times 6 \mu$). Basidia 4-spored, clavate, $20-24 \times 6-7 \mu$. Sterigmata 3.5μ long. Marginal cystidia numerous, tufted, clavate, hyaline, later brown, $36-50 \times 10-13 \mu$.

Small group in blown sand, ²⁹/₁₀ 1950.

Glænø, Vestfjed.

The above-described fungus, which requires further study, is very closely allied to *P. edulis*, though it is more like a *P. campestris*. It is probably identical with the one described in 1946 by Pearson and Wakefield as an independent species, found in North Devon by F. R. Elliston Wright, as at Glænø deeply buried in sand and growing late in the year.

In habit it differs greatly from *P. edulis* (see fig. 34), the latter being much larger besides having a short, thick stem, a more well developed velum, the margin of the cap greatly involute, the gills very narrow, and the flesh thick and firm. The poor, sandy soil together with the late occurrence and bleak wind are probably responsible for the form of this easily contented plant.

Psalliota squamulifera

Plate XXXX.

After receiving from Als (Pøl near Skovby, Frede Terkelsen) in 1950 giant fruit bodies of *P. squamulifera* with a cap diameter of 18 cm and flesh a couple of cm thick in the cap, the author formed the conjecture that this species must be identical with *P. exserta* (Viv.) sensu Rea, non Viviani (figured by Rea in Tr. Brit. Myc. Soc. 3, t. 15), and after correspondence with A. A. Pearson this hypothesis was strengthened. Mr. Pearson wrote: "Yes, I think that *P. squamulifera* is the same as *P. exserta* sensu Rea. Your sketch is almost exactly like the one I made 20. Oct. 1938; growing among grass on chalk soil. The spores in mass are dark umber brown (Bister of Ridgway) which is very near to Mummy Brown." Miss E. M. Wakefield writes: "I think I have your *P. squamulifera* in three examples from this country, — two from pastures and the other from a mixed wood. In all three there is the dentate ring, the minutely scaly pileus, floccose stem and flesh of stem reddening above from outside inwards. Spores and cystidia agree."

It now seems certain that *P. Benešii* does not occur in Denmark, since the form that J. Schäffer mentions from Lolland (Ann. Myc., 36, p. 82, 1938) was *P. squamulifera* to which also the other supposed finds of *P. Benešii* (Friesia IV, p. 23, 1950) must be referred. According to the locality and the weather *P. squamulifera* varies in the tallness of the stem and in being more or less squamulous

on the cap. As a rule it has short, thick and solid stem and in moist weather it looks as shown in figure 6 (Friesia IV, p. 22, 1950), but in dry weather the pellicle cracks so that numerous light brownish ("Avellaneous" to "Wood-Brown") squamules are seen on a pallid ground. The stem may also be fistulous, especially when it is high. Exceptionally it occurs in deciduous woods (Boserup Skov, 1950, J. P. Jensen). Hans Helbo, Skovby, Als, has in 1951 sent from Pøl a young, high-stemmed specimen with strongly brown-squamulose cap (the same mycelium, from which Fr. Terkelsen the year before gathered the above-mentioned giant fruit bodies with normal stem-height and lighter, less squamulose cap).

Psalliota haemorrhoidaria

I take occasion to point out that the photograph of this species (see Plate XIV) shows slender fruit bodies and does not convey a correct impression, seeing that normally it has a broader cap in proportion to the height of the stem.

Occurrences of the New Species

Since the publication of the first part of "Danish Psalliota Species" various European mycologists have kindly informed me of presumed occurrences of some of the new species erected, thus of *Psalliota aestivalis*, *P. altipes* (from Tirol, Meinhard Moser, Innsbruck), *P. cupreo-brunnea* (from England, Miss E. M. Wakefield, Kew Garden), *P. squamulifera* (from England, A. A. Pearson, Miss E. M. Wakefield), *P. variegata* (from Tirol, Meinhard Moser and from England, A. F. Parker-Rhodes, Cambridge).

Psalliota contra Agaricus

Since certain mycologists have maintained that the legitimate name of the genus is *Agaricus* and not *Psalliota* — a name which, however, is still widely used and which, in contrast with the generic name *Agaricus*, is both an unambiguous term (see International Rules of Botanical Nomenclature, Art. 4—5) and a characteristic name, the author, in order to meet the wishes of the mycologists

who use the name *Agaricus*, and at the same time to protect his priority to the new species described in "Danish Psalliota Species" etc. wishes to transfer these to *Agaricus*. But it will also be necessary, as it would not otherwise have been (see the same Rules, Art. 27, Rec. XVg), to alter a few names which have previously been attached as specific names to the genus *Agaricus* in an extended sense. This applies to the following species and varieties:

- Agaricus edulis* Vitt. var. *validus* n. n. Syn. *Psalliota edulis* var. *valida* Møll. — Friesia IV, p. 14, 1950.
- *maleolens* n. n. Syn. *Psalliota ingrata* Møll. — Ibid., p. 17.
- *squamuliferus* n. n. Syn. *Psalliota squamulifera* Møll. — Ibid., p. 21.
- *depauperatus* n. n. Syn. *Psalliota depauperata* Møll. — Ibid., p. 24.
- *lanipes* (Møll. et Schöff.) n. n. Syn. *Psalliota lanipes* Møll. et Schöff. — Ibid., p. 25.
- *lanipes* (Møll. et Schöff.) n. n. var. *verecundus* n. n. Syn. *Psalliota lanipes* var. *verecunda* Møll. — Ibid., p. 26.
- *fusco-fibrillosus* n. n. Syn. *Psalliota fusco-fibrillosa* Møll. — Ibid., p. 27.
- *Langei* n. n. Syn. *Psalliota Langei* Møll. — Ibid., p. 28.
- *mediofuscus* n. n. Syn. *Psalliota mediofusca* Møll. — Ibid., p. 30.
- *variegans* n. n. Syn. *Psalliota variegata* Møll. — Ibid., p. 31.
- *silvaticus* (Schaeff.) Fr. var. *pallidus* n. n. Syn. *Psalliota silvatica* var. *pallida* Møll. — Ibid., p. 38.
- *silvaticus* (Schaeff.) Fr. var. *saturatus* n. n. Syn. *Psalliota silvatica* var. *saturata* Møll. — Ibid., p. 38.
- *silvaticus* (Schaeff.) Fr. var. *fusco-squamatus* n. n. Syn. *Psalliota silvatica* var. *fusco-squamata* Møll. — Ibid., p. 39.
- *spissicaulis* n. n. Syn. *Psalliota spissa* Møll. — Ibid., p. 43.
- *altipes* n. n. Syn. *Psalliota altipes* Møll. — Ibid., p. 46.
- *decoratus* n. n. Syn. *Psalliota decorata* Møll. — Ibid., p. 48.
- *aestivalis* n. n. Syn. *Psalliota aestivalis* Møll. — Ibid., p. 50.
- *aestivalis* n. n. var. *flavotactus* n. n. Syn. *Psalliota aestivalis* var. *flavotacta* Møll. — Ibid., p. 51.
- *livido-nitidus* n. n. Syn. *Psalliota livido-nitida* Møll. — Ibid., p. 51.

- Agaricus porphyrocephalus* n. n. Syn. *Psalliota porphyrea* Möll. —
Ibid., p. 53.
- *cupreo-brunneus* (Schäff. et Steer) n. n. Syn. *Psalliota cupreo-brunnea*. — Ibid., p. 54.
- *campestris* (L.) Fr. f. *substerilis* n. n. Syn. *Psalliota campestris* f. *substerilis* Möll. — Ibid., p. 56.
- *campestris* (L.) Fr. var. *equestris* n. n. Syn. *Psalliota campestris* var. *equestris* Möll. — Ibid., p. 57.
- *campestris* (L.) Fr. var. *floccipes* n. n. Syn. *Psalliota campestris* var. *floccipes* Möll. — Ibid., p. 57.
- *campestris* (L.) Fr. var. *fusco-pilosellus* n. n. Syn. *Psalliota campestris* var. *fusco-pilosella* Möll. — Ibid., p. 58.
- *campestris* (L.) Fr. var. *isabellinus* n. n. Syn. *Psalliota campestris* var. *isabellina* Möll. — Ibid., p. 60.
- *tenuivolvatus* n. n. Syn. *Psalliota tenuivolvata* Möll. —
Friesia IV, p. 149, 1951.
- *macrocarpus* n. n. Syn. *Psalliota macrocarpa* Möll. — Ibid.,
p. 153.
- *nivescens* n. n. Syn. *Psalliota nivescens* Möll. — Ibid., p. 155.
- *nivescens* n. n. var. *parkensis* n. n. Syn. *Psalliota nivescens*
var. *parkensis* Möll. — Ibid., p. 158.
- *leucotrichus* n. n. Syn. *Psalliota leucotricha* Möll. — Ibid.,
p. 159.
- *fissuratus* n. n. Syn. *Psalliota fissurata* Möll. — Ibid., p. 165.
- *phaeolepidotus* n. n. Syn. *Psalliota phaeolepidota* Möll. —
Ibid., p. 170.
- *stramineus* (Möll. et Schäff.) n. n. Syn. *Psalliota straminea*
Möll. et Schäff. — Ibid., p. 177.
- *excellens* n. n. Syn. *Psalliota excellens* Möll. — Ibid., p. 178.
- *macrosporus* (Möll. et Schäff.) n. n. Syn. *Psalliota macrospora* (Möll. et Schäff.) Möll. — Ibid., p. 181.
- *lutosus* n. n. Syn. *Psalliota lutosus* Möll. — Ibid., p. 188.
- *xantholepis* n. n. Syn. *Psalliota xantholepis* Möll. — Ibid.,
p. 191.
- *luteo-maculatus* n. n. Syn. *Psalliota luteo-maculata* Möll. —
Ibid., p. 192.
- *purpurellus* n. n. Syn. *Psalliota purpurella* Möll. — Ibid.,
p. 193.
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CONCLUDING REMARKS

The preparation of this Danish monograph has by no means been easy — mistakes can hardly be avoided, particularly owing to the many closely related “minor species” but also because so much uncertainty prevails in the literature, especially as to the interpretation of the earlier species. In addition to giving descriptions and figures of as many Danish species as possible, stress has been laid on clearing up certain literary questions, amongst other things by reproducing original illustrations in black of critical species, for the aid of future investigators; and by giving a full list of the literature it has been intended to encourage *Psalliota* investigators to go more thoroughly into the subjects which it has not been possible to include in this survey. The author has been most glad to notice the lively interest and generous help which has been accorded to this work from various quarters. A great aid to future study of the difficult genus for which a foundation has now been laid in Denmark and the neighbouring countries, is the abundant material of illustrations for which the expenses have been defrayed by the Carlsberg Foundation and the Rask-Ørsted Foundation, and with which not a few mycologists in different parts of the world have already expressed their satisfaction. But also “Foreningen til Svampekundskabens Fremme” (Society for the Advance of the Knowledge of Fungi) has shown great generosity at a time when all printing has become very expensive. All the eager co-operators at home and abroad deserve warm thanks. Besides those already referred to I may mention amongst others Gustav Haglund, Stockholm (literature), Roger Heim, Paris (literature), and Seth Lundell, Uppsala (dried material, literature), as well as Miss Annie I. Fausbøll, Copenhagen (translation into English).

Nykøbing Falster, August 1. 1951.

POSTSCRIPT

Comment on a new Monograph on the Bohemian *Psalliotae*

While the last part of my *Psalliota* monograph was passing through the press I received Pilát's excellent, beautiful and interesting book: “The Bohemian Species of the Genus *Agaricus*”, Praha 1951. On the whole I agree with him, and I think I can say that the two works

are complementary to one another. However, I should like to make some comments on some of the cases where Pilát expresses opinions contrary to mine or for the purpose of elucidating my own finds or descriptions.

- p. 16, line 8 from below and p. 30, line 6 (in Pilát's monograph): *P. Bernardii* sensu Rea belongs to the *Macrospora*-group.
- p. 16, line 1 from below: *P. urinascens* is probably only a form of *P. macrospora*.
- p. 17, line 10: In 1950 Mr. R. Rydberg said to me that *P. ingrata* is different from *P. algodora*.
- p. 18, line 11 and p. 49, line 3: *P. subfloccosa* (depicted in plate XXXIX) is quite distinct from *P. bispora*.
- p. 19, line 3: *Ag. Caroli* Pilát is a synonym of *P. squamulifera* (see below).
- p. 21, line 31 and p. 77, line 9 from below: *Ag. augustus* sensu Vel. is probably identical with *P. excellens*.
- p. 22, line 16 from below: Erratum: *P. sagata* sensu Rick. has sp. $5-6 \times 3-4 \mu$.
- p. 36, line 7: Bresadola's plate can also be interpreted as a pallid *P. bispora* with a wrongly drawn ring.
- p. 37, line 2: Cooke's t. 527 is more like *P. bispora* sensu Pilát.
- p. 51, lines 20—24: Lange has later (Fl. Ag. Dan. 1939) abandoned this view.
- p. 51, line 27: Boudier has figured *Ag. villaticus* sensu Pilát under the name of *P. elvensis* (see my remarks on *P. augusta*).
- p. 51, line 14 from below: I do not think that *P. macrospora* is identic with *P. augusta* sensu Smith, because Smith's description (1940) shows that he interprets *P. augusta* Fr. correctly.
- p. 58, line 10 from below: The form found in Lolland was *P. squamulifera*. My figure 6 was drawn from nature after a specimen from the same wood (Sæbyholm Skov).
- p. 62, line 5: I am sorry to say that *Ag. Caroli* is identical with my *P. squamulifera*. Later examinations in 1950—1951 told me that the loose covering of squamules on the cap early disappears and in dry weather the pellicle of the cap cracks into more or less brownish squamules like those which Pilát's coloured plate and his photos exhibit.
- p. 79, line 12: Yes, the plate in Mykologia represents *P. macrospora*.

- p. 79, lines 16—22: Lange's *P. villatica* has also a malodorous smell (see my description of *P. macrospora*) and *P. urinascens* is a synonym to *P. macrospora*.
- p. 79, lines 23—35. Smith (1940) interprets *P. augusta* Fr. correctly and accordingly he does not describe *P. macrospora* under the name of *P. augusta* Fr. He also writes (1940) that under the name of *Ag. villaticus* (fig. 8) and *Ag. perrarus* (fig. 9) Hotson & Stuntz depict, in both cases, *P. augusta*. (However, fig. 8 is more probably *P. macrospora*). *Ag. crocodilinus* Murr. deviates from *P. macrospora* in the following characters: "No yellow color noted at any stage either when wet or dry (the cap) ... "flesh unchanging" ... "stipe unchanging when bruised." (Smith 1940).
- p. 79, line 5 from below to p. 80, line 7: Please see my remarks under *P. straminea*.
- p. 80, line 8: *Ag. cretaceus* sensu Pilát is probably *P. arvensis* sensu Lange, sensu J. Schäffer and sensu Möller. It cannot be denied that Fries's plate in Ätl. Svampar (executed by E. Pettersson, E. Fries direx.) represents *Lepiota naucina* and therefore it is better not to use the name *P. cretacea*.
- p. 81, line 18 from below: *Ag. osecanus* is almost identic with *P. nivescens* which however has smaller spores.
- p. 83, line 6 from below: My *P. leucotricha* has smaller spores than *Ag. arvensis* sensu Pilát. *P. arvensis* subsp. *exquisita* sensu J. Schäffer, which Schäffer and I have collected in a meadow near Potsdam, is not Pilát's *Ag. arvensis*.
- p. 87, line 8 from below: *Ag. arvensis* v. *macrolepis* must not be confounded with *P. fissurata* which among other things has no flattened bulb at the base of the stem.
- p. 90, line 8 from below: Pilát unites *P. abruptibulba* and *P. silvicola*.
- p. 96, line 5 from below: It seems as if Pilát under *Ag. rubellus* also includes *P. purpurascens* (Cooke), see fig. 54, p. 96. *P. rubella* (Gill.) is a much smaller species.
- p. 99, line 6 from below: Under *Ag. semotus* Pilát also describes other forms than *P. amethystina* sensu Lange.
- p. 102, line 12 from below: *Ag. subrufescens* (Peck) is neither found in Denmark nor in England (see Smith 1940 and Pearson & Dennis: Revised List, 1949).

p. 103, line 8 from below: The large spores separate *Ag. chionoder-*
mus from *P. aestivalis* and *P. altipes* (*Campestris*-group).

p. 112, line 17 from below: *P. xanthoderma* v. *obscurata* Maire is
perhaps, as Pilát thinks, a dark, squamosely cracked form
of *P. xanthoderma* and in that case *P. meleagris* v. *obscurata*
in my interpretation must be given another name. I propose:
Psalliota meleagris var. *terricolor* (or *Agaricus meleagris* var.
terricolor).

Diagnosis: A typo differt pileo fere nigro-squamoso (ut in
Tricholomate terreo sensu Lange), lamellis angustioribus, pal-
lidioribus, stipite tactu tantum flavo-maculato. Sporae $5 \times 3 \mu$,
basidia $18-22 \times 5.5-6 \mu$, cystidia vesiculosa, $15-18 \times 8-12 \mu$.

ERRATA IN PART I (FRIESIA IV, 1950)

p. 4, fig. 1 and p. 5, fig. 2: Spores (500:1) and cystidia (250:1).

Read: Spores (1000:1) and cystidia (500:1).

p. 7, fig. 3: Spores (500:1).

Read: Spores (1000:1).

p. 8, line 25: Ring sheathed above.

Read: Ring sheathed above.

p. 10, line 18 and line 19: Führer f. Pilzkunde.

Read: Führer f. Pilzfrende.

p. 14, line 24: Clavus Hym.

Read: Clavis Hym.

p. 28, line 28; p. 30, line 1; p. 33, line 26 and line 29; plate XIV:
Psalliota haemorrhoidaria (Kalchbr. et Schulz.) Fr.

Read: *Psalliota haemorrhoidaria* Schulz. (See Kalchbr. et
Schulz., Icon. sel. Hym. Hung., p. 29).

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NOTITSER

JULIUS SCHÄFFER: DIE RUSSULAE

Nyt bind af „Die Pilze Mitteleuropas“

Da den kendte tyske mykolog Jul. Schäffer i oktober 1944 uventet afgik ved døden, udtrykte undertegnede i en nekrolog („Friesia“ 3: 143—146, 1945) sin beklagelse over, at Schäffer ikke nåede at få færdig-udgivet sit *Russula*-tavleværk („Die Pilze Mitteleuropas“ III), hvorefter der kun udkom 3 hæfter. Den sidste ulykkelige krig har tillige bevirket, at også Schäffer's „*Russula*-Monographie“ (1933—34), den bedste bog, man havde om *Russula*-slægten, blev umulig at opdrive. Det må derfor hilses med stor og oprigtig glæde, at der nu om ganske kort tid bliver mulighed for, at begge dele som samlet værk under titel af: „Die Pilze Mitteleuropas III. Julius Schäffer: Die Russulae. Monographie und Tafelwerk“ kan erhverves på een gang — altså ikke udsendt i hæfter —, idet følgende foreninger: Deutsche Gesellschaft für Pilzkunde, Deutsche Botanische Gesellschaft, Deutsche Naturkundeverein og Verband Schweizerischer Vereine für Pilzkunde (hvorefter den sidste forening har bundet sig til køb af 200 eksemplarer) står som udgivere på Julius Klinkhardt's forlag, Bad Heilbrunn, Oberbayern.

Forud for dette lykkelige resultat er gået et utrætteligt arbejde i krigens og efterkrigstidens onde år af Schäffer's enke, Liesel Schäffer, der næsten som en anden Madame Curie samarbejdede med sin mand i de sidste år af hans liv, og som senere satte sig det store mål at få afsluttet hans livsværk med udgivelsen af hans smukke *Russula*-akvareller (med tilhørende tekst), som det under krigen lykkedes hende at bevare ganske intakt. Ved gode venners hjælp fik hun også omskrevet Schäffer's stenografiske beskrivelser til almindelig skrift og efterhånden skabt en voksende interesse for udgivelsen af 20 farvetavler af format som de oprindelige i „Pilze Mitteleuropas“ og — som tekst hertil — af *Russula*-Monografien, udvidet med S.'s egne optegnelser fra de sidste 10 år af hans liv, så at værket kun kom til at indeholde stof af hans egen hånd.

Forlaget har nu udsendt dels en prøvetekstside af format, tryk og papir omtrent som den gamle monografi, dels en smuk prøvefarvetavle, veludført og på godt papir med 21 figurer, fordelt på 6 arter i naturlig størrelse i 4-farvetryk. Af de medfølgende oplysninger fra forlaget fremgår, at A. Flury, Basel, som i det forløbne år har hjulpet Fru Schäffer med ordning af tekst og billedudvalg, har skrevet forordet, samt givet en ganske kort diagnose af hver art på fransk (3—4 linier). Monografien er på c. 300 sider og er indbundet med shirtingryg. Tavlerne, hvorpå afbildes c. 100 arter, ligger løst i en samlemappe. Prisen er efter danske forhold høj. Dog gives der rabat for forudbestilling inden 15. marts 1952 og for kontant betaling, ligesom ratebetaling indrømmes, men til højere pris. Medlemmer af de udgivende foreninger kan købe til en favorpris af 68 DM (inden $\frac{15}{3}$ 1952, kontant) eller 74 DM (inden $\frac{15}{3}$ 1952, i 10 månedlige rater). Andre købere må betale henholdsvis 78 og 82 DM på samme betingelser. Men bogladeprisen bliver 86 DM.

Til trods for disse priser, til hvilke der måske intet kan siges i disse dyrtider, må man dog håbe, at bogen må vinde den udbredelse også i Danmark, som den i høj grad fortjener, og måske foreningen kunne se en udvej til, at eventuelle købere på en lempelig måde kunne erhverve sig dette moderne og pragtfulde standardværk.

F. H. Møller.

MEDDELELSER

fra

FORENINGEN TIL SVAMPEKUNDSKABENS FREMME

GENERALFORSAMLING I 1950

Lørdag den 25. Februar 1950, Kl. 20⁰⁰, afholdtes den ordinære Generalforsamling i Botanisk Laboratoriums Auditorium, Gothersgade 140, København. Ca. 45 Deltagere.

Til Dirigent valgtes Postmester J. P. Jensen.

1. Formanden, Professor N. Fabritius Buchwald, aflagde derpaa Beretning om Foreningens Virksomhed i 1949. Foraarsekskursionen 15. Maj gik Traditionen tro til Boserup Skov; der samledes flere Kurve fulde af Morkler (*Morchella esculenta*), ofte i Kæmpeeksemplarer, og adskillige Eksemplarer af Hætte-Morkel (*Morchella rimosipes*), men Ekskursionens Clou var dog Fundet af en halv Snes friske Eksemplarer af den yderst sjældne Klokkemorkel (*Verpa conica*). — Efteraarssæsonen maatte som Helhed nok karakteriseres som noget over Middel, navnlig i dens sidste Halvdel. Der afholdtes Ekskursioner paa 5 Søndage, men ingen „Dobbelt-Ekskursioner“, hvilket efter Deltagerantallet at dømme (det største Antal var 70 Deltagere) heller ikke kan skønnes at have været nødvendigt. Sæsonen aabnedes den 28. August med en vellykket Tur til Kullen (30 Deltagere), Foreningens første Ekskursion til Sverige — efter en tvungen Afbrydelse paa 11 Aar! Næste Tur gik 11. September i Turistbil til Kongelunden (50 Deltagere), en Lokaltet, Foreningen kun sjældent har besøgt. Der fandtes ca. 125 Arter, men de fleste kun i eet Eksemplar. Et interessant Fund var en Masseforekomst paa en Brandplet af den lille, lyserøde Bægersvamp, *Pyronema confluens*. Den 25. September var der Ekskursion til Køge Strandskov og Skovene ved Vallø (70 Deltagere) med et betydeligt Udbytte (150 Arter), hvoraf navnlig *Boletus radicans* og Fundet af Tøndersvamp (*Polyporus fomentarius*) paa levende Heste-

kastanie bør fremdrages. Den fjerde Tur, den 9. Oktober til Tisvilde Hegn, havde ligeledes stor Tilslutning (65 Deltagere) og gav ogsaa et stort Udbytte, ca. 145 Arter, hvoriblandt flere sjældne Ridderhatte (*Tricholoma aurantium*, *luridum*, *pessundatum*); den største Sjældenhed var dog Elfenbens-Rørhatten (*Boletus placidus*), desværre kun eet Eksempel. Sæsonen sluttede den 16. Oktober med den traditionelle Tur til Jægersborg Dyrehave, paa hvilken der samledes ikke færre end 192 Arter, hvoraf 160 Agaricaeer. — Paa Initiativ af cand. mag. E. Bille Hansen, Postmester J. P. Jensen og cand. mag. Morten Lange blev Ideen med de mykologiske Kongresser — den sidste afholdtes i 1940 — genoptaget. Kongressen afholdtes Lørdag den 1. og Søndag den 2. Oktober, med Station paa Universitetets botaniske Laboratorium og med Ekskursioner til Ravnholt Hegn ($1/10$) og Grib Skov ($2/10$). Der deltog 18 Mykologer, hvoraf 8 fra Provinsen, og der blev noteret ialt 304 Arter, bl. a. *Pleurotus myxotrichus*. En Artsliste er deponeret i Foreningens Arkiv.

Af „Friesia“ udsendtes Hefte 5 af Bd. 3, hvormed dette Bind afsluttedes. Heftet er paa 142 Sider, og er det største, Foreningen endnu har udgivet; det indeholder bl. a. en Medlemsfortegnelse.

„Flora Agaricina Danica“. Med Udgangen af 1948 lykkedes det at udbetale Resten af Gælden (7000 Kr.) til Carlsberg- og Rask-Ørsted Fondene. I 1949 solgtes der 25 Eksemplarer (lige som i 1948), hvilket vilde give ca. 10 000 Kr. til Fordeling mellem Forstander Lange's to Arvinger, Botanisk Forening og Foreningen til Svampekundskabens Fremme, altsaa ca. 2500 Kr. til Foreningen. Det var Meningen, at Pengene skulde henlægges i et særligt „Flora Agaricina Danica-Fond“ til Fremme af dansk mykologisk Forskning. En Fundats var under Udarbejdelse og vilde blive forelagt til Drøftelse paa næste Generalforsamling.

Fra et Medlem, der ønskede at forblive anonym, havde Foreningen modtaget en Gave paa 200 Kr.!

Økonomien var tilfredsstillende. Foreningen havde desværre endnu ikke faaet Meddelelse fra Undervisningsministeriet vedrørende den sædvanlige aarlige Understøttelse paa 600 Kr. Efter hvad der kunde oplyses, skyldtes Forsinkelsen en Drøftelse i Ministeriet, idet man paatænkte at forhøje de aarlige Tilskud til Foreninger og Tidskrifter.

I Efteraaret 1949 modtog Foreningen en Indbydelse til at lade sig repræsentere paa Den 7. internationale botaniske Kongres i Stock-

holm i Juli 1950, og Bestyrelsen vedtog at delegere Overlærer F. H. Møller, Nykøbing F., som Foreningens Repræsentant og at afholde Rejseomkostningerne af „Flora Agaricina Danica-Fondet“.

Foreningens Næstformand, Øjenlæge V. Hertz, blev paa sin 80-Aarsdag den 11. Februar 1949 fejret og hyldet i Taler og Sang af en snæver Kreds af Mykologer paa „Petit Trianon“.

Der var i Aarets Løb indgaaet i Foreningen 34 og udgaaet 47 Medlemmer (heraf slettet 15!). Medlemsantallet var 573 pr. 31.12.1948 og 560 pr. 31.12.1949, altsaa en mindre Tilbagegang paa 13 Medlemmer.

Følgende tre Medlemmer var døde i Beretningsaaret: Apoteker Th. Jørck, Skelskør (indmeldt 1921), Tandlæge Einar Larsen, København (indmeldt 1944) og Civilingeniør Oscar Storck, København (indmeldt 1923).

Ære være deres Minde!

2. Kassereren, Overlærer K. Bjørnekær, forelagde derefter Regnskabet, som balancerede med Kr. 4800.98. Kontingentindtægten var Kr. 2811.50 og Renteindtægten Kr. 39.02. Kassebeholdningen var pr. 31.12.1949 Kr. 1925.47 og Gælden til Bogtrykkeren Kr. 2317.33. Der var udbetalt til „Friesia“ Kr. 1000, og der var Kr. 396 i Restancer. Paa Bankbogen henstod Kr. 1303.90. Generalforsamlingen gav Decharge for Regnskabet.

3. og 4. Bestyrelsesmedlemmerne, Overlærer K. Bjørnekær, Direktør P. M. Wilkens og Professor Ø. Winge og Revisoren, Ekspeditionssekretær K. Rankov, der alle afgik efter Tur, genvalgtes med Akklamation. I Stedet for Suppleanten, cand. mag. Anders Munk, Silkeborg, valgtes paa Forslag af Fabrikant Sv. Troyer Postmester J. P. Jensen.

5. Under Drøftelse af Ekskursionerne i den kommende Sæson vedtoges en Ekskursion til Sverige (Romele Klint, Hallands Väderrö eller Röstånga), samt fremsattes Forslag om Ekskursioner til Møen, Borup-Skovene (Kværkeby), og Mogenstrup Aas. Direktør Wilkens ønskede en lang Biltur. Fabrikant Troyer takkede Bestyrelsen for dens Indsats i Aarets Løb, men ankede over, at Køge Hotel var blevet angivet paa Ekskursionsplanen som Spisested, skønt Hotellet var brændt ned for 2 Aar siden. Formanden beklagede Fejltagelsen. Postmester J. P. Jensen kritiserede, at Dyrehaveturen ofte begyndte saa sent (Kl. 10⁰⁰), at man maatte gaa hurtigt til for at naa rettidigt frem til Frokoststedet, hvad der uundgaaeligt maatte

skade Svampeindsamlingen. Formanden lovede at tage Hensyn her-
til ved den fremtidige Planlægning af Ekskursionerne.

6. Under „Eventuelt“ forespurgte Formanden, om man havde
Ønsker om en bestemt Ugedag for Generalforsamlingen. I de 3 sidste
Aar var Generalforsamlingen blevet afholdt paa en Lørdag. Det
fremgik af Indlæggene, at Lørdag ikke var særlig populær, medens
Onsdag som Mødedag blev støttet fra mange Sider.

(sign.) J. P. Jensen.

Efter Generalforsamlingen holdt Amanuensis, cand. mag., Frk.
Erna Bach følgende Foredrag: Om Gylden Skælhat (*Pholiota
aurea*). Et Referat af Foredraget er trykt i „Naturhistorisk Tidende“
15. Aarg., S. 35—37, 1951.

Man samledes derpaa til fornøjeligt Samvær paa „Universitetets
Spisestuer“.

E. Bille Hansen.

EKSKURSIONER I 1950

Søndag den 14. Maj. Ekskursion til Boserup Skov. Ca. 40
Deltagere. I det smukkeste Foraarsvejr spadserede det store Flertal
af Deltagerne ad Landevejen til Indgangen ved „Skovly“, idet den
sidste Del af Turen dog gik over Engen forbi Tjørneholmen, som
imidlertid i Aar kun gav et enkelt Fund, en lille Gruppe *Tricholoma
gambosum*.

Efter Frokosten i „Skovly“ gik man gennem Skoven til Stranden,
hvorfra de fleste Deltagere tog med Motorbaaden tilbage til Roskilde.

Svampeudbyttet var ikke stort, sikkert i nogen Grad paa Grund
af længere Tids Tørke; muligvis havde det været bedre at lægge
Turen først i Maaneden.

Følgende 19 Arter noteredes:

Collybia dryophila (Foraarsformen med den mørke Overflade og
de meget gule Lameller); *Coprinus atramentarius*, *C. impatiens*, *C.
micaceus*, *C. niveus*; *Entoloma clypeatum*; *Hypholoma Candolleianum*;
Morchella esculenta, *M. rimosipes*; *Peziza acetabulum*; *Polyporus
adustus*, *P. applanatus*, *P. fulvus*, *P. squamosus*, *P. varius*, *P. versicolor*;
Pluteus cervinus; *Tricholoma gambosum*; *Ustulina maxima*.

K. Bjørnekær.

Søndag den 27. August. Ekskursion til Rudeskov. 50 Deltagere. Et mægtigt Tordenvejr med usædvanlig kraftige Byger om Natten gjorde Udsigterne noget tvivlsomme fra Morgenstunden, men det blev en smuk Tur med vekslende Belysninger og meget varmt.

Fra Birkerød Station spadserede Deltagerne ad Landevejen til Indgangen til Rudeskov ved Vestenden af Ebberøddam, hvorefter man først fulgte dennes Nordside og derpaa Sydranden; herfra gik man i nogenlunde lige Linie forbi Skovrøddam til Lollikhus.

Efter Frokosten fandt en Demonstration Sted, og da denne paa Grund af Deltagernes mange Spørgsmaal trak noget ud, enedes man om at forandre den sidste Del af Turen saaledes, at den kom til at gaa over Sækkedam til Rudegaard; videre over Kongevejen gennem Frederikslund Skov til Holte Station.

Hjemrejsen skete ved 16-Tiden.

Af Spisesvampe plukkedes kun faa *Champignon*er og *Spiselig Rørhat*, men heldigvis var der en Del *Kantareller*, saa nogle Deltagere fik en pæn Portion med hjem.

Ser man hen til, at Forsæsonen havde vist et forholdsvis rigt Svampeflor, og at der en Uges Tid i Forvejen var faldet nogle Tordenbyger, skuffede Turen noget, selv om Tallet paa fundne Arter ikke var helt ringe, nemlig ca. 115. Individantallet var for de fleste Arters Vedkommende ret lille. Den sidste Uges udprægede Tørke bar sikkert den væsentlige Del af Skylden herfor.

Af Fundene kan følgende fremhæves:

Amanita phalloides; *Boletus appendiculatus*, *cyanescens*, *pachypus*, *strobilaceus*; *Clavaria botrytes*; *Cortinarius bolaris*, *infractus*, *psammocephalus*; *Hygrophorus penarius*; *Leotia lubrica*; *Marasmius ramealis*, *scorodoni*; *Nyctalis parasitica* (paa sværtede *Russula nigricans*); *Paxillus atrotomentosus*; *Peziza succosa*; *Phallus caninus*; *Russula claroflava*, *lilacea*, *venosa* forma *pallida*; *Scleroderma bovista*; *Tricholoma psammopus*, *ustale*.

Paa Vejen til Ebberødgaard, lige uden for Indgangen til Rudeskov, fandtes en lille *Lactarius*, der i Formen mest henledte Tanken paa en lille, kortstokket *L. piperatus*. (Nærmere Voksested har ikke kunnet fastslaaes).

Ved Gennemskæring fik Kødet en ren blaa-grøn Farve (Lange a—8), der var meget intens hos en indtørret Draabe. Paa Lamellerne derimod antog den udstømmende Mælk en smudsig olivenbrun Farve.

Hat 5 cm, med indrullet Rand og nedtrykt Midte, fastkødet, 7 mm tyk, isabellafarvet, med mørkere, brunlige Skjolder.

Lameller 1 mm brede, nedløbende, tynde, tætte, midtvejs og mod Hatranden stærkt gaffelgrenede, bleggule.

Stok 25×14 mm, lidt tilspidset nedad og med skævt udtrukket Basis, foroven hvid, forneden af Hattens Farve.

Smag brændende skarp.

Sporer $6,5 \times 5, \mu$, fint punkterede.

J. P. Jensen.

K. Bjørnekær.

Søndag den 10. September. Ekskursion til Skärälid og Röstånga. Ca. 55 Deltagere, hvoraf godt en halv Snes fra Hälsingborgs botaniske Forening. Man tog med Hurtigtog fra København Kl. 7⁰⁵ over Helsingør til Hälsingborg og herfra Kl. 9⁰⁵ videre til Skärälid, hvortil man efter Omstigning i Klippan ankom Kl. ca. 10³⁰. I Betragtning af den lange Rejse vedtog man straks at spise Frokosten, der indtoges paa Gæstgivergaarden nær Stationen.

Efter Frokosten spadserede alle Deltagerne gennem en storslaaet Natur til Röstånga. Man gik først ad den gamle Vej, som mere eller mindre følger den lille Bæk, der malerisk snor sig i Bunden af stejle Kløfter omkring Skärälid, og kom herved baade gennem Bøge- og Rødgranskov. Derpaa bøjede Vejen bort fra Skärälid-Bækken, og Vandringeren gik nu over Stok og Sten eller ad daarligt afmærkede Markveje. Til sidst naaedes Nackarpsdalen med den smukt beliggende, kraterlignende „Odensjön“. Paa den nærliggende Röstånga Gæstgivergaard indtoges en mindre Middag. Kl. 17³⁰ vendte man tilbage over Skärälid til Hälsingborg og ankom lidt over Kl. 22 til København.

Paa hele Ekskursionen noteredes ialt 134 Svampearter (incl. de resupinate Arter). Udbyttet af Spisesvampe var ikke særlig stort; det bestod væsentligt af Kantareller og lidt Pigsvampe (*Hydnum repandum*). Der samledes kun et Par Eksemplarer af *Boletus edulis* og ingen Champignoner.

De vigtigste Svampefund var:

Gæstgivergaardens Have, Skärälid. *Boletus rufus*; *Crucibulum vulgare*; *Mycena galericulata*, *inclinata*, begge paa Egestød; *Polyporus sulphureus* paa levende Eg; *Omphalia griseo-pallida*.

Bøgeskov omkring Skärälid. *Amanita virosa*, flere Eksemplarer; *Boletus miniatorporus*, *pachypus*, *strobilaceus*; *Cantharellus cibarius*, *tubaeformis*; *Cortinarius bolaris*, en Del Eksemplarer, *C. hemitrichus*; *Daedalea gibbosa*; *Hydnum repandum*; *Inocybe petiginosa*; *Lactarius piperatus*, *volemus*, 1 Individ; *Merulius*

tremellosus paa Egestød; *Polyporus adustus*, *applanatus*, adskillige Kæmpeeksemplarer paa Bøgestød, *P. hirsutus* paa Bøgegrene; *Stereum rugosum* paa gammelt Æbletræ i Have.

Granskove, Syd for Skärälid. *Amanita porphyrea*, *vaginata* var. *fulva*; *Cortinarius triumphans*; *Cyathus striatus*; *Flammula flavida*, lysegule Knipper paa Rødgranstød, med hvidligt Slør og stikkende Lugt; *Hygrophorus caprinus*, eet stort, mørkt Eksemlar, for Danskerne Ekskursionens mest interessante Fund; *Lactarius camphoratus*, *helvus*, *roseo-zonatus*; *Lenzites betulina* paa Birkegren; *Leotia lubrica*, meget lavstokkede Individer; *Limacium penarium*; *Mutinus caninus*; *Panus carneo-tomentosus* paa Birkestød; *Peziza macropus*; *Polyporus albidus*, *caesius*, begge paa Rødgran, *P. perennis*, talrige Steder paa de sandede Veje; *Radulum orbiculare* paa Birkegren; *Russula claroflava* under Birk; *Stereum rubiginosum* paa Egestød; *Thelephora palmata*; *Tricholoma saponaceum*, ^{Ca} et mørkeblaat, mørkt prikket Eksemlar.

Paa Græsmarker. *Entoloma sericeum*; *Leptonia lampropus*; *Marasmius oreades*, *scorodonius*.

Paa et Rønnetræ (*Sorbus aucuparia*) i Anlægget ved Stationsbygningen i Röstånga fandtes *Polyporus hirsutus* og *P. nidulans*.

Endvidere fandtes følgende 23 resupinate Arter (alle bestemt af M. P. Christiansen):

Aleurodiscus roseus (Pers.) paa *Salix*; *Coniophora arida* Fr. paa *Picea*; *Corticium bombycinum* (Sommerf.) Bres. paa *Alnus*?, *C. botryosum* Bres. paa *Fagus*, *C. byssinum* (Karst.) Mass. paa *Picea*, *C. confine* Bourd. paa raaddent Træ, *C. croceum* (Kunze) Bres. paa Undersiden af nedfaldne Grene af *Picea*, *C. fibrillosum* Burt. paa *Juniperus* og Mos, *C. fumosum* Pers. paa *Picea* og Blade af *Fagus*, *C. punctulatum* Cooke paa *Fagus*, *C. subcoronatum* v. H. et L. paa *Picea* og *Fagus*?; *Gloeocystidium citrinum* (Pers.) Lundell paa *Picea* og Mos; *Grandinia farinacea* (Pers.) B. et G. paa *Quercus*; *Odontia bicolor* (A. et S.) paa *Picea*, *O. crustosa* (Pers. ex Fr.) Qué!.; *Peniophora byssoides* (Pers. ex Fr.) v. H. et L. paa *Juniperus*, Mos etc., *P. glebulosa* (Bres.) Sacc. et Syd., *P. hydnoides* Cke. et Mass. paa *Juniperus*, *P. pallidula* (Bres.) Bres. paa raaddent Træ, *P. velutina* (DC. ex Fr.) Cke. paa *Fagus*; *Poria ferruginosa* (Schrad.) paa *Fagus*, *P. subtilis* (Schrad.) Bres. paa Rod af *Fagus*; *Sistotrema Brinkmanni* (Bres.).

Det var 21 Aar siden, at Foreningen sidst havde været i Skärälid og Röstånga, og kun ganske faa af Deltagerne havde været med den

Gang. *) Ekskursionen, der tilmed begunstigedes af straalende Vejr, blev derfor en stor Oplevelse. Ved Afskeden i Hälsingborg med de svenske Deltagere blev det Løfte da ogsaa givet, at der ikke atter skulde hengaa en Snes Aar, inden Foreningen afholdt Ekskursion til Skärälid—Röstånga.

N. Fabritius Buchwald.

Søndag den 24. September. Ekskursion til Skovene omkring Borup. 52 Deltagere. I to Turistbiler startede Deltagerne Kl. 8⁰⁰ fra „Den lille Hornblæser“ (Raadhuspladsen). Fra Roskilde-Ringsted-Vejen drejede Bilerne umiddelbart Syd for Magleskov ned ad Vejen, der fører til Borup, og standsede, hvor en mindre Vej bøjer af til Gammenrød. Her stod man af og vandrede ned gennem den sydlige Del af Magleskov, over Jernbaneviadukten og fortsatte til Borup Kro. Her indtoges Frokosten Kl. 12—13, og efter en Demonstration af Formiddagens Svampeudbytte i Krohaven kørte Deltagerne videre til Lammestrup og standsede lidt Nord for Stubberupgaard. Man fortsatte derpaa til Fods op gennem Stubberup Storskov langs Søens Vestside og videre til Skovfogedhuset, der ligger ved Ringsted-Vejen. Herfra kørte man tilbage ved 16-Tiden og ankom Kl. ca. 17³⁰ til København.

Ekskursionen foregik i et smukt, tilpas varmt Septembervejr, med dejligt Solskin, kun afbrudt af en kort Regnbyge, som dog ikke genrede videre.

Skovene omkring Borup bestaar overvejende af ældre Bøg, hist og her isprængt mindre Partier med Rødgran. Bøgen vokser næsten overalt i Magleskov paa god Muldbund; i Stubberup Skov findes derimod adskillige Strækninger med Morbund. Skønt Svampefloraen saaledes maatte blive stærkt præget af Bøgeskovens Former, var den dog meget artsrig, idet der fandtes ikke færre end 210 Arter (incl. 26 resupinate Former). Der samledes heller ikke faa Spisesvampe, væsentligt Kantarel, Pigsvamp, Skov-Mandelchampignon (*Psalliota silvicola*), Rabarber-Parasolhat, Trompetsvamp, som pletvis var meget almindelig, Velsmagende Mælkehat og Broget Skørhat. Rørhattene var ret sparsomt repræsenterede; de fleste Karl Johan-Rørhatte, man fandt, var halvraadne. Af de øvrige Svampefund fortjener navnlig følgende at nævnes:

*) Se »Medd. fra Foren. t. Svampek.s Fremme«, Bd. 4, S. 95—96, 1930.

Magleskov. *Amanita excelsa*, ret alm., *A. phalloides*, 2 Eksemplarer; *Boletus edulis*, enkelte Eksemplarer med mørkebrunt Stoknet, *B. miniatoporus*, *strobilaceus*; *Clavaria cinerea*, *fragilis*, i Klynge paa fed Muldbund, *C. ochraceo-virens*, *pallida* (det. F. H. Møller), *C. sanguinea* Pers. (*C. flava* sensu F. et W.), *C. stricta*, stedvis hyppig; *Cortinarius anomalus*, ret alm., *C. bolaris*, flere Steder, *C. cinnabarinus*, *hinnuleus*, *torvus*; *Entoloma lividum*, enkelte Eksemplarer; *Geaster fimbriatus*, adskillige friske Individer paa fugtig Bund under høj Rødgran; *Hebeloma sinapizans*; *Helvella elastica*, *crispa*, almindelig, *H. lacunosa*; *Hypholoma egenulum*, *fasciculare* med gule Lameller (steril?); *Inocybe Bongardii*, *griseo-lilacina*; *Marasmius globularis*; *Lactarius volemus*, 3 Eksemplarer; *Lepiota acutesquamosa*, *castanea*, *clypeolaria*, *cristata*, ret alm. langs Veje mellem visne Bøgeblade; *Limacium chrysodon*, *tephroleucum*; *Lycoperdon gemmatum* i Ringe under ca. 20-årig Rødgran; *Mycena pelianthina*; *Pholiota radicata*; *Pluteus phlebophorus*; *Polyporus giganteus* omkring Bøg, *P. serialis* paa Rødgranstød; *Psalliota edulis*, *silvicola*, *vaporaria* i Klynge (det. F. H. Møller); *Russula alutacea*, *vesca*, flere Steder; *Stereum fuscum* paa nedfalden Bøgegren; *Tricholoma melaleucum*, *sulphureum* i en stor, ufuldstændig Heksering, *T. ustale*.

Stubberup Storskov. *Cortinarius alboviolaceus*, *calochrous*, *caninus*, *elatior*, *saturatus*; *Hebeloma crustuliniforme*; *Hypholoma Candolleianum*; *Lactarius vellereus*; *Lepiota haematosperma*, *lenticularis*; *Lycoperdon echinatum*; *Merulius tremellosus* paa Bøgestød; *Mycena crocata* paa Bøgepind; *Peziza succosa*; *Pholiota caperata*, ret alm. adskillige Steder, *Ph. spectabilis* ved Foden af Bøg; *Polyporus radiatus*, *ungulatus*, begge paa Bøg; *Psalliota sanguinaria*; *Psathyrella gracilis*.

Endvidere bestemtes af M. P. Christiansen følgende 26 resupinate Hymenomyceter (M = Magleskov; S = Stubberup Storskov):

Aleurodiscus roseus (Pers.) paa *Salix* (S); *Corticium araneosum* (v. H. et L.) B. et G. (M), *atrovirens* Fr. paa Jord og Bøgeblade (S), *C. confine* B. et G. paa *Fagus* (M), *C. confluens* (Fr.) Fr. paa *Fagus* (S), *C. coronatum* paa *Fagus* (S), *C. fumosum* Pers. paa *Picea* (S), *C. lividum* (Pers.) paa *Fagus* (S), *C. sambuci* (Pers.) Fr. paa *Fagus* (S) og *Picea* (S), *C. tulasnellodeum* v. H. et L. paa *Fagus* (M); *Gloeocystidium citrinum* (Pers.) Lundell paa *Picea* (S), *G. porosum* (Berk. et Curt.) Wakef. paa *Salix* (S); *Grandinia fariacea* (Pers.) B. et G. paa *Fagus* (S), *G. helvetica* (Bres.) Bres. paa *Fagus* (M); *Mycoacia uda*

(Fr.) paa *Fagus* (M) og (S); *Odontia aspera* (Fr.) Jørst. paa *Fagus* (S), *O. bicolor* (Alb. et Schw.) paa *Picea*, meget alm. (M), *O. lactea* Karst. paa Mos og *Picea* (S); ? *Peniophora byssoides* (Pers.) v. H. et L. paa *Ustulina maxima* (M), *P. hydroides* Cke. et Mass. paa *Fagus* (M), *P. incarnata* (Pers. ex Fr.) Karst. paa *Fagus* (M), *P. nuda* (Fr.) Bres. paa *Salix* (S), *P. polonensis* Bres. paa *Picea* (S), *P. velutina* (DC. ex Fr.) Cke. paa *Fagus*, alm. (M) og (S); *Poria subtilis* (Schräd.) Bres. paa *Fagus* (M); *Vararia investiens* (Schw.) Karst. paa *Fagus* (S).

N. Fabritius Buchwald.

E. Bille Hansen.

Søndag den 1. Oktober. Ekskursion til Gribsskov. 49 Deltagere. Efter Ankomst til Storkevad Kl. 9³⁴ gik man straks mod Vest over Banelinien, drejede derpaa mod Syd, fortsatte videre Syd om Buresø, Vest for Multebjerg, langs Østsiden af Maglemose og ankom Kl. ca. 12³⁰ til Skovløberhuset ved Nordenden af St. Gribssø, hvor Frokosten spistes, og en Svampedemonstration fandt Sted. Kl. ca. 13³⁰ fortsattes Turen, idet man gik ned langs Vestsiden af Gribssø til dennes Sydende. Indtil dette Tidspunkt havde det været mildt, tørt Vejr, om end uden Solskin, men nu begyndte en fin Støvregn, der efterhaanden tiltog i Styrke, saaledes at det i Nærheden af Kildeport blev nødvendigt at hyre en Rutebil, der kørte Deltagerne til Hillerød. Hjemkomst til København Kl. ca. 17³⁰, omtrent en Time tidligere end planlagt.

Der fandtes ialt 246 Svampearter, hvoraf næsten 200 Arter inden for *Agaricales*, et af de største Artsantal, som er noteret paa Foreningens Ekskursioner.

Blandt de almindeligste Svampe var: *Amanita mappa*, *muscaria*, *rubescens*; *Armillaria mellea*; *Boletus edulis*, *subtomentosus*; *Cantharellus tubaeformis*; *Craterellus cornucopioides*; *Lactarius deliciosus*; *Paxillus atromentosus*; *Pholiota mutabilis*; *Stereum hirsutum*; *Thelephora terrestris*.

Langt de fleste Arter fandtes om Formiddagen omkring Buresø, Multebjerg og Maglemose. Følgende Arter fortjener at fremdrages: *Amanita phalloides* i Bøg ved Storkevad, *A. vaginata* v. *plumbea*, et kraftigt, brunsort Individ; *Armillaria mellea*, en graa Farvevarietet; *Cantharellus aurantiacus*, 2 Individer paa Rødgran-Kogle; *Clavaria pistillaris*, *sanguinea*, med blodrødlig Basis (= *C. flava* sensu F. & W.); *Clitocybe laccata* v. *proxima* i Græs, *C. subalutacea*; *Collybia conigena* paa frit liggende Grankogle; *Cortinarius candelaris*, *cinna-*

barinus, *croceocaeruleus*, *crystallinus*, *flexipes*, *hemitrichus*, *malicorius*, *multiformis*, i dyb Bøgemuld, *C. nemorensis*, *phoeniceus* paa Stød, *C. pholideus*, *sanguineus*, *scutulatus*, *subpurpurascens*, *torvus*, *vibratilis*; *Daedalea gibbosa* og *D. quercina*, begge voksende paa samme Egestød; *Entoloma nidorosum*, *nitidum*; *Hygrophorus agathosmus*, *constans*, *Marchii*, *penarius*; *Hypholoma dispersum*; *Inocybe Cookei*, *flocculosa*, *petiginosa*, *praetervisa*; *Lactarius fuliginosus*, *pallidus*, *pyrogalus*, *tabidus*; *Lentinus squamosus*; *Lepiota procera*; *Lycoperdon echinatum*, *nigrescens*; *Mycena rubella*, *zephirus*; *Naucoria triscopa* paa Stød; *Nolanea infula*, *staurospora*; *Panus carneotomentosus*; *Paxillus panuoides*; *Peziza aurantia*, *badia*, *succosa*; *Pholiota caperata*, *flammans*; *Pluteus cinereo-fuscus* paa Stød; *Polyporus unguulatus* baade paa Bøg og Rødgran; *Psalliota silvatica*, *silvicola*; *Psilocybe atrorufa*, *spadicea*; *Ptychogaster albidus*, flere Steder paa Naaletræstød; *Russula alutacea*, *atrorubens*, *claroflava*, *Romellii*, *Velenovskyi*, *veternosa*; *Thelephora palmata*, talrige Klynger mellem Surkløver paa lav Bund; *Tricholoma brevipes*, tykstokket Form, *T. saponaceum* v. *ardosiacum*; *Tubaria furfuracea*; *Volvaria gloiocephala* fra Mark.

Blandt de om Eftermiddagen fundne Svampe kan nævnes: *Amanita spissa*, et stort Eksempel; *Boletus cavipes*, mørk Form; *Hebeloma crustuliniforme*, *mesophaeum*, der stod som „saaet“ mellem Bøgetræer paa græs- og mosgroede Skraaninger; *Lepiota cinnabarina*, smukt røde Individer ved Ottevejskrydset; *Phallus caninus*; *Pholiota aurivella*, højt til Vejrs paa Bøgestamme; *Polyporus fomentarius*, talrige Frugtlegemer paa gammelt, stærkt angrebet Bøgetræ med mange store, knækkede Grene, *P. hirsutus* paa Birk, *P. odoratus* paa gammelt, frønnet Rødgranstød, *P. perennis*, ret alm. paa sandede Veje; *Schizophyllum alneum*, mange store Eksemplarer paa nedfaldne Birkegrene.

En interessant Flora af resupinate Arter noteredes paa Undersiden af et stærkt frønnet Bøgestød ved Sydenden af Gribso: den smukke, blaa *Corticium atrovirens*; *Merulius himantioides*, der kun er fundet et Par Gange tidligere; *Peniophora velutina* og *Poria sanguinolenta* (det. M. P. Christiansen p.p.).

Endvidere noteredes *Peniophora Eichleriana* (Bres. p.p.) B. et G. og Myxomyceterne *Fuligo septica*, *Lycogala epidendron* og *Mucilago spongiosa* paa Græsblade.

N. Fabritius Buchwald.

J. P. Jensen.

Søndag den 8. Oktober. Ekskursion til Ermelunden og Jægersborg Dyrehave. 50 Deltagere, der mødtes Kl. 10⁰⁰ ved Linie 15's Endestation (nær „Posemandens Hus“) og derpaa spadserede gennem Ermelunden til „Fortunen“. Vejret var saa mildt, at Frokosten kunde indtages i det fri. Kl. ca. 13³⁰ gik man ind i „Dyrehaven“, gennem „Egedalen“ i Fortunens Indelukke, videre over Eremitagesletten og tilbage gennem „Ulvedalene“ til Klampenborg St., hvorfra Hjemrejsen fandt Sted ved 16-Tiden.

Ekskursionen var oprindelig fastlagt til Søndag den 15. Oktober, men maatte rykkes en Uge frem af Hensyn til den mykologiske Kongres paa Als. Herved kom Dyrehaveturen til at falde paa et tidligere Tidspunkt, end Tilfældet har været i mange Aar.

Der iagttoges ialt 202 Svampearter, vist det største Antal, som er noteret paa nogen Ekskursion til Dyrehaven. Af de fundne Svampe var 49 Arter Ikke-Agaricaceer, altsaa ca. $\frac{1}{4}$.

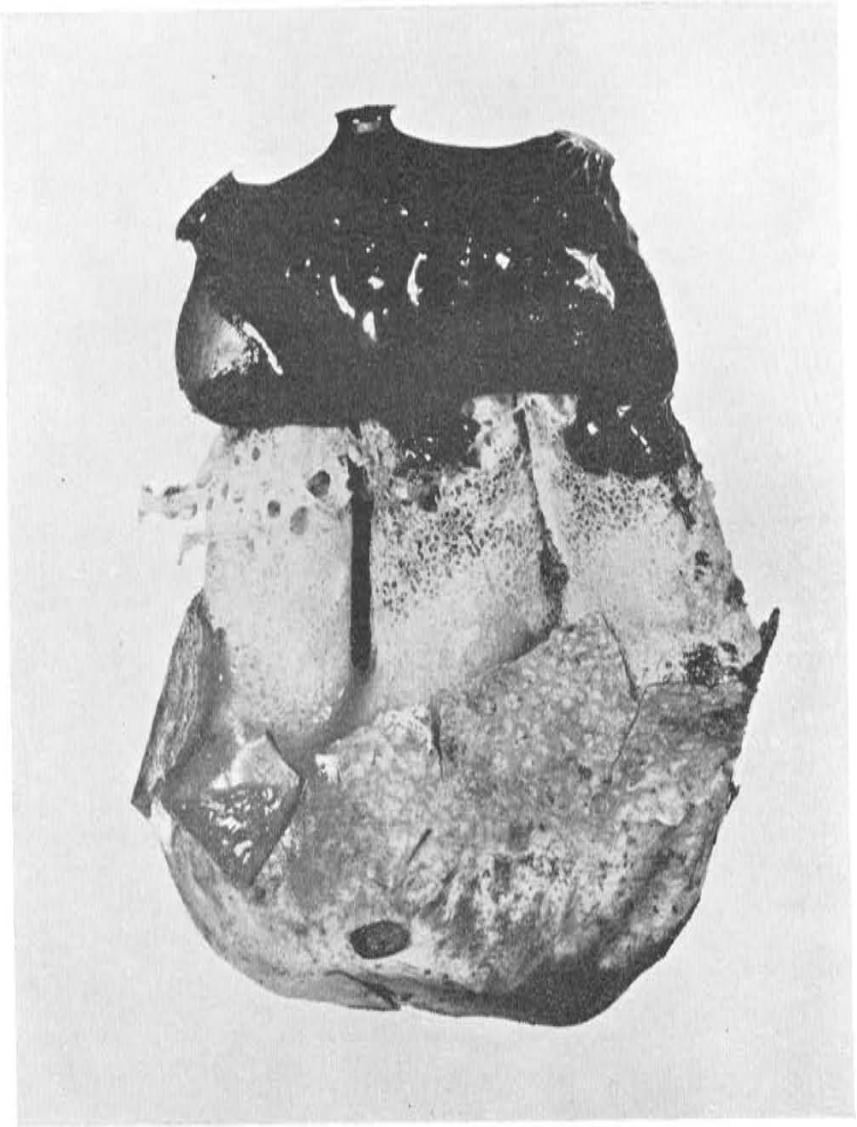
Udbyttet af Spisesvampe var ret betydeligt og bestod navnlig af de sædvanlige Efteraarsformer: Honningsvamp, som det vrimlede med, Violet Heksering-Ridderhat og Taage-Tragthat samt Paryk-Blækhat, der samledes i stor Mængde i Ermelunden, og en Del Rabarber-Parasolhatte. Andre hyppige Svampe var: *Armillaria mucida*, *Clitocybe laccata*, *Collybia asema*, *Marasmius alliaceus* og *Russula ochroleuca*.

I øvrigt var de vigtigste Svampefund følgende:

Ermelunden. *Amanita phalloides*, 1 Eksempplar; *Boletus strobilaceus*; *Clitocybe dicolor* med tvefarvet Stok, *C. geotropa*; *Entoloma nidosum*; *Geaster triplex*, flere smukke Eksemplarer; *Hebeloma sinapizans* i stor Heksering; *Lacrymaria lacrymabundum*, flere Steder; *Lepiota acutesquamosa*, *clypeolaria*, *cristata*, *fusco-vinacea* paa samme Lokaltet som *G. triplex*, *L. rhacodes*; *Limacium chrysodon*; *Marasmius Bulliardi* paa visne Bøgeblade, *M. globularis*, selskabeligt, *recubans*, *rotula*, talrige Eksemplarer; *Mycena echinipes*; *Pholiota adiposa* i frodige Klynger paa efterladte Trærødder, *Ph. aurea*, *squarrosa*; *Polyporus giganteus* omkring Bøgestød; *Poria sanguinolenta*; *Psalliota rubella* f. *pallens*; *Psathyra stipatissima*, flere Steder i Knippe; *Psilocybe spadicea*; *Russula lepida*; *Tricholoma aggregatum*, *lascivum*, *orirubens* paa Skrænt; *Trogia crispa* paa Bøgegren.

Jægersborg Dyrehave langs „Kongevejen“. *Cyathus vulgaris*; *Hydnum repandum*; *Polyporus hirsutus* paa *Fagus*; *Schizophyllum alneum* paa Egegren.

Fortunens Indelukke, især „Egedalen“. Her noteredes følgende Svampe paa Eg: *Daedalea quercina*, *Fistulina hepatica*,



Dictyophora duplicata. »Trillinger« med selvstændige Stokke, men med »sammenvoksede Hoveder«. Paa Frugtlegemet til venstre ses Sløret tydeligt. — Samlet som »Hekseæg« i Ermelunden 8.10.1950, leg. N. F. Buchwald; henlagt i fugtigt Rum samme Dag og fuldt udviklet 14.10.1950; fot. 14.10.1950 Erik Jørgensen. $\times 1.5$.

Mycena galericulata og *Panus stipticus*; endvidere: *Crepidotus mollis*; *Lamacium pustulatum*; *Psalliota augusta*; *Russula graminicolor*; *Tricholoma murinaceum*.

Eremitagesletten. *Galera Mairei*; *Hygrophorus chlorophanus*, *conicus*, *miniatus*, *puniceus*, *subradiatus*, *virgineus*; *Mycena ammoniac*.

Jægersborg Dyrehave mellem „Sletten“ og „Peter Lieps Hus“: *Clitocybe cerussata*; *Cortinarius crystallinus*; *Inocybe petiginosa*; *Lentinus ursinus* paa frønnet Bøgestød; *Pleurotus lignatilis* i hul Bøg; *Polyporus applanatus* og *cupreolaccatus*, begge paa Bøgestød.

Bilparkeringspladsen ved Klampenborg. *Flammula gummosa*; *Pholiota aurea*, talrige Eksemplarer (nyt Voksested!).

Dictyophora duplicata. Det mest interessante paa denne Ekskursion var utvivlsomt Gensynet med Slør-Stinksvampen (*Dictyophora duplicata*) paa det „klassiske“ Findested i Ermelunden.*) Denne Lokalitet bestaar af en ret ung, aaben Bøgebevoksning, iblandt ældre Bøge, og findes paa den vestlige Side af Ermelundsvejen, lidt Nord for en Granplantning og noget Syd for Klampenborgvejen. Der fandtes 2 fuldt udviklede Eksemplarer af Slør-Stinksvampen med tydeligt Slør, og desuden indsamledes 9 større og mindre „Hekseæg“, som lagdes til Udklækning i „fugtigt Kammer“ paa Landbohøjskolens plantepatologiske Laboratorium. I Løbet af de følgende Dage „spirede“ de 5 største „Hekseæg“; af to af Æggene fremkom der *Phallus impudicus* og af to andre *Dictyophora duplicata*. Det femte, særligt store „Hekseæg“ begyndte først at spire efter 5 Dages Henliggen, nemlig den 13. Oktober om Morgen, men først den 14., Kl. 12, var Udviklingen fuldendt. Der havde da udviklet sig „Trillinger“ af *Dictyophora duplicata*, med 3 selvstændige Stokke, men med „sammenvoksede Hoveder“.***) Sml. Fotografiet, paa hvilket Sløret paa det venstre Frugtlege med tydeligt ses. Præparatet opbevares paa Landbohøjskolens plantepatologiske Afdeling. De 4 mindste „Hekseæg“ havde endnu ikke spiret den 18. Oktober, 10 Dage efter Indsamlingen; de var da begyndt at skrumpe og blev derfor kasseret.

N. Fabritius Buchwald.

J. P. Jensen.

*) Cfr. »Friesia« II: 187, 207 (1941), 271 (1943) og III: 232, 233 (1946).

**) Medens Forekomst af »Tvillinger« (*gemini juxtapositi*) ret jævnligt er beskrevet hos *Phallaceae* (se f. Eks. O. Røstrup: Bidrag til Danmarks Svampeflora. I, 1916, Fig. 15, S. 27 og E. Ulbrich: Bildungsabweichungen bei Hutpilzen, 1926, Abb. I, Fig. 7, S. 43), er Dannelsen af »Trillinger« hos *Phallaceae* mig bekendt ikke før beskrevet.

N. Fabritius Buchwald.

MYKOLOGISK KONGRES PAA ALS

14.—16. OKTOBER 1950

Efter Indbydelse af Forstander Frede Terkelsen, Danebod Højskole, Fynshav, Als, afholdtes der den 14.—16. Oktober 1950 en mykologisk Kongres paa Danebod Højskole. Deltagerne var følgende: Overlærer K. Bjørnekær, København; Kommunalærer Knud Christensen, Aarhus; fhv. Viceskoleinspektør M. P. Christensen, København; Assistent, cand. mag. E. Bille Hansen, København; Forretningsfører Alfred Hauerbach, Randers; Øjenlæge V. Hertz, København; Postmester J. P. Jensen, København; Grosserer Axel B. Klinge, Randers; Universitetsadjunkt Morten Lange, København; Tandlæge J. E. Brejnhøj Larsen, Lillerød; Overlærer F. H. Møller, Nykøbing F.; Lærer Valdemar Pedersen, Egense; Adjunkt H. V. Rævsckjær, Randers; Forstander Frede Terkelsen, Fynshav; Reservelæge Ib Weng, Holbæk, og undertegnede.

De fleste af Deltagerne ankom i Løbet af Lørdagen den 14. Oktober til Danebod Højskole, og de tidligst ankomne foretog allerede Lørdag Eftermiddag en mindre Ekskursion til Fredskoven, en lille Bøgeskov nær Fynshav.

Søndag den 15. Oktober. Søndag Morgen ved 9-Tiden startede man i Biler og afsøgte først i en Times Tid Rumohrsgaards Dyrehave, der foruden Bøg indeholder en Del Eg. Derefter fortsattes Turen til den nordlige Del af Als Nørreskov, hvor der fortrinsvis botaniseredes i Omraadet omkring Nygaard. Nørreskov bestaar, som det vil være kendt, ganske overvejende af høje, ranke Bøge, men man fik dog ogsaa Lejlighed til at botanisere i en mindre Rødgranplantning. Ved 13-Tiden var Deltagerne tilbage paa Højskolen. Eftermiddagen og Aftenen tilbragtes med Undersøgelse og Diskussion af det indsamlede Svampemateriale. Enkelte af Deltagerne foretog dog om Eftermiddagen en kortvarig Ekskursion til Oleskøbel, en lille Bøgeskov paa Østkysten, lidt Syd for Fynshav.

Mandag den 16. Oktober. Man startede ved 10-Tiden og kørte først til Sønderhav, hvor der botaniseredes i godt og vel en Times Tid i den væsentlig af Bøg bestaaende Hønsnap Skov. Man kørte derpaa til det lille Kollund Krat, væsentligt Løvskov, og efter at

have afsøgt Skoven spistes den medbragte Frokost paa det ved Flensborg Fjord liggende Hotel „Fjordby“. Turen afsluttedes med en Ekskursion til Frøslev Plantage, hvor man navnlig botaniserede i et lille Omraade omkring Faarhus. Godt og vel Kl. 15⁰⁰ var man tilbage paa Danebod Højskole, og Resten af Eftermiddagen gik med en nærmere Undersøgelse af de indsamlede Svampe.

Tirsdag Morgen afsluttedes Kongressen.

Antallet af noterede Svampe var særdeles stort. Om Søndagen fandtes der saaledes 298 Arter, væsentligt indsamlet i Als Nørreskov, og om Mandagen et lignende Antal, nemlig nøjagtig 300 Arter, hvoraf største Parten fandtes i Frøslev Plantage. Af de fundne Svampe var 173 Arter fælles for de 2 Dage, saaledes at der ialt noteredes ikke færre end 421 forskellige Arter og Varieteter. Heraf var godt og vel $\frac{2}{3}$, nemlig 283 *Agaricaceer*; Resten hørte til *Myxomycetes*, *Ascomycetes*, *Aphylophorales* og *Gasteromycetes*. Medens Individantallet i Als Nørreskov og de øvrige undersøgte Løvskovlokaliteter ikke var særligt paafaldende, var Svampefloraen meget rig i Frøslev Plantage. I denne Plantage, som væsentligt bestaar af Rødgran, „vrímlede“ det ligefrem med Svampe i Skovbunden, baade med spredt voksende Arter som *Mycena epipterygia*, *M. metata* og *M. perforans* og hekseringdannende Arter som *Clitocybe inversa*, *C. nebularis*, *Collybia asema* og *Tricholoma nudum*, og talrige af Granstødene var bevoksede med *Polyporus annosus*, hvis lysebrune Frugtleger med den iøjnefaldende hvide Tilvækstrand „lyste op“ paa lang Afstand. Frøslev Plantage er aabenbart en god Svampelokalitet, thi ogsaa paa Ekskursionen dertil paa den tidligere Kongres i 1936 „myldrede“ Svampene frem (se „Friesia“ II, S. 128—130).

Det noterede Antal paa ialt 425 Arter og Varieteter er i sig selv meget stort, navnlig naar man ser hen til det ret sene Tidspunkt for Kongressens Afholdelse. Dels i Betragtning heraf, dels fordi det altid har stor Interesse at vide, hvor mange Svampe der faktisk kan indsamles i Løbet af et Par Dage, hidsættes nedenfor en fuldstændig Liste over alle de fundne Arter og Varieteter. Der er anvendt følgende Signaturer for de enkelte Lokaliteter: D = Omegnen af Danebod Højskole, bl. a. Fredskoven; F = Frøslev Plantage; K = Kollund Krat; N = Als Nørreskov; R = Rumohrsgaards Dyrehave; S = Sønderhav (Hønsnap Skov).

Myxomycetes

- Lycogala epidendron* (N, S)
Stemonitis fusca (N)

Ascomycetes

- Cordyceps militaris* (F)
Coryne sarcoides (N, S)
Geoglossum viride (N)
Helotium virgultorum (Fagus, N)
Helvella atra (N), *crispa* (N), *elastica* (O), *lacunosa* (N, O, S)
Hypoxyton coccineum (Fagus, N)
Lachnea hemisphaerica (N)
Leotia lubrica (F, N)
Peziza aurantia (F, N), *badia* (N), *carbonaria* (F), *leporina* (F, N), *macropus* (F), *succosa* (N), *vesiculosa* (N), *violacea* (F)
Rutstroemia firma (Quercus, F, R, S)
Ustulina maxima (S)
Xylaria hypoxyton (Fagus, N), (Sorbis aucuparia, R), (S), *longipes* (Fagus, N, R), *polymorpha* (Fagus, N, S)

Heterobasidiomycetes- Tremellales

- Calocera cornea* (Fagus, K, N), *viscosa* (F, N)
Dacryomyces deliquescens (N, S)
Egidia albida (Fagus, S), *glandulosa* (Fagus, N), *pithya* (Picea, S), *truncata* (Quercus, F)
Tremella mesenterica (F, N)
Vuilleminia comedens (Fagus, N, R, S)

Homobasidiomycetes- Aphylliphorales

- Clavaria amethystina* (S), *cinerea* (N, R, S), *cristata* (F, N), *fistulosa* (N), *gracilis* (F), *juncata* (N, S), *ochraceo-virens* (F), *pistillaris* (N), *rugosa* (N, S), *stricta* (N, S)
Coniophora arida (Picea, F), *cerebella* (Picea, F)
Corticium centrifugum (Picea, F), *confine* (Fagus, D, K, N), *confuens* (Fagus, D, N), (Picea, F), *coronatum* (Picea, F),

evolvens (Fagus, K, N), *fumosum* (Picea, Mos, Jord, F), (Ustulina, K), (Mos, Jord, N), *Lundellii* (Picea, F), *pruina* (Picea, F), *pseudotsugae* (Picea, F), *sambuci* (Fagus, N), (Sambucus nigra, D), *sphaerosporum* (N), *subcoronatum* (Picea, F), *tulasnellodeum* (Fagus, D, N)

- Daedalea gibbosa* (Fagus, R, S), *quercina* (Quercus, K, N)
Gloeocystidium coroniferum (Fagus, K), *Eichleri* (Fagus, N), *inaequale* (Picea, F, N), *lactescens* (Fagus, K, N), *roseo-cremeum* (Fagus, N), *tenuis* (Mos, Picea, K)
Grandinia farinacea (Fagus, S), (Picea, N), *microspora* (Fagus, D, K, N), *mutabilis* (Cerasus, D)
Hydnum repandum (N, S)
Lenzites saepiaria (Picea, S)
Merulius corium (Sambucus nigra, N), *tremellosus* (Fagus, N)
Mycocleptodon fimbriatum (N), *ochraceum* (Mos, Picea, F)
Odontia bicolor (N), *granulosa* (N)
Peniophora alutaria (F, N), *bysoides* (Blade af Fagus, S), (Picea, F), *cinerea* (Fagus, N), *detritica* (Picea, F, N), *fraxinea* (Fraxinus, N), *glebulosa* (Picea, F), *hydroides* (Picea, F), *incarnata* (F, N), *lycii* (Castanea, Fraxinus, D), *quercina* (Fagus, K), (Quercus, R), *setigera* (Løvtræ, N), *velutina* (Picea, F, N)
Phlebia aurantiaca (N)
Platyglœa peniophorae (Gloeocystidium tenue, K)
Polyporus adustus (Fagus, D, N, R, S), *annosus* (Picea, F, N), *applanatus* (Fagus, S), *brunialis* (Fagus, N), *caesius* (Fagus, R), (Picea, F), *connatus* (Ulmus, D), *elegans* (Fagus, D, N), *fumosus* (Fagus, N, R), *nidulans* (N), *perennis* (S), *radiatus* (Fagus, K, N), *squamosus* (N, S), *sulphureus* (Quercus, D), *varius* (Fagus, N, S), *versicolor* (Fagus, D, N, S)
Poria ferruginosa (Fagus, S), *sanguinolenta* (Fagus, Quercus, N, S), *versipora* (Fagus, N, S)

Pterula multifida (F)
Sebacina grisea (Fagus, D)
Sistotrema Brinkmannii (Frazinus, N)
Stereum fuscum (Fagus, S), *hirsutum* (Fagus, N, S), *rubiginosum* (Quercus, N, S), *rugosum* (Fagus, N, S), *sanguinolentum* (Picea, F)
Thelephora palmata (F), *terrestris* (F, N)
Tomentella asterospora (Mos, F), *fusca* (Fagus, K, N), *mucidula* (Picea, Mos, F), *pseudofusca* (Fagus, K, S), (Picea, F)

Homobasidiomycetes- Agaricales

Boletus badius (F, N), *chrysenteron* (F, N), *edulis* (N, S), *miniatorporus* (N), *scaber* (N, O), *subtomentosus* (N, S)
Cantharellus cibarius (F, N), *tubaeformis* (N, S)
Craterellus cornucopioides (N, S)
Amanita mappa (højstokket Form, K), (N, S), *muscaria* (F), (to Eksemplarer under Bøg og Eg, K), (N, S), *phalloides* (S), *rubescens* (K, N, S)
Amanitopsis vaginata (O), *vaginata* v. *badia* (N)
Armillaria mellea (D), (Quercus, R), (Fagus, S)
Camarophyllus niveus (N), *pratensis* (F)
Clitocybe aggregata (N), *aurantiaca* (F), *cerussata* (S), *cerussata* v. *pityophila* (O), *brumalis* (F), *candicans* (F), *clavipes* (F), *diatreta* (F), *dicolor* (F, N), *ditopus* (F, N), *fragrans* (F, R), *geotropa* (D, N, O, S), *inversa* (F, N), *nebularis* (F, R, S), *odora* (F), *subalutacea* (N), *vibecina* (F)
Clitopilus prunulus (N)
Collybia ambusta (N, R), *asema* (F, S), *butyracea* (F, N), *cirrhatia* (N), *confluens* (N, S), *conigena* (R), *dryophila* (N), *inolens* (F), *maculata* (F), *ozes* (F), *platyphylla* (N), *radicata* (S), *rancida* (F, N), *tenacella* (F, N, R)
Coprinus atramentarius (F, N), *comatus* (N, S), *lagopus* (N), *micaceus* (Frazinus, D), (F), *narcoticus* (N), *picaceus* (D, N, S), *plicatilis* (F, N)
Cortinarius alboviolaceus (S), *anomalus* (N, S), *biformis* (F), *brunneus* (F), *caninus* (O), *cinnamomeus* (F), *croceo-caeruleus* (N, O), *crystallinus* (O, S), *decipiens* (F, N), *decoloratus* (N), *elatii* (N, S), *flexipes* (F), *hinnuleus* (D, Haven, N), *infractus* (N), *malicorius* (F, N), *nemorensis* (S), *multiformis* (R), *obtusius* (F, N, O), *pseudosolor* (N), *rigidus* (F, N), *sanguineus* (F), *scandens* (F), *spilomeus* v. *depauperatus* (F), *tabularis* (N), *torvus* (N), *turgidus* (N)
Crepidotus mollis (Fagus, D), *variabilis* (N, S), *variabilis* v. *subspheerosporus* (N)
Eccilia rhodocylix (S)
Entoloma nidorosum (N, S), *rhodopodium* (D, R)
Flammula alnicola (N), *astragalina* (F), *gummosa* (N), *lenta* (N, S), *penetrans* (N)
Galera ambigua (N, S), *badipes* (F), *clavata* (F), *hypnorum* (F, N), *mniochila* (F), *mycenopsis* (F), *rubiginosa* (F), *tenera* (F, N), *vittaeformis* (F)
Hebeloma crustuliniforme (N, S), *longicaudum* (F, N), *mesophaeum* (N, S), *sinapizans* (N, S), *strophosum* (S)
Hygrocybe miniatus (S)
Hypholoma capnoides (F, N), *con-toneum* (S), *dispersum* (F), *fasciculare* (D, F), *hydrophilum* (Fagus, D, N), *melantium* (N, S), *radicosum* (F), *sublateritium* (D, F, R)
Inocybe asterospora (N, S), *Cookei* (N), *fastigiata* (N), *geophylla* (N, S), *lanuginosa* (F), *maculata* (N), *petiginosa* (Fagus, N, S), *umbrina* (S)
Laccaria laccata v. *amethystina* (S), *laccata* v. *rosella* (D, F)
Lactaria lacrymabundum (N)
Lactarius blennius (N, S), *camphoratus* (N), *circellatus* (S), *cremor* (N), *deliciosus* (F), *fuliginosus* (R), *glyciosmus* (N, S), *pallidus* (N, S), *pyro-*

galus (*Corylus*, N), *quietus* (N), *rufus* (F), *rubrocinctus* (N), *subdulcis* (N, S), *tabidus* (F), *turpis* (S), *vellereus* (N)

Leptota amianthina (F, N), *Bucknallii* (R), *carcharias* (F, N), *castanea* (S), *cristata* (N), *clypeolaria* (F), *felina* (F), *procera* (D, F), *rhacodes* (F, N), *seminuda* (S)

Leptonia lampropus (N), *sericella* (N)

Limacella lenticularis (F)

Limacium chrysodon (N), *eburneum* (D, N, S), *leucophaeum* (N), *olivaceo-album* (F), *penarium* (S), *pustulatum* (F, R)

Marasmius alliaceus (N, S), *androsaceus* (N, S), *Hudsonii* (Blade af *Ilex*, S), *oreades* (F), *perforans* (F, N), *peronatus* (F, N), *ramealis* (N, S), *recubans* (F, N), *rotula* (N, S)

Mucidula mucida (*Fagus*, N, R)

Mycena alcalina (F, N), *ammoniac* (F, N), *capillaris* (Blade af *Fagus*, N, S), *citrino-marginata* (F), *crocata* (N, S), *debilis* (F, N), *epipterygia* (F), (*Kogle*, N), (S), *filopes* (F, N), *galericulata* (R, S), *galopus* (F, N, R), *gypsea* (N), *leptocephala* (N), *lineata* (F, N), *metata* (R, S), *pelianthina* (N), *polygramma* (R), *pteringena* (N, R), *pura* (N, S), *rorida* (F), *rosella* (F), *sanguinolenta* (K, N), *sepia* (N), *vitilis* (K, N), *vulgaris* (F)

Naucoria centunculus (F), *cucumis* (N, S), *escharoides* (N), *scorpioides* (N), *sideroides* (F, N)

Nolanea cetrata (S), *fumosella* (D), *icterina* (N), *infula* (D, Haven), *papillata* (N)

Omphalia abiegna (F), *asterospora* (F), *fibula* (F, N), *gracillima* (F), (*Urtica dioeca*, N), *maura* (Brandplet, F), *speirea* (F, N), *Swartzii* (F)

Panaeolus acuminatus (F)

Panus stipticus (*Quercus*, N, S)

Paxillus atrotomentosus (F)

Pholiota adiposa (*Fagus*, N, S), *aurivella* (*Fagus*, K), *flammanis* (F), *filaris* (N), *marginata* (*Picea*, F, N, R), *mutabilis* (D, S), *radicosa* (N, S), *spectabilis* (*Fagus*, N, S), *squarrosa* (*Fagus*, N, S)

Pleurotus mitis (*Picea*, F), *ostreatus* (*Fagus*, F, O)

Pluteus cervinus (*Fagus*, N, S), *nanus* (N)

Psalliota abruptibulba (F), *arvensis* (D, Haven), *semota* (F), *silvatica* (F, N), *silvicola* (F)

Psathyrella gracilis (N, S)

Pseudocoprinus disseminatus (N)

Ripartites helomorpha (F), *tricholoma* (F)

Russula alutacea (N), *atropurpurea* (N), *cyanozantha* (N, S), *delica* (R, S), *densifolia* (N, S), *fallax* (N), *fellea* (R, S), *lepida* (S), *Linnaei* (S), *Mairei* (N, R, S), *nauseosa* sensu Bresadola (F), *nigricans* (N), (med Superposition, S), *ochroleuca* (R, S), *puellaris* (F, N), *Quéletii* (F, N, S), *serotina* (N), *solaris* (N), *vesca* (N, S), *veternosa* (N, R, S), *violacea* sensu Quélet (F), *zerampelina* (F)

Stropharia aeruginosa (K, N), *Jerdonii* (F), *semiglobata* (F), *squamosa* (K, R, S)

Tricholoma atosquamosum (N), *flavobrunneum* (N), *geminum* (F), *grammopodium* (N, S), *lascivum* (N), *murinaceum* (N), *myomyces* (N), *nudum* (F, N, S), *personatum* (D, Haven), *pessundatum* (N), *portentosum* (N), *rutilans* (F, N), *saponaceum* (S), *saponaceum* v. *cnista* (N), *sulphureum* (N, S), *ustale* (K, N), *vaccinum* (F)

Tubaria furfuracea (N, S), *inquilina* (N)

Homobasidiomycetes- Gasteromycetes

Cyathus crucibulum (F, N), *olla* (N)

Geaster coronatus (F)

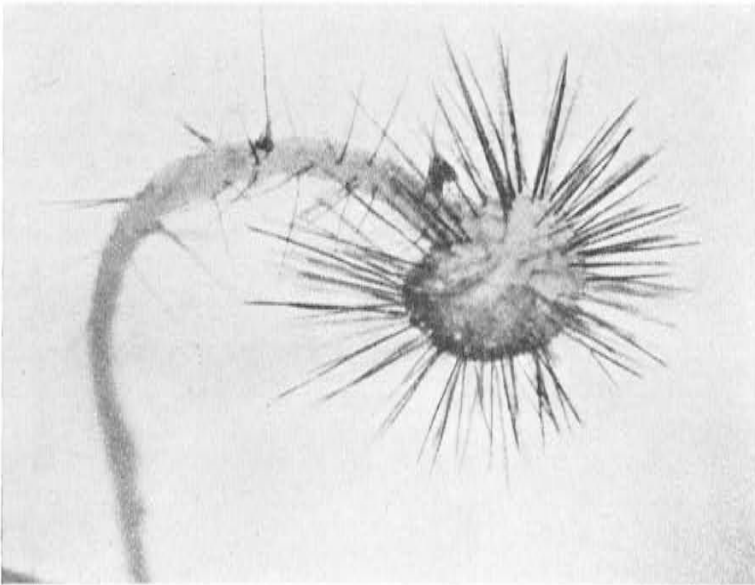
Lycoperdon gemmatum (N, S), *nigrescens* (F), *piriforme* (D, S), *saccatum* (F, O), *umbrium* (F)

Phallus caninus (N), *impudicus* (F, N)

Scleroderma verrucosum (F, N), *vulgare* (F)

Sphaerobolus stellatus (F)

Af de noterede Svampe er der maaske særlig Grund til at fremhæve den lille, smukke *Marasmius Hudsonii*, der kun vokser paa visne Kristtornblade, og som tidligere kun vides at være paavist af Poul Larsen (se „Flora Agaricina Danica“, Vol. II, S. 27). Den er kendetegnet navnlig ved lange, purpurrøde Børster paa Hatoverfladen (sml. hosstaaende Foto). I øvrigt er flere af de anførte resupinate Arter i Følge M. P. Christiansen fundet for første Gang i Danmark.



Marasmius Hudsonii med de ejendommelige, lange Børster paa Hatoverfladen. Fot. E. Hellmers. $\times 10$.

Paa Kongressens sidste Aften drøftedes under stor Interesse et Forslag om at indlede en nærmere Undersøgelse af Storsvampenes Udbredelse i Danmark. Man vedtog enstemmigt at iværksætte en saadan Undersøgelse under Navnet „Danmarks mykologisk-topografiske Undersøgelse“, der skal arbejde efter de samme Retningslinier som den i sin Tid oprettede „Danmarks botanisk-topografisk Undersøgelse“. I Arbejdsudvalget indvalgte cand. mag. E. Bille Hansen, Postmester J. P. Jensen og Universitetsadjunkt Morten Lange. Udvalget har senere udsendt en alfabetisk ordnet Liste over 100 særlig udvalgte, let kendelige Svampearter, om hvilke Undersøgelsen indtil videre skal koncentrere sig. Artslisten giver des-

uden nærmere Anvisning paa de Oplysninger, der navnlig ønskes fremskaffet.

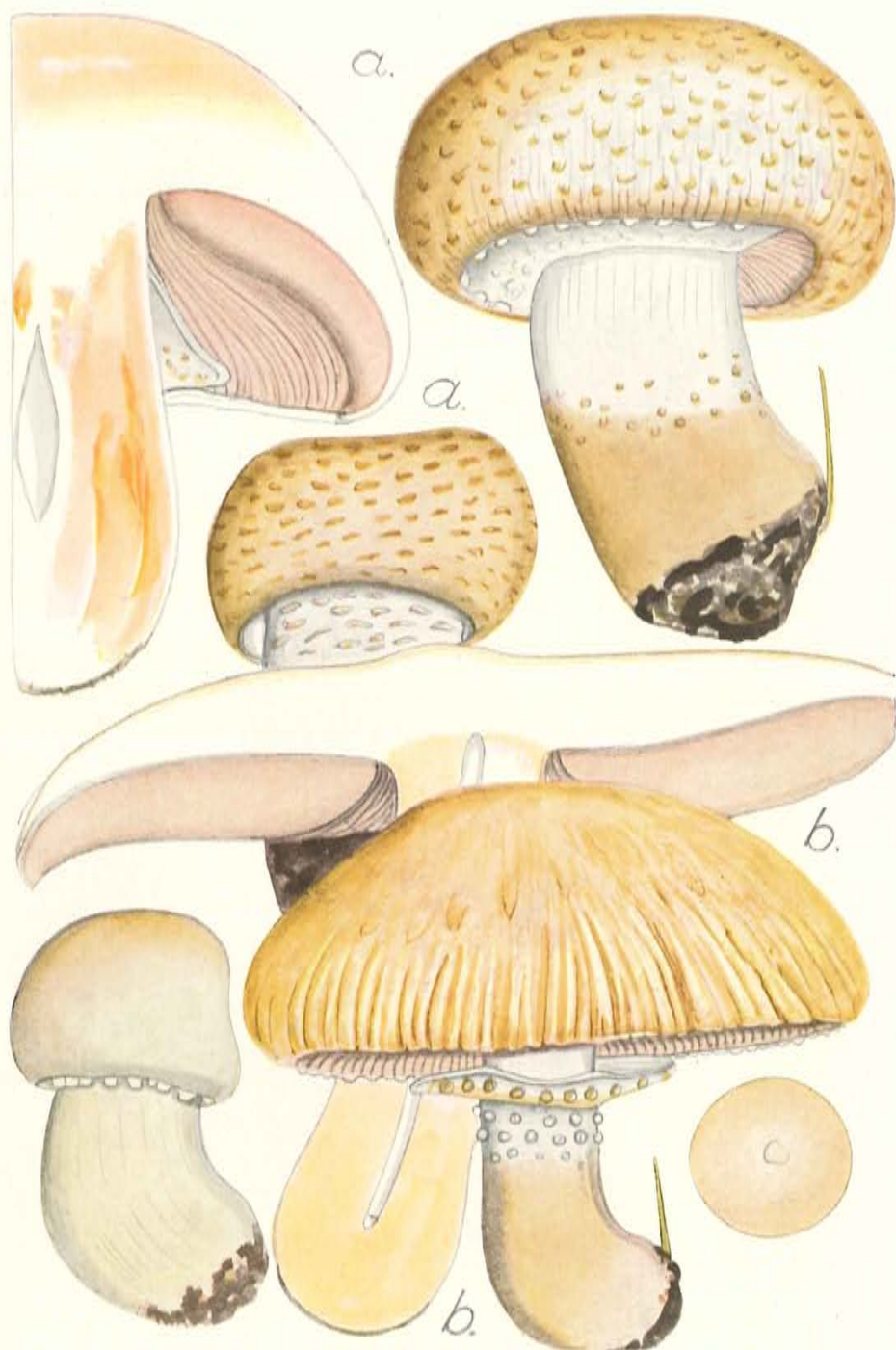
Denne Beretning kan ikke afsluttes, uden at der rettes en hjertelig Tak til Forstander Terkelsen og Frue for deres enestaaende venlige Gæstfrihed over for Deltagerne, en Gæstfrihed, der i høj Grad bidrog til at gøre Kongressen til en stor Oplevelse, som vi længe vil bevare i vor Erindring.

N. Fabritius Buchwald.



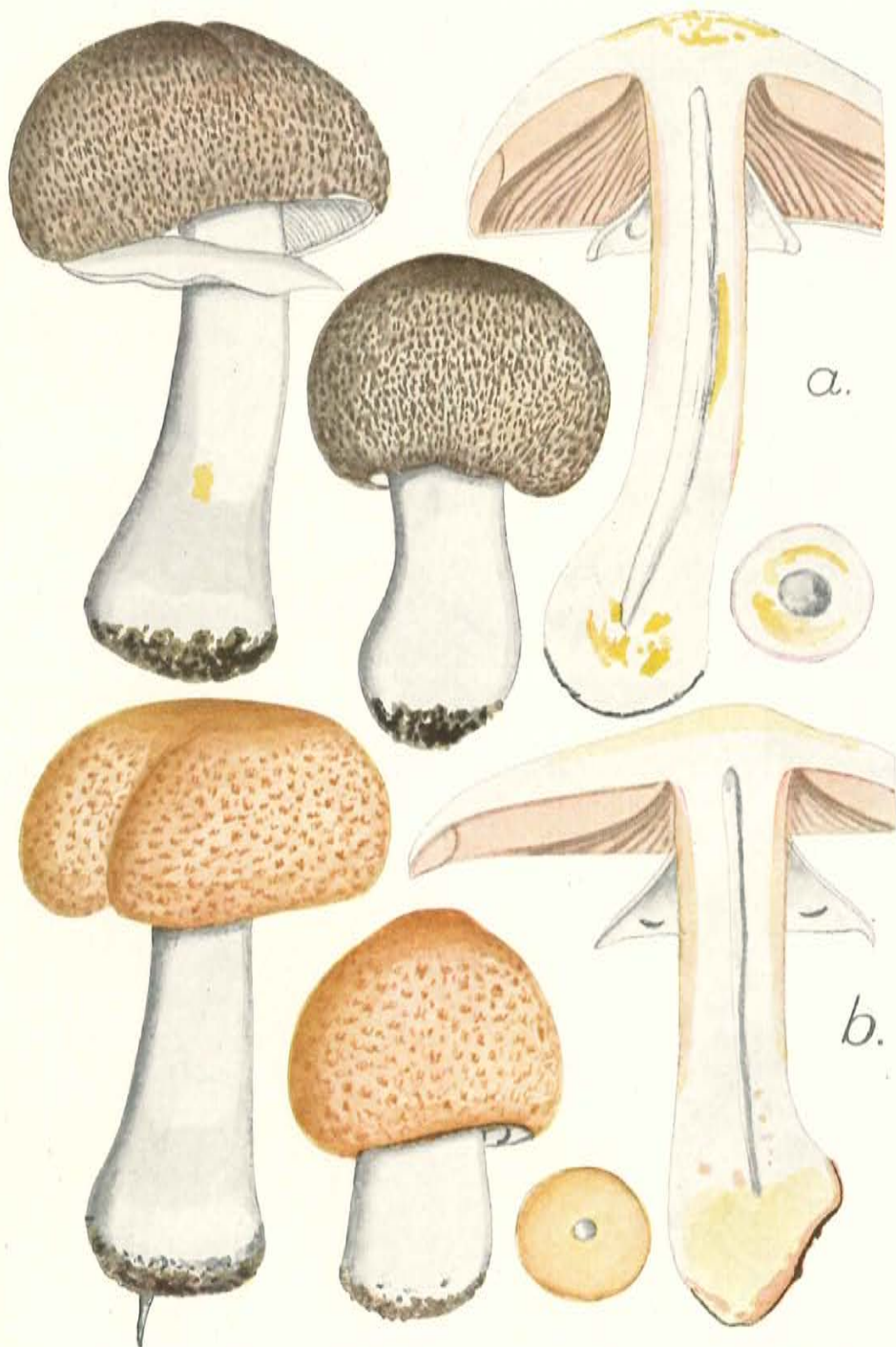


a. *Psalliota leucotricha* sp. n. Ryde Skov under *Picea*, october 1944. F. H. Møller leg. et del. (1:1). — b. *Psalliota nivescens* sp. n. Meadow near Krungerup, august 1945. F. H. Møller leg. et del. (1:1).



a. *Psalliota straminea* Möll. et Schff. Meadow in Frejlev, october 1939.
F. H. Möller leg. et del. (1:1). — b. *Psalliota fissurata* sp. n. Glæne (Vest-
fed), october 1949. F. H. Möller leg. et del. (1:1).

og v. Røjelge skov
Okt. 1952



a. *Psalliota meleagris* var. *terricolor* var. n. (see Postscript). Garden in Sækkjøbing, october 1943. Lindh. Hansen leg., F. H. Møller del. (1:1). —
 b. *Psalliota phaeolepidota* sp. n. Sundby Færgesgård, september 1946 and 1949. F. H. Møller leg. et del. (1:1).

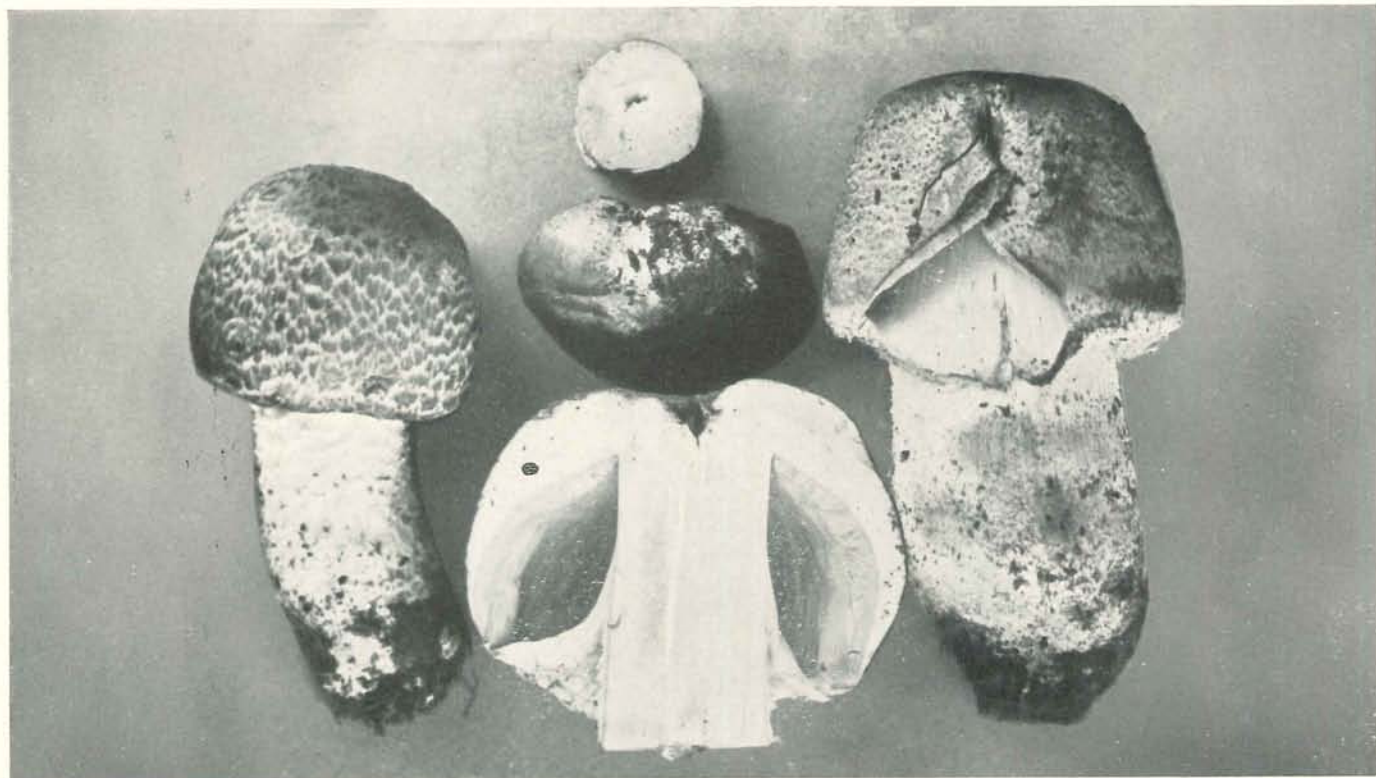


a. *Psalliotia purpurascens* (Cooke). Æble Skov under *Abies*, september 1948. Fr. Terkelsen leg., F. H. Møller del. (1:1). — b. *Psalliotia luteo-maculata* sp. n. Fuglsang Storskov under *Picea*, august 1937. F. H. Møller leg. et del. (1:1). — c. *Psalliotia xantholepis* sp. n. Fuglsang Storskov under *Abies*, oktober 1949. F. H. Møller leg. et del. (1:1). — d. *Psalliotia lutosa* sp. n. Garden in Nykøbing Falster, august 1940. F. H. Møller leg. et del. (1:1).



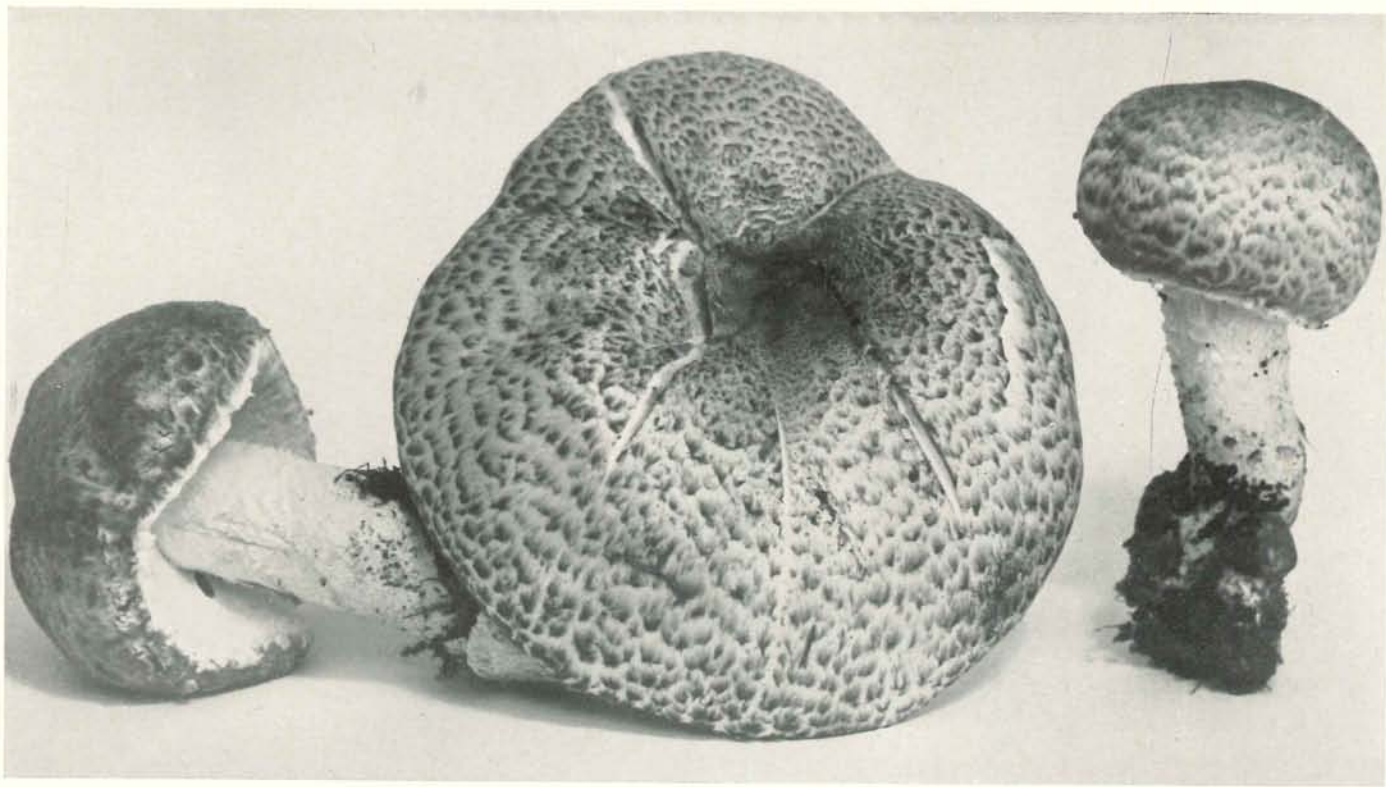
Psalliota augusta Fr.

Hestekobbel near Fuglsang, Lolland, under *Picea* and *Sambucus*, september 1945. F. H. Møller leg., N. Kjelgaard phot. (1:3). The typical form with densely scaly pileus and slender, almost naked stem.



Psalliota augusta Fr.

Nykøbing F., Vesterskov, under *Picea* and *Sambucus*, august 1922. F. H. Møller leg. and phot. (1:2). More robust specimens. The fistulose stem can be seen.



Psalliota augusta Fr.

Nykøbing F., Vesterskov, under old *Quercus*, september 1950. F. H. Møller leg., N. Kjelgaard phot. (2:3). Specimens with broad scales on the cap and short, scaly stem (*P. subrufescens* sensu Lange).



Psalliota augusta Fr.

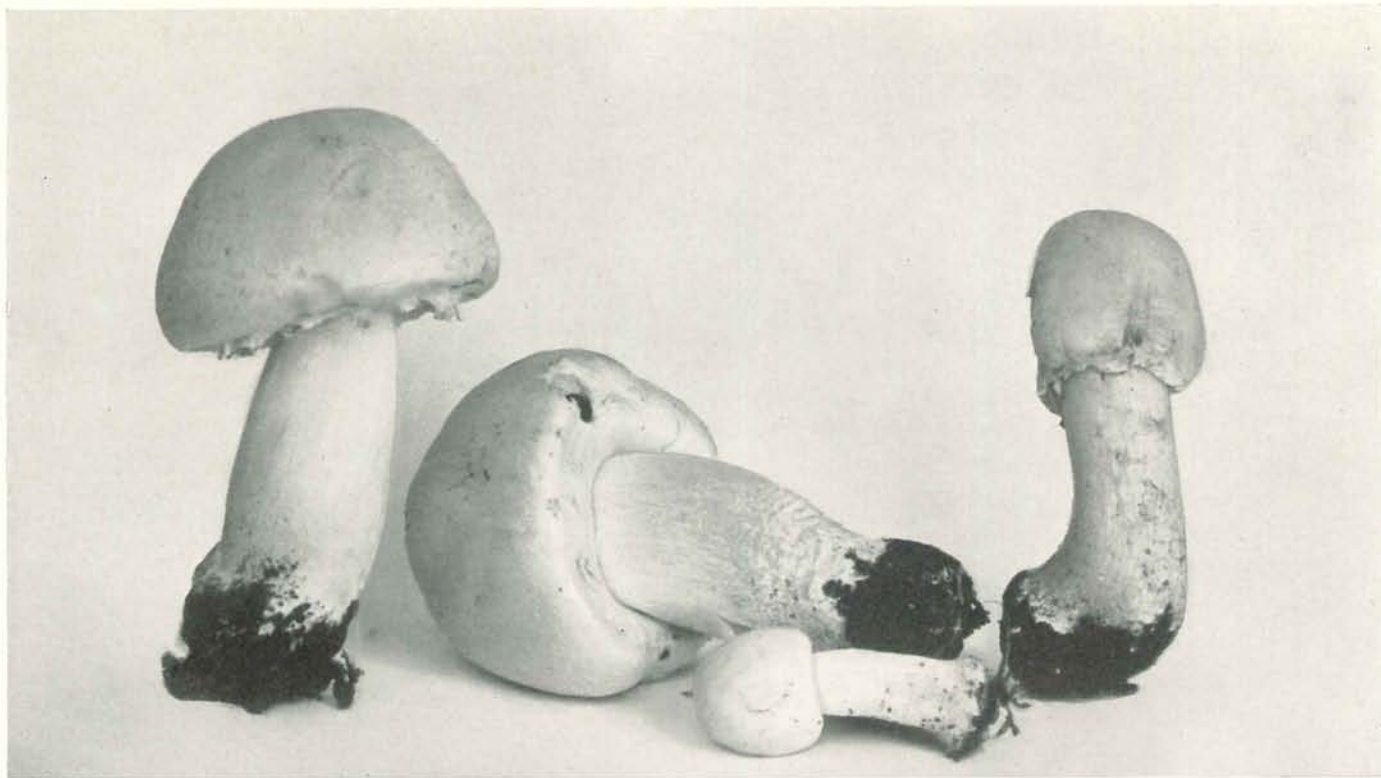
Krenkerup, Lolland, under *Aesculus*, september 1948. Lindh. Hansen leg., N. Kjelgaard phot. (1:2). Large fruit body with broad, dark, concentric scales on the pileus and short, scaly stem. The ground colour of the pileus was finely yellow. Such specimens may be determined as *P. perrara* Schulzer.



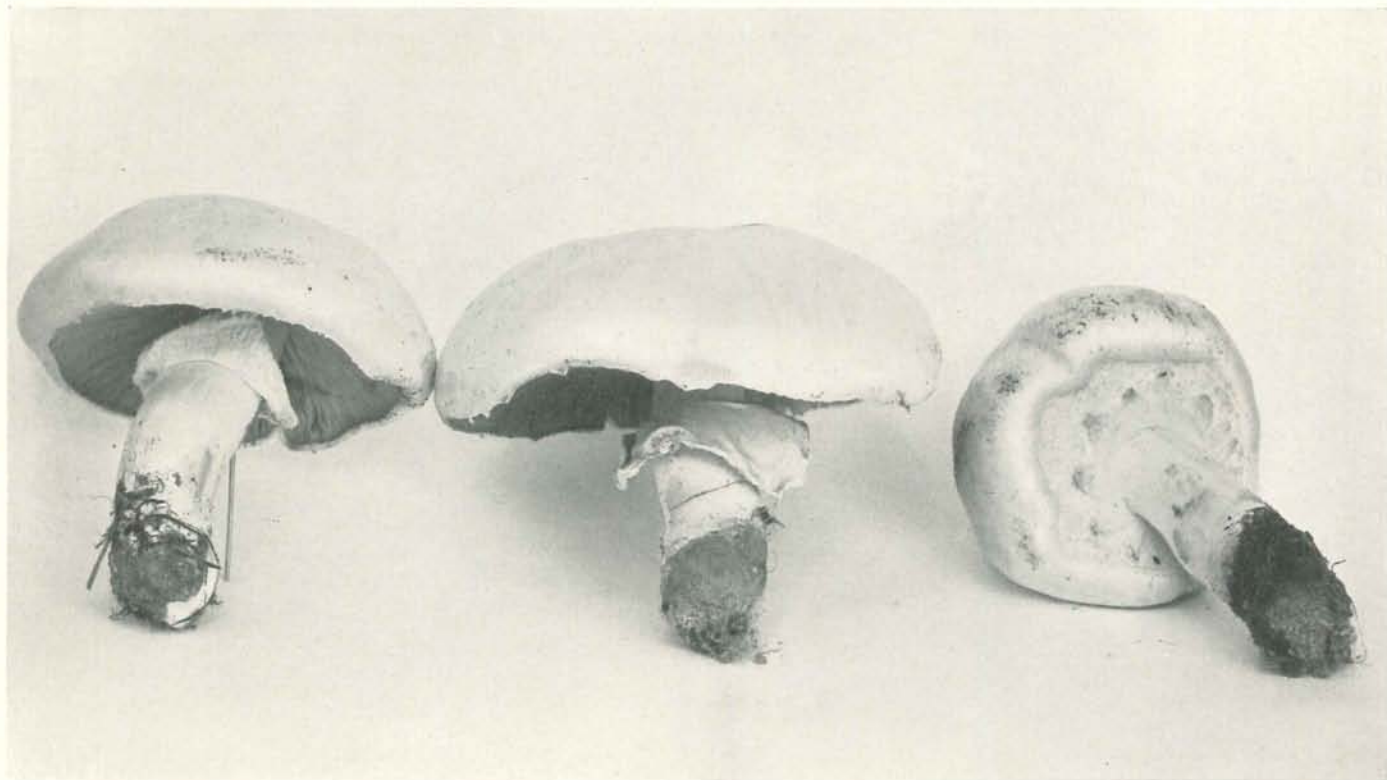
Psalliota silvicola (Vitt.) Fr.
Fuglsang Storskov, Lolland, under old *Picea*, september 1949. F. H. Møller leg., N. Kjelgaard phot. (3:4).



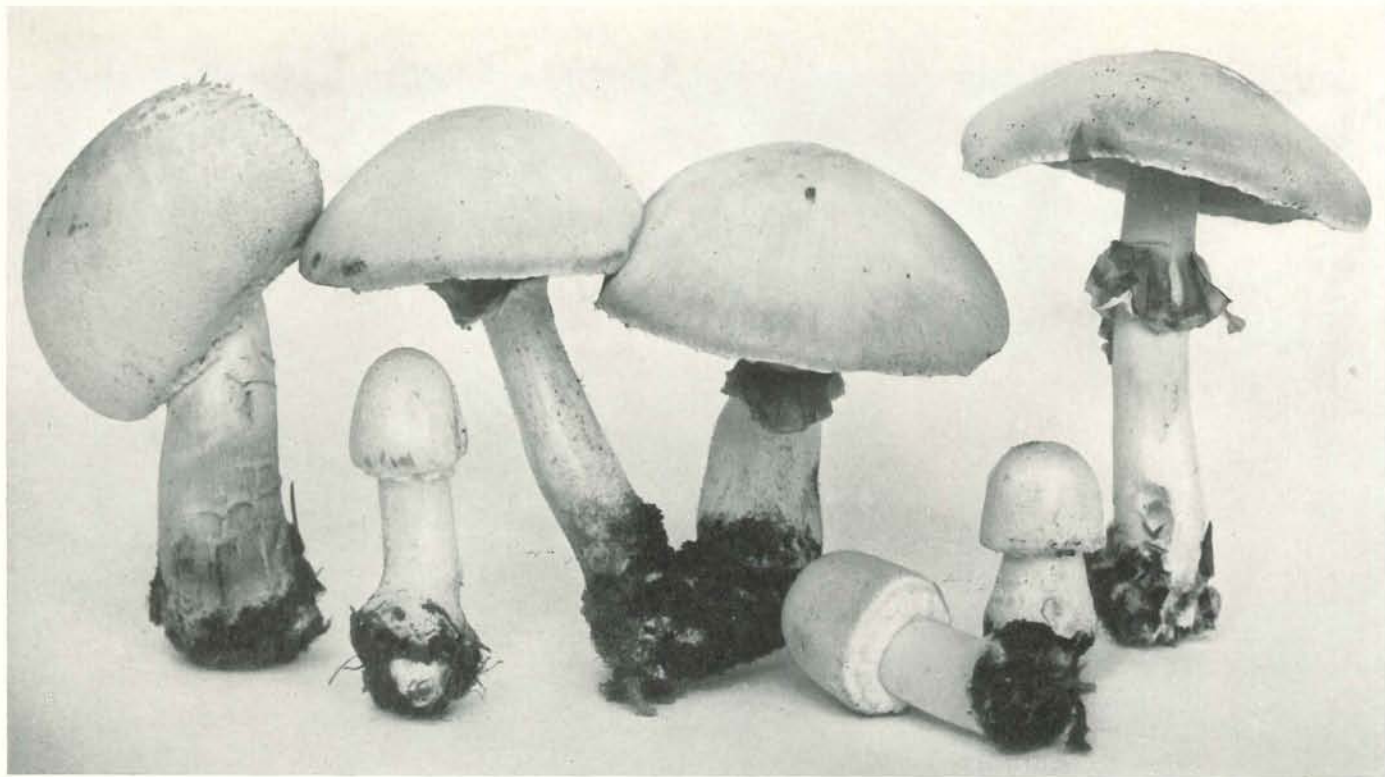
Psalliotia abruptibulba (Peck) Kauffm.
Fuglsang Storskov, Lolland, under *Picea*, september 1949. F. H. Møller leg., N. Kjelgaard phot. (1:2).



Psalliota macrocarpa sp. n. and *P. silvicola* (Vitt.) Fr. (the small specimen).
Both of them from Fuglsang Storskov, Lolland, under *Picea*, september 1950. F. H. Møller leg., N. Kjelgaard phot.
(1:2).



Psalliota nivescens sp. n.
Krenkerup Park, Lolland, in fairy ring (meadow), september 1949. F. H. Møller leg., N. Kjelgaard phot. (1:2).

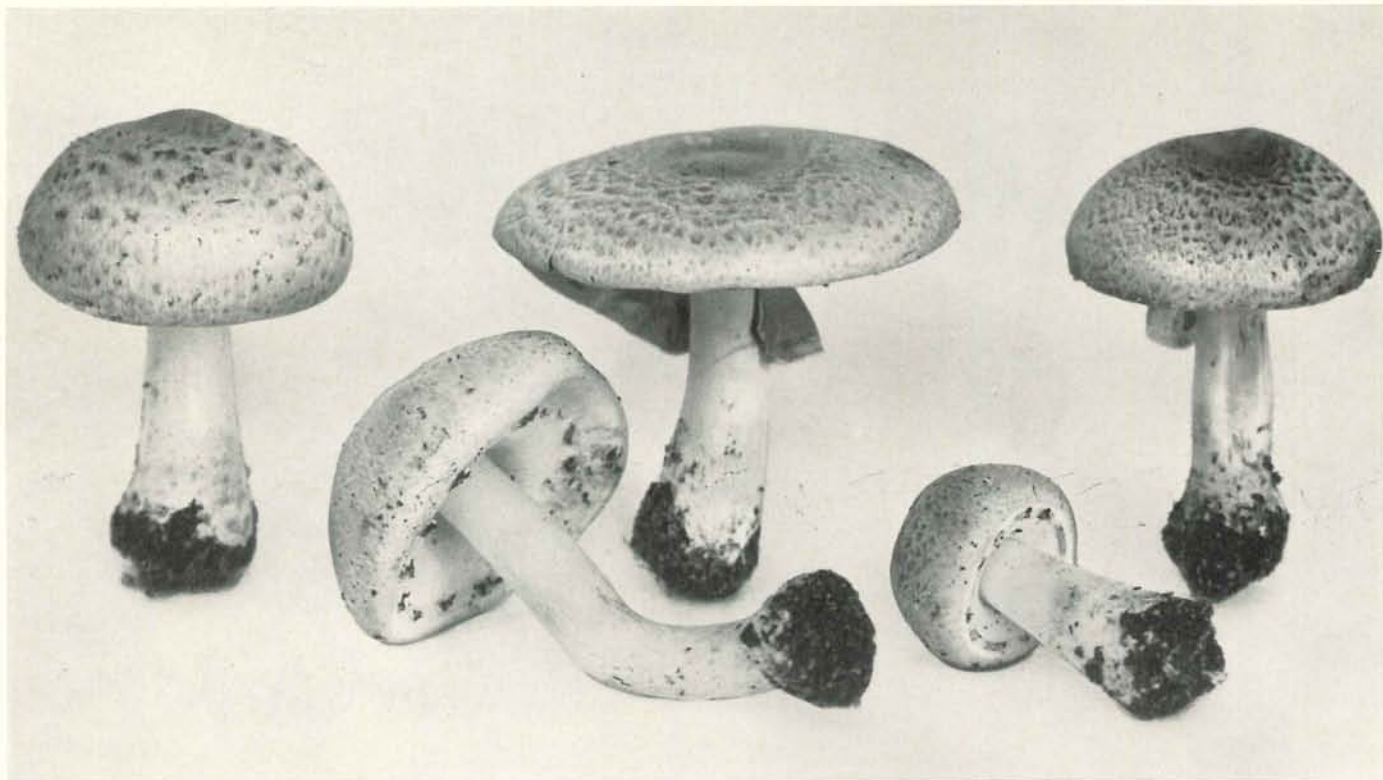


Psalliota arvensis (Schaeff.) Fr.

Holmeskoven near Saxkjøbing, on old piled turf at the border of the wood, september 1949. F. H. Møller leg., N. Kjeldgaard phot. (1:2).

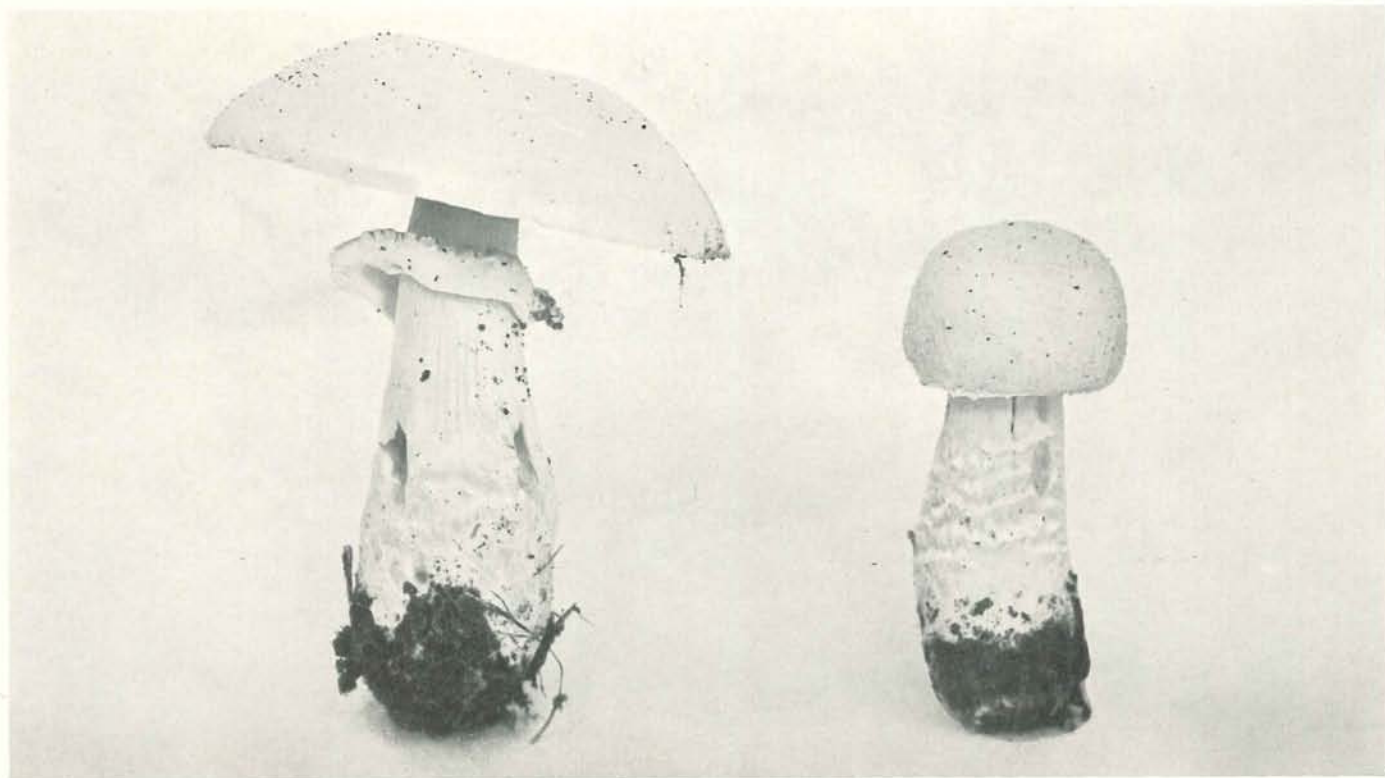


Psalliota xanthoderma (Genev.) Rich. et Roze.
 Krageskoven near Priorskov, Lolland, under deciduous trees and bushes, october 1924 (the first find in Denmark). F. H.
 Møller leg. and phot. (3:4). The pileus is distinctly cracked.



Psalliota phaeolepidota sp. n.

Sundby Færgesgård, Lolland, in the garden under deciduous trees, september 1949. F. H. Møller leg., N. Kjelgaard
phot. (5:6).

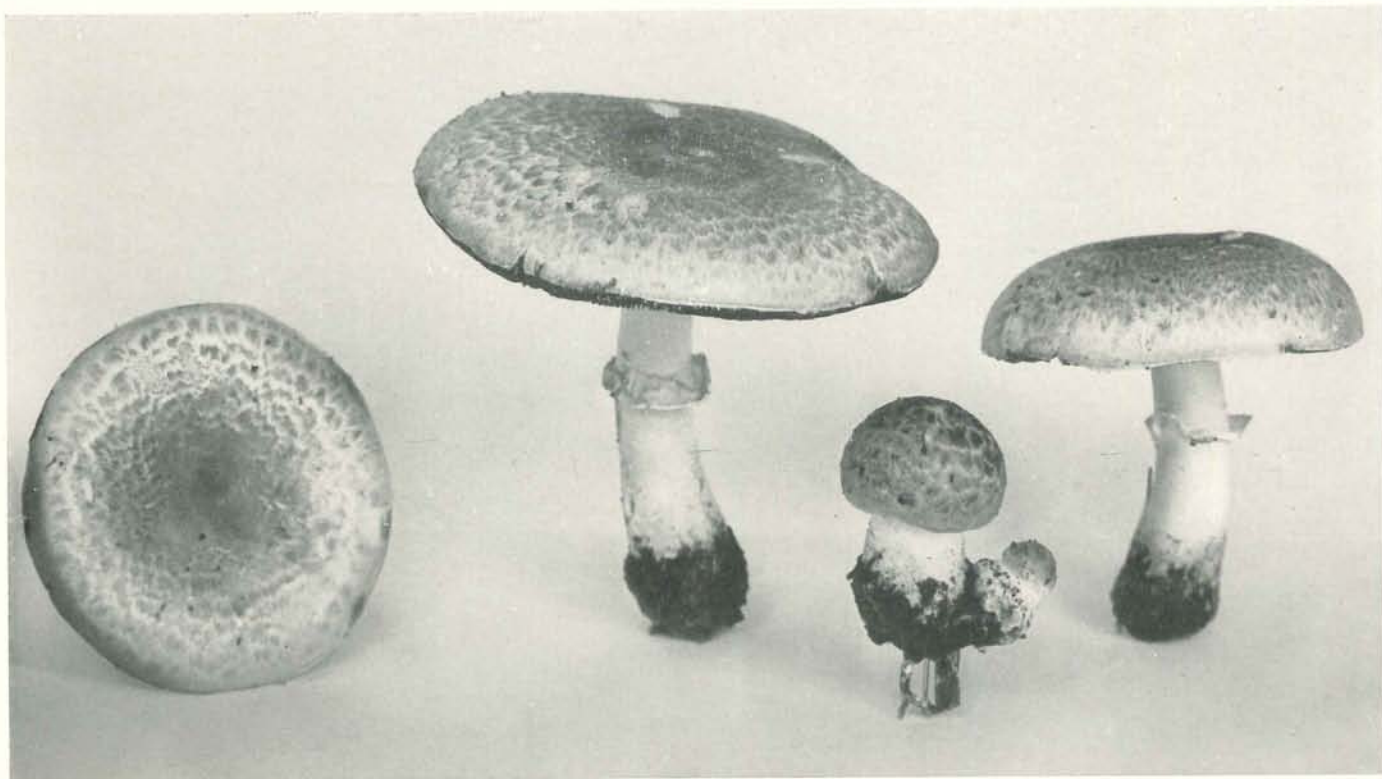


Psalliota excellens sp. n.
Fuglsang Storskov, Lolland, under *Picea* and *Fagus*, september 1949. F. H. Møller leg., N. Kjelgaard phot. (1:2)



Psalliota macrospora (Møll. et Schäff.) comb. n.

Fiskema'en near Orebygård, Lolland, in large fairy ring, september 1949. Lindh. Hansen and F. H. Møller leg.,
N. Kjelgaard phot. (1:2).



Psalliota purpurascens (Cooke).
Sundby Færgesgård, Lolland, in company with *P. phaeolepidota*, september 1949. F. H. Møller leg., N. Kjelgaard phot.
(4:5).



Psalliota xantholepis sp. n.
Fuglsang Storskov, Lolland, under *Abies*, october 1949. F. H. Møller leg., N. Kjelgaard phot. (1:1).



Psalliota semota Fr.

Storskoven near Guldborg, Lolland, under *Picea*, september 1950. F. H. Møller leg., N. Kjelgaard phot. (1:1).



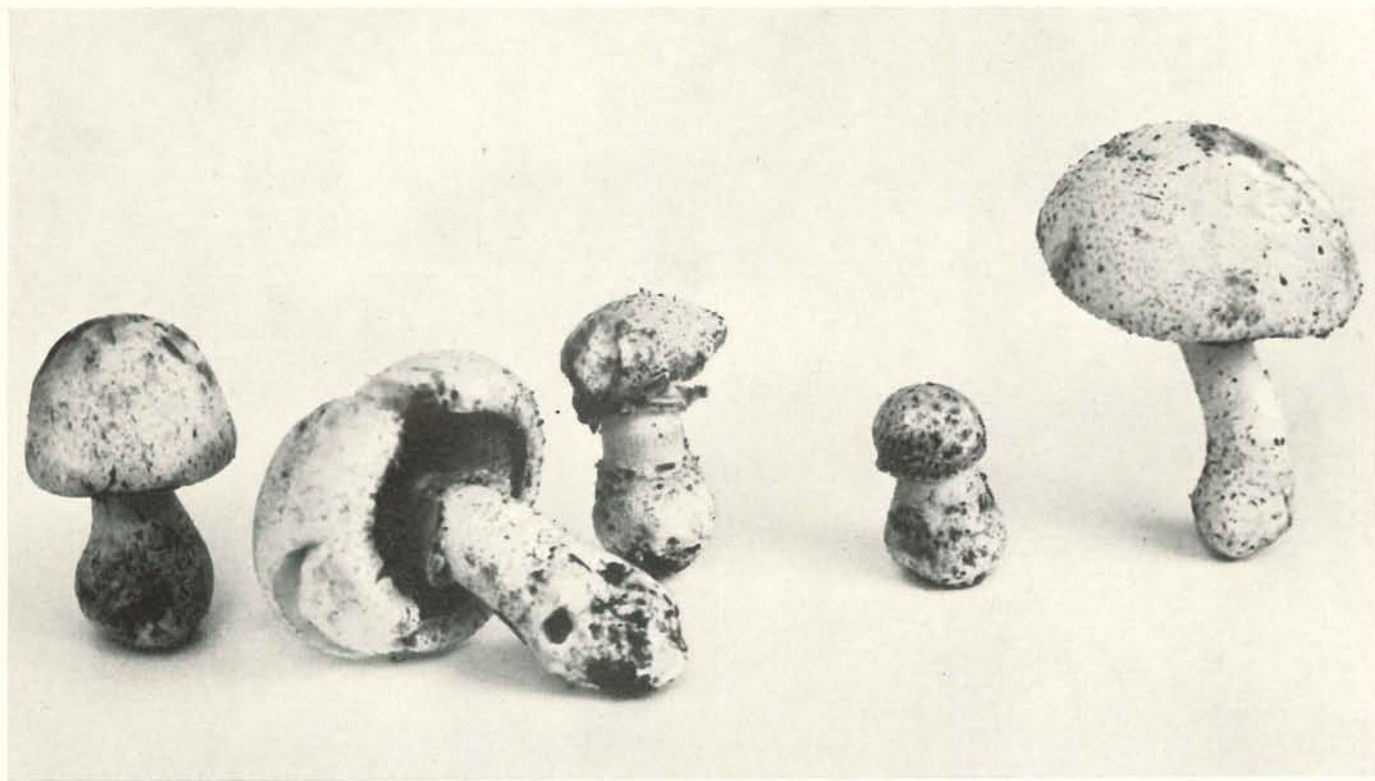
Psalliota impudica Rea.

Wood near Brændegård Sø, Fyn, september 1950. Vald. Pedersen and Frede Terkelsen leg., N. Kjelgaard phot. (3:4). The base of the stem has mycelial strands.



Psalliota subfloccosa (Lange) Lange.

Bøllevej near Nyborg, Fyn, under *Picea*, october 1950. F. H. Møller leg., Atelier Behnke, Nyborg, phot. (1:2).



Psalliota squamulifera Möll.

Boserup Skov, Sjælland, under deciduous trees, october 1951. Morten Lange leg., N. Kjelgaard phot. (1:2). Compare with Pilát's figures of *Ag. Caroli* Pilát (especially figs. 25 and 26).

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