

# Studies in the genus *Mycena* in Finland

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1. *Introduction.* The genus *Mycena* has in recent times been the subject of comprehensive monographs by Robert Kühner (1938) in Central Europe and by Alexander H. Smith (1947) in North America. Largely due to these works, this genus must be regarded as one of the best-known genera of agarics. In Finland, after the basic investigations of P. A. Karsten, the need for up-to-date revisions has become more and more apparent.

Karsten reported about 60 species of *Mycena* from Finland. After him, many new species have been found (Thesleff 1920, Laurila 1939, Eklund 1943, Frey 1944, Stenlid 1947, Tuomikoski 1953, Malmström 1960, Schulmann 1961), totalling about 100 different names (see also Rautavaara 1947). However, a few of these are synonyms and some used by older authors are based on macroscopical description only and probably have new names derived from the anatomy of the basidiocarp.

2. *Material and methods.* The material which forms the basis of this study consists mainly of my collections, of which about 600 are obtained from the vicinity of Korso (24 km north of Helsinki) during the years 1954—62 and about 200 from other parts of Finland. This material has been studied both in fresh and dried condition. In general, I have followed the field and laboratory methods described by Smith (1947). The colour terms are according to Maertz & Paul (1950). In addition, I have studied the specimens preserved in the herbariums of the University of Helsinki and a part of those of University of Turku, including P. A. Karsten's collections, for which I am indebted to Custos, Dr. Heikki Roi-vainen and to the Assistant Prof., Dr. Paavo Kallio. Unfortunately, a considerable part of these collections could not be identified chiefly in lack of macroscopical descriptions, and are not mentioned here.

3. *Some ecological considerations.* In summer and early fall, before the regular mushroom

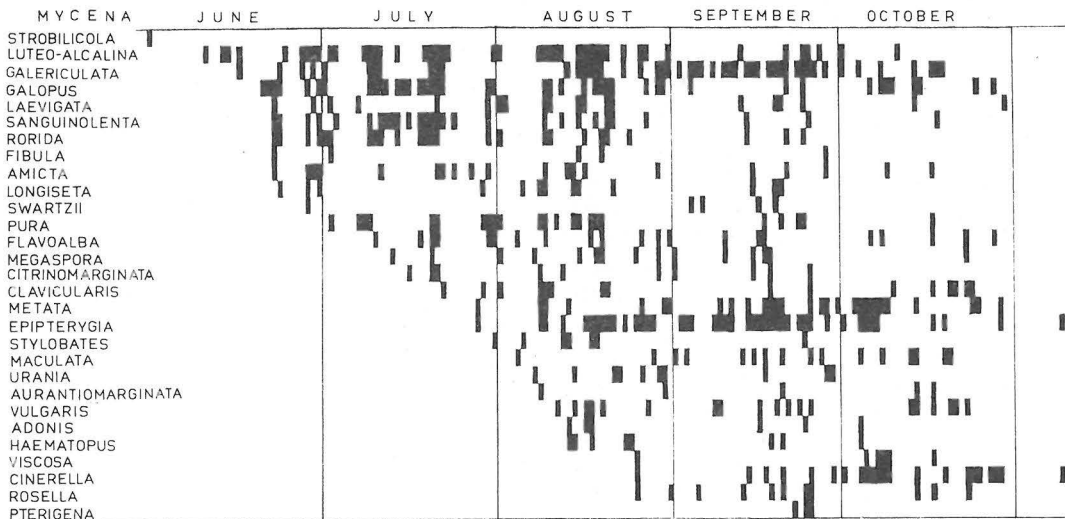


Fig. 1. Seasonal occurrence of some *Mycena*-species in the neighbourhood of Korso during the years 1954—60.

season in late August and in September, the genus *Mycena* forms a very prominent part of the mushroom crop in regard to the number of basidiocarps present. Most species appear before or during August (Fig. 1). It should be noted that only a few species occur in spring. According to Smith (l.c.) many Finnish fall species occur in North America also in the spring and are usually absent in summer (e.g. *Mycena longisetata*). This phenological difference seems to be due to the higher summer temperature climate of America, since in the Alps, where the moisture conditions are more favourable than in America and in Fennoscandia, the species apparently follow the same pattern of appearance as in Finland.

In general most species have very definite habitat requirements, which are given in the species list below; the biotope classification is based on Finnish forest site types. In many cases they can be used as additional field characteristics, e.g. of the gray slimy species *M. clavicularis* occurs in dry pine forests in contrast to *M. vulgaris*, which grows usually in moist mossy spruce forests. Of the small species in group *Filipedes*, *M. atroalboides* is met with in most oligotrophic localities (dry lichen woods, *Calluna* and *Vaccinium*-type), *M. metata* is common in coniferous moss forests and *M. iodiolens* seems to be confined to rich grass-herb forests on mull soil. The most specialized lignicolous species seem to be *M. galericulata* and *M. niveipes*, which grow almost exclusively on rotten wood of deciduous trees, *M. inclinata*, which grows only on logs and stumps of *Quercus*, and *M. laevigata*, *M. luteoalcalina* and *M. maculata*, which are confined to rotten coniferous wood.

Although the material outside the area around Helsinki is based on trips of relatively short duration (1—2 weeks) during which not all species in a locality can be expected to be found, it seems that there are no major differences in the *Mycena*-flora between the different parts of Finland. The only species collected exclusively in North Finland is *M. algeriensis* and, on the whole, the dominant species there seem to be the same ones as in southern Finland. The oak forests on the southern coast of Finland have, however, some characteristic species not recorded elsewhere in our country, e.g. *M. inclinata* and *M. erubescens*.

Explanation of abbreviations: H: Botanical Museum of the University, Helsinki, O. v. S.: O. v. Schulmann, P.A.K.: Petter August Karsten, R. T.: Risto Tuomikoski, Tur: Botanical Museum of the University of Turku, V.H.: the author, W.N.: Wolmar Nyberg.

*Mycena Abramsii* Murrill

Smith 1947, p. 239.

V. Bromarv, Framnäs (V.H.) Pyhäjärvi U.I., Vuotinainen (V.H.). — U. Tuusula, Ruotsinkylä and Hyrylä; Helsinki parish, Korso; Sipoo, Myyras (V.H.). — EH. Tammela (P.A.K., H.). — PS. Joroinen, Keriniemi (V.H.).

Occurs gregarious to subcaespitose usually on rotten twigs buried in soil in moist woods (often under alder) in June—September. In North America this species grows in hardwoods particularly in spring (Smith l.c.). *M. Abramsii*, which has not earlier been reported from Finland is recognizable by its narrow spores, somewhat sulcate cap and by its relatively large size. Pleurocystidia were present in all collections.

*Mycena acicula* (Schaeff. ex Fr.) Kummer.

Kühner 1938, p. 602, Smith 1947, p. 119.

U. Helsinki, Pasila, on rotten leaves in a herb-rich forest, 24.VII 1952, (R.T.,H).

*Mycena adonis* (Bull. ex Fr.) S.F. Gray

Kühner 1938, p. 555, Smith 1947, p. 177.

U. Helsinki parish, Korso; Tuusula, Ruotsinkylä (V.H.); Porvoo (W.N.). — EH. Tammela, Mustiala (Karsten 1889, p. 83). — 6 collections.

Specimens studied fresh were found in mixed forests of *Myrtillus*-type, in most cases on places rich in litter.

*Mycena alba* (Bres.) Kühner

Kühner 1938, p. 594.

U. Helsinki, on bark of a living deciduous tree, Dec. 19, 1960, leg. M. Korhonen.

*Mycena alcalina* (Fr. ex Fr.) Kummer

Kühner 1938, p. 464, Lange 1936, Pl. 51 H.

U. Tuusula, Ruotsinkylä (V.H.); Hyvinkää (R.T.,H). — EH. Tammela (P.A.K., H); Juupajoki (V.H.)

Grows more or less fasciculate on stumps of conifers. *M. alcalina* has been regarded as a common species in Finland (Karsten 1889, Thesleff 1920, Rautavaara 1947). However, a part of the statements refer to *M. luteoalcalina*, which is distinctly more frequent than *M. alcalina*.

Bisporous form is met with several times in June and July.

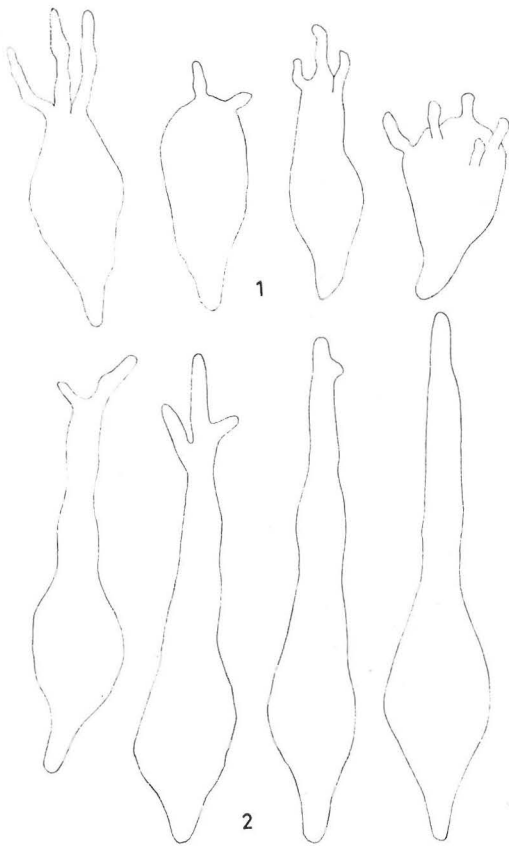


Fig. 2. *Mycena alcalina* (bisporous form). Cheilocystidia from the distal part (1) and from the proximal part (2) of the lamellum.

Thesleff's specimen from Viipuri in HMF collected from rotten oak wood belongs to the *M. galericulata*-group.

The form of the cheilocystidia varies greatly even in the same pileus. On the distal part of the gill edge they are often short, roundish, and a few with several obtuse projections, on the proximal part of the edge they are fusoid-ventricose, long-necked, and usually unbranched (Fig. 2). The same type of variation I have found in *M. luteoalcalina*. This phenomenon was especially common during the dry summer of 1959, which would suggest that it has some connection with the different humidity conditions under which the cystidia develop but is not related to the development of the carpophore.

*Mycena algeriensis* R. Maire

R. Maire in Kühner 1938, p. 490.

Pileus subcylindric to narrowly conic when young, then expanding to broadly and sharply conic,

slightly sulcate and shining, striate when moist. Disc at centre blackish, then fading to blackish-brown to dark brown gray, extreme margin slightly paler; no yellowish shade. Odor faintly »alcalic». Lamellae whitish, moderate close, 20—26 reach the stipe, 2—3 tiers of lamellulae, medium broad, under hand- lens hairy from pleurocystidia. Stipe fragile, blackish gray with a brownish cast, when young covered with abundant white fibrils.

Spores 10—11 × 5—7 μ, basidia 4-spored, cheilocystidia 60—75 μ long, cylindric, blunt-ended and voluminous, pleurocystidia similar, abundant, 70—90 μ long. The hyphae of the epicutis smooth, forming 20—35 μ thick layer, hypodermis well developed, cells filled with gray pigment, the remainder consisting of closely interwoven hyphae.

KemL. Sodankylä village (V.H.). — InL. Inari, Ivalo, Toloskoski (V.H.).

Both collections were made on rotten wood (log and stump) of birch.

In light of the present material this species seems to be distinctly different from *M. niveipes* by having a hairy stipe, dark colors and obtuse pleurocystidia.

As far as I know, *M. algeriensis* has not been previously reported from Europe. It was described from Algeria by René Maire, where it grows on rotten wood of *Quercus*, *Eucalyptus* and *Phillyrea*. In North America it occurs (Smith l.c.) in Ontario and in the northern United States on elm and alder logs.

*Mycena amicta* (Fr.) Quél.

Syn. *M. Iris* Berk.

Kühner 1938, p. 196, Smith 1947, p. 61, Lange 1936, Pl. 50 C.

V. Bromarv, Framnäs (V.H.). — U. Tuusula; Helsinki parish (V.H.). — E.H. Lammi, Evo (R.T., H); Nokia (P.A.K., H, as *Mycena* sp.); Tammela, Mustiala (Karsten 1889). — P.S. Joroinen, Keriniemi (V.H.). — P.K. Pielisjärvi, Koli (R.T., H). — P.P. Rovaniemi (V.H.).

Common in mossy spruce forests among needles and moss, sometimes also on rotten stumps and cones.

Karsten (1889, p. 86) mentions *M. amicta* (as *β leucopsis*) as a rare species from Mustiala. There are no later published records. It is easily recognizable by its hairy stipe, gelatinous pellicle of the pileus, and dark blackish blue base of the stipe. Most collections were light gray-brown without any more bluish colours.

*Mycena atroalboides* (Peck) Sacc.

Syn. *M. sepia* Lange? (M. Lange 1948, p. 379), *M. vitrea* Kühner (Smith 1947, p. 281.)

Pileus 0.5—2 cm broad, at first obtusely conic-

campanulate, becoming broadly conic and often with indistinct broad umbo in age, when young hoary, hygrophanous, when moist striate near to the centre, colour blackish on the disc, towards margin pale gray, usually without yellowish, brownish, or reddish colours. Context grayish, thin, smell when crushed reminiscent of that of cucumber or tomato blades, not of iodoform.

Gills pale gray, ascending, narrow, relatively close, adnexed. Stipe 4—6 cm  $\times$  0.5—1.0 mm, colour dark gray except about 5 mm broad zone at the apex, which is whitish or pale gray.

Spores 8—10  $\times$  3.5—4.5  $\mu$ , basidia four-spored, cheilocystidia numerous, clavate, covered with short rodlike projections, 12—15 (—21)  $\mu$  broad, pleurocystidia similar, rare. Epicutis formed of narrow hyphae, the uppermost ones with rodlike projections, hypodermis distinct, cells elliptical, diam. 18—25  $\mu$ , distinctly gray-brown, the remainder formed of 8—14  $\mu$  broad hyphae. Lam.-trama gray-brown. Clamp connections abundant.

U. Tuusula, Ruotsinkylä; Hyvinkää (V.H.). — EK. Luumäki, Taavetti (V.H.).

I have met this species in dry pine forests on gravel soil (*Vaccinium* or *Calluna* type), often in young pine plantations rich in litter. In my experience it is possible in the field to distinguish it from *M. metata* by its grayish colours and by its smell.

According to Smith (l.c.) the gills are sometimes stained with reddish brown, which I have not been able to observe in my mushroom. The breadth of the cystidia are between the values given by Kühner (11—25  $\mu$ ) and Smith (6—12  $\mu$ ). It seems, however, that this difference is not taxonomically significant. — Lundell (Lundell & Nannfeldt 1942, p. 10) has collected *M. sepia* in Femsjö (Sweden) on similar habitat («amongst needles, twigs, small *Polytricha* etc. on sandy soil at road-side») and according to him Friess's *M. filopes* is probably identical with this fungus.

*Mycena atrocyanea* (Batsch ex Fr.) Gillet.

One collection from a grassy grazed open birch-forest in Helsinki parish, Vantaa, 30.VIII 1952 (V.H.). Following notes were made on this material: Pileus 0.8—1.7 cm broad, conic-campanulate, neither striate nor glossy, deep pure black without any brownish colours. Lamellae moderately broad, adnexed, pallid, edge white. Stipe deep black, 3—4 cm  $\times$  1 mm. Spores 8.5—11  $\times$  4—6  $\mu$ , ellipsoid, basidia 4-spored, cheilocystidia fusoid-ventricose, neck straight, apice acute, 25—40  $\times$  11—14  $\mu$ , partly spherical and vesicular, diam. 15—18  $\mu$ , pleurocystidia absent. Epicutis thin (about 10  $\mu$ ), the uppermost

hyphae with rod-like projections, hypodermis distinct, cells vesicular, diam. 20—35  $\mu$ , filled with dark pigment, the remainder consisting of colourless filamentous hyphae, lam.-trama slightly grayish. Oleiferous hyphae could not be detected either in pileus or in stipe.

*Mycena aurantiomarginata* (Fr.) Quél.

Syn. *M. elegans* (Fr. ex Pers.) Schroeter

Kühner 1938, p. 268, Smith 1947, p. 198.

U. Helsinki, Vestersundom (R.T., H); Grankulla and Porvoo parish (W.N., H); Tuusula and Helsinki parish (V.H.), Hyvinkää, Jämsänlinna (V.H.). — EH. Tammela, Mustiala (P.A.K., H).

Most collections are from spruce forests, usually of good quality (OMT). According to Karsten (1889) this species is common in South and Central Finland. Favre (1948) records it from spruce forests in borders by bogs in the Jura mountains.

Some collections by Karsten and Thesleff in H labelled *M. elegans* have cystidia of *Citralae*-type, and belong very probably to *M. citrinomarginata*.

*Mycena capillaripes* Peck

Kühner 1938, p. 403, Smith 1947, p. 222.

U. Tuusula; Helsinki parish and Kerava (V.H.). — PS. Joroinen, Keriniemi (V.H.). — KemL. Sodan kylävillage (V.H.). — In a total 11 collections. Occurs from July to September in grass-herb forests amongst needles and herbaceous litter. Not earlier reported from Finland. *M. capillaripes* has in contrast to similar *M. rubromarginata* distinct «nitrous» smell, dark scattered pleurocystidia (seen under hand-lens as black points), and usually the colour of the pileus is paler.

*Mycena cineroides* sp. n.

Fig. 3 and 4.

*Mycenae cinerellae similis*, pileus 5—8 mm latus, 4—8 mm altus, conicus, cinereus, lamellae latae distantes, basidia duabus sporis 11—14  $\times$  6—7  $\mu$  praedita. Specimen typicum in Mus. Bot. Univ. Helsinki conservatum, legit V. Hintikka, prope Korso, Finland, 23. 10. 56, n:o 429.

Pileus 5—8 mm broad, 4—8 mm high, narrowly and obtusely conic, often higher than its breadth, sometimes provided with an abrupt small umbo, the margin appressed against the stipe when young, surface smooth, hygrophanous, as moist striate nearly to the disc, ashy gray over the centre (Maertz & Paul Pl. 14 C 4), the margin somewhat paler (11 C 3), when dry pale gray (10 C 2), without any brownish or yellowish shades. Context thin, grayish, odour and taste strongly farinaceous. Lamellae distant to subdistant, 10—16 reach the stipe, very broad and distinctly decurrent,

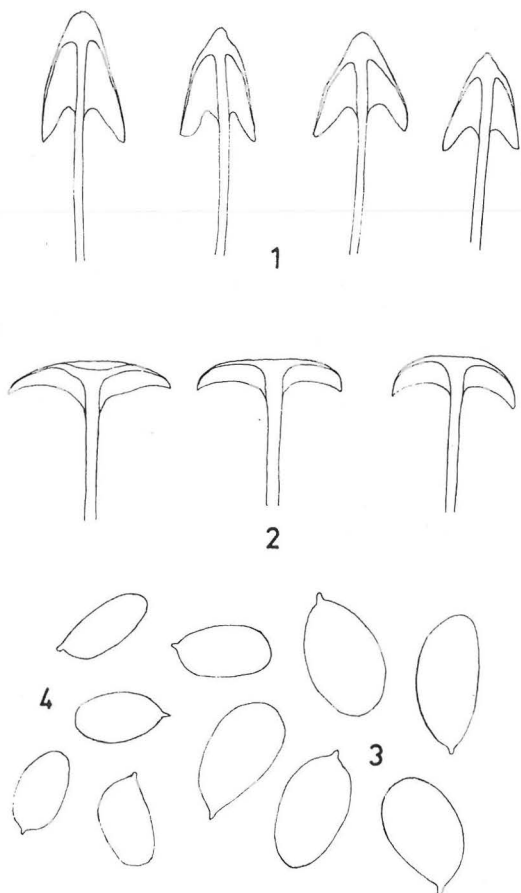


Fig. 3. *Mycena cineroides*: 1, pileus; 3 spores. *M. cinerella*: 2, pileus; 4, spores.

pale gray to whitish. Stipe 30—50 × 0.5—1.0 mm, equal or the base slightly enlarged, pale gray, when dry shining, fragile.

Spores 10—14 × 6—7  $\mu$ , ellipsoid, amyloid, basidia

2-spored. Cheilocystidia abundant, clavate to subcapitate 8—12 × 18—25  $\mu$ , apices covered with numerous rod-like projections, the cells of the lam-trama vesicular, about 35 × 65  $\mu$ . Epicutis thin, 10—15  $\mu$ , the uppermost hyphae with short diverticulae, hypodermis well differentiated, cells 70—130 × 15—30  $\mu$ , content pale gray, the remainder of parallel filamentous hyphae (diam. 4—7  $\mu$ ); oleiferous hyphae present.

U. Helsinki parish, Korso; Tuusula, Ruotsinkylä, Porvoo, Vessö; Hyvinkää (V.H.).

Occurs in mossy coniferous forests (VT, MT), often together with *M. cinerella*. In most cases they can be distinguished from each other already in the field by the shape of the pileus and the lamellae (fig 4).

*Mycena cinerella* Karsten

Kühner 1938, p. 368, Smith 1947, p. 366.

U. Tuusula, Ruotsinkylä; Helsinki parish, Korso; Sipoo (V.H.). — EH. Tammela, Mustiala (Karsten 1889).

Occurs in mossy coniferous and mixed forests, in particular in moist spruce stands. Appears usually late in the autumn after the first frosts, but is at that time very abundant in the neighbourhood of Helsinki.

*Mycena citrinomarginata* Gillet

Kühner 1938, p. 409. Smith 1947, p. 215.

Fairly common in rich coniferous and deciduous forests in summer and fall from Ahvenanmaa (Schulmann 1961) to Inari Lapland (Ivalo, Toloskoski, V.H.). Not mentioned by Karsten, but his *M. elegans* probably includes this species.

*Mycena clavicularis* (Fr.) Gillet

Kühner 1938, p. 361, Smith 1947, p. 429.

U. Helsinki, Pasila (R.T., H); Tuusula; Sipoo; Helsinki parish (V.H.). — EH. Vehkalahti, Summa (V.H.); Luumäki, Taavetti (V.H.). —

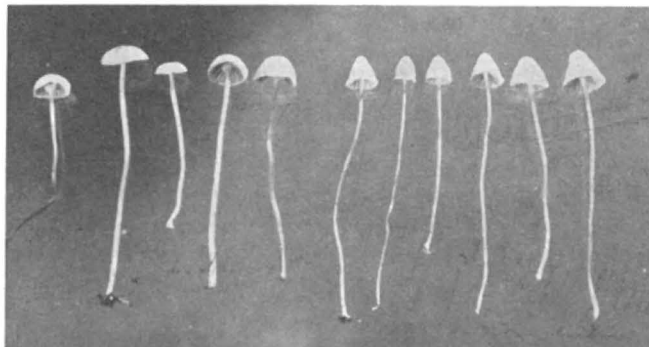


Fig. 4. Left: *Mycena cinerella*, right: *M. cineroides*.

EH. Urjala (Malmström 1960, p. 74, as *M. vulgaris*, H). Tammela (P.A.K., as *M. vulgaris*, H). — PS. Joroinen (V.H.). — PP. Rovaniemi: Ylinampa, Vikajärvi, Sinettä, Olkkajärvi (V.H.). — KemL. Sodankylä (V.H.). — InL. Inari, 9 km south of the village (V.H.).

On the basis of these collections, *M. clavicularis* seems to be one of the most common *Mycena*-species in Finland. It grows in dry pine forests among pine needles, moss and *Cladonia* often in great quantities from July to October but is usually most abundant in August. Some collections are from pine bogs (Pasila), and occasionally it is met with also in moister spruce forests. In August 1958 it was between Rovaniemi and Sodankylä in mossy forests the most abundant agaric. *M. clavicularis* is often confused with *M. vulgaris* and *M. pinetorum*, and probably for this reason it has not been earlier reported from Finland.

*Mycena corticola* (Pers. ex Fr.) S.F. Gray

Kühner 1938, p. 245.

U. Helsinki, Herttoniemi (Mikko Raatikainen, V.H.); Espoo, Tapiola (M. Korhonen). — St. Tyrvää (P.A.K., H). — EH. Tammela (P.A.K., H).

Grows on the bark of living deciduous trees (*Tilia*, *Acer* etc.) in late autumn or early winter.

*Mycena delectabilis* (Peck) Sacc.

Kühner 1938, p. 663, Smith 1947, p. 156.

A. Eckerö (Schulmann 1961, p. 29). — V. Tammisaari (ibid. p. 29). — U. Tuusula, Ruotsinkylä (V.H.).

Met with in Ruotsinkylä in a drained swampy spruce forest and found there during several years.

*Mycena delicatella* Smith

Syn. *M. lactea* (Fr. ex Pers.) sensu Lange

Kühner 1938, p. 645, Smith 1947, p. 161, Lange 1936, plate 53 F.

V. Merimasku (P.A.K.). — U. Nurmijärvi, Kiljava; Hyvinkää, Jäätinlinna; Helsinki parish, Korso (V.H.). — Sat. Tyrvää (P.A.K.). — EH. Tammela (P.A.K.). — EP. Pietarsaari (P.A.K.).

Occurs on needles under felling waste; two collections have been made in rich swampy forest. — Thesleff (1920) records *M. lactea* from »barrskog på öppna ställen, drifhus»; his collection in H from the latter biotope belongs, however, to the genus *Coprinus*. In Malmström's specimens (1960, p. 70) there are pleurocystidia present, probably belonging to *M. pseudolactea*, a species which I have not found in Finland.

*Mycena epipterygia* (Scop. ex Fr.) S.F. Gray

Very common at least in South and Central Finland north of Vaasa (Karsten 1889), Lapinlahti (Schulmann 1961) and Joroinen (V.H.). Occurs in moist woods of variable bonity with preference to places rich in felling waste and litter or rich in grass.

*Mycena epipterygia* var. *lignicola* Smith

Smith 1947, p. 428.

U. Tuusula, Ruotsinkylä; Hyvinkää, Jäätinlinna (V.H.). — EK. Vehkalahti, Summa (V.H.). — PS. Joroinen Keriniemi (V.H.). — InL. Ivalo, Toloskoski (V.H.). — In total 12 collections.

Occurs in spruce or mixed forests (often *Myrtillus*-type) in moss or emerging from rotten branches under moss carpet. This bisporous variety does not seem to be uncommon in Finland. It has not been earlier reported from Fennoscandia.

In Ruotsinkylä this species was found in 1956 growing in a moist spruce forest abundantly together with typical *M. epipterygia* and they were readily separable in field. In particular it is well characterized by its relatively small, umbonate, olivaceous brown pileus (Maerz & Paul 14 G 6 and paler), yellow base of the stipe and large spores (11—14 × 6—8 μ). The colour of the Finnish specimens agrees tolerably well with that described by Smith (1946) »citrine» to »dark citrine»; Ridgway's »citrine» is same as 14 L 6 in Maertz & Paul.

*Mycena epipterygia* v. *badiceps* M. Lge and *M. epipterygia* v. *brunneola* Favre are very near this fungus, but studies based on fresh material are needed before their identity with this fungus can be established.

*Mycena erubescens* Hohnel

Kühner 1938, p. 230, Smith 1947, p. 135.

V. Turku, Ruissalo, a group of basidiocarps on a rotten stump of *Quercus*. (V.H.). Specimens collected had abundant laticifers, granulous pleurocystidia and spores 10—11 × 6—7 μ from bisporous basidia.

*M. erubescens* has not been earlier reported from Finland. In Denmark it occurs according to Lange (1936) on stumps of oak and beech.

*Mycena fibula* (Bull. ex Fr.) Kühner.

Kühner 1938, p. 603, Smith 1947, p. 121.

Common north to Lapland (Karsten 1889). The northern-most collections are from Kola (P.A.K., H) and Sodankylä, Vaalajärvi (V.H.).

This species grows most often in moss in rich spruce swamps, occasionally in *Sphagnum* on shores of lakes or between *Polytrichum* etc. on sandy soil.

*Mycena flavo-alba* (Fr.) Quel.

Kühner 1938, p. 548, Smith 1947, p. 166.

According to Karsten (1889), Schullmann (1961) and my own observations fairly common in South and Central Finland. I have found it in North Finland from the following localities: PP. Rovaniemi, KemL. Sodankylä village; InL. Ivalo.

Occurs usually in small mossy meadows in woods, in grass in open forests, also in pure coniferous forests on needle beds.

*Mycena galericulata* (Scop. ex Fr.) S.F. Gray

Very common in South and Central Finland. The northernmost collections are from EP. Vaasa (P.A.K., Malström in H) and Kuolla (P.A.K., HMF).

Occurs almost exclusively on rotten wood of deciduous trees (*Alnus*, *Salix*, *Betula*). Only once have I found this species on coniferous (pine) wood in Hyvinkää, Jämsänlinna.

The colour of the gills varies greatly in different collections. In most cases they change their colour from whitish to reddish, but in some basidiocarps they become greyish. The spores of last-named pilei are slightly more elliptic than from reddish-gilled pilei ( $10.9-13.0 \times 6.2-7.8 \mu$  vz.  $9.3-11.7 \times 7.0-8.6$ ) and the cap is not so distinctly striate as that of the preceding form. Whether it is *M. rugosa* Fr., in which species gills become »ex albo cinereis» (Fries 1857, p. 208—209) and the firstnamed reddish-gilled *M. galericulata* Fr., in which gills turn »ex albo carneis», needs, however, further investigation.

*Mycena galopus* (Pers. ex Fr.) Kummer

Syn. *M. galopoda* auct.

Very common in moist coniferous forest with preference to small moist carpets of *Sphagnum* from June to October. The northernmost collections are from InL: Inari, Paaluniemi (TUR), Inari main village (V.H.) Sodankylä village (V.H.).

This species is regarded as rare by Karsten (1889) as well as by Rautavaara (1947); even Schullmann (1961) has met the typically coloured form only three times. However, a part of Karsten's collections of *M. debilis* in H belong to this species.

The colour of the cap varies greatly. Var. *leucogala* is not uncommon on burned areas and on peaty ground on ditches, tracks, etc. at least to Koli (R.T., H) in the north.

*Mycena gracilis* (Quel.) Kühner

Kühner 1938, p. 650.

U. Helsinki parish, Korso, one collection from a rich spruce swamp under ferns and herbs. It showed typical narrow spores ( $8.0-10.5 \times 2.0-2.5 \mu$ ), long decurrent gills and indistinct  $10-15 \mu$  long cheilocystidia. Not earlier recorded from Finland.

*Mycena griseoviridis* Smith

Smith 1947, p. 418.

U. Helsinki parish, Korso. One collection from mixed forest on the ground. The basidiocarps had cheilocystidia similar to those depicted by Smith (l.c.)

*Mycena haematopus* (Quel.) Kühn.

Kühner 1938, p. 219, Smith 1947, p. 140.

The main form as well as var. *marginata* are apparently fairly common at least in South and Central Finland on rotten twigs in soil, on logs and stumps, especially of deciduous trees. Karsten (1889) mentions this species from »Nyl. — Lapl.», and the northernmost locality known to me is InL: Ivalo, Toloskoski, where I found the variety *marginata*.

*Mycena inclinata* (Fr.) Quel.

Kühner 1938, p. 340, Smith 1947, p. 338.

V. Turku Ruissalo (P. Kallio, (TUR) M. Laurila (1939), V.H., Korppoo (Eklund 1943) U. Helsinki parish, Tammisto (V.H.)

In Finland known exclusively from rotten stumps of *Quercus* and its distribution seems to be limited to the oak region on the southern coast. In Central Europe it is also recorded from rotten wood of other deciduous trees, also occasionally on coniferous wood (Favre 1960). In H there is a collection labelled *M. inclinata* made by Karsten in Teisko in 1859, which is *M. viscosa*. However, *M. inclinata* is mentioned neither in »Mycologia Fennica» nor in »Kritiskt Öfversigt».

*Mycena iodiolens* Lundell

Syn. *M. vitilis* (Fr.) Ricken, *M. filipes* Lange

Kühner 1937, p. 298, Smith 1947, p. 285.

V. Turku, Muhkuri; Bromarv, Framnäs (V.H.) — U. Helsinki parish, Korso (V.H.)

Occurs in grass-herb forests (oak or other broad-leaved trees, occasionally under conifers), found also on garden soil emerging from small twigs buried in soil.

The odour of iodoform is not so strong as that of *M. metata*, but the species is well characterized by its hyaline hypodermis, which causes its colour change from gray-brown when moist into almost pure white when dried. Both two-spored and four-spored forms have been found.

*Mycena laevigata* (Lasch) Quel.

K ü h n e r 1938, p. 494, S m i t h 1947, p. 322.

Fairly common on old stumps and logs of conifers in summer and fall. Herbarium records confirm the opinion of K a r s t e n (1889) and R a u t a v a r a (1947), who state it as common to Lapland, where K a r s t e n has collected it in Kuolla and the author in Inari, Myösäjärvi.

One of K a r s t e n's collections of *M. lactea* belongs to this species.

*Mycena leptocephala* (Pers. ex Fr.) Gillet

S m i t h 1947, p. 241.

Common from south to KemL. Sodankylä (V.H.) and InL. Ivalo (V.H.) in moist deciduous forests, in rich swamps and alder thickets, sometimes on meadows in grass or in *Sphagnum*. The pileus is usually dark gray and always with a distinct »nitrous» smell. The size of the basidiocarps varies greatly, approaching to *M. praelonga* and *M. stannea*, but all specimens which I have found have had the characteristic smell at least when the flesh was crushed.

*Mycena longiseta* Höhnelt

K ü h n e r 1938, p. 173, S m i t h 1947, p. 57.

U. Tuusula; Helsinki parish; Porvoo, Sondby (V.H.). — EH. Juupajoki (V.H.). — PH. Jyväskylä parish (V.H.). — PS. Joroinen (V.H.). — PP. Rovaniemi (V.H.)

*M. longiseta* is according to my experience the most common species of the section *Basipedes* in Finland. It occurs in mixed and coniferous forests on moss, litter and pieces of rotten wood, often emerging from the uppermost litter layers. Despite the fact that it is well characterized by thickwalled setae on the pileus and stipe, it is not previously reported from Finland. However, it seems improbable that earlier mycologists had overlooked it but for lack of herbarium material it is impossible to decide which name they have used for it.

*Mycena luteoalcalina* Singer

S i n g e r 1931; p. 528, K ü h n e r 1938, p. 432.

Syn. *M. alcalina* Fr. *M. viridimarginata* v. *lutea* Favre?

U. Helsinki (P.A.K., as *M. alcalina*, H), Tuusula; Sipoo; Helsinki parish; Kerava; Hyvinkää (V.H.). — EH. Juupajoki, Hyttiälä (V.H.). — PS. Joroinen Keriniemi (V.H.). — PP. Rovaniemi town (V.H.). — KemL. Sodankylä (V.H.). — InL. Inari village (V.H.); Utsjoki Kevo (T u r.).

Common on old stumps and rotten logs of coniferous trees apparently in the whole country.

This species is characterized by its beautiful yellow

stipe, darker or lighter yellow-brown (centre 15 C 9 — margin 12 E 6) cap, fusoid-ventricose cystidia only on the edge, and by intercellular or membranaceous yellow pigment in the epicutis.

*M. luteoalcalina* has not been earlier reported from Finland. However, F r i e s included it in his *M. alcalina*, because he described his *alcalina* as having a yellow stipe comparable in colour with *M. epipterygia*. The concept of *M. alcalina* according to K ü h n e r and L a n g e refers to a distinctly different mushroom with gray vacuolar pigment in the hypodermis.

The edges of the lamellae are often bordered shortly on the distal part with the colour of the cap (which is mentioned by K ü h n e r and R o m a g n e s i 1953). Occasionally this bordering, especially in old carpophores turns greenish, thus approaching *M. viridimarginata* Karsten. At present I have not been able to find any other differences between this and the typical *M. luteoalcalina* except slightly more olivaceous pileus (disc 15 H 5—14 I 5—6, margin 13 H 6.)

*Mycena maculata* Karsten

K ü h n e r 1938, p. 334, S m i t h 1947, p. 341.

U. Tuusula, Ruotsinkylä; Helsinki parish (V.H.). EH. Tammela (P.A.K.).

Fairly common (26 collections) in the surroundings of Korso on rotten stumps of conifers.

*Mycena megaspora* Kauffman

K ü h n e r 1938, p. 329, S m i t h 1947, p. 296.

— U. Tuusula Ruotsinkylä; Helsinki parish; Kerava; Sipoo Spjutsund (V.H.). — EK. Hamina town (V.H.). — EH. Loppi, Pilpala (V.H.) — PS. Joroinen, Lahnahti (V.H.) — InL. Utsjoki, Vetsikko (V.H.)

All my 12 collections are made from peaty soil, e.g. dry pine bogs, drained spruce swamps, often beneath paths or drainage ditches. Both F a v r e (1948) and S m i t h (1947) report this species from swampy soil.

I had this species in pure culture on *Picea* wood in a 500 cm<sup>3</sup> bottle. It produced after a year some typical dark-coloured basidiocarps and some others 18 months after inoculation, which, however, were all sterile. In addition to other morphological characteristics (spore size, pseudorhiza) this indicates that *M. megaspora* is distinct from other species of the *Rigipedes*-group.

*Mycena metata* (Fr. ex Fr.) Kummer

Syn. *M. vitrea* v. *tenella* Kühner, non *M. metata* Kühner.



Kühner 1938 p. 289, Smith 1947, p. 272.

Very common in South and Central Finland in moist and dry coniferous forests. The northernmost collections are from KemL. Sodankylä, Vuotso (V.H.).

Characteristic by more or less pronounced reddish colour of the pileus, fairly evenly distributed dark pigment in the cap trama and by its odour, which after specimens have been gathered, becomes reminiscent of iodoform.

*Mycena mirata* (Peck) Sacc.

Kühner 1938, p. 282, Smith 1947, p. 113.  
V. Turku, Ruissalo (V.H.), one collection growing on a mossy log of *Quercus*.

*Mycena niveipes* Murrill

Syn. *M. pseudogalericulata* Lge

Kühner 1938, p. 485, Smith 1947, p. 310.  
A. (Schulmann 1961). — V. Tammisaari (Schulmann 1961); Ruissalo (V.H.); Pyhäjärvi U.I. (V.H.). — U. Tuusula and Helsinki parish (V.H.). — EK. Parikkala (Schulmann 1961). — PS. Joroinen (V.H.); Lapinlahti (Schulmann 1961). — InL. Ivalo, Toloskoski (V.H.).

Fairly common from June to October, particularly in alder woods on rotten twigs, stumps or on soil.

*Mycena oregonensis* Smith

Smith 1947, p. 117—118.

Notes on Finnish material: Pileus 5—8 mm, with a distinct umbo, bright orange yellow, lamellae decurrent, edge orange, stipe fragile, pale yellow, hairy. Sp. 7.5—9.0 × 3—4  $\mu$ , cheilocystidia fusoid-ventricose, content yellow, pleurocystidia abundant, yellow. Epicutis thin, diverticulate, caulocystidia similar to cheilocystidia, abundant.

Met with only in one locality: U. Sipoo, Myyras, abundant during three years in a fern-rich swampy spruce forest among moss and litter.

*Mycena parabolica* (Fr.) Quel.

Smith 1947, p. 302.

U. Helsinki parish, Korso, several collections. (V.H.).

On rotten twigs or logs in moist forests.

The shape of cheilocystidia is quite variable and intergrades sometimes into that of *M. alcalina*, which may have roughened cystidia on the distal end of the lamellae.

*Mycena pearsoniana* Dennis ex Singer

U. Tuusula, Ruotsinkylä (V.H.).

Met with in moist *Alnus glutinosa*-swamps and grass-herb forests.

*Mycena polygramma* (Bull. ex Fr.) S. F. Gray

Kühner 1938, p. 498, Smith 1947, p. 292., A. Lemland (Stenlid 1947). — V. Turku, Ruissalo (P.A.K.), Muhkuri (V.H.); Bromarv, Framnäs (V.H.); Karjalohja (M. Laurila 1939), Korppoo (Eklund 1943). — U. Helsinki, Öster-sundom (V.H.). — EH. Tammela (P.A.K., H).

Seems to be restricted to oak woods and luxuriant grass-herb forests, where it grows on naked humus earth or around stumps and leaf-heaps.

*Mycena pseudocorticola* Kühner

Kühner 1938, p. 243.

U. Espoo. Otaniemi, 8.XII 1960 on bark of deciduous trees (M. Korhonen); Helsinki, Herttoniemi (V.H.).

*Mycena pterigena* (Fr. ex Fr.) Kummer

U. Helsinki (R.T., H); Tuusula and Helsinki parish (V.H.). — St. Kankaanpää (M. Laurila, H). — EH. Messukylä (P.A.K., H); Tammela, Mustiala (P.A.K., H).

Found exclusively on old leaves of ferns (*Athyrium filix-femina*, *Dryopteris spinulosa* and *Matteuccia struthiopteris*).

*Mycena pura* (Pers. ex Fr.) Kummer

Very common in moist and particularly in grass-herb forests (OMT) from June to October. According to Karsten common to Lapland, where I have found it in Inari.

*M. pura* v. *alba* is met with once in a rich alder stand in Helsinki parish, Rekola.

*M. pura* v. *rosea* Schum.—V. Bromarv, Framnäs, 28.X.1958, in a oak wood among leaf litter.

*Mycena purpureofusca* (Peck) Sacc.

Smith 1947, p. 209.

U. Tuusula, Ruotsinkylä (V.H.) — PS. Joroinen, Keriniemi (V.H.)

Found on old logs in moss and on alder stumps. — The colour of the cap of my specimens was M. & P. 6 F-G 8, the margin 4 F 8. The material present, however is too small to distinguish between *M. elegantula* Peck and this fungus.

*Mycena rigidula* Karsten

Symb. ad Mycol. Fenn. VI.

U. Tuusula, Hyrylä (V.H.). — EH. Tammela (P.A.K.).

The carpophores found by me were growing in a felling area among lumbering remains, leaf litter and wood chips. Pileus was shining gray when dry, spores 7.0—8.5  $\mu$ , spherical, basidia 4-spored. They differed from Karsten's description by having a dark stipe (according to Karsten,

white). *M. salicina* Vel. (Kühner 1938, p. 620) is very close to this fungus differing mainly by having 2-spored basidia. Unfortunately, there are no Karsten's collections left to decide the number of spores in them. I have used Karsten's name mainly because of the conspicuously shining surface of the pileus, which Karsten emphasizes, and the discrepancy in the number of spores borne in basidia in *M. salicina*.

*Mycena rorida* (Scop. ex Fr.) Quel.

Fairly common, often already in June in moss in coniferous forests, often emerging from rotten branches of small twigs of dwarf shrubs. Karsten (1889) reports this species as common from Uusimaa to Lapland and the northernmost collections are from Kuolla (P.A.K.), Inari village and Kaunispää, 350 m s.m. in a sub-alpine birch forest (V.H.)

*Mycena rosella* (Fr.) Kummer

According to Karsten (1889) common from south to Vaasa (EP) and Schulmann has found it in Parikkala (ES). Found in the neighbourhood of Helsinki in moist coniferous forests in most cases under pine.

*Mycena rubromarginata* (Fr. ex Fr.) Kummer

N. Helsinki parish and Tuusula (V.H.). — EH. Tammela (P.A.K.). — PS. Joroinen (V.H.).

Probably common in South Finland, but it has been confused with *M. capillaripes*. Characteristic of this species is its occurrence on small rotten branches or logs of conifers, more rarely on old stumps.

*Mycena sanguinolenta* (Alb. & Schw. ex Fr.) Kummer

Common from south to KemL. Sodankylä village (V.H.). Gregarious in moist coniferous forests (MT-OMT) and in swampy spruce forests from July to October.

*Mycena speirea* (Fr.) Gillet

Kühner 1938, p. 582, Smith 1947, pp. 359—360.

U. Tuusula and Kerava (V.H.). — InL. Ivalo, Toloskoski (V.H.).

Met with in rich swampy forests under ferns or in moist herb-rich forests on rotten pieces of wood in summer and fall.

*Mycena strobilicola* Favre & Kühner

Kühner 1938, p. 461.

V. Vihti (R.T., H); Parainen (M. Korhonen). — U. Helsinki (R.T.); Espoo (R.T.); Tuusula (V.H.). — EH. Hattula (L. Hakala, H).

Occurs on rotten cones of spruce in the spring.

It seems in the light of the present material to be clearly distinct from *M. alcalina* and *M. plumbea* by its undifferentiated hypodermis and more yellow-brown colours.

*Mycena stylobates* (Pers. ex Fr.) Kummer

Kühner 1938, p. 186, Smith 1947, p. 53.

V. Merimasku (P.A.K.). — U. Tuusula and Helsinki parish (V.H.). — EH. Tammela (P.A.K.). — ES. Konnunsuo (P.A.K.). — KK. Jääski (P.A.K.). — Lp. Kola (P.A.K.).

Occurs in moist forests on litter, pieces of wood, particularly under heaps of branches etc.

*Mycena Swartzii* (Fr.) Smith

Met with in grass-herb forests, often in *Rhodybryum*, and is common in the South and Central Finland, the northernmost collection is from Sodankylä, Vaalajärvi (V.H.).

*Mycena tintinabulum* (Fr.) Schroeter

Kühner 1938, p. 337

V. Tammisaari (Schulmann 1961, p. 26, H).

*Mycena urania* (Fr.) Gillet

Kühner 1938, p. 310, Smith 1947, p. 270.

U. Helsinki parish; Tuusula (V.H.). — KemL. Rovaniemi, near airport (V.H.). — InL. Ivalo, Toloskoski (V.H.).

Collected in drained spruce swamps, mixed birch-spruce forests (MT), in *Larix* plantations and once in a dry pine plantation (VT). Both Kühner and Smith (l.c.) mention this species from swampy forests in moss and on leaf litter. It is not earlier recorded from Finland.

*Mycena viscosa* (Secr.) Maire

Kühner 1938, p. 351, Smith 1947, p. 421.

A. Lemland (Stenlid 1947) — U. Tuusula, Ruotsinkylä; Helsinki parish (V.H.). — EH. Teisko (P.A.K., H).

Fairly common near Helsinki on the base bark of living spruces or on stumps, probably also elsewhere in South Finland.

*Mycena vitilis* (Fr.) Quel.

Kühner 1938, p. 504, Smith 1947, p. 288.

V. Turku, Ruissalo and Muhkuri (V.H.). — U. Tuusula, Ruotsinkylä; Porvoo, Tamminiemi (V.H.). — PS. Joroinen, Keriniemi (V.H.).

Met with in broad-leaved or mixed grass-herb forests, in drained spruce swamps etc., often emerging from rotten pieces of wood buried in soil.

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#### LITERATURE

- Eklund, O., 1943: Zur Pilzflora des Schärenarchipels SW-Finnlands. — Mem. soc. Fauna et Flora Fennica 18, 2—21.
- Favre, Jules, 1948: Les associations fongiques des haut-marais Jurassiens et de quelques régions voisines. — Matériaux pour la flore cryptogamique Suisse, 10:3, 1—228.
- »— 1960: Catalogue descriptif des champignons supérieurs de la zone sub-alpine du parc national Suisse. — Erg. der wiss. Untersuchungen der Schw. Nationalparks 6 (neue Folge), 1—610.
- Frey, R., 1944: Några anteckningar om basidsvampfloran på Åland. — Mem. Soc. Fauna et Flora Fennica 19, 9—16.
- Fries, Elias M., 1857: Monographia Hymenomycetum Succiae I. — 484 pp. Upsaliae.
- Karsten, P. A., 1879: Rysslands, Finlands och den skandinaviska halföns hattsvampar. — 571 pp.
- »— 1889: Kritisk öfversigt af Finlands basidsvampar. — Bidr. till kännedomen af Finlands natur och folk 48, 1—470.
- Kühner, Robert, 1938: Le genre Mycena. — Encycl. Mycol. 10, 1—710.
- »— & H. ROMAGNESI, 1953: Flora analytique des champignons supérieurs. — Paris, 1—557.
- Lange, J. A., 1936: Flora Agaricina Danica, vol. II, 1—105 + 40 plates. Copenhagen.
- Lange, Morten, 1948: The agarics of Maglemose. — Dansk Bot. Arkiv. 13:1, 1—141.
- Laurila, Matti, 1939: Basidiomycetes novi et rariorum in Fennia collecti. — Ann. Bot. Soc. Zool.-Bot. Fennia »Vanamo» 10, 4: 1—24.
- Lundell, Seth & J. A. Nannfeldt, 1942: Fungi exsiccati Suecici, praesertim Upsaliensis. — 44 pp. Upsala.
- Maertz, A. & M. Rea Paul, 1950: A Dictionary of color. — 208 pp. New York.
- Malmström, N., 1960: Tutkielma Lounais-Hämeen sienistä v. 1958. — Lounais-Hämeen Luonto 8, 65—81.
- Rautavaara, T., 1947: Suomen Sienisato. — 534 pp. Porvoo.
- Schulmann, O. v., 1961: Zur Kenntnis der Basidiomyceten Finnlands. — Karstenia V, 5—99.
- Smith, Alexander H., 1947: North American species of Mycena. — 521 pp. Ann Arbor.
- Stenlid, G., 1947: Några anteckningar om Ålands svampflora. — Mem. Soc. Fauna et Flora Fennica 23, 82—90.
- Thesleff, A., 1920: Studier öfver basidsvampfloran i sydöstra Finland. — Bidr. till kännedomen af Finlands Natur och Folk 79, 1—140.
- Tuomikoski, Risto, 1953: Notes on Finnish Agaricales. — Karstenia 2, 26—32.