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# Notes on two rare Lactarius species

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Moser, M. and Kirchmair M. (2001): Notes on some Lactarius species.– Czech Mycol. 52: 317–322

The nordic species *Lactarius hysginoides* is reported for the first time from Austria. A description is given of the rare *Lactarius fascinans* based on topotypic material and a neotype is proposed.

**Key words**: Austria, *Lactarius hysginoides, L. fascinans*

Moser M. a Kirchmaier M. (2001): Poznámky ke dvěma druhům rodu Lactarius. – Czech Mycol. 52: 317–322

Severský druh *Lactarius hysginoides* je uváděn poprvé z Rakouska. Je uveden popis vzácného druhu *Lactarius fascinans* založený na materálu z lokality typu a je navržen neotypus.

***Lactarius hysginoides*** Korhonen et Ulvinen found in Austria

Fig. 1 above, fig. 2 a, fig. 3 a-c
Illustr.: Korhonen, 1984, p. 140 below, Heilmann-Clausen et al. 1999 p. 67

During a spring foray with students M. Kirchmair found a group of Lactarii, which were unknown to us, although we have collected in this area since many years. The examination led to the conclusion that it corresponds well with *Lactarius hysginoides* Korhonen et Ulvinen. This is remarquable, as this fungus is hitherto known only from Scandinavian countries.

Pileus 35–85 mm diam., centre depressed, at first margin involute, later straight or somewhat lobed, surface rather mat, pruinose to slightly rugose (lens!) hardly or only slightly viscid, gray-brown with slight reddish tinge, between milk-cocoa and milk-coffee brown, Sayal Brown (R), toward the disc paler, but much paler than Snuff Brown (R), in some specimens with traces of an indistict, slightly darker zonation. – Lamellae cream coloured to ochraceous, close to subdistant, slightly decurrent, medium broad, with lamellulae. – Stipe 25–45 × 10–20 mm, compact but later becoming hollow, pale grayish-brown to buff with paler and darker areas

(but not guttulate) – Context whitish to pale buff, pale pinkish buff. Milk watery white, not changing colour on drying. Odour not distinctive, taste mild, after some time slightly acrid and finally bitterish.

Microscopic characters: Spores 6.2–7–8 × 5.5–6.5 $\mu$m, av = 6.8 ± 0.4 × 6.1 ± ± 0.26 $\mu$m, Q = 1.1–1-125, av 1.17 ± 0.05, vol = 99–169 $\mu m^3$, av = 132.5 ± ± 17 $\mu m^3$, with reticulation and isolated warts. Basidia 4-spored, clavate, 35–45 × 8–10 $\mu$m, cheilomacrocystidia 45–80 × 6–9 $\mu$m, fusoid, lanceolate. bottleshaped, apex often encrusted, pleuromacrocystidia 45–70 × 6–8 $\mu$m, pseudocystidia 70–90(-100) × 5–7 $\mu$m. Pileipellis more an ixocutis than an ixotrichoderm, corresponding well to the figure given by Korhonen & Ulvinen (1984)

Habitat: Meadow margin near *Picea*. Coll. IB 2000/0013, between Poduler-pond and Dürenberger moss. Grebenzen, near Mariahof, distr. Murau, Styria, Austria, 17 Jun 2000 leg. M. Kirchmair.

Comments: This species has certainly been overlooked before in Austria and may have been misidentified as *L. trivialis* or any other species. But *L. trivialis* differs by more uniform colours, and very acrid taste. *L. hysginus* is more redbrown, has an aromatic odour (cossus odour) and the taste is immediately very acrid. *L. pyrogalus* grows with *Corylus*, the gills are very distant and deep ochraceous from the beginning and the taste is very acrid, the colours of the pileus more gray-brown or olivaceous gray.

## The interpretation of ***Lactarius fascinans*** (Fr.: Fr.) Fr.

Epicrisis: 336, 1838.
Fig. 1 below, fig. 2b, fig. 3 d-f
Illustr. Moser-Jülich, IV *Lactarius* 21 below., Basso (1999) p. 169.

The concept of this species was often debated. In recent time Korhonen (1984) synonymized *L. fascinans* ss. Moser with *L. utilis* Weinm. Moser (1994) reported on a collection from the type locality at Femsjö. Heilman-Clausen et al. (1999) did not know the species but doubted a synonymie with *L. utilis*. Basso (1999). follows our concept based on our Femsjö material and two collections from Italy. As this taxon is still badly known to most mycologists we think it useful, to give a detailed description of the Femsjö material.

The species was first observed in 1979 during an excursion in company with D. Lamoure and A. Wood. When we came out from the forest near Yaberg, we found on a mossy meadow margin a fairy ring of about 40 fruit-bodies of

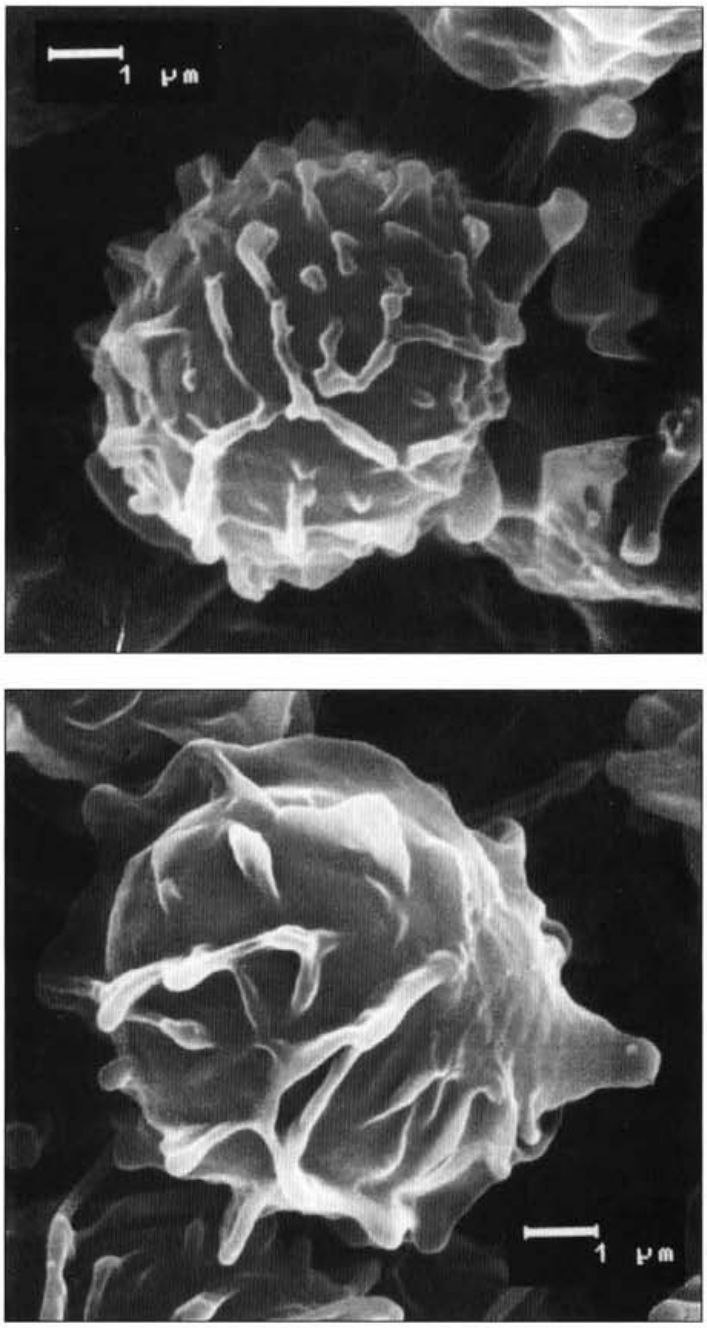


**Fig. 1.** Basidiospores in SEM of: *Lactarius hysginoides* (above). b. *Lactarius fascinans* - (below).

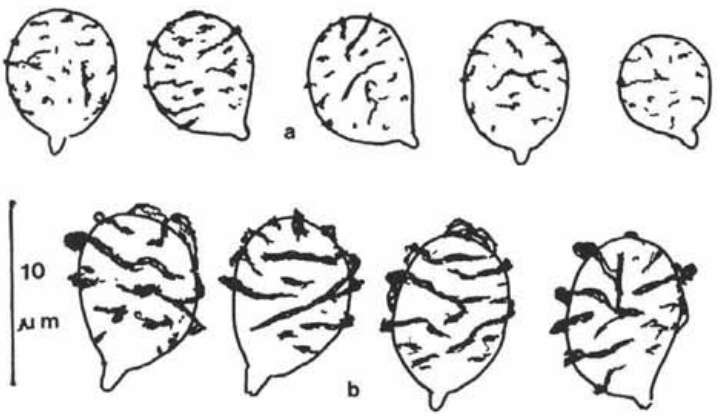


**Fig. 2.** Basidiospores of: a. *Lactarius hysginoides*. b. *Lactarius fascinans*.

a *Lactarius* which was unknown to us. Coming back from the excursion the senior author studied immediately Fries' Monographia Hymenomycetum Sueciae and came to the conclusion, that this fungus must represent *L. fascinans*. It was surprising, that Fries mentioned two localities, where he had collected this species Stubbebo and Yaberg, the latter beeing the place where we had found our record. This place was ploughed in 1980 and used as field for few years. Only two fruit-bodies were observed there in 1980. The following years I could not find it again, however, I may have missed the correct time. But 1998 I visited the place again, and the mycelium seemingly had recovered. Fruit bodies were observed again. Even this observations during a period of twenty years point to a longevity of the mycelium. So it may also have survived in the area since the time of Fries.

Pileus 5–8-(10) cm diam, irregularely convex, later centre depressed, margin convex or later upbent and mostly more or less undulate, in moist condition viscid to slightly glutinous, at first with grayish buff to beige buff colours, generally the centre beige, Caill 69L. 67L, the margin 70L, the very centre sometimes pale brownish 65L , 57M (slightly paler), often also with whitish areas, with age starting from centre becoming bown, Expo 57N, Ochraceous Tawny (R), or Mikado Brown (R), margin and spots covered by leaves remaining buff. Pinkish Buff (R) to Pale Pinkish Buff (R) Small margin involute, very pale, relatively thin-fleschy, surface often slightly wrinkled-tuberculate, under lens innate-fibrillose-reticulate. – Lamellae at first pale beige, argillaceous, Pale Pinkish Buff (R), Pinkish Buff (R) or Pinkish Cinnamon (R), Caill 70K, later darker and more dingy, Caill 59M, with age also becoming somewhat brownish, somewhat paler than 57N, somewhat decurrent at the stipe, some forked, close, L = 80–100, l = 0–1–3, relatively

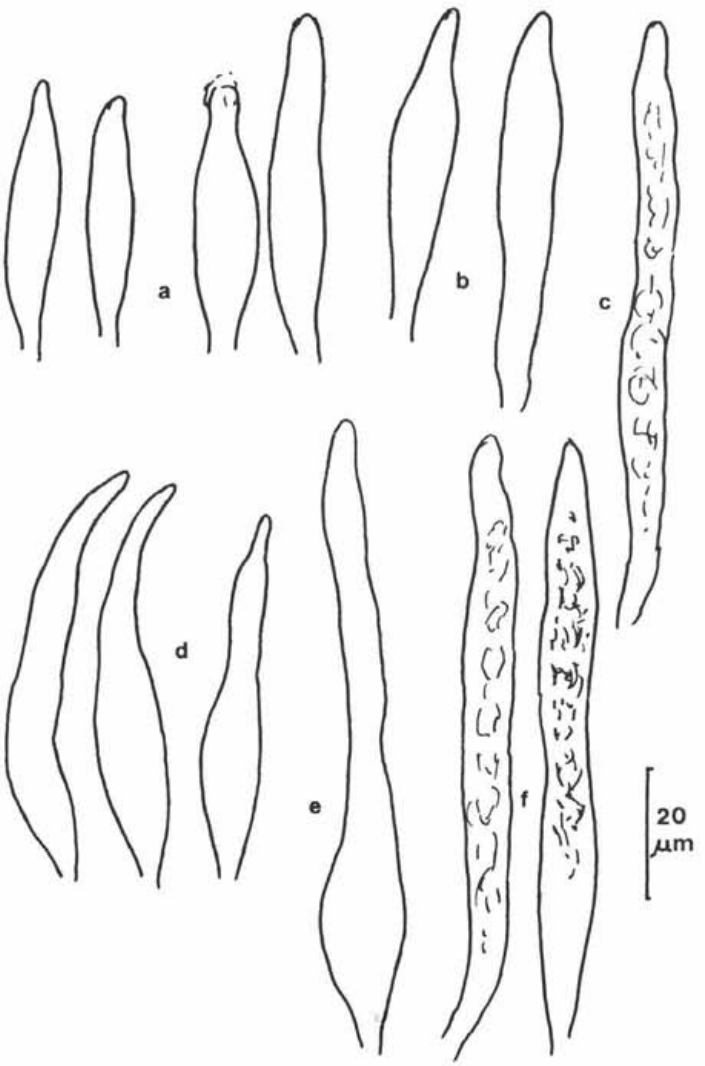


**Fig. 3.** a–c: *Lactarius hysginoides*: a. Cheilomacrocystidia. b. Pleuromacrocystidia. c. Pseudocystidium. – d–f: *Lactarius fascinans*: d. Cheilomacrocystidia. e. Pleuromacrocystidia. f. Pseudocystidia

narrow, 3–6(7) mm wide, ( corresponding to 1–2× pileus context), 13–15/cm at margin, edges entire. – Stipe 3–7.5 cm long, 8–30 mm thick, cylindric to irregularely torulose, concolorous to the gills, pale beige, Pale Pinkish Buff (R), Caill 71K to 70K, sometimes becoming brownish near apex or base or with some brown spots,. Caill or paler than 57N, hollow toward the base, in upper half stuffed. – Context

argillaceous, beige pale. Caill 71K or paler, becoming slightly brownish when cut, in spots also darker brown. Latex white, not changing colour when drying. – Odour not distinctive. Taste mild at first, after longer time acrid, sometimes very acrid.

Chemical reactions: Latex with KOH orange, context with NAOH yellow-brown, on pilepellis brown. Phenol wine-red after 5 minutes or more, Guaiac negativ (after 5 or more minutes greenish)

Microscopic characters: Spores subglobose, 6.7–8.8 × 5.3–7.1 $\mu$m, av 7. ± 0.5 × 6.4 ± 0.4 $\mu$m, Q = 1.1–1.3, av 1.2 ± 0.05, vol. 104–230 $\mu m^3$, av = 162 ± ± 29 $\mu m^3$, ornamentaion of strong ridges up to 1.5 $\mu$m high, often more or less concentric, but also some forked or reticulate, some warts in between. Basidia clavate to slightly ventricose, 35–40 × 8–9 $\mu$m, 4-spored. Cheilomacrocystidia lanceolate, sometimes somewhat strangulate, 45–65 × 6–8 $\mu$m, pleuromacrocystidia similar, more slender, 70–80 × 7–8 $\mu$m, pseudocystidia 60–100(-110) × 5–8 $\mu$m, slender. Gill trama with sphaerocysts, 7–23 $\mu$m diam, hyphae 4–8.5 $\mu$m. Pileipellis an ixotrichoderm.

Ecology. The species seems to be associated with *Fagus,* often on margins of meadows. At the collecting site in Femsjö also *Quercus, Betula, Populus* and *Picea* were nearby. Fries mentioned also Stubbebo as collecting area. This is a place with beech and it is even one of the five beech areas listed by Fries from the Femsjö region. Our collection from Upper Austria (84/258) too was growing on a meadow margin under *Fagus sylvatica.* Basso (1999) cites two collections from Italy, both collected on meadow margins with *Fagus.*

Collections examined: IB 79/466 (neotype, selected here) Femsjö, Yaberg, 4 Sept 1979, leg. M. Moser, IB 80/401, same locality 22 Sept 1980, leg. M. Moser, 1998/201, same locality, 19 Sept 1998, leg. M. Moser.– 1984/258, Grünfleck, Mühldorf near Scharnstein, Upper Austria, 2 Okt 1984, leg. M. Moser

Comments: This species was often confused with *L. trivialis* or *L. utilis.* There are, however, clear differences. One is the habitat. The species seems to be associated with *Fagus.* At Yaberg the fungus was growing near beech, although there was also *Quercus*, *Populus* and *Picea* in the vicinity. Fries describes the habitat in Systema (1821) as "in pratis muscosis subnemoribus" in Monographia (1863) "in pratis muscosis nemorosis". In the area of Femsjö such habitats are pastures or groves with isolated birches, beeches, poplars and some shrubs but certainly not conifer forests. Fries mentioned two localities: Yaberg and Stubbebo. The latter was at Fries time and is still an area with beech. The only Austrian record was growing on a meadow margin with beech and the two records listed by Basso from Italy are also medows with beech. Already this excludes an occurence further north of the northern limit of the beech area, i.e. in southern Småland. Another

distinctive character is the spore ornamentation with strongly developed, often concentric ridges. This and the other characters place the species in the vicinity of *L. pallidus*. Fries compares the habitus of the species with *L. trivialis* and emphasizes the unchanging, white latex, the tardive acrid, later very acrid taste. The colour he calls: "E fusco testaceo" (Epicrisis), "testaceo-fuscus, expallens, in ambitu dilutior" ( Monographia). The spore ornamentation distinguishes the species easily from *L. utilis*, also the pale colours in marginal and occasionally also more central areas. A number of specimens from our collections resembled somewhat *L. fascinans* sensu Neuhoff. It is however impossible to decide what Neuhoff had in hands as he gives no microscopic characters and his material has been lost during the war. Very likely he had *L. utilis* or older stages of *L. trivialis*. All our collections from before 1979 determined with the help of the work of Neuhoff turned out to be either *utilis* or old *trivialis*. *L. pallidus* is a very common fungus associated with *Fagus* and has more uniform pinkish-brown or pinkish buff colours, pale cream to pinkish buff gills, a white latex which becomes pale pinkish buff on drying. *L. musteus* has also some similarity, but grows mostly under pine among *Calluna* and often with *Cladonia*.

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