

## Type studies in *Clitocybe* 4.

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The author has scrutinized the holotypes of *Agaricus anisarius* Peck, *A. carnosior* Peck, *Clitocybe phyllophiloides* Peck, *C. pusilla* Peck, *C. schulmannii* Harmaja, and *C. subfumosa* Bigelow. The three first-named are synonymous with other agaric species, while the last three are valid but are excluded from *Clitocybe* (Fr.) Staude. The following new combinations are made: *Calocybe pusilla* (Peck) Harmaja, *Lyophyllum schulmannii* (Harmaja) Harmaja, and *Omphalina subfumosa* (Bigelow) Harmaja.

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*Agaricus anisarius* Peck, New York St. Mus. Rep. 32: 26. 1879. — *Clitocybe odora* var. *anisaria* (Peck) Peck, New York St. Mus. Bull. 157: 66. 1912. — Holotype examined: U.S.A., New York, Saratoga Co., Gansevoort, Aug., leg. C.H. Peck (NYS). — It is fairly clear that the protologue refers to *Lepista odora* (Fr.) Harmaja (*Clitocybe odora*), and Peck himself later associated his taxon with this species. My microscopic study of the type specimen confirmed that it is conspecific with *L. odora*. The spore wall was weakly to moderately cyanophilic. My conclusion agrees with that of Bigelow (1965): *Agaricus anisarius* is a synonym of *Lepista odora*.

*Agaricus carnosior* Peck, New York St. Cab. Rep. (Bot. ed.) 23: 76. 1872. — *Clitocybe carnosior* (Peck) Sacc., Syll. fung. 5: 146. 1887. — Holotype examined: U.S.A., New York, West Albany & Sandlake, leg. C.H. Peck (NYS). — The type is a typical *Clitocybe clavipes* (Fr.) Kumm., both macroscopically and microscopically. The spore wall is cyanophobic. Like Bigelow (1965), I consider that *Agaricus carnosior* is a synonym of *Clitocybe clavipes*.

*Clitocybe phyllophiloides* Peck in House, New York St. Mus. Bull. 176: 19. 1915. — Holotype (?) examined: U.S.A., New York, Constableville, 21.IX.1911, leg. C.H. Peck (NYS). — The protologue only mentions one collection, likewise of Peck and from Constableville, but collected on

September 19, 1911. The stipe bases are connected by the basal tomentum with what appears to be spruce needles. The specimen clearly represents *Lepista diatreta* (Fr.) Harmaja (*Clitocybe diatreta*). The envelope contains a note, obviously written in Peck's hand, which states that the taste is farinose, but such an observation is erroneous since actually *L. diatreta* does not have any distinct taste. The spore wall is weakly cyanophilic. Conclusion: *Clitocybe phyllophiloides* is a synonym of *Lepista diatreta*.

*Clitocybe pusilla* Peck, Bull. Torrey Bot. Club 22: 199. 1895. — Holotype examined: U.S.A., California, Pasadena, in manure, 15.II.1895, leg. (apparently) A.J. McClatchie (NYS). — This fungus greatly resembles *Clitocybe candicans* (Fr.) Kumm. when dry, and no doubt also did so when fresh. However, there is often a narrow pointed papilla in the pileus centre. The main observations made during microscopic study of the type were as follows. The gill trama is regular, clamps being present. The basidial wall is cyanophobic and carminophobic, but the basidia contain granules which are both weakly cyanophilic and weakly carminophilic. The spore wall is hyaline, smooth, weakly cyanophilic and weakly carminophilic. The spore nuclei did not absorb acetocarmine; their number is not yet known. The spores are small, ca.  $4.0-4.5 \times 2.8-3.2 \mu\text{m}$ , mostly  $\pm$  ellipsoid, some obovoid. These characters place the species in the genus *Calocybe* Kühn. ex Donk. It seems to be distinguished from the other species of

that genus by its macroscopic appearance and the substrate on which the fruit bodies grow. Conclusion: *Clitocybe pusilla* is a valid species of the genus *Calocybe*, and the following new combination is made: ***Calocybe pusilla* (Peck) Harmaja n.comb.** (*Clitocybe pusilla* Peck, Bull. Torrey Bot. Club 22: 199. 1895).

*Clitocybe schulmannii* Harmaja, Karstenia 10: 112. 1969. — Holotype and isotype examined: Finland, Uusimaa, Tammisaari, 11.X.1957, O.v. Schulmann (H; isotype MICH). — The types of the *Clitocybe* species described by me (Harmaja 1969) were recently re-examined by myself with a more refined acetocarmine method than that used before: the mount was provided with an extra supply of iron ions by handling the acetocarmine with an iron needle. The new results deviated from those of the earlier acetocarmine tests only as concerns the type of *C. schulmannii*: the basidia were found to contain coarse, strongly carminophilic granules, and the spore wall is weakly carminophilic. The spores were observed to be uninucleate. These observations together with the other characters of the fungus (Harmaja 1969), show that the species belongs to *Lyophyllum* Karst. (incl. *Tephrocybe* Donk). However, it is difficult to tell in which species group within the genus the species should be placed. For the other characters of the species, consult Harmaja (1969). Conclusion: *Clitocybe schulmannii* is a valid

species of the genus *Lyophyllum*, for which reason the following new combination is made: ***Lyophyllum schulmannii* (Harmaja) Harmaja n.comb.** (*Clitocybe schulmannii* Harmaja, Karstenia 10: 112. 1969).

*Clitocybe subfumosa* Bigelow, Mycologia 50: 49. 1958. — Holotype (part) examined: U.S.A., Michigan, Livingstone Co., Pinckney, George Reserve, University of Michigan, 10.VIII.1935, leg. A.H. Smith 1777 (MICH). — The taxon, which is well described in the protologue is clearly a distinct species and belongs to the genus *Omphalina* Quél. In addition to the characters given in the protologue, I found the spore wall cyanophobic. Conclusion: *Clitocybe subfumosa* is a valid species of the genus *Omphalina*, and the following new combination must be made: ***Omphalina subfumosa* (Bigelow) Harmaja n. comb.** (*Clitocybe subfumosa* Bigelow, Mycologia 50: 49. 1958).

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