

# Singerella n. gen., a separate genus for *Clitocybe hydrogramma*

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HARMAJA, H. 1974: *Singerella* n. gen., a separate genus for *Clitocybe hydrogramma*. — *Karstenia* 14: 113—115.

*Clitocybe* (Fr.) Staude subg. *Clitocybe* sect. *Bulluliferae* (Sing.) Harmaja (*Agaricales*) is considered to deviate so much from the rest of the genus *Clitocybe* that a new genus, *Singerella* Harmaja, with *Agaricus hydrogrammus* Fr. as the type, is proposed for this single valid species of the section. The most important distinguishing character of the section *Bulluliferae* is the presence of peculiar vesicles in the hyphae of the epicutis (and mostly also in those of the cortex of the stipe), here called »intercalary dermatochrysocystidia», which are lacking in the other species of *Clitocybe*, and are probably also absent from the remainder of the *Agaricales*. They somewhat resemble the normal terminal chrysocystidia present in certain dark-spored genera. The second distinctive character is in the spores, some of which possess confluent bases. The odour of the species is almost unique in *Clitocybe*. Certain characters not reported before, such as responses to cotton blue of certain parts of the fruit body of the species in question, are given. The synonymy of *A. hydrogrammus* is given, two new synonyms of the species being included, resulting to the expansion of the area of this species to the southern hemisphere. One new combination becomes necessary: *Singerella hydrogramma* (Fr.) Harmaja.

The section *Bulluliferae* Sing. of *Clitocybe* (Fr.) Staude was erected by SINGER (1943) because of the curious inflated elements of the hyphae of the epicutis and stipe cortex of *Clitocybe hydrogramma* (Fr.) Kumm., the type and only species of the section (this species was, however, given as »*C. kuehneri* Sing., nom. nov.», which was not a validly published *nomen novum* as there was no reference to any original taxon description and because, in spite of that fact, a Latin diagnosis or a reference to such was lacking; moreover, it would have become a further taxonomic synonym of *C. hydrogramma*). SINGER later reported these vesicles to be present also in the hyphae of the hymenophoral trama, but I have not observed them there in the specimens I have examined. In a recent study on *Clitocybe* (HARMAJA 1969)

I accepted this section and included it in the type subgenus. Originally (1943) SINGER also placed it in the type subgenus (subg. »*Eu-Clitocybe*»), but later (SINGER 1962) he changed his opinion and transferred the section to the subgenus *Pseudolyophyllum*. PEGLER (1965) found that the Australian *Agaricus clitocyboides* Cooke & Masee and HORAK (1971) that the New Zealandic *Leucopaxillus otagoënsis* Stevenson bear these vesicles in their epicutis hyphae. They considered *A. clitocyboides* a valid species closely related to *C. hydrogramma*, and HORAK (1971) regarded the *Leucopaxillus* species as a synonym of *A. clitocyboides*. I consider both as synonyms of *C. hydrogramma* for the moment since they differ from it only through the lack (or scarcity?) of the vesicles in the stipe cortex.

At present I am continuing my attempts to make the genus *Clitocybe* more homogeneous taxonomically, and have already published two papers towards this end, transferring the *C. gilva* group (HARMAJA 1969) and *C. nebularis* (HARMAJA 1974) to the genus *Lepista* (Fr.) W.G. Smith. An evaluating of the characters of the section *Bulluliferae*, indicates that it too deserves to be transferred from *Clitocybe*. As there is no genus to which it could be assigned, I propose a new genus to accommodate it, *Singerella* Harmaja, named in honour of Prof. Dr. Rolf Singer, Chicago, whose contributions to the taxonomy of the *Agaricales*, not least to *Clitocybe*, are of the utmost importance. The main diagnostic features of the new genus will be shortly discussed below. More information can be found in, e.g., KÜHNER 1934 (Atlas: Pl. 64, as *C. gallinacea*) and HARMAJA 1969: 26, 81—83.

The presence of the inflated elements, up to ca. 20  $\mu\text{m}$  in diameter, in the thin hyphae of the epicutis is a unique feature in *Clitocybe*, being peculiar to the section *Bulluliferae*. HORAK (1968 and 1971) interprets these vesicles as chlamydo-spores, which, however, does not appear probable (HARMAJA 1969: 26). A better name would perhaps be »intercalary dermatochryso-cystidia». When fresh these inflations contain an amorphous light-refractive central body, which normally disperses in exsiccates, where the contents are granulose throughout. According to my studies, the contents of the vesicles in dried basidiocarps are weakly cyanophilic (their walls being cyanophobic) and not conspicuously yellow when treated with 5% KOH. In the latter feature they deviate from both the chryso-vessels and the common type of chryso-cystidia present in e.g. *Pholiota*, *Stropharia* and *Nematoloma* (from which they also differ in not having the normal terminal position). These vesicles are the most important character indicating the need for a separate genus for this species, as they seem to be unique, apparently being absent from the remainder of the order *Agaricales*.

A second feature deserving attention in the section *Bulluliferae* is the fact that some of the spores have confluent bases (perhaps the majority), the rest being acute-based and obtuse-based (HARMAJA 1969). As a result, the hilar appendage/hilar region is thick, being ca. 0.5—0.9  $\mu\text{m}$  in diameter, and most of the spores are more or less lacrymoid in

shape (the rest being  $\pm$  ellipsoid). All these spore characters are also typical of the type section of *Clitocybe* (syn. sect. *Infundibuliformes*; see HARMAJA 1974), the confluent type of spore base being indeed restricted to these two sections. However, the section *Bulluliferae* is clearly distinguished from the section *Clitocybe*, not only by its epicutis, but also, which is very important, by the hygrophanity of its pileus, and lastly by the peculiar odour.

This striking, unpleasant smell of *C. hydrogramma* is the third character deserving attention, since it is almost unique in *Clitocybe*. Only a beech-forest race of *C. strigosa* Harmaja possesses a similar smell, although this species is quite different, belonging to the subgenus *Pseudolyophyllum* Sing. with dull-coloured species. As a result, when the epicutis is not examined, this race of *C. strigosa* is not infrequently confused with *C. hydrogramma*, which is likewise often common in beech forests.

***Singerella* Harmaja, n. gen.** — Genus ex ordine *Agaricales*, e familia *Tricholomataceae*, habitu perfecte *clitocyboideo*. Pileus hygrophanus, infundibuliformis, colore haud obscuro. Lamellae pallidae, decurrentes. Sporae haud in tetradibus in preparatis e lamellis siccis factis, partim lacrymoideae, partim ellipsoideae, partim basi crassa confluenta, partim acuta et obtusa; pariete tenui (ca. 0.15—0.20  $\mu\text{m}$ ), hyalino, laevi, non amyloideo nec dextrinoideo nec cyanophilo; intus eguttulatae, paulo cyanophila; massa sporarum alba vel albida. Cortex pilei e strato uno; epicutis e hyphis angustatis filamentosis,  $\pm$  parallelibus, passim inflatis, bullulis magnitudine ca. 12—30  $\times$  10—20  $\mu\text{m}$  praeditis. Structura corticis stipitis plerumque similis. Hyphae sine pigmentis membranae et incrustatis. — *Typus*: *Agaricus hydrogrammus* Fr.

***Singerella hydrogramma* (Fr.) Harmaja, n. comb.**

*Agaricus hydrogrammus* Fr., Systema mycologicum... 1: 69. 1821. — *Clitocybe hydrogramma* (Fr.) Kumm., Der Führer in die Pilzkunde: 122. 1871. — *Omphalia hydrogramma* (Fr.) Quél., Les champignons du Jura et des Vosges I: 238. 1872. — *Omphalina hydrogramma* (Fr.) Quél., Enchiridion fungorum...: 42. 1886. — *Type*: No original designation. No original specimens existing. A neotype has not yet been proposed.

*Agaricus adirondackensis* Peck, Rep. New York St. Cab. 23: 77. 1872. — *Clitocybe adirondacken-*

sis (Peck) Sacc., Sylloge fungorum... 5: 180. 1887. — *Type*: Holotype (NYS) studied.

*Agaricus clitocyboides* Cooke & Masee, Grevillea 15: 98. 1887. — *Clitocybe clitocyboides* (Cooke & Masee) Pegler, Australian Journ. Bot. 13: 328. 1965. — *Type*: Holotype (K) studied.

*Clitocybe caespitosa* Peck, Rep. New York St. Mus. 41: 61. 1888. — *Type*: Holotype (NYS) studied.

*Omphalina jalapensis* Murr., North American Flora 9: 349. 1916. — *Type*: See HARMAJA 1970.

[*Clitocybe kuehneri* Sing., Ann. mycol. 41: 23. 1943. — Not validly published as lacking a Latin description and a reference to such (Int. Code

Bot. Nomencl., Art. 36). — »Type»: See HARMAJA 1969: 81—82.]

*Leucopaxillus otagoënsis* Stevenson, Kew Bull. 19: 19. 1964. — *Type*: Holotype (K) studied.

?*Clitocybe hydrogramma* (Fr.) Kumm. v. *wernerii* Malençon, Bull. Soc. Mycol. France 58: 34. 1942.

?*Clitocybe hydrogramma* (Fr.) Kumm. v. *gibboides* Raithelhuber, Zeitschr. Pilzk. 34: 179. 1969.

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