

THE IDENTITY OF *AGARICUS CYATHIFORMIS* SCHAEFF.

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The problem of the correct interpretation of the original concept of *Lentinus cyathiformis* (Schaeff.) Bres. = *Agaricus cyathiformis* Schaeff. is analysed. The authors demonstrate, on the basis of the original protologue, that this species is identical with *Pleurotus pulmonarius* (Fr.) Quél. The modern interpretation of *Lentinus cyathiformis*, originating from Bresadola and followed by a number of contemporary authors, is erroneous: this fungus should be called *Lentinus degener* Kalchbr. in Fr.

A conspicuous wood-inhabiting gill fungus, sporadically distributed in riverside forests of the southern part of Central Europe and evidently also in Southern and Western Europe, is known in the contemporary mycological literature under three different names. One of them is *Lentinus degener* Kalchbr. in Fr., the second, just recently applied, is *L. schaefferi* (Weinm.) Rausch., but the most frequent is the third name, *L. cyathiformis* (Schaeff.) Bres. The interpretation of the last two names is quite erroneous in modern mycological literature.

About 27 years ago (Kotlaba & Pouzar, 1967) we attempted to elucidate the identity of the name *Agaricus cyathiformis* Schaeffer (1774) because, in our opinion, it represents a fungus quite different from *Lentinus degener*. On the basis of Schaeffer's picture only (Tab. CCLII in *Icones fungorum*, 1771), without taking into account the description, we reached the conclusion that it most likely represents *Panus torulosus* (Pers.: Fr.) Fr. = *Pleurotus conchatus* (Bull.: Fr.) Pilát, since the lamellae of the fungus on Schaeffer's plate are very broad and as such in contrast to the context of the pileus, which is relatively thin.

We recently restudied Schaeffer's picture (Tab. CCLII), together with the description (p. 66–67), and reached the new conclusion that Schaeffer's fungus is almost certainly identical with *Pleurotus pulmonarius* (Fr.) Quél. The reasons for this new interpretation are as follows: the description asserts that the pileus is yellow ('pileo luteo'), the surface is punctate-striate ('punctato-striatus') and the stipe is also pale yellow ('pallide luteo'). However, in the copy of Schaeffer's book in the National Museum, Prague, it is darker and rather brown.

It is worth to explain why Schaeffer's fungus could be in no way identical with the fungus with which it is still continually identified (see e.g. Boekhout, 1990; Moser, 1983; Pegler, 1983; Rauschert, 1988; Kreisel, 1987, 1992). This interpretation originates from Bresadola (1900), who misinterpreted Schaeffer's fungus. The reasons why Schaeffer's fungus cannot be identified with *Lentinus degener* = *L. cyathiformis* sensu Bresadola are as follows.

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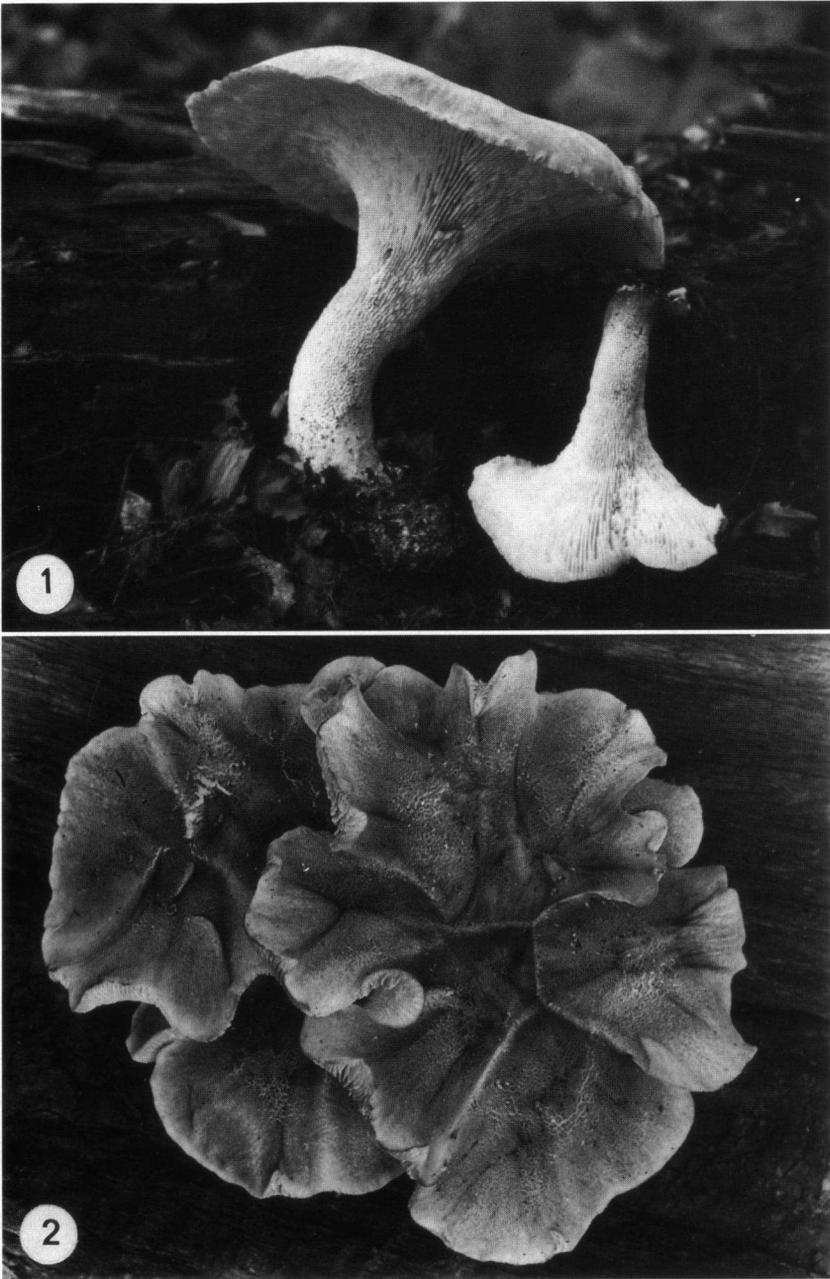


Fig. 1. *Lentinus degener*, general view. Riverside virgin forest Ranšpurk near Lanžhot, S. Moravia, Czech Republic; on laying trunk of *Populus alba* (?), 4.VI.1971. — Fig. 2. *Lentinus degener*, view from above. Riverside forest Cahnov near Lanžhot, S. Moravia, Czech Republic; on laying trunk of *Aesculus hippocastanum* (?), 17.V.1966. (Photos by F. Kotlaba.)

– The edge of the lamellae of *Agaricus cyathiformis* in the work of Schaeffer is depicted as being entire, and fits therefore well with *Pleurotus pulmonarius*, whereas the edge clearly is denticulate (serrate) in *L. degener*. It should also be compared with the plate of *Agaricus tubaeformis* Schaeff. (= *Lentinus lepideus*) on plate CCLIX of Schaeffer's book, where the lamella edge is depicted as clearly denticulate. Both pictures were made by the same painter (Loibl), and this proves that Schaeffer paid attention to the precise drawing of the lamella edge.

– The lamellae of *Lentinus cyathiformis* sensu Bresadola are thinner in the middle part of the pileus than the context of the pileus in Bresadola (Fungi tridentini, plate 206) (the margin of the pileus cannot be taken into consideration). This is quite different in Schaeffer's *Agaricus cyathiformis* where the lamellae are at least two times broader than the context of the pileus, and so this character also fits well with *Pleurotus pulmonarius*.

– The fungus of Schaeffer's plate CCLII is evidently of a rather thin nature, which fits also well with *Pleurotus pulmonarius* (*Panus torulosus* is also similar). Fruit-bodies of *Lentinus degener* have usually much thicker context, especially young specimens, and therefore they have quite another appearance. The ratio of the breadth of the lamellae to the thickness of the context of the pileus is in fact opposite in *Lentinus degener* compared with *Pleurotus pulmonarius*.

– We interpret the dark colour of the stipe in the picture of *Agaricus cyathiformis* by Schaeffer as a shadow, made by the painter, since Schaeffer described the stipe as 'pallide luteo' ('von mittlerer Farbe'), which in no way is brown. In *Lentinus degener* the stipe becomes more or less brown rather early (see the picture of the younger specimens in Bresadola's plate 206), while in *Pleurotus pulmonarius* the stipe is white and becomes yellowish to ochraceous in old specimens only.

– According to our experience and photographs young specimens of *Lentinus degener* and *Pleurotus pulmonarius* are quite different, however, in older specimens the surface of the pileus is rather similar in both species, with a somewhat fibrillose to shortly striate margin. The striate appearance of the whole pileus of *Agaricus cyathiformis* on Schaeffer's plate CCLII, however, is in no doubt the result of the painter's stylization or better to say his artistic utterance which he (Loibl) used in the same book also in pictures of other fungi with a more or less smooth pileus. Good examples are e. g. Tab. XLIX, fig. 1, VI of *Agaricus lateritius* (= *Hypholoma lateritium*), Tab. CIX of *Boletus aurantius* (= *Albatrellus confluens*) or Tab. CCXIV, fig. II, III of *Agaricus xerampelinus* (= *Russula xerampelina*).

– *Lentinus degener* and *Pleurotus pulmonarius* occur not only on wood of broad-leaved trees, but rarely also on coniferous wood. *Lentinus degener* grows in Mediterranean regions sometimes on conifers. Schaeffer's *Agaricus cyathiformis*, a species described from Central Europe (Bavaria) originally was indicated as collected "In silvis abiegnis ... ad radices et truncos ..." or "In Tannenwäldern ..." However, in the territory of the former Czechoslovakia and elsewhere in Central Europe we found *Lentinus degener* never on coniferous wood. On the other hand we have several records of *Pleurotus pulmonarius* on conifers, including *Abies alba*.

– Bresadola was unsuccessful also in the interpretation of some other older names of fungi, as e.g. *Agaricus fuliginosus* Fr., which in fact is *Lactarius picinus* Fr., but not *L. fuliginosus* (Fr.) Fr., or *Russula sardonica* Fr., which in Bresadola's interpretation represents *R. luteotacta* Rea. Later mycologists evidently did not pay attention to the original concept of *Agaricus cyathiformis* Schaeff., and simply followed Bresadola.

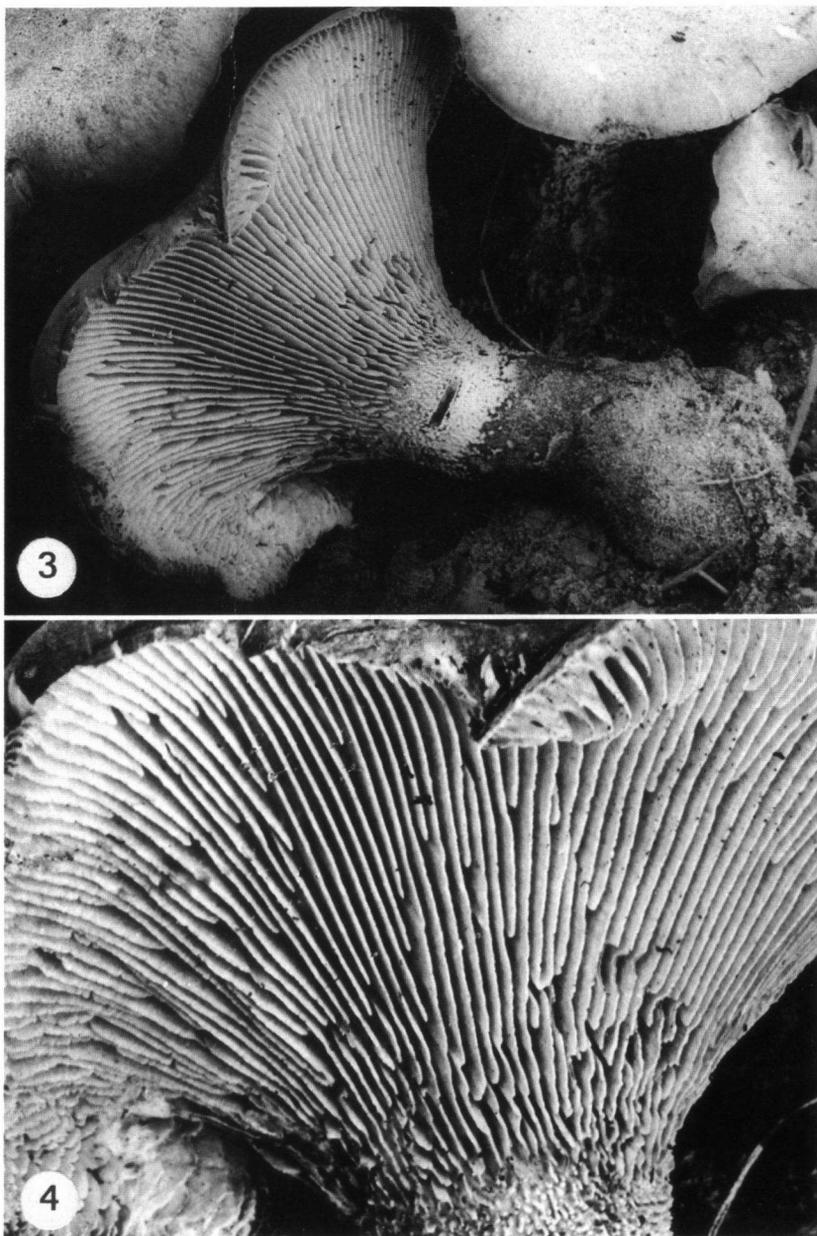


Fig. 3. *Lentinus degener*, laying carpophore. Chl'aba near Štúrovo (Parkan), S. Slovakia, Slovak Republic; on stump of *Populus alba*, 13.VI.1966. — Fig. 4. *Lentinus degener*, detail of gills. Chl'aba near Štúrovo (Parkan), S. Slovakia, Slovak Republic; on stump of *Populus alba*, 13.VI.1966. (Photos by F. Kotlaba.)

From all these reasons, it is impossible to accept the conspecificity of *Agaricus cyathiformis* Schaeff. with *Lentinus degener* Kalchbr. in Fr. In our experience of some forty years we came across numerous fruit-bodies of *Lentinus degener* in Czechoslovak riverside forests, we know the fungus rather well and can therefore judge this problem on the basis of a well founded knowledge of this fungus.

The name *Lentinus schaefferi* (Weinm.) Rauschert, which nowadays is sometimes used for *L. cyathiformis*, is based on *Agaricus schaefferi* Weinm. (1836). This is merely a new name for *Agaricus cyathiformis* Schaeff. non *Agaricus cyathiformis* Bull.: Fr. (= *Pseudoclitocybe cyathiformis* (Bull.: Fr.) Sing.) and therefore must be typified with the same iconotype as *A. cyathiformis* Schaeff. Weinmann correctly interpreted Schaeffer's fungus, because his description relates to *Pleurotus pulmonarius*: beside similar morphological features he also refers to *Betula alba* (= *B. pendula*) as host, one of the many host trees of *P. pulmonarius*, but never for *L. degener*. So, nomenclaturally speaking, the name *Lentinus schaefferi* (Weinm.) Rauschert relates to *Pleurotus pulmonarius*, and in no way to *Lentinus degener* Kalchbr. in Fr.

Pegler (1983) cites, as another synonym of our fungus, *Panus urnula* Fr. '1851' (the last pages with the description of this fungus in Monographia Hymenomycetum Sueciae were, however, published in 1863) which is seemingly older than *Lentinus degener* Kalchbr. in Fr. 1874. However, when analysing the description of *Panus urnula* Fr., we reached the conclusion that it could in no way be *Lentinus degener*: The fruit-body is described as 'imbricato-multiplex et concretescens', a character which does not apply in *L. degener*. Also the gills are described as 'integerrimae, griseae', whereas in *L. degener*, the gills are denticulate (at least in some places) and never grey. *Panus urnula* Fr. may therefore represent *Pleurotus pulmonarius* (Fr.) Quél. as well. Pegler (1983) cited a further apparently older synonym of *L. degener*, i.e. *Panus schurii* Schulzer 1844, but this is a misprint: the date should be correctly cited as 1884. Judging from the description of that species, it is most likely not identical with *Lentinus degener*.

We conclude that the correct name for the species of the gill fungus which is often called *Lentinus cyathiformis* (Schaeff.) Bres. or *L. schaefferi* (Weinm.) Rausch. must be, without questioning, *Lentinus degener* Kalchbr. in Fries 1874 as there is no doubt as regard the interpretation of its original concept.

The Italian authors Tomei & Monti (1979) presented quite a new taxonomic concept of *Lentinus degener*, stating that there are, in fact, two different species which they call *L. cyathiformis* and *L. degener* respectively. The differences are to be found in the shape of the carpophore, the configuration of the hymenophore and the size of spores. This problem should be thoroughly studied – we are unable to confirm the existence of two species – but, nomenclaturally, the name *L. cyathiformis* can in no way be applied to any of the taxa involved.

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