

## Taxonomy and nomenclature of *Pholiota dissimulans* with respect to *Phaeogalera oedipus*

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The taxonomy of *Pholiota dissimulans* (Berk. & Broome) Sacc. was studied using the type specimen and original description. The revision showed that the species has argillaceous lamellae and is identical with *Phaeogalera oedipus* (*Pholiota oedipus*, *Hemipholiota oedipus* etc.) in the sense of modern authors whereas the original *Agaricus oedipus* Cooke represents a species with darker spore print and umber coloured lamellae. Consequently, the name of the species with argillaceous lamellae should not be based on *Agaricus oedipus* but on *Agaricus dissimulans*. This name is, moreover, older than *A. oedipus* and its use is fixed by existing type specimen whereas the type of *A. oedipus* does not exist. The position of *Agaricus dissimulans* within *Pholiota* is unnatural. The species is closer to *Phaeogalera* in many characters. Consequently, the new combination *Phaeogalera dissimulans* is proposed.

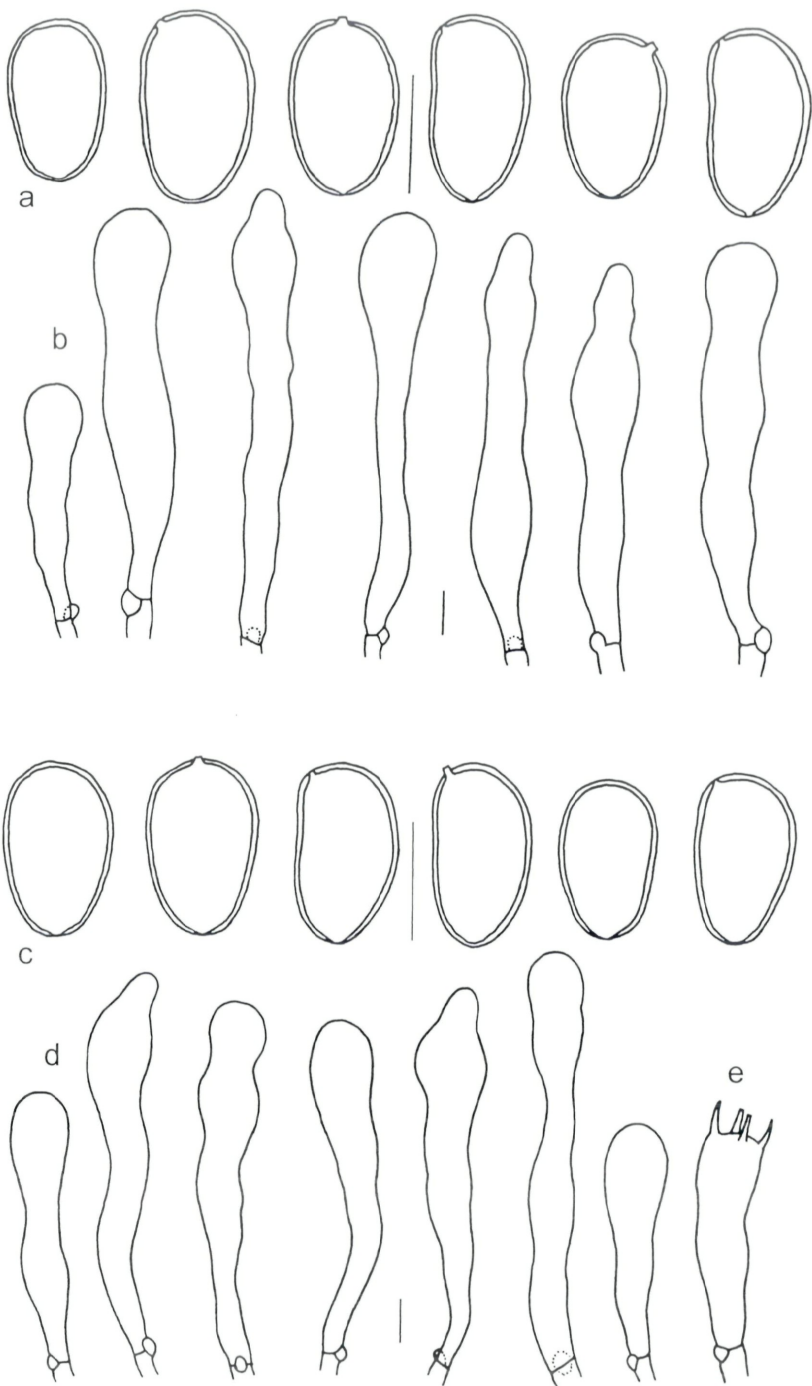
Keywords: fungi, Agaricales, taxonomy, nomenclature, type study.

*Pholiota dissimulans* was described as *Agaricus dissimulans* by Berk. & Broome (1882). The description was based on fruit bodies collected in England. The species has been included in most works on British mycoflora (Cooke, 1883: 147; Massee, 1893: 227; Smith, 1908: 130; Rea, 1922: 121; Dennis & al., 1960: 135, 184; Orton, 1960: p. 423, fig. 354) as *Pholiota dissimulans*. Outside Great Britain, the name disappeared from literature. Recently Noordeloos (1999) synonymised the species with *Pholiota oedipus* (*Phaeogalera oedipus*). However, Dennis & al. (1960) consider *P. dissimulans* and *P. oedipus* separate taxa. The aim of this paper is to discuss the taxonomic value, generic position and nomenclature of *Pholiota dissimulans*.

### Material and methods

Microcharacters were studied in a 5% KOH solution, pigmentation of hyphae of the pileus and stipe cuticle in pure water. Iodine reaction was studied in Melzer's reagent (Moser, 1983).

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## Results

### *Pholiota dissimulans* (Berk. & Broome) Sacc., Syll. fung. 5: 757. 1887.

Bas.: *Agaricus dissimulans* Berk. & Broome, Ann. Mag. Nat. Hist., ser. 5, vol. 9: 178. 1882.

Illustration: Cooke, Ill. Brit. Fung.: pl. 371. 1884.

#### Original description

‘Pileo primum erebio, campanulato obtusissimo vix viscidulo hygrophano demum explanato albido, margine involuto; stipite deorsum incrassato candido, basi gossypino; annulo erecto ut plurimum persistente; lamellis pallidis argillaceis sinuato-adnatis demum decurrentibus. On sticks of hawthorn and sloe. Hothorpe, Miss R. Berkeley.’

Microcharacters (personal observations, see also Fig. 1)

Spores  $7.3\text{--}8.4\text{--}(8.8) \times 4.8\text{--}5.6 \mu\text{m}$ , ellipsoid to ovoid-ellipsoid in face view, in some spores slightly phaseoliform in side view, yellowish-greyish to pale yellow-ochre in KOH, not dextrinoid, spore wall smooth, medium thick, yellow-brown, germ pore inconspicuous, visible only in quite mature spores as an attenuation of the spore wall at apex, hilar appendix small and visible only in some spores. – Basidia  $20\text{--}24 \times 6\text{--}7 \mu\text{m}$ , cylindrical or narrowly clavate, 4-spored. – Basidioles  $15\text{--}17 \times 6 \mu\text{m}$ . – Cheilocystidia forming a sterile band at the edge,  $30\text{--}60 \times 6\text{--}9 \mu\text{m}$ , cylindrical or narrowly clavate, often with several constrictions (moniliform) or with a short obtuse protuberance at apex, thin-walled, hyaline. – Pleuro- and chrysocystidia absent. – Lamellar trama subregular, of densely arranged parallel or slightly flexuous hyphae  $3\text{--}15 \mu\text{m}$  broad, individual cells cylindrical or slightly swollen (narrowly barrel-shaped), hyaline, subhymenium not gelatinous, of densely arranged branched hyphae. – Pileus cuticle (studied only in a scalp in order not to damage the specimens) of cylindrical hyphae  $2\text{--}4\text{--}(5) \mu\text{m}$  broad, here and there slightly swollen up to  $7 \mu\text{m}$ , thin-walled, in mass with a pale yellow tinge, without incrustations. – Stipe cuticle a trichoderm of loosely arranged interwoven cylindrical hyphae  $2.5\text{--}6 \mu\text{m}$  broad, thin-walled, hyaline, caulocystidia absent. – Clamp connections abundant in all tissues.

Specimens examined. – Great Britain, England: Northamptonshire, Hothorpe, leg. R. E. Berkeley, 938A, herbarium mycologicum Berkeleyanum (K

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Fig. 1. Type study of *Agaricus dissimulans*. – a–b: England, Hothorpe, leg. R. E. Berkeley (K 82899, holotype); a: spores, b: cheilocystidia. – c–e: England, Ape-  
thorpe, leg. M. J. Berkeley? (K 67372); c: spores, d: cheilocystidia, e: basidium.  
Scale bars =  $5 \mu\text{m}$ .

82899, holotype). Northamptonshire, Apethorpe, on twigs of *Crataegus*, Nov. 1881, leg. M. J. Berkeley? (there is a pencil-written note 'ex herb. M. J. Berkeley' on the old label), herb. C. E. Broome (K 67372).

## Discussion

The holotype of *Pholiota dissimulans* consists of 4 well preserved fruit bodies attached to twigs of *Crataegus*. The basidiomata strongly resemble those depicted in Cooke (1884). Berkeley & Broome (1882) characterised the appearance and generic position of their new species as follows: 'Pileus at first of the colour of *A. erebicus*, but at length becoming pale and expanded, about 1 inch across. Stem fistulose, with transverse dissepiments. Gills at length decurrent. It ought perhaps to be recorded in the section *Tubaria*, which, however, is a purely artificial division, and the ring is against this. It must be placed at the head of the hygrophanous *Pholiotae*, though it is not allied to the species in that division.'

Generally, *Pholiota dissimulans* is a less known or even obscure species. Although its original description is good and the type material exists, it has been mentioned almost exclusively in older British fungus floras (see introduction). The British mycologists placed *P. dissimulans* in a group of *Pholiota* called *Hygrophani* (*Hygrophanae*) together with *Pholiota confragosa* (Fr.) P. Karst. [= *Tubaria confragosa* (Fr.) Harmaja], *Pholiota mutabilis* (Scop. : Fr.) P. Kumm. [= *Kuehneromyces mutabilis* (Scop.: Fr.) Singer & A. H. Smith] etc. The only authors who really saw the fungus in the field seem to be Berkeley and Broome as the later descriptions are almost exact copies of the original one.

The illustration in Cooke (1884: pl. 371) is based on material from Sibbertoft collected in 1881. The plate was not painted by Cooke but by R. E. Berkeley. According to Brian M. Spooner, curator of fungi at Kew, the site called Sibbertoft is only half a mile away from Hothorpe, where Berkeley lived, and probably both localities are in fact the same place (personal communication). Consequently, the fruit bodies depicted in the Cooke's iconography probably were from the same area as those of the holotype. Plate 371 is of great importance for understanding the original concept of *Agaricus dissimulans*.

P. D. Orton included *Pholiota dissimulans* into the British check list (Dennis & al., 1960: 135) with the following characterisation: 'retained but not recorded in recent years and needs a modern description' (Orton in Dennis & al., 1960: 184). This conclusion was based on his type study, the results of which were published in a very brief way (Orton in Dennis & al., 1960: 184 – brief comments; Orton 1960, p. 423: fig. 354 – line drawings of spores).

Noordeloos (1999: 102) included *Pholiota dissimulans* into the synonymy of *Pholiota oedipus* (Cooke) P. D. Orton. It is not clear whether or not he studied the type of *P. dissimulans*. As no revision card is included in the envelope and no type study is mentioned in his publication, I suppose that he did not see the type.

The detailed type study published here and a review of the original description show that *Pholiota dissimulans* really has all important characters in common with present-day concept of *Phaeogalera oedipus* (*Pholiota oedipus*, *Hemipholiota oedipus*). The basionym *Agaricus dissimulans* Berk. & Broome (1882) is older than *Agaricus oedipus* Cooke (1885a). Consequently, *Agaricus dissimulans* should be used as the basionym for the correct name of this species. Moreover, the analysis of the original description and illustration showed that the original *Agaricus oedipus* represents in fact another species than *Pholiota dissimulans*.

*Agaricus oedipus* Cooke (1885a: 1) was described as a species having umber coloured lamellae and a dark brown spore print. Although some characters are identical with those of *Pholiota dissimulans* (smooth and hygrophanous pileus, broadly adnate lamellae, presence of a distinct annulus, growth on twigs and dead leaves), the colour of the lamellae and spore print are different. In *Pholiota dissimulans*, the lamellae are pale argillaceous (clay-coloured). Cooke himself placed *A. oedipus* into *Agaricus* subgen. *Hypholoma*. The dark lamellae and spore print of *A. oedipus* led Saccardo (1887: 1033) to its transfer to a dark-spored group of agarics ('*Melanosporae*'), namely to the genus *Hypholoma*. Similarly, Konrad & Maublanc (1948: 128) transferred the species to *Psathyrella*, i.e. another genus of dark-spored agarics. The original colour illustration of *Agaricus oedipus* (Cooke 1885b: pl. 587, fig. A) shows a fungus with almost blackish lamellae (when old) resembling a *Psathyrella*. *Agaricus oedipus* was also retained in *Hypholoma* in old British publications (Massee, 1892; Smith, 1908; Rea, 1922). Unfortunately, the identity of *A. oedipus* cannot be checked by study of the type because no type or original specimen exists at Kew (B. M. Spooner, personal communication).

All these data show that the original *Agaricus oedipus* Cooke is not identical with its present-day interpretation. The recent concept of *Phaeogalera oedipus* represents a fungus with much paler lamellae and spore print. I know this fungus both from the field (collections PRM 894259, 895067, 895068, 895069; Fig. 2) and from literature (Kühner & Romagnesi, 1957; Schwöbel, 1959; Gsell, 1983; Breitenbach & Kränzlin, 1995; Noordeloos, 1999). In the collections I have seen the spore print colour was comparable with code 54 as used by Breitenbach & Kränzlin (1995: 27). The species differs from the original concept of *Agaricus oedipus* (*sensu* Cooke, Saccardo,

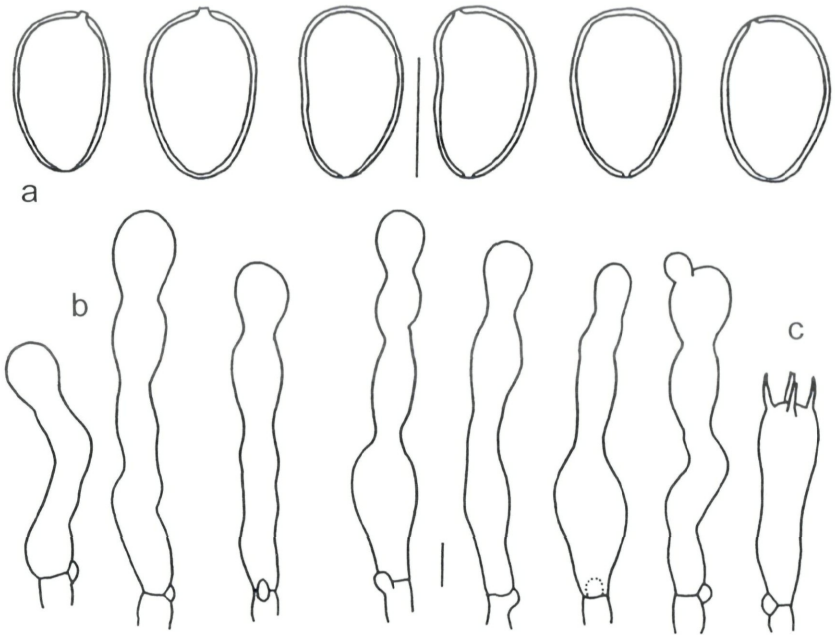


Fig. 2. Microcharacters of *Phaeogalera oedipus* in the sense of modern authors. Czech Republic, Moravia, Hranice n. Morav. Jezernice river valley between Podhorí and Peklo, 13 Juni 2001, leg. Z. Pouzar (PRM 895068, as *Phaeogalera oedipus*). – a: spores, b: cheilocystidia, c: basidium. Scale bar = 5 µm.

and Konrad & Maublanc). On the other hand, the ‘*oedipus*’ of recent authors is quite identical with *Pholiota dissimulans* Berk. & Broome.

The recent concept of *Phaeogalera oedipus* was introduced by Romagnesi (in Kühner & Romagnesi, 1957) who used Cooke’s name for French records of a fungus with argillaceous lamellae. He transferred the species to *Dryophila* (synonym of *Pholiota*). All leading mycologists of the second half of the 20th century then used this concept. The name *Pholiota dissimulans* almost disappeared from the mycological literature at the same time.

The position of *Agaricus dissimulans* in the genus *Pholiota* (and *Hemipholiota*) is problematic. The following characters are atypical of *Pholiota*: hygrophaneous pileus with translucently striate margin, dull colours without distinctly yellow tinge, broadly adnate triangular lamellae with serrate-fimbriate edge, stipe with rather persistent membranaceous annulus, and moniliform-cylindrical cheilocystidia. Noordeloos (1995) proposed to place the species (as *Pholiota oedipus*) in subgen. *Sordidae*, a newly described subgenus of *Pholiota* containing only that species. However, this subgenus is very distant from the core of the genus *Pholiota* (Holec 2001: 24–26). I

agree with Romagnesi (1980) that *Pholiota oedipus sensu* modern authors (= *P. dissimulans*) belongs to the genus *Phaeogalera*. The following characters speak for this generic position: small fruit bodies, dull colours, translucently striate pileus margin, broadly adnate lamellae, spore print colour, and almost all microcharacters, especially those of spores and cheilocystidia.

### Conclusions

The type study and review of the original description of *Pholiota dissimulans* have shown that the species represents a fungus with a viscid and hygrophanous pileus, dull colours, broadly adnate, triangular, pale argillaceous (clay-coloured) lamellae, stipe with rather persistent membranaceous annulus, ellipsoid to ovoid-ellipsoid spores with smooth wall and inconspicuous germ pore, cylindrical or narrowly clavate cheilocystidia, often with several constrictions (moniliform), lacking pleuro- and chrysocystidia, the pileus cuticle made up of cylindrical hyphae, growing on decaying twigs. The species is identical with *Phaeogalera oedipus* in the sense of modern authors whereas the original *Agaricus oedipus* Cooke represents a species with darker spore print and umber coloured lamellae. Consequently, the name of the species traditionally known as *Phaeogalera oedipus* (or *Pholiota oedipus*, *Hemipholiota oedipus* etc.) should not be based on *Agaricus oedipus* Cooke but on *Agaricus dissimulans* Berk. & Broome, which is, moreover, older than *A. oedipus*. In addition, its use is fixed by existing type specimen whereas the type of *A. oedipus* does not exist. Therefore, we should abandon the recent erroneous concept of *Phaeogalera oedipus*. The name should be interpreted in a proper way for a dark-spored fungus (of the genus *Psathyrella*?).

The position of *Agaricus dissimulans* in *Pholiota* is debatable. The species is closer to *Phaeogalera*. Consequently, a new combination is proposed below and the synonyms of the name are listed.

### ***Phaeogalera dissimulans* (Berk. & Broome) Holec, comb. nov.**

Bas.: *Agaricus dissimulans* Berk. & Broome, Ann. Mag. Nat. Hist., ser. 5, vol. 9: 178. 1882.

≡ *Pholiota dissimulans* (Berk. & Broome) Sacc., Syll. fung. 5: 757. 1887.

= *Dryophila sordida* Kühner, Fl. anal. champ. sup.: 329, 1953; nom. inval. (no Latin diagnosis).

≡ *Flammula sordida* (Kühner) Kühner, Bull. Soc. Nat. Oyonnax 10–11, Suppl. (Mém. hors. série, no. 2): 4. 1957. Comb. inval. (based on invalidly published basionym).

= *Dryophila oedipus* (Cooke) Kühner, Bull. Soc. Nat. Oyonnax 10–11, Suppl. (Mém. hors. série, no. 2): 53. 1957. Comb. inval. (basionym not indicated) *sensu* Kühner; non *Agaricus oedipus* Cooke.

- ≡ *Pholiota oedipus* (Cooke) P. D. Orton, Trans. Brit. Mycol. Soc. 43: 180. 1960  
sensu Orton and modern authors; non *Agaricus oedipus* Cooke
- ≡ *Phaeogalera oedipus* (Cooke) Romagn., Bull. Soc. Mycol. Fr. 96: 251. 1980  
sensu Romagnesi and modern authors; non *Agaricus oedipus* Cooke
- ≡ *Hemipholiota oedipus* (Cooke) Bon, Doc. Mycol.: 17(65): 52. 1986 sensu  
Bon and modern authors; non *Agaricus oedipus* Cooke.
- = ?*Dryophila ochroflavida* Malençon in Malençon & Bertault, Flore des cham-  
pignons supérieurs du Maroc 1: 320, 1970.
- ≡ ?*Pholiota ochroflavida* (Malençon) Bon, Doc. Mycol. 6(24): 46. 1976.
- ≡ ?*Pholiota ochroflavida* (Malençon) Lanzoni, Boll. Gruppo Micol. G. Bres.  
29(3–4): 190. 1986; superfluous combination.

## Excluded names

The following names represent a dark-spored fungus that is not identical with *Agaricus dissimulans* Berk. & Broome: *Agaricus oedipus* Cooke, Grevillea 14: 1. 1885. – *Hypholoma oedipus* (Cooke) Sacc., Syll. fung. 5: 1033. 1887. – *Psathyrella oedipus* (Cooke) Konrad & Maubl., Les Agaricales 1: 128. 1948.

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