

KEYS
THE GENUS .
TEPHROCYBE DONK
IN BRITAIN

By

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In the New Check List of Agarics and Boleti (Dennis, Orton and Hora, 1960) the species now included in *Tephroclybe* were listed under *Collybia* subgenus *Tephrophana*. Donk (1962) has shown that the genus *Tephrophana* Earle is not available for these species, since its type species by selection; is a *Marasmius*. He therefore proposed and validated *Tephroclybe* instead and this genus has been adopted by me and many others in this country and abroad. Some new taxa have been described since 1960 and Moser has produced a key (1978) which includes most of the new taxa. I have worked out a key for the British species but have included a few other European taxa which may occur in Britain. I feel there is no harm in having a second key available and, in any case, there are some parts of Moser's key with which I do not agree — in particular the inclusion of *T. gibberosa* (J Schaeffer) P D Orton with the burnt ground taxa under the epithet *ambusta*. Certainly *ambusta* should be used for a carbonicolous taxon, but in its usual interpretation it is antedated by *Agaricus anthracophilus* Lasch, 1829. However, *gibberosa* is most definitely not carbonicolous for it grows in coniferous woods in moss or leaves (Orton, 1969).

The use of the epithet *tylicolor* for *Collybia tesquorum* (Fr.) Gillet of the New Check List (1960) is not accepted by me because the original diagnosis of *Agaricus tylicolor* Fr.:Fr. (Fries, 1821) gives the cap and stem as grey ('pileo cinereo' and 'lamellis stipiteque pulverulento griseis') whereas in *tesquorum* the cap is 'fusco-niger' and the stem 'fuscus, apice farinosus', in other words brown as opposed to grey for *tylicolor*. In my experience the cap of *tesquorum* ranges from clay-buff to dark date-brown which suits 'fusco-niger' better than 'cinereo'. Furthermore, Kiihner and Romagnesi (1953) have included a taxon *under-tylicolor* with grey cap and stem and the stem pulverulent which seems to me much more in agreement with the original diagnosis; however, there is no evidence of this being British as yet.

The recognition of a taxon as a member of this genus is not easy, for the fundamental character — possession of carminophile basidia — is not always easy to ascertain. Nevertheless they do have a 'look' about them and are mostly strong smelling (often, but not always, mealy), are dull-coloured (some shade of grey, buff or brown) and of small to medium size. A fair number have rather tough stems, but nevertheless there are a few which are very definitely fragile. So far, marginal cystidia are described for only one species (*cessans*) and in all others the gill edge is fertile. So any white-spored taxon with fruit-bodies small to medium, dull coloured and with a fertile gill-edge may be suspected to be a species of *Tephroclybe*. Gill attachment is no real guide for all kinds can be found from free to clearly decurrent with perhaps a majority ± adnate. However, in cases of doubt it may be essential to find out whether the basidia are carminophile or not, and certainly this should always be done before describing a new species in this genus. A certain amount of trial and error in recognition of the genus is probably inevitable until experience has been gained. It should not be forgotten that Fries managed to sort them out remarkably well without any microscopical or chemical aids!

The use of Friesian epithets for these taxa in the absence of microscopical

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data in the original description is, however, difficult and often uncertain. Except for *rancida* most Friesian epithets have been interpreted in two or more ways. Even as keyed out here I am not entirely certain that there are no errors in the use of these epithets. The situation is similar to *Cortinarius* subgenus *Telamonia* (incl. *Hydroclybe*) but the problem is not quite so large!

Before using the following key it is essential to examine spores from a spore print for size-range and shape. Habitats are not as yet clearly elucidated for a few taxa and it is partly in the hope that we may learn more about this that I have written the key. Colours are as in the Colour Identification Chart to the British Fungus Flora (Henderson, Orton and Watling, 1969). Species which, as far as I know, are not yet recorded in Britain are in square brackets.

Key to species of *TEPHROCYBE*

- | | | |
|------|--|------------------|
| 1 | Stem tough with long rooting base: (smell strong, rancid-mealy; cap with marked white silky tomentum at least in outer part; spores 7-8 x 3.5-4 µm; on soil) | <i>rancida</i> |
| x | Stem not rooting; from soft or fragile to ± tough | 2 |
| 2(1) | Growing in Sphagnum; (fragile; smell strong mealy; spores 6-8(9)x4-4,5 µm; cap relatively pale, whitish to vinaceous-buff or clay-buff; gills white or whitish at first) | <i>palustris</i> |
| x | Not growing in sphagnum | 3 |
| 3(2) | Growing on burnt ground; (cap dark when moist — snuff-brown, umber or date-brown to cigar-brown; smell mealy, at least when cut; spores smooth) | 4 |
| x | Habitat otherwise | 5 |

- 4(3) Spores globose 4,5-6 μm *anthracophila*
(=*Collybia carbonaria* (Vel.) P D Orton 1960)
- x Spores ellipsoid, 6-8 x 4-5 μm *atrata*
- 5(3) Spores globose or broadly ellipsoid, smooth, minutely spinulose, verru-
cose or angular in outline6
- x Spores ellipsoid or fusiform, smooth12
- 6(5) Spores smooth; in coniferous woods7
- x Spores either minutely spinulose or verrucose or angular in outline;
habitats various9
- 7(6) Marginal cystidia present, cylindric-lageniform 50-65 x 8-12 μm ; smell
none; spores subglobose to broadly ellipsoid 5-7 x 4-5 μm ; (cap and
stem \pm vinaceous-buff or clay-buff)*cessans*
- x Marginal cystidia absent, gill-edge fertile; smell mealy often strong;
spores subglobose or broadly ellipsoid 6-7.5 x 4.5-6 μm 8
- 8(7) Moist cap entirely sepia or cigar-brown; gills greyish cream or \pm vina-
ceous-buff; stem sepia or cigar-brown drying paler, stiff and firm at
first; rather tough and size small to medium — cap 10-38(48) mm, stem
1.5-4.5 mm broad*fuscipes*
- x Moist cap snuff-brown or date-brown at centre with paler margin; gills
white or whitish; stem \pm clay-buff, not remarkably tough; less tough
and size small — cap 10-22 mm, stem 0.7-2.5 mm broad . . . *striaepilea* 9(6)
- 9 Spores with (4)5-6 conspicuous rounded warts, globose, 5-7 μm cap
small, 5-21 mm, often papillate; in moss or needles in coniferous woods
(also deciduous ?)*gibberosa*
- x Spores spinulose or less conspicuously warty10
- 10(9) Spores minutely spinulose in water (spinules disappear in Melzer's
reagent) broadly ellipsoid, 6-8(9) x 5-6 μm ; stem rather soft and fragile;
cap small, 3-20 mm, often papillate, when moist strongly striate and
clay-buff to \pm date-brown at centre; gills soon greyish or pale buff; on
soil or in leaves or in moss; smell none to mealy (especially when cut)
.....*tesquorum*
(= *tylicolor* sensu Moser, 1978 and *plexipes* sensu K & R)
- x Spores finely to rather strongly verrucose, broadly ellipsoid or globose
- 11(10) Rather small — cap 15-20 mm, stem 2-3 mm broad; cap and stem when
moist \pm umber; smell none; spores 7-8 x 6 μm , broadly ellipsoid with
cylindrical blunt warts; (stem white pruinose when fresh; gills 'brown'
sec Pearson 1952)*ferruginella*
- x Often more robust — cap 10-50 mm, stem 1-6 mm broad (up to 16 when com-
pressed); moist cap cigar-brown or fuscous-black then date-brown,
umber or snuff-brown; stem snuff-brown to \pm cigar-brown.; smell
strong mealy or mealy-rancid; spores 4.5-6 μm , with low obtuse
or pointed warts giving an angular outline, occasionally appearing
almost smooth; in grass or on soil*impexa*
- 12(5) Spores mostly 8 μm or more long, fusiform or elongate-ellipsoid13
- x Spores rarely over 8 μm long \pm ellipsoid14
- 13(12) Spores fusiform, 9.5-11 x 3.5-4 μm ; on deciduous debris especially
beech; cap snuff-brown, hazel or olivaceous*fusispora*
- x Spores elongate-ellipsoid, 7.3-10(11.5) x 4-5 μm ; on peaty soil under
pines; cap tinged cinnamon or rus [*admissa* (Britt.) Moser, sec Favre, 1948]
- 14(12) . Most spores less than 6 μm long and not more than 3.5 μm broad. 15
(Note: if spores 5-7 x 2.5-3.5 μm , sec *misera* § 22)
- x Spores mostly 6-8 μm long, 3-5 μm broad19
- 15(14) Almost entirely grey; cap small, 8-15 mm, not striate; (spores 3,5-4
x 2.5 μm ; under conifers; smell 'foetid' sec Lange)
-*mephitica* sensu Lange non Boudier
- x At least in part darker coloured; cap often larger16
- 16(15) Fruit-bodies relatively large — cap 40-70 mm, stem 4-8 mm broad
(habit tricholomoid); with conifers?; smell strong of *Clitocybe inornata*
or *Inocybe pyriodora* sec Jossierand 1974; spores 5-6 x 3-3.5 μm ,
sec Lange, Moser*putidella*
(= *putida* sensu Lange, K & R)
- X Fruit-bodies smaller — cap less than 40 mm, stem not usually more
than 4 mm broad17

- 17(16) Cap cuticle and stem remarkably tough when fresh; moist cap snuff-brown, date-brown or sepia and striate, drying ± buff; (in grass or soil or under deciduous trees) spores 4-5 (5.2) x 2.5-3(3.2) µm - *.baeosperma*
 x Cap and stem not so tough; moist cap often paler or non-striate; spores slightly longer and broader (within the range 4.5-6.5 x 3-4 µm18
- 18(17) Under conifers; cap clay-buff with snuff-brown or date-brown centre, margin sometimes with creamy-buff tinge, drying pale vinaceous-buff or dirty cream; spores 4.5-6.5 x 3-3.5 µm*confusa*
 x In deciduous leaves; cap with whitish silky veil traces in outer part when fresh, persistently paler (clay-buff); spores 4.5-6.5 x 3-3.5 µm[*platypus* (Kuhner) Moser (Kiihner and Romagnesi, 1954)]
- 19(14) Smell of cucumber or like *Macro cystidia* ; in deciduous leaves, especially beech or hornbeam; moist cap snuff-brown or hazel, sometimes date-brown or umber in centre; stem snuff-brown or hazel with scattered white flocci throughout when fresh.....*boudieri*
 X Smell mealy or rancid-mealy or, none.....20
- 20(19) Smell mealy or rancid-mealy at least when cut; stem tough when fresh
 x Smell none or otherwise; stem tough or not22
- 21(20) Stem smooth or silky-shiny with only the apex white pruinose; spores 6-8(9) x 4-5 µm; cap without olivaceous tints, drying with marked creamy-buff tinge at least in outer part; gills not or barely with olivaceous tints; on soil, not necessarily basic*coracina*
 x At least upper stem markedly and conspicuously white floccose-scaly; spores narrower 6-8 x 3-4 µm; cap moist sometimes distinctly olivaceous in outer part, drying clay-buff or cream; gills sometimes tinged olivaceous especially near flesh of cap; on soil or in leaves, probably calcicole*albofloccosa*
- 22(20) Fruit-bodies more robust — cap 20-50(60) mm, striate at margin only, often tinged olivaceous; stem 2-7mm broad; spores 6-8 x 3-4 µm*inolens*
 x Fruit-bodies smaller — cap 10-20 mm, strongly striate, not olivaceous; stem 1-2 mm broad; spores 5-7 x 2.5-3.5 µm. . *miseria* s. Lange, Pearson

NOTE: If fruit-bodies small but cap striate at margin, smell very faint, only and spores 6.5-8 x 4.5 µm, see *murina* s. Lange; not authentically British as far as I know. If cap and stem 'brun-gris', cap opaque and densely pruinose pubescent, stem whitish pruinose at least at apex, smell none, and habitat in deciduous woods (in moss by roadside), see *tylicolor* sensu Kiihner and Romagnesi (1954).

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