

Updates to our book: *The genus Cortinarius in Britain*

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In the two years since our book was published (Kibby & Tortelli, 2022) a number of collections have been made of species not included at the time of publication or included species for which we had to rely on photographs from mainland Europe. We take this opportunity to provide photographs and descriptions of these often striking species along with a few potential name changes.

Although several of these species have recently been placed in new genera (Liimatainen *et al.*, 2022), as our book placed them all in *Cortinarius* I have chosen to maintain that approach here but their new genera are mentioned.

Cortinarius sublilacinopes Bidaud, Moënne-Locc. & Reumaux (Fig.1)

This was first described in the *Atlas des Cortinaires* Vol. 11 (Bidaud *et al.* 2001). This is a poorly known species, not illustrated in any of the

recently published photographic or illustrated guides or monographs (e.g. Calleda *et al.*, 2021, Nitare *et al.* 2024 and Kuyper *et al.*, 2024). It was recently transferred to the genus *Calonarius*.

A collection was made by MT and Claudi V. Soler on 10 Nov. 2023, under *Fagus* on calcareous soils in Badgin Wood, Kent. It was at first thought to be *C. callochrous* but the KOH reaction on the cap was blood-red rather than brown, and the cap paler than usual for that species. Subsequent sequencing showed a 99.39% match to the ex holotype sequence of *C. sublilacinopes* on GenBank, the first record of this species in Britain.

In our book this species would key out in Group 8 – having purple tints on the gills but not on the stem or cap and with a marginately bulbous stem. It would then key to couplet 5, being similar to *C. catharinae* but that species has a pink-red reaction to KOH on the surface of the bulb, negative in *C. sublilacinopes*.



Fig. 1. *Cortinarius sublilacinopes*, one of several very similar species found with *Fagus* on calcareous soil. Photograph © Mario Tortelli.



Fig. 2. *Cortinarius gracilior* is the smallest of the *Cortinarius* subgenus *Phlegmacium* species. Under *Fagus*, Shoreham, Kent, October 2024. Photograph © Mario Tortelli.

Cortinarius gracilior (Jul. Schäff. ex M.M. Moser) M.M. Moser (Fig. 2)

This remarkable species is distinguished by its very small size, caps reaching just 1.5–4 cm across, tiny compared with all other British *Phlegmacium* species.

The collection illustrated was found by MT and Trudy Fleming in a beech woodland in Shoreham, Kent, on calcareous soil, in October of this year. It is rare throughout Europe, only being illustrated recently in Nitare (2024) and in our book we had to rely on the generosity of European mycologist Balint Dima for the use of the same photograph.

The young gills being pale cream, combined with the yellow ochre cap, lack of any violaceous tints and wide, marginate bulb means it is keyed out in our Group 3. It has large, limoniform spores 10–12 x 6–7 μm . There appear to be no specimens held in the Kew Fungarium at the time of writing.

Cortinarius hildewardiae Schmidt-Stohn, Brandrud & Dima (Figs 3 & 4)

On the 7th November, 2023 two collections were made in Badgin Wood, Kent of a striking greenish yellow to ochraceous *Cortinarius*. Its spores were large, 10–11 x 5.5–6 μm , limoniform-amygdaliform and coarsely warty (Fig. 4). The caps had numerous small patches of veil adhering at their centre which had aged to a dull rust-

brown. The older specimens had a rather earthy, musty odour, while the reaction of the cap surface to 20% solution of KOH was a negative, dull brown.

The fruitbodies were found in a stand of hornbeam, *Carpinus betulus* and the soil is known to be calcareous. Badgin Wood is well known as a site of great importance for *Cortinarius* species, a number of species new to Britain having been found there on previous occasions.

The collection was initially identified as the non-British *C. sulfurinus*, a species having a smell of parsley or celery, but there was enough doubt that it was felt sequencing was essential for an accurate identification.

Some specimens were dried for deposition in the Kew fungarium and a small sample was used for DNA sequencing. The resulting sequence was a 99.84% match to a sequence derived from the holotype of *C. hildewardiae* Schmidt-Stohn, Brandrud & Dima (2019) and a 100% match to several others, all on GenBank.

C. hildewardiae was described from Germany with further collections known from France, Hungary, Italy, Spain and Switzerland and regarded by the authors as extremely rare. It was named after the wife of the second author of the paper. Associated trees mentioned in the original description included *Quercus* species, *Fagus sylvatica* and *Tilia platyphyllos* as well as *Abies*



Fig. 3. *Cortinarius hildegardiae*, under *Carpinus betulus*, Badgin Wood, Kent, 7 November, 2023. Photograph © Claudi V. Soler.

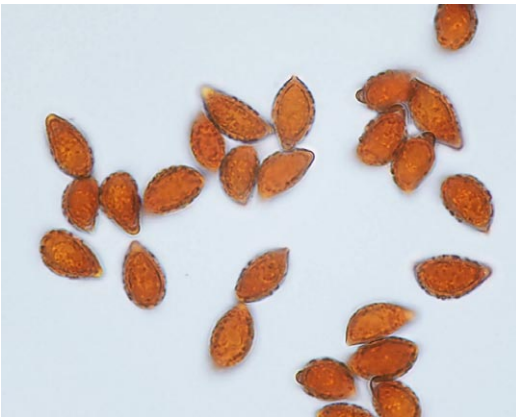


Fig. 4. Limoniform-amygdaliform spores of *C. hildegardiae*. Photo © Claudi V. Soler.

alba. This British record expands the known host range to *Carpinus betulus*. Soil is usually calcareous to base-rich.

C. hildegardiae is characterized by its initially pale greenish yellow colours on cap margin, gills and veil on bulb margin, contrasting white stipe and flesh. Like related taxa, it has an earthy-raphanoid smell, and a negative KOH-reaction.

In Kibby & Tortelli (2022) it would key out in our Group 1, Xanthophylli as *C. humolens* and the two species are quite difficult to tell apart. The colour differences on the young cap are quite subtle, with *C. humolens* having more greyish-green tones, becoming pale olivaceous grey-

brown with age. The spores of *C. humolens* are similar in shape and length but perhaps slightly wider at 10–11.5 x 6–7 μm . The two species are perhaps best confirmed by sequencing whenever possible. Rather surprisingly the two species—despite their great similarity—are not particularly closely related, coming quite far apart on phylogenetic trees (Brandrud *et al.*, 2019).

Other species that might be confused include *C. splendens*, *C. citrinus* and members of the *C. elegantissimus* species complex, but these all have rather brighter yellow colours, often with a red KOH reaction on some part of the fruitbody and usually lack the distinctive earthy-musty odour of *C. hildegardiae*.

Some name changes since publication

The following name changes are based on the recent publication by Kuyper *et al.* (2024), reviewed in this issue. Several of their name changes are a matter of opinion in the absence of ex type sequences but in many cases their arguments seem to us entirely reasonable and the following are accepted

C. sacchariosmus Beller & Bon (Fig. 5)

This is considered to be an earlier name for *C. anthracinicolor* with its striking smell of *Hebeloma sacchariolens* as illustrated in our book. Although there is no type sequence for

C. sacchariosmus the original description agrees in all parts so this seems entirely reasonable to us.

C. helvolus Fr.(Fig. 6)

Nitare *et al.* (2024) regard this as the preferred name for what we illustrate as *C. lacustris*. We have long been unhappy at the loss of the name *C. helvolus* in Britain. This was a species included in all the older literature until the mid-1900s when it started to fade from common usage as the interpretation of the name lacked consistency.

The original description and the colour plate by Bulliard (the lectotype according to Kuyper *et al.*) are both in agreement with our modern day concept of *C. lacustris* (see Fig. 6). It seems unlikely to us that a species so common in many of our woodlands (in our experience *C. lacustris* is much commoner than the related *C. hinnuleus* for example) would not have had an earlier, well-established name in the literature.

Cortinarius modestus Peck (Fig. 7)

It was already suggested by Dima *et al.* (2021) that *C. lepidopus* of Cooke might be the same as the earlier *C. modestus* described from North America. Kuyper *et al.* (2024) concur and argue convincingly for their synonymy. Unless the holotype of Cooke can be successfully sequenced and their synonymy either proven or disproved once and for all, accepting this change will remain a matter of personal interpretation. For the moment we accept their conclusion.

C. psammocephalus (Bull.) Fr. (Fig. 8)

Kuyper *et al.* (2024) consider it unnecessary to introduce the new name *C. quercconicus* (used in our book, following Liimatainen *et al.* 2020) for what has traditionally been called *C. psammocephalus*. They point out that there is no other *Cortinarius* species in Europe with the unique characters of this species. Nor, as has been suggested, is there any *Inocybe* species that could have been the basis of the name.

The original illustration by Bulliard is, we feel, undoubtedly the same species as illustrated in modern literature, so we are in agreement with this reversion to the older name.

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Fig. 5. *Cortinarius sacchariosmus* is suggested as an earlier name for what was called *C. anthracinicolor* in our book, a species with a striking smell like that of *Hebeloma sacchariolens*. Photograph © Geoffrey Kibby.



Fig. 6. *Cortinarius helvolus* is arguably the best name for this relatively common species in the *C. hinnuleus* species complex, rather than the relatively recent name *C. lacustris*. Photograph © Geoffrey Kibby.



Fig. 7. *Cortinarius modestus* is accepted by us as an earlier name for the common *C. lepidopus*. This species is distinguished by the smallest spores in its group along with its slender stature and yellow-banded stem. Photo © Mario Tortelli.



Fig. 8. We agree that *Cortinarius psammocephalus* is the earliest name for this very small but very distinctive species, called *C. quercocoenicus* in our book. Photograph © Geoffrey Kibby.