

Three Interesting *Cortinarius* Species from Anglesey and Caernarfonshire

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Thaxterogaster subporphyropus from Pentraeth, Anglesey, a second British record

On a brief walk through broad-leaved copses and pasture woodland close to my home during early October 2019, a small, viscid *Cortinarius* was found in grass under an isolated oak. The area where the fungus was encountered, to the southeast of Pentraeth, on Anglesey, consists of a broad ridge with Precambrian greenschist rock outcrops, giving rise to neutral to acid soils (N. Brown, pers. comm.) covered in abundant gorse (*Ulex*) with associated Greater Broomrape (*Orobancha rapum-genistae*).

Identification to the *Purpurascens* group within *Thaxterogaster* (formerly *Cortinarius*) was easy, with the purplish stipe and lamellae and darker purple bruising, however, getting to species level was trickier as the Pentraeth material was much more gracile than other British species in the group, and its spores were too large. *Thaxterogaster subporphyropus* was considered, and the spore size fitted, but my specimens seemed too large for that taxon, stated to have a cap diameter no greater than 4 cm in Kibby & Tortelli (2021). With this uncertainty it seemed a good idea to have the material sequenced and this was carried out at both Aberystwyth and Alvalab. Both sequences were similar and the latter, accessible as GenBank PP741535, closely matched (99.8%) the sequence derived from the holotype of *T. mendax*, not on the British list, which seemed ideal as the collection did not seem to match others in the group. However, it has been found that barcode sequences derived from the holotypes of *T. subporphyropus* and *T. mendax* match closely enough for the species to be considered as synonyms (K. Liimatainen, *in litt.*). This, of course, implies a wider species concept for *T. subporphyropus*, whose name takes priority, certainly with regard to cap size. It also transpired that this was not a new British record because material in the Kew Fungarium collected from East Suffolk (Minsmere) in 2009 had been sequenced by Wang and Liimatainen and determined as this taxon as reported in Ainsworth & Henrici (2023).

A description of the Pentraeth material (Fig. 1) is given below.

Thaxterogaster subporphyropus (Pilát) Niskanen & Liimat.

Wales, Anglesey (VC52), Pentraeth, Rhiwlas, (SH53257886) under *Quercus*, 3/10/19. Fung. C.E. Aron 4332.

Cap. 27–60 mm. Shallow convex to slightly depressed with age. Margin slightly incurved. Viscid. Yellowish-brown, darker towards the margin. **Lamellae.** Moderately crowded. Slightly emarginate. Violaceous, bruising darker violaceous, becoming rust-coloured with age. **Stipe.** 25–35 × 7–8 mm. More or less equal. Quite bright violaceous. **Flesh.** Violaceous. **Smell.** Sweetish. **Spores.** Ellipsoid, moderately to strongly verrucose, 10.2–11.6 × 6–6.6 µm (Fig. 1B).

A similar, more slender collection was made under *Quercus rubra* at Plas Cadnant in 2014 and may well turn out to also be *T. subporphyropus*.

Phlegmacium olidoamethystum, new to Britain from Capel Curig, Snowdonia

During August 2017 a pale *Cortinarius* with a strong, sweetish smell was found in an acid beechwood close to Capel Curig in Snowdonia (Fig. 2). My son and I have visited this area of upland woodland in August for a number of years, almost as an annual ritual. The woodland is rich in mycorrhizal fungi and is a stronghold for the rare *Lactifluus volemus* within north west Wales.

Although the fungus was distinctive and appeared to be in subgenus *Phlegmacium* (a rarity in Snowdonia), the species was unclear. I speculated on *C. argutus* but that species is associated with *Populus* on clay soils and it is not known to have such a sweet smell. Material was sent to Alvalab and the derived sequence was identical to that of an unnamed *Cortinarius* (Section *Elastici*) collection from Quebec. A subsequent LSU (Large Subunit) sequence indicated a taxon close to *olidus*, and also *papulosus*, a pale species which seemed close to



Fig. 1. *Thaxterogaster subporphyropus*. A: collected specimens. B: spores. Photographs © Charles Aron.



Fig. 2. *Phlegmacium olidoamethysteum*. A: *in situ*, Capel Curig, Snowdonia. B: in cross-section. C: spores. Photographs © Charles Aron.

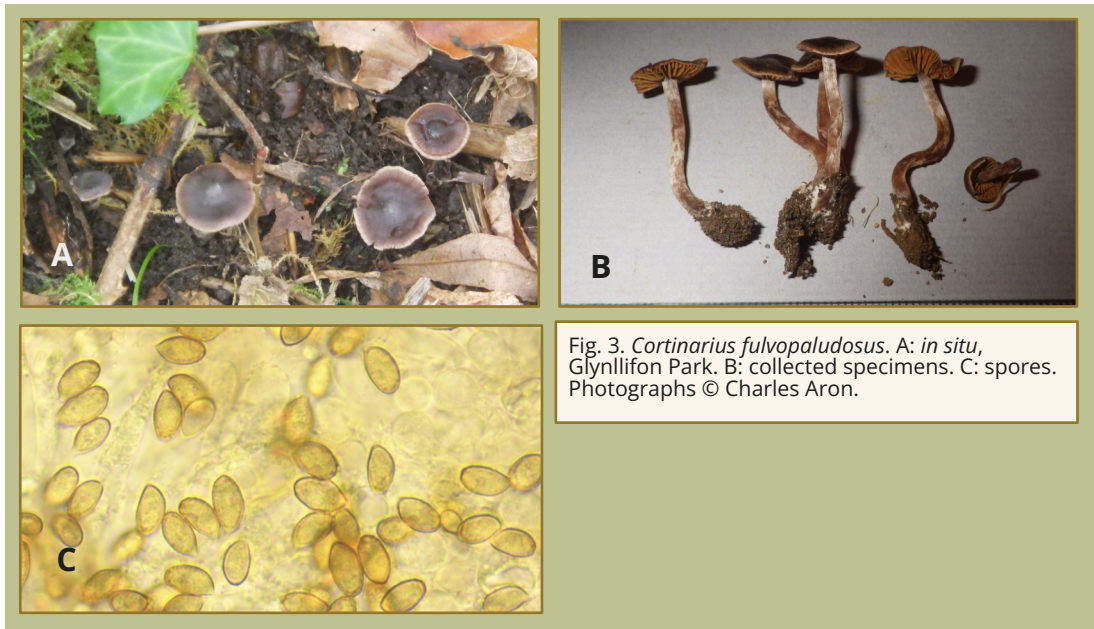


Fig. 3. *Cortinarius fulvopaludosus*. A: *in situ*, Glynnliffon Park. B: collected specimens. C: spores. Photographs © Charles Aron.

the Capel Curig find. I had not taken *Cortinarius olidus* into account before as in Breitenbach & Kränzlin (2000), for example, a rather brightly coloured *Phlegmacium* is figured, with abundant yellow veil bands. However, my photo of the Capel Curig specimen did, indeed, show some yellowish veil banding which, together with the distinct smell, pointed to a link with *C. olidus* but the habitat, although with *Fagus*, was on acid soils, not calcareous. The sequence was sent to Kare Liimatainen who consulted his extensive database of *Cortinarius* sequences and came to the rescue with *Cortinarius olidoamethysteus*, now recombined in *Phlegmacium*. This appears to be a boreal taxon with most records from southern Norway and Sweden, as well as Finland, the Baltic states and an isolated record from eastern Europe (see <https://www.gbif.org/species/3347809>). The photos accompanying the distribution map match the Capel Curig specimen well, a description of which is given below.

***Phlegmacium olidoamethysteum* (Rob. Henry & Ramm) Niskanen & Liimat.**

Wales, Caernarfonshire (VC 49), Capel Curig (SH 72545756), 29/8/17. Fung. C.E. Aron 4033.

Cap. 45 mm. Domed–convex. Dry. Beige, darker towards the centre. Margin slightly incurved. **Lamellae.** Very crowded. Concave. With abundant lamellules. Pallid when young with a slight violaceous tint. **Stipe.** 70 × 15 mm, 20 mm at base. Clavate. Cream with grey–ochre veil zones over lower half, with violaceous tints over the upper half. **Smell.** Strong and sweet, similar to *Hebeloma sacchariolens* group. **Flesh.** Pallid, with violaceous tints over the upper half of the stipe. **Spores.** Amygdaliform, weakly verrucose, 10–10.6 × 5.2–5.7 µm (Fig. 2C).

***Cortinarius fulvopaludus*, new to Britain from Glynllifon Park, Caernarfon**

Glynllifon Park is an area of wooded parkland situated to the south of Caernarfon and surrounding the stately pile, Glynllifon Hall. During the autumn of 2022 a fungal survey was carried out there on behalf of Gwynedd County Council. Under the exotic conifers and other introduced trees fungi were generally scarce but there was one small area of beech and oak on the south western flank of the parkland where mycorrhizal fungi were abundant and diverse, including uncommon species, at least in north

west Wales, such as *Boletus aestivalis* and *Amanita pantherina*. In the same area, a group of a small, dark *Telamonia* species was found (Fig. 3). They struck me as interesting, with the black-brown caps contrasting with the slightly olivaceous-tinged lamellae and reminded me of the myriad small, dark species found on dwarf shrub heaths. The specimens were dried and material sent to Alvalab, Spain for DNA analysis. The resulting sequence was passed onto Martyn Ainsworth who conferred with Kare Liimatainen, then working on *Cortinarius* at Kew, and it transpired that this sequence was identical with that derived from the Finnish holotype of *Cortinarius fulvopaludus*, new to Britain. While it was very pleasing to receive this result it was also puzzling as my specimens were not fulvous and the habitat was well-drained. See Liimatainen (2017) for type description. However, in Kokkonen (2020) *C. fulvopaludus* is shown to be a very variable taxon with an Italian collection with an identical sequence to the type also having a dark brown cap. Another boreal collection, whose ITS sequence differed slightly from that of the type, had a dark brown, obtusely umbonate cap, similar to the Glynllifon collection.

A description of the Glynllifon specimens is given below.

***Cortinarius fulvopaludus* Kytöv., Niskanen & Liimat.**

Wales, Caernarfonshire (VC 49), Glynllifon Park, Caernarfonshire (VC 49, SH45655523), 6/10/22. Fung. C.E. Aron 4701.

Cap 9–13 mm. Expanded umbonate. Sericeous. Blackish-brown with a greyish bloom at the umbo. Pale and faintly striate at the concentrically ridged margin. **Lamellae** crowded. With abundant lamellules, *circa* 2 mm broad. With a distinct olivaceous tinge. **Stipe** dark brown, overlain by whitish veil fibres. **Flesh** dark brown with a distinct white patch at the stipe apex. **Smell** quite strongly raphanoid. **Habitat.** Under *Quercus* with *Fagus* in rather open broad-leaved woodland. **Spores.** Ellipsoid, finely verrucose. 8–10 × 4.9–5.9 µm (Fig. 3C).

In Kibby & Tortelli (2021) mention is made of the fact that some *Cortinari* are only identified with confidence by sequencing and, given its small size and variability, this certainly applies to *Cortinarius fulvopaludus*.

Acknowledgements

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Fungal Futures: Conservation news and views

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Species recovery in England

Species conservation stole the spotlight in August with the launch of Natural England’s new Threatened Species Recovery Actions (TSRA) database (Wilkins *et al.*, 2025). It maps out what more than a thousand species need when broad-brush habitat improvements—even at a landscape scale—aren’t enough.

The database draws together England’s ‘priority species’ from Section 41 and those classed as threatened or near-threatened on official GB Red Lists (for fungi, this is only the boletes and lichens and their associated fungi). In all, TSRA includes actions for 129 fungi, made up of 66 non-lichenised macro-fungi, 49 lichens, 7 lichenicolous fungi, and 7 non-lichenised micro-fungi.

The actions vary dependent on the species and its needs. For example, actions include survey and production of species dossiers for *Amanita friabilis* and *Desarmillaria ectypa*; autecology research for *Cotylidia pannosa*, *Tremella moriformis* and *Myriostoma coliforme*; establishing the taxonomic status of *Boletus immutatus* and *Microglossum*

olivaceum; and trialling management and reintroductions for *Puccinia scorzonerae*, *Chlorenchelia versiformis* and *Hericium coralloides*. One action all non-lichenised macro-fungi share is the urgent need for a conservation assessment (or re-assessment for the boletes) under the IUCN criteria.

Crucially, the TSRA is not a one-off publication. It is a dynamic database designed to help hit the Government’s extinction risk targets under the Environment Act, and as such will be the focal point for species-level funding within Natural England. It will also be regularly updated to ensure it stays relevant. It currently accounts for around 20% of the threatened lichens in England with the remaining 80% of species to be given actions in future updates. Similarly, as new GB Red Lists for fungi are adopted, newly assessed threatened species will be added.

Many individual experts have either contributed to or reviewed TSRA data. Chris Knowles, Shelley Evans and Peter Roberts, in particular, have made significant contributions on the fungi side—to give credit where credit’s due.