Field Mycology

Volume 23 (1) February 2022

Published by the British Mycological Society

Field Mycology

Field Mycology is a quarterly magazine, published by the British Mycological Society. It provides articles about fungi of interest to the field mycologist, covering all aspects of identification, conservation, recording and collection, for all levels of expertise.

Views expressed are not necessarily those of the Editorial Panel or the British Mycological Society. The Society is a registered charity.

EDITORIAL PANEL

Editorial Address: Geoffrey Kibby, British Mycological Society, c/o Wolfson Wing of the Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB.

E-mail: **FieldMycologyJournal@britmycolsoc.info**

INSTRUCTIONS TO AUTHORS

The Editors welcome submissions of material for publication on all aspects of field mycology. Articles should aim to have a wide appeal and be written in a style suitable for the non-specialist. Book reviews and general review articles are also welcome. Editors will correspond directly with authors where revision is needed and a colour PDF will be provided to authors. All correspondence and material for publication should be addressed to the Editor, see above.

Text may be submitted via E-mail or on disk (CD-ROM) and is acceptable in any MS WINDOWS or APPLE MACINTOSH file format. Illustrations should be submitted as high resolution image files (300 ppi) at the approximate size of reproduction via email, memory stick or on CD-ROM in any graphic file format.

ANNUAL SUBSCRIPTION RATES

BMS Members

- If you obtain your copies as an addition to your membership subscription to the BMS the annual subscription is £12.00 including postage.
- Digital copies of the journal are free to BMS members and available from a members-only page on the BMS website (**www.britmycolsoc.org.uk**).

Non-BMS Members

- £55.00 per annum with a choice of either printed copy or PDF.
  Note: it will be more cost effective to become a member of the BMS (£38 including free electronic access, plus £12 for printed copies)

- Individual articles will be available on request at £35.00 per article. Please contact **admin@britmycolsoc.info** for payment details.

- Libraries and Institutions please contact **admin@britmycolsoc.info** for information on subscriptions.

ISSN 2213-6843

Field Mycology

Vol. 23(1) February 2022

CONTENTS

Front cover: *Amanita muscaria,* on a pebble beach at Walmer, Kent, about 15–30 m from some Holm Oaks. Photograph © Vanessa Gray-Bull.
Back cover: *Entoloma viiduense*, newly discovered in East Sussex. 23 October 2021. Photograph © Andy Overall.

EDITORIAL

As we enter this new year we also enter a new era for Field Mycology, now published 'in house' by the BMS rather than via Elsevier. This has resulted in a significant reduction in the cost of subscription for BMS members along with free download of the digital version via the BMS website. Please pass this on to any members you may know who perhaps do not subscribe or gave up subscribing because of the previous high cost. They might like to consider subscribing/re-subscribing. And if they are not members of the BMS then they might like to join!

Recent important publications

Mycology is advancing at such a fast rate that it can be hard to keep up with what is going on and what new papers have been published. Here are a few that are are free to download:

Most *Pseudotomentella* are now recombined in *Polyozellus*

Polyozellus* vs. *Pseudotomentella*: generic delimitation with a multi-gene dataset - Svantesson *et al.
***Fungal Systematics and Evolution* Vol. 8: 143–158**

Pseudotomentella species are resupinate fungi that form thin, sometimes blue-grey crusts on wood or soil (they are actually ectomycorrhizal) and are placed in the order *Thelephorales*.

Polyozellus multiplex, often called the Blue Chanterelle (although not closely related to the true Chanterelle) will be unfamiliar to most British readers but is frequent in some parts of North America and is similarly placed in the *Thelephorales*. A recent phylogenetic study shows that almost all the species of *Pseudotomentella* are better placed as species of *Polyozellus* and they are formally transferred to that genus. This is another example of how related fungi can adopt different bodily forms and how the shape of the fruitbody is not a good guide to relationships.
See: http://doi.org/10.3114/fuse.2021.08.11

Auricularia around the world

Global Diversity and Updated Phylogeny of *Auricularia* (*Auriculariales*, *Basidiomycota*) - Wu *et al.*
***J. Fungi* (2021), 7(11), 993. 71 pp.**

Many species of *Auricularia* are an important foodstuff around the world, especially those which we call Tree Ears or Jelly Ears. In Britain we have just one such species, *A. auricula-judae* but there is also another more bracket-like species in Britain, found on fallen wood, *A. mesenterica*. This recent paper examines the genus around the world and using genetic techniques everything in the genus is addressed. The authors include 37 species, sorted into 5 clades/complexes. There are 10 new species, from everywhere except Europe and North America.
See: https://doi.org/10.3390/jof7110933

Everything you ever wanted to know about *Telamonia*...

Mission impossible completed: unlocking the nomenclature of the largest and most complicated subgenus of *Cortinarius*, *Telamonia* - Liimatainen *et al.*
Fungal Diversity 104, pages 291–331 (2020)

If you have any interest in *Cortinarius* at all you will know that the subgenus *Telamonia* are some of the most archetypal Little Brown Mushrooms or LBMs. With hundreds of species they have always rightly been considered very difficult and confusing to identify. This groundbreaking paper has used sequencing of over 300 type specimens to finally sort out most of the subgenus, discovering numerous synonyms along the way. For the first time it is possible to hope that the *Telamonia* species of a particular area may be identifiable, albeit some requiring sequencing to do so.
See:
https://link.springer.com/content/pdf/10.1007/s13225-020-00459-1.pdf

Geoffrey Kibby

Fungal Portrait: 89

Rhodophana nitellina

Geoffrey Kibby

Fig. 1. *Rhodophana nitellina* growing from a rotted stump on White Downs, Surrey, October 13, 2021. Note the prominent white mycelial strands at the base of their stems. Photograph © Geoffrey Kibby.

The genus *Rhodophana*—recently split from *Rhodocybe*—is placed within the family *Entolomataceae* and like other members of that family has spores which are distinctly warted and sometimes rugulose. In mass the spores are a pale yellow to pale brown.

There are currently 11 species of *Rhodocybe* listed in the *Checklist of the British & Irish Basidiomycota* (CBIB), two of which have been transferred to *Rhodophana*, *R. nitellina* and *R. melleopallens*. Of these *R. nitellina* (Fr.) Papetti is arguably the more striking in appearance (Fig. 1). The cap and stem are a vivid orange to orange-brown, the adnate gills pale yellowish orange and the base of the stem has prominent white mycelial strands. The odour is extraordinarily strong, a mix of farinaceous with sweet overtones or even slightly fishy, closely resembling that of *Macrocystidia cucumis*. The taste is strongly farinaceous.

Its spores (Fig. 2) are ellipsoid to dacryoid (tear-shaped), 6.0–7.0 x 4–5 µm, and rugulose. Its habitat is usually given as in leaf litter and humus but the collection illustrated was scattered over a very rotted stump, possibly of *Castanea*. The wood was so soft and crumbly as to almost be humus. It was in a steep woodland on calcareous soil at White Downs, on the North Downs near Dorking in Surrey, October 13, 2021.

The Fungal Records Database of Britain and Ireland (FRDBI) includes approximately 21 records after removing duplicates and lists a range of habitats including both deciduous and coniferous forests. One of the records in 1987 was from Sheepleas in Surrey which is quite close to the site of the illustrated collection.

The other species now moved to *Rhodophana* is *R. melleopallens* which has a similar farinaceous odour but is a duller yellowish brown and has smaller spores 4.5–7 x 3–4 µm. It is an

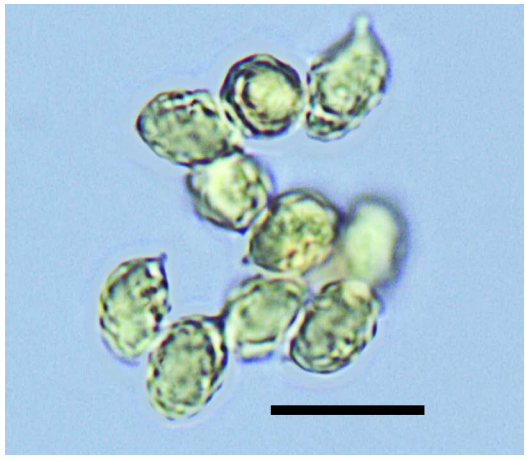


Fig. 2. Spores of *R. nitellina* showing their rugulose and somewhat angular shape. Photo © Geoffrey Kibby. Bar = 10 µm.

equally uncommon species found in mixed woods of both conifers and deciduous trees. See Mattock (2017) for a fuller discussion of this species. It appears to occur somewhat further north than is known for *R. nitellina*.

Rhodophana fuscofarinacea is a third species recently transferred from *Rhodocybe* that has not as yet been recorded in Britain and is altogether a darker brown with pale, pinkish brown gills. It is recorded from Scandinavian forests so might conceivably occur in northern Scotland. Its spores are 6–8 x 4.5–5 µm.

It appears that this small group of closely related species may be part of a further complex of species yet to be defined. For a fuller discussion of the break up of *Rhodocybe* see Henrici (2020)) where it is suggested that *R. nitellina* sensu *Funga Nordica* (Knudsen & Vesterholt, 2012) may be a different species from that found in southern England.

Among the species retained in *Rhodocybe* by far the commonest in Britain is *R. gemina*, a much larger species with a tricholomatoid stature and a pale ochraceous to pinkish buff cap; never as orange as in *R. nitellina*. Like other species in both genera it appears to be a saprotroph occurring in a wide range of habitat types. Once again it seems probable that a species complex is involved here needing a thorough review across Europe to sort out.

References

Fungal Records Database of Britain & Ireland (FRDBI). Accessed via https://basidiochecklist.science.kew.org (useful links, Field Mycology)

Henrici, A. (2020). What's been happening to *Rhodocybe*? *Field Mycol*. 21(3): 108–110.

Knudsen, H. & Vesterholt, J. Eds. (2012). *Funga Nordica*, Vol. 2. Nordsvamp, Denmark.

Legon, N.W. & Henrici, A. *et al.* (2005 –>) *Checklist of the British & Irish Basidiomycota* https://basidiochecklist.science.kew.org

Mattock, G. (2017). *Rhodocybe melleopallens* - a rarely reported species. *Field Mycol.* 18(4): 133.

Fig. 3. *Rhodocybe gemina* is a large, robust species, widespread in England. Perivale Nature Reserve, Middlesex, November 2019. Photograph © Geoffrey Kibby.

The importance of vouchers: *Cuphophyllus atlanticus* in Britain

Richard Fortey* & Stuart Skeates**

It may sometimes seem that preparing vouchers of unusual agarics is something of a chore. After all, if a species has been readily determined from one of the standard keys its occurrence can be entered on to the FRDBI, and thereby archived for the future. A voucher might appear to be superfluous. However, there are examples where vouchers saved for Kew have proved useful in cases of mistaken identity, particularly if photographs of the fruitbodies were taken at the time of the original collection. One such example follows.

During the period 8–15 September, 2012, the BMS "Upland Foray" was held on the small Isle of Bute on the southern side of western Scotland, to the north of Arran. From a base in the small town of Rothesay the usual format of day trips to explore different habitats was followed, ranging from mature beech woodland to pasture more or less exposed to the sea. On 12 September, a few examples of a small, greyish agaric were collected by the present writers among turf on a steep hillside in farmland in Glen More (Ettrick Bay). This collection proved to be an unusual species of *Hygrocybe* - in the sense that genus was understood at the time. With thick, widely spaced decurrent lamellae it evidently belonged to a section that included the familiar *H. pratensis*, and like that species had a rather firm texture compared with many of its brightly coloured relatives. We had available the first edition of Boertmann's excellent monograph on the *Hygrocybe* species of northern Europe (Boertmann 1995). The specimens in question were distinguished from another greyish species, *Hygrocybe lacmus*, by having a dry pileus surface (*H. lacmus* is almost viscid) and smaller spores (5–6 x 4–5 µm as opposed to 7–8 x 5 µm). We concluded we had found *H. canescens*, a species Boertmann described (1995, p. 44) as "an American species, which is very rare in Europe", an opinion endorsed by Candusso (1997).

H. canescens was first described from the state of North Carolina, USA, by Smith and Hesler (1942). From Britain, it has been recorded from a modest number of localities, predominantly in Scotland, but also in Wales, and always in unimproved grassland. Until our addition, only two localities were represented in the Kew collections, so a further collection might well have been a worthwhile supplement. *H canescens* evidently preferred westerly grassland habitats, so far as could be judged from its few previous occurrences in the British Isles.

In spite of an apparently secure determination a voucher was prepared from the original sample (and photographed, see Fig, 1) and in due course found its way to the national collections in Kew. That might well have been the end of the story. However, as was happening with many other familiar genera, the grassland *Hygrocybe* species were placed on the agenda for revision using modern DNA sequence evidence to identify plausible monophyletic taxa. The genus *Cuphopyllus* was revived to accommodate a clade that included the robust "Hygrocybes" with decurrent

Fig, 1. *Cuphophyllus atlanticus,* Isle of Bute 2012, coll. K(M)204786. Photograph © Stuart Skeates.

lamellae (Lodge *et al.* 2013), so at that stage the up-to-date name for our find would have been *Cuphophyllus canescens*. However, a subsequent study (Jordal and Larsson 2021) targeted collections attributed to *C. canescens*, and ITS gene sequence evidence revealed that Scandinavian and other European collections attributed to that species comprised a distinct clade, which was evidently a sister species to the true *C. canescens*. For this species the name *Cuphophyllus atlanticus* was proposed, with a type specimen from Norway. *C. canescens* was confined to North America, whereas *C. atlanticus* was a rare species on both sides of the Atlantic, particularly in maritime localities. The morphological differences cited by Jordal and Larsson (2021) were subtle to say the least: the cap colour when fresh of *C. canescens* has a brownish tone, while that of *C. atlanticus* is more lead-grey, while the stipe of the latter is more pure white than the "pallid purplish grey" of the former. Spore size differences are ambiguous, because of uncertainties in the original description of *C. canescens*. The North American species appears to be more associated with trees than is *C. atlanticus*, which is part of a typical assemblage of waxcap grassland fungi. The importance of the voucher from the Isle of Bute is that it was the best choice for sequencing as the most recent British collection, and yielded data identical to that obtained from sequencing the type specimen of *C. atlanticus* from Norway (M. Ainsworth pers. comm. 2021).

Another important point is that *C. atlanticus* is a species that appears on the red list for both Norway and Sweden (Jordal & Larsson 2021) - and hence Scotland and Wales may provide additional sites for its continued survival. It is probable that the other occurrences attributed to *C. canescens* in the FRDBI going back to 1985 would now be placed in *C. atlanticus*. This cryptic species provides a good example of why vouchers can attain importance for reasons that are not apparent at the time of their collection.

*48 St Andrews Road, Henley on Thames, Oxon RG9 1JD

** Thatched Cottage, 26 Bell street, Otterton, Devon, EX9 7HS

References

Boertmann, D. (1995). The genus Hygrocybe. Fungi of Northern Europe—Vol. 1. Svampetryk.

Candusso, M. (1997). *Hygrophorus* s.l. *Fungi Europaei* , 784 pp.

Jordal, J.B. and Larsson, E. (2021). *Cuphophyllus atlanticus* (*Hygrophoraceae*, *Agaricales*) – a new sister species to the N. American *C. canescens*. *Agarica* 42: 39–48.

Lodge, D.J., Padamsee, M., Matheny, P.B. *et al*. (2013). Molecular phylogeny, morphology, pigment chemistry and ecology in *Hygrophoraceae* (*Agaricales*) *Fungal Diversity* 64: 1–99 (2014). https://doi.org/10.1007/s13225-013-0259-0

Smith, A.H. and Hesler, L.R. 1942. Studies in North American species of *Hygrophorus*. *Lloydia* 5: 1–94.

Turn over the leaf litter

Joyce Pitt*

A November visit to Holly Hill reserve, Kent, in chestnut coppice woodland on damp soils derived from clay with flints with an abundance of damp leaf litter on the ground provided a host of *Mycena* species. In addition to large ones on stumps and stools such as *M. galericulata*, *M. inclinata* and *M. arcangeliana*, many tinies were found by overturning the damp leaf litter on the ground These included *M. smithiana* (Fig. 1), *M. capillaris*, *M. tenerrima* and *M. polyadelpha* as well as *Roridomyces roridus*, *Hemimycena tortuosa*, and *Delicatula integrella*.

Many of these species may not be as uncommon as the literature would suggest, merely overlooked unless one searches a little deeper.

* joycepittflora1@gmail.com

Fig. 1. *Mycena smithiana*, one of the species found under leaf litter. Photo ex Wikimedia Commons, © Arne Aronsen/Naturhistorisk museum, Universitetet i Oslo.

A new British record from a railway station near Slough

A. Martyn Ainsworth*, Brian Douglas* & Richard Wright*

The genus *Eichleriella* in Britain

The genus *Eichleriella* was originally introduced by Bresadola (1903) who placed it within the jelly fungus family *Tremellaceae*. It was characterised by having a combination of resupinate *Stereum*-like basidiomata and basidia which were divided into two or four compartments by intersecting longitudinal septa (cruciate septate basidia) just like those seen in *Tremella*.

In recent times, the only member of the genus recorded in Britain has been *Eichleriella deglubens*. Historically, however, the name *E. spinulosa* (= *Radulum spinulosum*) had been applied to this species and this name appears, for example, in Reid & Austwick's (1963) account of Scottish aphyllophoroid fungi, despite Reid's evident misgivings. Six years earlier, Reid (1957) had examined the microscopical characters of a dozen British specimens filed as *R. spinulosum* and found that they significantly differed from those of the American type. It was clear to Reid that British collections had been consistently misdetermined and a more appropriate name was required. To this end, Reid (1957) and Reid & Austwick (1963) recommended adopting the name *E. deglubens* for the British species. This was a recombination of *R. deglubens* (Berkeley & Broome, 1875) which, until then, had been regarded as a later synonym of *R. spinulosum*. *Radulum deglubens* has an original description based on material from Forres, Scotland (not England as stated in Wells & Raitviir, 1980) and a Scottish lectotype (K(M)59747) designated in Wells & Raitviir (1980).

Reid (1957) and Reid & Austwick (1963) ascribed the combination *E. deglubens* to C.G. Lloyd (Lloyd 1913), but this proved to be rather problematical as subsequently acknowledged in Reid (1970). The problem centred on Lloyd's eccentric and entertaining habit of repeatedly introducing new fungal names in his privately published articles, but with his imaginary friend, Prof. N.J. McGinty of Poseyville, cited as their author. As far as Lloyd (1913) was concerned, the recombining author for *E. deglubens* was McGinty. Revisiting the issue, Reid (1970) changed his mind about the validity of the recombination by Lloyd (as McGinty) and introduced the combination *E. deglubens* (Berk. & Broome) D.A. Reid. This was the sole representative of *Eichleriella* to be listed in both the printed British & Irish checklist (Legon & Henrici, 2005), wherein the combination was ascribed to Reid, and in the online checklist (CBIB), where it was ascribed to Lloyd.

Fig. 1. *Stereum*-like basidiomata of (left) *Eichleriella leucophaea* K(M)264578 on dead attached twigs (ca. 5 mm diam.) of Snowberry (*Symphoricarpos albus*) found outside Langley Station, Buckinghamshire, 28 Jul. 2012 and (right) *Heteroradulum deglubens* on fallen branch of *Fagus sylvatica* on Wolstonbury Hill, W. Sussex, 8 Oct. 2016. Photographs © Martyn Ainsworth.

At the time of writing, there is still no consensus among nomenclatural specialists whether to accept McGinty's names as validly published and, if so, whether to cite Lloyd or the fictitious McGinty as author. Lloyd was totally opposed to the convention of appending authors' names to scientific names, which he viewed as nothing more than personal advertisement, and thus McGinty was repeatedly invoked as a device to mock the "name jugglers" and the unbending "laws" of nomenclature. The nomenclatural confusion around McGinty's names that has reverberated globally for more than a century would undoubtedly have delighted Curtis Gates Lloyd, a man who "prided himself on his eccentricity" (Fitzpatrick, 1927).

...alas *Eichleriella deglubens* is no more

Concern was expressed on several occasions, for example in Reid (1970) and Wells & Raitviir (1980), about the microscopic characters of *E. deglubens* and how they differed from those shared by other members of the genus, especially with respect to the generic type *E. incarnata*. For example, the basidium of *E. deglubens* can be twice as long and more clavate, or obconical, than typical for the genus. Moreover, the basidial base often develops an "enucleate stalk", a short hyphal compartment interposed between the swollen basidial body and the first clamped septum, a structure which rarely develops in most *Eichleriella* species. However, a DNA-informed revision of the genus did not take place until the recent molecular phylogenetic study of Malysheva & Spirin (2017), which fully supported the splitting of *Eichleriella*. One of their three newly recognised genera was *Heteroradulum* Lloyd, another resurrected and validated McGinty name, typified by *Radulum kmetii* (= *E. kmetii*). Malysheva & Spirin (2017) selected a sequenced collection of *R. kmetii* as lectotype and showed that its barcode sequence nested within a phylogenetic cluster close to, but distinct from, those of several (non-British) collections morphologically assigned to *E. deglubens*. Based on this evidence, together with a morphological analysis of the Scottish lectotype, they transferred *E. deglubens* to *Heteroradulum*. Although *E. kmetii* had been accepted in Britain as a synonym of *E. deglubens* (Legon & Henrici, 2005), following Wells & Raitviir (1980), it is now clear that it is a distinct species and, thus far, unknown in Britain.

...so is the genus *Eichleriella* represented in Britain?

It seemed that the answer to this question was going to remain in the negative until an unfamiliar stereoid fungus resembling *H. deglubens* in its pinkish colour, but with a markedly thinner and smoother texture, was collected by one of us (AMA) on 18 June 2011 on dead attached twigs of a planted Snowberry (*Symphoricarpos albus*) adjacent to the car park of Langley Station in Buckinghamshire VC24 (Grid Ref. TQ0126 7982). The site was revisited on 28 July 2012 and the fungus was found again, collected, photographed (Fig. 1, left) and preserved at Kew as

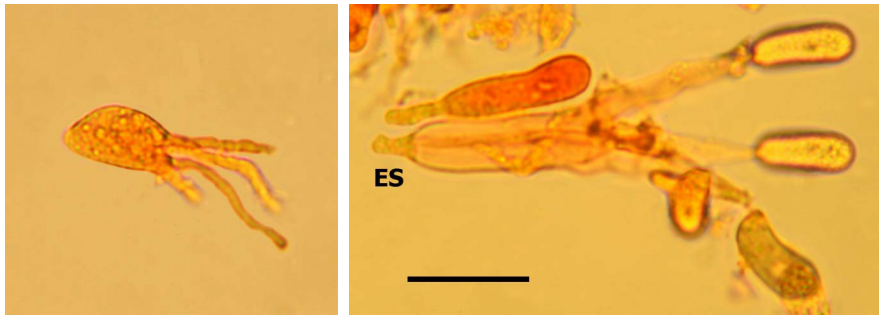


Fig. 2. Congo red stained preparations of cruciate-septate basidia of (left) *E. leucophaea* K(M)264578 and (right) a reference specimen of *H. deglubens* K(M)264365 found on a fallen branch of *Fraxinus excelsior* on Winter Hill, Berks, 14 Jan. 2012 with "enucleate stalk" indicated by ES. Scale bar represents 20 µm. Micrographs © Martyn Ainsworth.

K(M)264578. Basidiomata of *H. deglubens* are usually recognisable in the field by the sparse clusters of wide-based spines and warts which project from the lilac-pinkish hymenium (Fig. 1, right). Since these were absent in the relatively papery-thin Langley specimens, whose edges were also curling more prominently than is usual for *H. deglubens*, a microscopic examination was carried out. Spores were measured in water from a spore print and hymenial squash preparations were examined in Congo red. Similar preparations were made from material of *H. deglubens* for side-by-side comparison of basidia (Fig. 2). The ovoid-ellipsoid septate basidia of the Langley material were in accordance with those of true *Eichleriella* species, whereas those of the *H. deglubens* reference material were much longer, more clavate and usually had a distinct basal "enucleate stalk" separating the basidial body from the subtending clamp connection. Basidiospores from both collections were allantoid. Those from the Langley material measured 12.8–18.0 x 4.5–6.4 µm and were clearly narrower than those from the *H. deglubens* reference which measured 12.5–21.8 x 6.7–8.0 µm. The Langley fungus appeared to be referable to *Eichleriella*, and therefore new to Britain, but to which species did it belong? This puzzle was not resolved until the opportunity arose to sequence the material and analyse the results in the context of Malysheva & Spirin's (2017) taxonomic revision.

DNA sequencing and phylogenetic analysis

DNA of the required quality was successfully extracted from a Kew fungarium specimen filed as *H. deglubens* K(M)180914 which was collected in Olrig Wood, Caithness, by D.J. Savage in 2012 as part of Kew's Lost & Found Fungi project. The ITS region was amplified and sequenced (GenBank MW485791) and a corresponding ITS sequence was obtained from fungarium collection K(M)250960 which was collected from Monks Wood, Huntingdonshire, by S.E. Wells as part of the BMS' Fungus 2000 project. This sequence was generated as part of Kew's participation in the international Global Genome Initiative and deposited in GenBank as MZ159727 filed under the genus *Eichleriella*. DNA was extracted from the Langley specimen of *Eichleriella* K(M)264578 using Extract-N-Amp (Sigma-Aldrich) and the full ITS region was amplified and sequenced (GenBank MW485789) following the methods outlined in Suz *et al*. (2014).

To study the phylogenetic placement of the studied samples, representative sequences from Malysheva & Spirin (2017) were downloaded from GenBank and incorporated in our analysis.

Results of DNA analysis

The two sequences generated from the English and Scottish specimens filed as *H. deglubens* clustered in accordance with the concept of this species as delimited in Malysheva & Spirin (2017). This result was very reassuring, bearing in mind that the sequences published by Malysheva & Spirin (2017) did not include any of British origin and the Scottish lectotype of *H. deglubens* has apparently not been sequenced. The sequence derived from the Langley collection K(M)264578 clustered unequivocally with those of *E. leucophaea* sensu Malysheva & Spirin (2017), although they acknowledged that this lineage did not receive strong support in their phylogenetic analyses (intraspecific ITS variability of 2.4–3.0%). Nevertheless, on morphological grounds (thicker basidiomata and wider basidiospores), they decided to describe three closely related central Asian specimens from the *E. leucophaea* cluster as the new species *E. bactriana*. Unfortunately, this means that their *E. leucophaea* clade included sequences of *E. bactriana* (Malysheva & Spirin, 2017 Figs 1 & 2), which is perhaps not the most desirable outcome. It remains to be seen, therefore, whether further sequencing can bring greater resolution to this lineage. The macro-and micromorphological characters of the Langley collection K(M)264578 were a closer match to those described for *E. leucophaea* in Malysheva & Spirin (2017) than to those of *E. bactriana*.

Our results confirmed that *H. deglubens* and *E. leucophaea*, as currently understood, should both be accepted on the British & Irish list.

Eichleriella leucophaea in Europe

Bresadola (1903) originally introduced the genus *Eichleriella* to accommodate two European species: the generic type *E. incarnata* and *E. leucophaea*. Wells (1962) retained these two species (albeit within *Exidiopsis*), but relegated *E. incarnata* to the synonymy of *E. alliciens*, a species described from Brazil which had the earlier basionym. Wells & Raitviir (1980) contin-

ued to uphold this synonymy, although they admitted they harboured some doubts and listed a series of differences between the synonymised species. Malysheva & Spirin (2017) also had similar doubts, and after examining type material of all three species came to a different taxonomic conclusion. They regarded *E. alliciens* as a distinct American species, whereas Bresadola's two original European species, *E. incarnata* and *E. leucophaea*, were one and the same thing. They favoured the adoption of the more familiar name *E. leucophaea* to establish priority and listed *E. incarnata* as a synonym. Not surprisingly, therefore, historical European collections of *E. leucophaea* sensu Malysheva & Spirin (2017) are likely to be filed under any of these three names and a thorough re-examination would be in order.

Eichleriella leucophaea seems to be a widespread European species whose historic distribution includes records from Austria, Bulgaria, France, Germany, Italy, Norway and Poland (Krieglsteiner, 2000; Prieto-García *et al*., 2010; Malysheva & Spirin, 2017). More recent sightings have been documented with photographs and descriptions from Italy (Saitta, 2015), Spain, where it is described as very common but poorly known, (Prieto-García *et al*., 2010) and the Netherlands (de Vries, 2004; Arnolds *et al*., 2015; NMV 2020). Throughout this range it is found on fallen and attached dead twigs and branches from a wide range of broadleaved trees and shrubs. Is its British distribution restricted to planted Snowberry outside a railway station in Buckinghamshire?

Acknowledgements

We would like to express our gratitude to our colleague Laura Martinez Suz for kindly generating the ITS sequence from *E. leucophaea* K(M)264578, to Kew's GGI partners at the Smithsonian Institution's National Museum of Natural History who sequenced *H. deglubens* K(M)250960, to Sheila Wells for collecting K(M)250960, to Dave Savage for collecting K(M)180914 and to the Esmée Fairbairn Foundation for providing financial support to Kew's Lost & Found Fungi project.

* Royal Botanic Gardens, Kew, TW9 3AE.

References

Arnolds, E., Chrispijn, R. & Enzlin, R. (2015). *Ecologische atlas van paddenstoelen in Drenthe* 3. Paddestoelen werkgroep Drenthe, Beilen.

Berkeley, M.J. & Broome, C.E. (1875). Notices of British fungi. *Ann. Mag. nat. Hist*., Ser. 4 15(no. 85): 28–41.

Bresadola, G. (1903). Fungi Polonici a cl. viro B. Eichler lecti. *Annls mycol*. 1(2): 97–131.

de Vries, B. (2004). *Eichleriella alliciens* zoekt asiel in Nederland. *Coolia* 47(3): 168.

Fitzpatrick, H.M. (1927). Curtis Gates Lloyd. *Mycologia* 19(4): 153–159.

Krieglsteiner, G.J. (2000). *Die Groflpilze* Baden-Württembergs 1. Ulmer, Stuttgart.

Legon, N.W. & Henrici, A. (2005). *Checklist of the British & Irish Basidiomycota*. RBG Kew, London.

Lloyd, C.G. (1913). Note 79, *Eichleriella deglubens*, McGinty. *Mycol. Writ*. 4 (Letter No. 45): 1–8.

Malysheva, V. & Spirin, V. (2017). Taxonomy and phylogeny of the *Auriculariales* (*Agaricomycetes*, *Basidiomycota*) with stereoid basidiocarps. *Fung. Biol*. 121(8): 689–715.

NMV Verspreidingsatlas Paddenstoelen: *Eichleriella alliciens* (2020). https://www.verspreidingsatlas.nl/0308020# Accessed 28 Oct 2020.

Prieto-GarcÌa, F., Moreno, G., Gonz·lez & Zamora, J.C. (2010). *Eichleriella leucophaea*, una especie poco conocida. *Bol. Soc. Micol. Madrid* 34: 61–67.

Reid, D.A. (1957). New or interesting records of Australasian Basidiomycetes: III. *Kew Bull*. 12(1): 127–143.

Reid, D.A. (1970). New or interesting records of British hymenomycetes, IV. *Trans. Brit. mycol. Soc*. 55(3): 413–441.

Reid, D.A. & Austwick, P.K.C. (1963). An annotated list of the less common Scottish Basidiomycetes (exclusive of rusts and smuts). *Glasg. Nat*. 18(6): 255–336.

Saitta, A. (2015). First record of *Eichleriella leucophaea* (*Basidiomycota*) from Italy. *Check List* 11(6) Article 1796: 1–3.

Suz, L.M., Barsoum, N., Benham, S., Dietrich, H.P., Fetzer, K.D., Fischer, R., Garcia, P., Gehrman, J., Kristöfel, F., Manninger, M., Neagu, S., Nicolas, M., Oldenburger, J., Raspe, S., Sánchez, G., Schröck, H.W., Schubert, A., Verheyen, K., Verstraeten, A. & Bidartondo, M.I. (2014). Environmental drivers of ectomycorrhizal communities in Europe's temperate oak forests. *Molecular Ecology* 23: 5628–5644.

Wells, K. (1962) [1961]. Studies of some *Tremellaceae*. IV. *Exidiopsis*. *Mycologia* 53(4): 317–370.

Wells, K. & Raitviir, A. (1980). The species of *Eichleriella* (*Tremellaceae*) of the U.S.S.R. *Mycologia* 72(3): 564–577.

Gerronema: known in Britain?

Alick Henrici*

My answer to this question is "No", certainly not now and unlikely in the future, despite two species being listed in the printed version of CBIB (Legon & Henrici, 2005). My first attempt at this answer, started ten years ago, grew so long and complex that I abandoned it as unreadable. Some complexity remains.

Gerronema is a genus described by Singer in 1951 for three Argentinian species. By the final (fourth) edition of *The Agaricales in Modern Taxonomy* (Singer, 1986) he had expanded it to 59 broadly omphalioid species, around 20 of them European, supposedly united by possession of inflated hyphae in the trama. Most of these have since been redistributed to a wide range of other genera. Watling & Turnbull (*British Fungus Flora* Vol.8, 1998) accepted just two as British and without an obvious better home, *G. prescotii* and *G. stevensonii*. They were accordingly listed in CBIB.

These two species were simultaneously added to the British mycota in 1875, both in *Cantharellus*, as successive entries in Berkeley & Broome's *Notices of British Fungi*. No.1421 *C. albidus* from Coed Coch in N.Wales had been described by Fries. The somewhat similar No.1422 *C. stevensonii* from Angus, Scotland was new to science. They are discussed in turn below, followed by some notes on a forgotten *Omphalia* described from Derbyshire, seemingly belonging in or near *Chrysomphalina* and thus also for some a *Gerronema*.

Gerronema prescotii (Weinm.) Redhead

This somewhat resembles a pale *Hygrophoropsis*, differing in thick, strongly forked gills, slightly smaller spores 4–6 x 2.5–4 µm, and no clamps. It is illustrated in Ludwig (2000), in FTE (Læssøe & Petersen, 2019) and here (Fig.1). It can now be safely dismissed from *Gerronema*, having a much better home provided by Kuyper in its own monotypic genus *Cantharellopsis*. This move received molecular confirmation in Redhead *et al.* (2002) where it was shown to belong to the agaricoid *Hymenochaetales*, thus treated by Elborne in *Funga Nordica* a long way from *Gerronema* (*Agaricales* near *Hydropus*). This move was missed in the printed CBIB but rectified in 2011 in Update 5. It is also, as I now argue, very doubtfully British.

Fig. 1. *Cantharellopsis prescotii*, formerly placed in the genus *Gerronema*. Photo © Rene Lebeuf.

G. prescotii started life as *Cantharellus prescotii* Weinm., described by Weinmann (1832) from St Petersburg with no explanation of its strange epithet. Fries (1836) initiated much confusion by citing it in support of his own *Cantharellus albidus*. Confusion arose since he had originally (1821) cited a quite different species *Merulius undulatus* Pers. as a synonym of *Cantharellus albidus*. Redhead (1984) reviewed this confusion, which led him to abandon *C. albidus* altogether as a *nomen dubium*. He found that most later authors had followed Fries's second concept.

Berkeley & Broome, however, described their Welsh collection as "exactly agreeing with the collection in *Flora Danica*". Thus they, exceptionally, were using Fries's original 1821 concept, unrelated to what is now *G. prescotii*. The *Flora Danica* illustration, reproduced by Consiglio & Setti (2007), with its accompanying Persoon description, is now agreed to show an unusually pale *Craterellus undulatus*.

In 1933 René Maire used Fries's second concept and combined *Cantharellus albidus* in *Hygrophoropsis*. K&R (1954) followed Maire and gave a detailed description. The 'New Check List' = NCL (Dennis, Orton & Hora, 1960) and Corner (1966) both mistakenly assumed Berkeley's material belonged to this Kühner concept, resem-

bling a pale unclamped *H. aurantiaca*, though only Corner cited *C. prescotii* as a synonym. It later became obvious that Kühner's species didn't belong in *Hygrophoropsis*, a genus of clamped species with dextrinoid spores; hence the move to its own genus *Cantharellopsis*. Consiglio & Setti (2007) gave a detailed account of this history when reporting *Cantharellopsis prescotii* found with *Abies* in Switzerland and Italy.

The account in Watling & Turnbull (1998) as *Gerronema prescotii* is mostly taken verbatim from Corner (1966) who wrote: A fungus agreeing exactly with the description of Kühner and Romagnesi, which I have used, occurs around Cambridge". The extensive British distribution suggested in Watling & Turnbull, expanded from Corner, bears no relation to the habitat agreed in recent literature, e.g. Ludwig (2001): "very rare species growing among mosses in coniferous woods on calcareous ground in higher or boreal regions". It isn't clear what Corner had been finding around Cambridge.

Gerronema stevensonii (Berk. & Broome) Watling

The type was collected by the Rev. John Stevenson from Glamis, Angus in March and April 1874 "on very rotten wood amongst moss". This and three further packets of Stevenson's material are in Kew, but once again only Corner in East Anglia has ever claimed to have recorded it since. In NCL it was reduced to a synonym of *Hygrophoropsis albida*.

A translation of the Latin type description reads: Pileus orbicular, umbilicate, pallid, smooth; margin inflexed; stipe cylindric, lightly white powdered becoming darker; gills decurrent, pale, browning with age. Berkeley added "Pileus about 2 lines across; stem 1/4 inch high, 1/2-line thick, with a little white mycelium at the base [1 line approx. = 2 mm]". Cooke (1890) published a far from contemporary illustration - see Vol.7 No.1064(1111)B. Neither gets us very far.

The description and distribution given in Watling & Turnbull is again taken from Corner (1966) who had there given it a new combination in *Hygrophoropsis*, but rejected the NCL synonymy as he considered it clamped. He wrote "I have examined the type at Kew and I find no difference from a fungus occasionally met with in the Breckland of East Anglia, except that the original description referred to a small fruit-body (pileus 4 mm wide, stem 6 x 1 mm)". It is unclear how much he was able to discern in the type material apart from "a few spores 6–7 x 3–3.5 µm".

The bulk of Corner's fairly detailed description appears to be taken from his own East Anglian collections. If this description is keyed out in *Funga Nordica* one arrives at *Arrhenia baeospora*, a rare and little-known species of similar habitats and only fairly minor differences, unknown in Britain but present in the Netherlands. It won't be what Stevenson found in Angus. Just conceivably he, and nobody in Britain since, had actually found *Cantharellopsis prescotii*. The habitat is plausible, but unless someone can extract more characters (or even DNA?) from the type, this is wild speculation.

Material of Corner's E. Anglian concepts of both species should be in his herbarium held at Cambridge. It could do with reexamination.

Gerronema in Kew and on FRDBI

The British *Gerronema* covers at Kew hold only the Stevenson material of *G. stevensonii* plus a single Scottish collection determined at Kew as *G. albidum* (though in what sense isn't clear). This was on *Sphagnum* at Loch Duartmore, NW of Kylescu Bridge, W. Sutherland, 6 May 1990. There are spore drawings 4.5 x 2.5–3 µm, but no further notes. These would be plausible for *G. prescotii* but the habitat less so.

In contrast to Kew, FRDBI has 20 records listed as *G. albidum*. Most are wrongly placed there, having been submitted as *Hygrophoropsis aurantiaca* var. *albida*, an unpublished combination for the unrelated rather common pale form of *H. aurantiaca*. This combination was published by Gillet only at the rank of forma, and raised to a variety by Rea only in *Clitocybe*. The few other FRDBI records are all unvouchered and only one cites a named identifier. They are in the main ancient, sparsely documented and ecologically implausible.

Could *Omphalia allenii* be a *Gerronema*?

This is a species described by Maire (1910) found on the 1909 BMS foray in Derbyshire at the south end of Manners Wood near Bakewell on a rotten hardwood stump and named for W.B. Allen, a Shropshire pottery owner and a founder embereof the BMS. The material appears not to have survived (unless Maire took it back to

France) but the original of the accompanying illustration is in Kew and reproduced here (Fig. 2). It was accepted in NCL, 1960 with a combination by Orton in *Omphalina* though "not collected in recent years" (or indeed ever again?) but excluded as dubious in CBIB.

Maire gave a fairly detailed description and an illustration, considering it "closely allied to" *O. chrysophylla* and *O. xanthophylla*. The first of these, a conifer species known from Scottish pinewoods, is now usually placed in *Chrysomphalina*. The second (not British) appears to remain in some taxonomic confusion, though again confined to conifers. In *Funga Nordica* Elborne lists it with many synonyms as *Gerronema xanthophyllum*, the only native Nordic *Gerronema*, with spores mainly 6–9 x 3.5–5.5 µm. Another concept, with considerable overlapping synonymy, is given in Breitenbach & Kränzlin (1991) under the name *Chrysomphalina strombodes*, assigned to a collection with spores only 4.5–6 x 3.5–4 µm. *Chrysomphalina* for *Funga Nordica* lacks clamps or cheilocystidia, while *Gerronema xanthophyllum* has both. Maire's English species on hardwood, said to lack cystidia, clamps not mentioned, remains mysterious. In summary, *Gerronema* has no place in the British mycota unless firstly someone turns up the type of *O. allenii* or finds a convincing candidate for a neotype; secondly they get it sequenced; thirdly they find it to be clearly a better fit to *Gerronema* than to *Chrysomphalina*.

*8, Victoria Cottages, Sandycombe Rd., Richmond, Surrey TW9 3NW

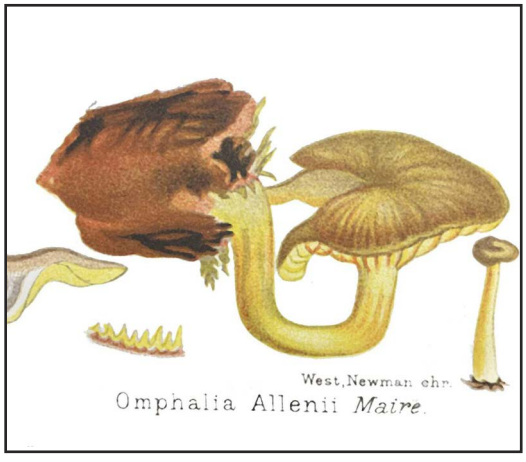


Fig. 2. Original illustration of *Omphalia allenii* by René Maire in *Trans.Brit.Myc.Soc*. 3: 169, (1909).

References

Berkeley, M.J. & Broome, C.E. (1875) Notices of British Fungi. *Ann. Mag. Nat. Hist*. Ser. 4: 15.

Breitanbach, J. & Kränzlin, F. (1991). *Fungi of Switzerland*, Vol.3. Edition Mykologia, Lucerne.

Consiglio, G. & Setti, L. (2007). Una specie interessante: *Cantharellopsis prescotii*. *Boll. Grup. Mic. Bres*. 50(1-3): 121–132.

Cooke, M.C. (1890). *Illustrations of British Fungi*, Vol.7.

Corner, E.J.H. (1966). *A monograph of Cantharelloid fungi*. Oxford Univ. Press.

Courtecuisse, R. & Duhem, B. (1995). *Mushrooms & Toadstools*. HarperCollins,

Dennis, R.W.G., Orton, P.D. & Hora, F.B. (1960). *New Check List of British Agarics and Boleti*. Cambridge Univ. Press.

Elborne, S.A. (2012). *Cantharellopsis* (p.81) and *Gerronema* (p.340) in *Funga Nordica* Vol. l. Nordsvamp.

Fries, E. (1821). *Systema Mycologicum*.

Fries, E. (1836). *Epicrisis Systematis Mycologici*. Uppsala.

Kühner, R. & Romagnesi, H. (1954). *Hygrophoropsis albida*. In *Compléments à la "Flore Analytique"*. Reprint: J.Cramer (1977).

Laessoe, T. & Petersen, J.H. (2019). *Fungi of Temperate Europe*. Princeton Univ. Press.

Legon, N.W. & Henrici, A. (2005). *Checklist of the British & Irish Basidiomycota*. Royal Bot. Gardens, Kew.

Ludwig, E. (2000, 2001) *Pilzkompendium* Part 1, IHW Verlag, Eching.

Maire, R. (1910). Some new and interesting British Hymenomycetes gathered at the Baslow Fungus Foray, 1909. *Trans. Brit. Myc. Soc.* 3: 169 and Plate 11.

Redhead, S.A. (1984). *Arrhenia* and *Rimbachia*, expanded generic concepts and a reevaluation of *Leptoglossum* with emphasis on muscicolous North Amer taxa. *Can. J. Bot*. 62: 865–292.

Redhead, S.A., Moncalvo, J.M., Vilgalys, R., & Lutzoni, F. (2002). Phylogeny of agarics: partial systematics solutions for bryophilous omphalinoid agarics outside of the *Agaricales* (euagarics). *Mycotaxon* V. 151-168.

Singer, R. (1951). New Genera of Fungi V. *Mycologia* 43: 598–604.

Singer, R. (1986). *The Agaricales in Modern Taxonomy*, 4th Edn. Koeltz.

Watling, R. & Turnbull, E. (1998). *British Fungus Flora*, Vol. 8. Royal Botanic Garden, Edinburgh.

Weinmann, J.A. (1832). Observationes quaedam mycologicae ad floram Petropolitanam spectantes. *Flora* (*Jena*) 29: 449–460.

Roger Phillips 16 Dec. 1932—15 Nov. 2021, a personal reflection

Geoffrey Kibby*

If one of the measures of a person's life is how many other lives he or she touches and changes then by any measure Roger Phillips' life was one of enormous influence.

I first met Roger at a BMS Autumn Foray in Surrey in 1979. He was there to photograph fungi for a book he was working on and soon to be published. Like everyone there I was fascinated by this larger than life character and in particular by his technique of photography. Rather than shooting photos in the field, as we all usually did, he would bring them back to the workroom and there place them inside a white, open-fronted box that had a sloping roof and with a flash bouncing off the back wall of the box. This produced an almost shadowless lighting allowing every aspect of the fungus to be seen clearly and evenly illuminated.

I soon got into conversation with him and learned how to construct my own such box out of sheets of artist foamcore board. I learned also that he lived in London and was keen to get as many species as possible for his book. As I also lived in London I asked if he would like to go to some of my favourite sites to see if we could tick off some of the species on his Wanted List. He agreed and thus began what was to become a friendship of over 40 years.

I turned up at his basement studio in Eccleston Square and immediately entered an amazing Aladdin's Cave. In those days he was still shooting photos professionally for books and magazines, mostly food photography. His studio and adjoining kitchen was stuffed with an incredible range of cookware, china plates, bowls and accessories of every kind, even hanging from hooks all the way up the stairs. I was able to see how such photos are prepared and to see some of the tricks of the trade such as bits of aluminium foil placed under and behind glasses to reflect the flash back through them and to make them sparkle. I was also able to partake of many of the dishes once the photography was over.

We duly travelled to some of my sites and started collecting and almost immediately we 'clicked'. We both had a passion for mycology and photography and loved to foray for new and exciting species. That one trip rapidly expanded to many, many trips and over the next two years we travelled the length and breadth of the country, always looking for those few elusive species that he still wanted for his book.

When we got back to the studio the long process of laying out the specimens on a large table, with a backing of plain-coloured sheets of paper began. Instead of the portable white box he used on his travels he had a pair of huge studio flashes with translucent hoods to give the necessary soft light. This was all pre-digital and Roger kept large stocks of Ektachrome slide film in a fridge so that he would have a consistent colour film stock throughout. Gradually my role became that of note-taker for each collection. Roger kept large ledgers in which I would write the collection number, locality, smell, taste, chemical tests, etc and later spore size if we measured it.

This often took several hours if we had a lot of collections until he had to be reminded by his partner Nicky Foy that his dinner was nearly ready! He would take five or six different exposures of each collection to ensure that at least one would be perfect and once processed these strips of slides would be placed into a brown envelope along with the dried specimen and any other notes. Every collection that was photographed was subsequently dried, making this collection an extremely important resource for any future studies.

One trip which stands out in my mind took place the following year, 1980, in Scotland. We were both attending the BMS Autumn Foray in Glasgow and we received news that the year before a serious poisoning had occurred due to some campers eating the notorious *Cortinarius*

rubellus (or *C. speciosissimus* as it was called then). Roy Watling, the mycologist at the Royal Botanic Garden in Edinburgh had been called in on the case and was able to give Roger the precise location of the mushrooms. This was an important species that Roger was desperate to include in the book but the site was about a 500 mile round trip, away up in the far north of Scotland. So we duly set out after breakfast and drove for many hours to reach the site. We followed Roy's directions to the letter, even finding the campsite where the unfortunate people had stayed but no mushrooms. We returned to the car heavy-hearted only to find a large collection just a few yards from where we were parked! We returned too late for dinner, tired and a little ratty from exhaustion but satisfied with achieving our goal.

Eventually the time came when he had to finalise the book. He did all the layout himself before passing the final product to the publishers. The book was published by Pan Books in 1981 and immediately became a huge success. Of large format (A4), 288 pages and with many of the fungi being reproduced at life size there had been nothing like this available before. At that time the standard book for most British mushroomers was the original, small, Collins Guide to Mushrooms and Toadstools by Lange & Hora, last reprinted in 1978.

Roger's book was a revolution in how to present fungi and certainly the most complete photographic guide available at that point. Very soon it began to appear in every collector's basket or backpack and today, 40 years later is still probably the commonest book that beginning mycologists purchase, now in its updated and expanded, slightly smaller page size, 2006 edition (if you can get the original edition second hand then do so, it has better colour reproduction). There can be few such books that remain as a standard for 40 years, a testament to Roger's dedication, hard work and knowledge of his subject.

During the time that we went foraying together we both developed a fascination with the genus *Cortinarius*. Partly this was because they were often beautifully coloured and Roger wanted to include a large number of species in the book. But later it was the challenge of trying to identify them. The genus contains more species than any other and they are often poorly known and difficult to identify. We would spend hours poring over the classic texts and iconographies such as Fries, Konrad and Maublanc, Lange, Cooke, etc, doing our best to put names on the collections. Roger took thousands of photos of the species we found and very graciously let me have some of the exposures from each session. I still have those in subgenus *Phlegmacium* and *Myxacium* while all those of subgenus *Telamonia* he agreed to give to Kew along with his dried material to assist with the ongoing studies there into that subgenus.

I think somewhere in the backs of our minds we thought that perhaps one day we might produce a book just on *Cortinarius*. Sadly that was not to happen; the literature of the day was just too poor or difficult to interpret and despite input from such giants of mycology as Peter Orton and Meinhard Moser, both of whom came to the studio to look at the photos, I think we realised we were out of our depth. This was all pre-DNA sequencing of course, that amazing tool that has opened so many doors and allowed for the first time a more accurate identification of species. It was with great pleasure therefore that I was recently able to give to Roger a copy of my own book which included around 350 species of *Cortinarius*, possible because of the input of sequencing and the help of the *Cortinarius* specialists at Kew. I felt that somehow our studies together had finally come full circle and borne fruit.

Roger's mushroom book went from success to success and was soon translated into numerous foreign languages and remains one of, if not THE best selling books on the subject of all time. Ask almost anyone who looks at fungi what book they started with and indeed continue to use and the majority will name Roger's book.

Of course mushrooms were not the only subject he covered. He went on to produce books on wild flowers, ferns, mosses, greenhouse plants, wild foods, even fishes. Roger is single-handedly responsible for encouraging and helping thousands of people to pursue and love some branch of natural history.

One of his other most popular books was the one on Wild Food, published in 1988, one section of which covered fungi. One of my fondest memories is of going with him to Grays Chalk Pits in Essex and finding large quantities of morels. This was when elms were still dying in large numers, a favourite host for morels. He

collected, prepared and cooked the morels on the spot, arranging the dish for the photograph that appears in the book and we then dined on the morels immediately afterwards—happy days indeed. Sadly, the area of the pit where the morels were found was built over and is now a housing estate. About a half the pit remains as a nature reserve.

Roger's knowledge of garden plants was exceptional and over the course of many years he transformed the Eccleston Square gardens, in the square where he lived, from the rather boring, hum-drum gardens that they once were into one of the most important gardens in London. He had a particular love of roses (another of his many wonderful books) and *Ceanothus* and rapidly built up a large collection of the latter, which were to become the National Collection. The gardens open each year for a day or two in the summer as part of the open gardens scheme and are well worth a visit.

Throughout this time we kept in touch and when I moved to America for a while and got married there he and Nicky flew out to attend the wedding and then joined us at the Northeast Foray that took place soon after. By then he was starting to shoot photos for a companion volume on the mushrooms of North America, and just as happened here that book became a staple part of the library of any mycologist in North America.

With his effervescent character, trademark bright red glasses, ready wit and huge breadth of knowledge Roger was always a popular speaker, leader of forays, advocate for wild foods and beloved by everyone he met. The outpouring of affection on Facebook and similar social media sites following his death is a testament to the huge number of people whom he met, encouraged and influenced.

There are very few mycologists of his stature, character and influence and I consider myself blessed to have known him and shared so many adventures with him. He inspired me to start producing my own books and although we saw less of each other as the years went by as we each drifted off into other projects, he was always there at the end of the phone or for the occasional visit. We would then each catch up on what the other was doing and what plans we had for the future.

I will miss him greatly but his legacy will go on into the future in the form of his books and all those people that he inspired to pursue this fascinating study of mycology. My love and sympathy goes out to Nicky and their children.

Roger Phillips 16 Dec.1932 — 15 Nov. 2021.

I am indebted to Austin Lill for this lovely photograph of Roger which shows him as he will be remembered by me and so many: full of life and energy and with a love and passion for the natural world around him.

*Editorial address

Plasmopara muralis, a downy mildew on *Parthenocissus* (Virginia creepers), has arrived in Britain

Chris D. Preston*

The history of the oomycete fungoid *Plasmopara muralis* has some parallels to that of the smut fungus *Entyloma cosmi*, outlined by Preston & Newbery (2021). The presence of a downy mildew on *Parthenocissus* (*Vitaceae*) in northern temperate Europe was noted by Marco Thines in Stuttgart, Germany, in 2008, growing on *P. tricuspidata* (Boston Ivy); in 2009 he also found it in two adjacent towns. Downy mildews had long been known on *Parthenocissus* species in their native range in North America, where they had been regarded as conspecific with *Plasmopara viticola*, the well-known parasite of the related Grape vine, *Vitis vinifera*. *Plasmopara viticola* is native to North America but has also been a familiar pest of vines in Europe since its introduction in the 19th century. However, the molecular studies carried out by Thines showed that his *Plasmopara* on *Parthenocissus tricuspidata* differed from *Plasmopara viticola* on *Vitis vinifera*, and he therefore described it as a new species, *Plasmopara muralis* (Thines 2011).

Subsequent molecular studies have shown that the downy mildew on North American *Parthenocissus quinquefolia* is identical to the European *Plasmopara muralis* on *P. tricuspidata* (Rouxel *et al*. 2014). Although the morphological differences between *Plasmopara muralis* and *P. viticola* are only slight, it seems safe to refer downy mildews on *Parthenocissus* to *Plasmopara muralis*. It is clear from Rouxel *et al*.'s extensive sampling in eastern North America that *P. muralis* is one of several cryptic species in the *Plasmopara viticola* aggregate; four more cryptic species (including *P. viticola*) are found on wild and cultivated *Vitis* species in America.

Fig. 1. Infected leaves of *Parthenocissus quinquefolia*, Papworth Everard, 23 August 2021. Photo © C.D. Preston.

Fig. 2. Colonies of *Plasmopara muralis* on lower side of a *Parthenocissus quinquefolia* leaf, Round Church, Cambridge, 9 September 2021. Photograph © C.D. Preston.

The presence of *P. muralis* in Europe has received less attention than *Entyloma cosmi*. However, it is now known to be widespread in Germany, where it has been recorded from *Parthenocissus quinquefolia* (Virginia Creeper) as well as *P. tricuspidata* (Kruse *et al*. 2014, 2015). Material collected in Geneva on *Parthenocissus quinquefolia* in 1995 and reported as *Plasmopara viticola* by Bolay (2013) was presumably this species, and it was found in Poland in 2017 (Mirzwa-Mróz *et al*. 2019). It was described by Klenke & Scholler (2015) and illustrated by Kruse (2019). It has not hitherto been reported from Britain by mycologists (Chater *et al*. 2020), and, unlike *Entyloma cosmi*, it has not been reported to the Royal Horticultural Society (Fay Newbery, in litt. 2021). However in recent fieldwork in Cambridgeshire I have seen it in a total of six sites, growing on both *Parthenocissus quinquefolia* and *P. tricuspidata* (Figs 1–3). In addition, I found a further colony in W. Norfolk and Stewart Wright, when I told him about the species, immediately found another in E. Norfolk. Details are as follows, with the two hosts indicated by Q (*P. quinquefolia*) and T (*P. tricuspidata*):

East Norfolk (v.c. 27): Hoveton Hall Gardens, TG313202, S. Wright, 1 Oct. 2021 (Q).

West Norfolk (v.c. 28): Thomas Payne Hotel, Thetford, TL869833, 2 Oct. 2021 (T).

Cambridgeshire (v.c. 29): Library, Papworth Everard, TL284631, 23 Aug. & 2 Sept. 2021 (Q); Wimpole Hall, TL337509, 23 Sept. 2021 (Q); Round Church, Cambridge, TL448588, 9 Sept. 2021 (Q); 15 Chesterton Road, Cambridge, TL447592, 10 Sept. 2021 (T); 90/92 Chesterton Road, Cambridge, TL455595, 1 Oct. 2021 (T); Footbridge over R. Cam by Fort St George, Cambridge, TL455592, 10 Oct. 2021 (Q).

Plasmopara muralis has probably been overlooked hitherto as the leaf discoloration it causes can easily be taken for the normal autumn colour for which the host creepers are grown, and perhaps because the *Plasmopara* colonies may not always be visible. In some sites the colonies I saw were extremely sparse and I had to examine quite a few discoloured leaves before I found any visible mycelium.

Finally, I should say that in identifying the Cambridgeshire host as *Parthenocissus quinquefolia* I have not attempted to separate it from *P. inserta*. Leslie (2019), an expert botanist, aggregated the two species in Cambridgeshire as he found that the distinguishing characters were "not always easy to apply".

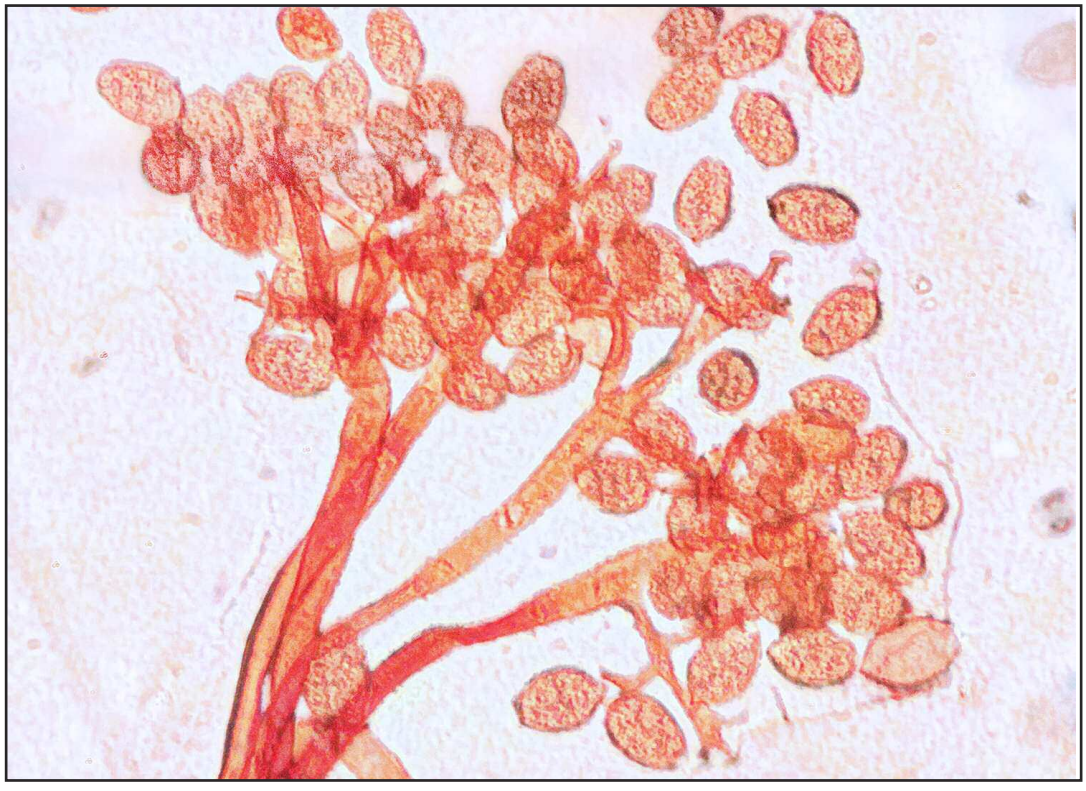


Fig. 3. *Plasmopara muralis* from the population at the Round Church, stained with Congo Red. Photograph © C.D. Preston.

I thank Julia Kruse for copies of some of the cited publications, Stewart Wright for the details of his record, Arthur Chater, Fay Newbery and Brian Spooner for useful comments on the text and Paul Rule for help in preparing Figure 3.

*cdpr@ceh.ac.uk

References

Bolay, A. (2013). Les champignons parasites des plantes vasculaires des Conservatoire et Jardin botaniques de la Ville de Genève. *Boissiera* 66: 1–147.

Chater, A.O., Woods, R.G., Stringer, R.N., Evans, D.A. & Smith, P.A. (2020). *Downy mildews* (Peronosporaceae) *and white blister-rusts* (Albuginaceae) *of Wales*. Privately published, Aberystwyth.

Klenke, F. & Scholler, M. (2015). *Pflanzenparasitische Kleinpilze*. Springer Spektrum, Berlin.

Kruse, J. (2019). *Faszinierende Pflanzenpilze*. Quelle & Meyer Verlag, Wiebelsheim.

Kruse, J. Kummer, V. & Thiel, H. (2014). Bemerkenswerte Funde phytoparasitischer Kleinpilze (3). *Zeitschrift für Mykologie* 80: 593–626.

Kruse, J. Kummer, V. & Thiel, H. (2015). Bemerkenswerte Funde phytoparasitischer Kleinpilze (4). *Zeitschrift für Mykologie* 81: 185–220.

Leslie, A.C. (2019). *Flora of Cambridgeshire*. Royal Horticultural Society, Peterborough.

Mirzwa-Mróz, E., Kukuła, W., Kuźma, K., Wit, M., Jabłońska, E., Wakuliński, W. & Paduch-Cichal, E. (2019). First report of downy mildew caused by *Plasmopara muralis* on Boston Ivy (*Parthenocissus tricuspidata*) in Poland. *Plant Disease* 103: 1793.

Preston, C.D. & Newbery, F. (2021). White smut of Cosmos (*Entyloma cosmi*). *Field Mycology* 22: 131–133.

Rouxel, M., Mestre, P., Baudoin, A., Carisse, O., Delière, L., Ellis, M.A., Gadoury, D., Lu, J., Nita, M., Richard-Cervera, S., Schilder, A., Wise, A. & Delmotte, F. (2014). Geographic distribution of cryptic species of *Plasmopara viticola* causing downy mildew on wild and cultivated grape in eastern North America. *Phytopathology* 104: 692–701.

Thines, M. (2011). Recent outbreaks of downy mildew on grape ivy (*Parthenocissus tricuspidata*, *Vitaceae*) in Germany are caused by a new species of *Plasmopara*. *Mycological Progress* 10: 415–422.

Russula camarophylla new to Britain

Pauline Penna* & Geoffrey Kibby*

In August of 2021 one of us (PP) was given an unusual species of *Russula* collected by Stuart Fullwood and his son Billy at Lanhydrock, Cornwall close to oaks, beech, sweet chestnut and pines. After looking through their literature (Kibby, 2017), they were convinced it was *R. camarophylla*, which would be a new record for Britain. Upon examining the spores and cap cuticle of the dried specimens PP was in agreement with their identification.

She duly forwarded the dried material along with a number of photos (Figs 1 and 2a–f) for me (GK) to check. A close examination showed that she was quite correct, it fit *R. camarophylla* in every respect. The cap had a rather thick, dull buff-brown cuticle which was mostly adnate and difficult to peel and which soon developed a rather scabrous texture near the margin (Fig. 1), while the gills were thick, brittle and very shallow with anastomosing cross-veins. The cap cuticle was very unusual in having a mix of filamentous hyphae , often with capitate endings and with very swollen, balloon-like cells in the subcutis (see Fig. 2e-f), exactly as described in the literature. The spores were also unusual, being small and with very low ornamentation of more or less isolated warts. The flesh has a very strong, reddish reaction to $FeSO_4$.

In Sarnari Vol. 1 (1998) *R. camarophylla* is placed in the section *Archaeinae*, a group with just two species in Europe and some others in the tropics. Section *Archaeinae* is considered to be a very early branch of the *Russula* evolutionary tree, displaying a number of primitive characteristics. These include the thick gills reminiscent of a *Hygrophorus* (the species is named after its resemblance to *H. camarophyllus*), the small, poorly ornamented spores and the thick, adnate cuticle.

The only other European species, *R. archaeosuberis* is found with cork oaks, *Quercus suber* in the Mediterranean and differs in its entirely filamentous cuticle and slightly bigger spores with more prominent warts.

The species was written up at length by Battistin (2012) in Field Mycology where she wondered if it would one day be found in Britain. It has been recorded previously from France, Switzerland and Italy, making this British record the most northerly to date. Sarnari considers it a very rare species.

Fig. 1. Close-up of the cuticle of *R. camarophylla* showing the scabrous texture at the margin. Photo © Billy Fullwood.

* Editorial address

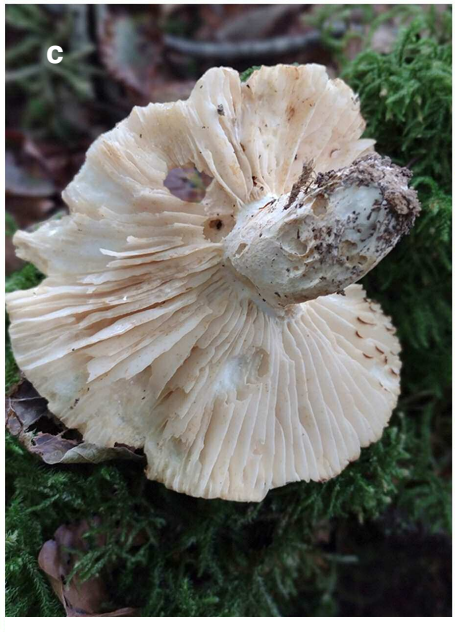
References

Battistin, E. (2012). *Russula camarophylla* and new macrochemical reactions. *Field Mycol*. 13(1): 27–30.

Kibby, G. (2017). *Mushrooms and Toadstools of Britain & Europe,* Vol. 1. Privately published.

Sarnari, M. (1998). *Monografia illustrata del Genere Russula in Europa* Vol. 1: 223–226. A.M.B. Italy.

Russula camarophylla
Lanhydrock NT Estate
Cornwall VC02
16.08.2021
Coll. Stuart Fullwood
under *Pinus sylvestris*,
Fagus sylvaticus, *Quercus* sp.
& *Castanea sativa*



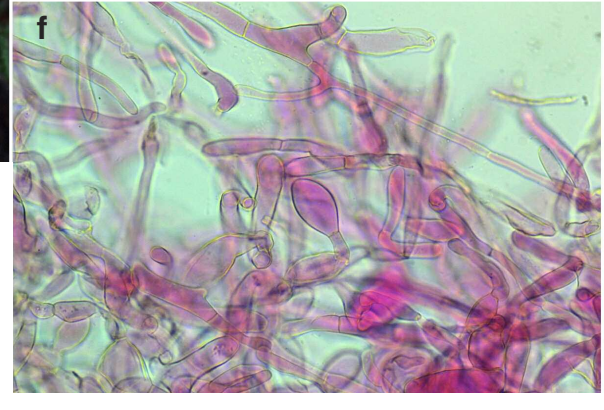


Fig. 2. a–f.
a–c: cap surface and gills.
d: spores (end on so appearing round)
e–f: cap cuticle stained with carbol fuchsin showing the often inflated cells.
Photos of fruitbody © Billy Fullwood.
Micrographs © Geoffrey Kibby.

Entoloma viiduense - a striking species new to Britain

Andy Overall*

This particular discovery has its roots in the sharing of enthusiasm, passion and knowledge of fungi with beginners. In this case, Steph Miller, a neighbour and friend, who, with her husband Lee, had been on a number of local walks with me, during which I pointed out and discussed various fungi that were spotted.

Steph had been out for a walk and came across various fungi in old pasture in Fairlight, E. Sussex, one of which was this species. Knowing that I would be interested in seeing this, she collected one specimen and brought it back with her to show me.

Upon seeing it I knew it was something interesting, so on 23/10/2021 I made my way up to the old pasture, where I found this distinctive *Entoloma*, fruiting in some profusion across the upper slope of steep, East-facing grassland (Fig. 1 & back cover).

This area was also home to a high number of waxcaps, 13 at the last count, among which there were rarities such as *Neohygrocybe ovina* and *N. nitrata*.

Upon taking photographs of the *Entoloma* in situ, I got it home and set it down for a spore deposit. I measured and took photographs of the spores and of the gill edge, where I found short, septate, cylindrical cheilocystidia.

I then posted my in-situ and micro pictures onto the *Entoloma* Facebook Group, set up by Machiel Noordeloos, renowned expert on the genus.

He soon responded by pointing me in the direction of *Entoloma nordlandicum*, a recently described species from Holmvassdalen Nature Reserve in Norway. I checked the description that he provided (Noordeloos *et al*., 2021) but my collection didn't seem to fit, not least in having

Fig. 1. *Entoloma viiduense*, a large and beautiful species found in old pasture in East Sussex, 23 Oct. 2021. Photograph © Andy Overall.

larger spores but also in lacking the scaly stem apex of *E. nordlandicum*.

The next step was to have my collection sequenced and for that I have to thank Nick Aplin, who made the collection a priority. Within weeks we had a sequence back thanks to the University of Aberystwyth. The sequence appeared an exact match with sequences posted as *Entoloma viiduense* on GenBank.

I then sent the sequence to Noordeloos who ran it against the holotype of *E. viiduense*; he replied to say that this too was an exact match.

Entoloma viiduense, named for a village in Estonia, is in subgenus *Leptonia* and in section *Cyanula*. It was originally described by Noordeloos & Liiv (1992) from collections made from woodland in Estonia in 1985 and 1990. It has since been recorded from two separate woodland sites in Denmark http://danskesvampe.dk/?page_id=44761. This differs from my collection made in unimproved grassland.

Entoloma viiduense is a striking, rather robust species, the largest of my collection had a cap measuring 90 mm across. This is unusually large for species in section *Cyanula*.

Details of illustrated collection

Habitat, in open unimproved, calcareous grassland.

Cap 28–90 mm, conic convex, dark sooty brown, breaking up into dark brown scales contrasting with paler ground. Becoming brown with age. Margin non striate.

Gills whitish cream, becoming pink-brown in maturity, edge entire and concolorous.

Stem 110–150 x 4–6 mm base up to 8 mm, steel blue, apex smooth, initially white, disappearing in maturity, longitudinally striate, polished, base white tomentose.

Flesh whitish cream, with steel blue margin in the stem, fragile. No particular odour or taste.

Microscopic Details

Spores heterodiametrical with 6–7 angles.
Spore range from 41 spores measured
9.7–10.7(-11.8) x (7.7-)8.2–9.0 µm, Q = 1.2 (Fig. 2)
Cheilocystidia 24.1–27.5 x 4.3–5.1 µm
Cylindrical 1-2 septate (Fig. 3)
Caulocystidia present, cylindrical.

•27 Fairlight Gardens, Fairlight, Hastings,
E. Sussex TN35 4AY

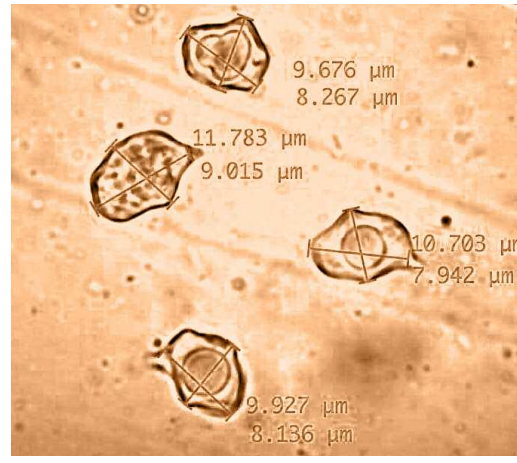


Fig. 2. Spores of *E. viiduense*. Photo © Andy Overall.

Fig. 3. Gill margin of *E. viiduense* showing cylindric-flexuose and septate cheilocystidia. Photo © Andy Overall.

References

Noordeloos, M. & Liiv, V. (1992). New taxa of *Entoloma* (*Basidiomycetes*, *Agaricales*) from Estonia and Karelia. *Persoonia* 15(1): 23–31.

Noordeloos, M. *et al*. (2021). Three new *Entoloma* species of the *Cyanula* clade from (sub)alpine habitats in Northern Norway and Sweden. *Sydowia* 73: 185–196.

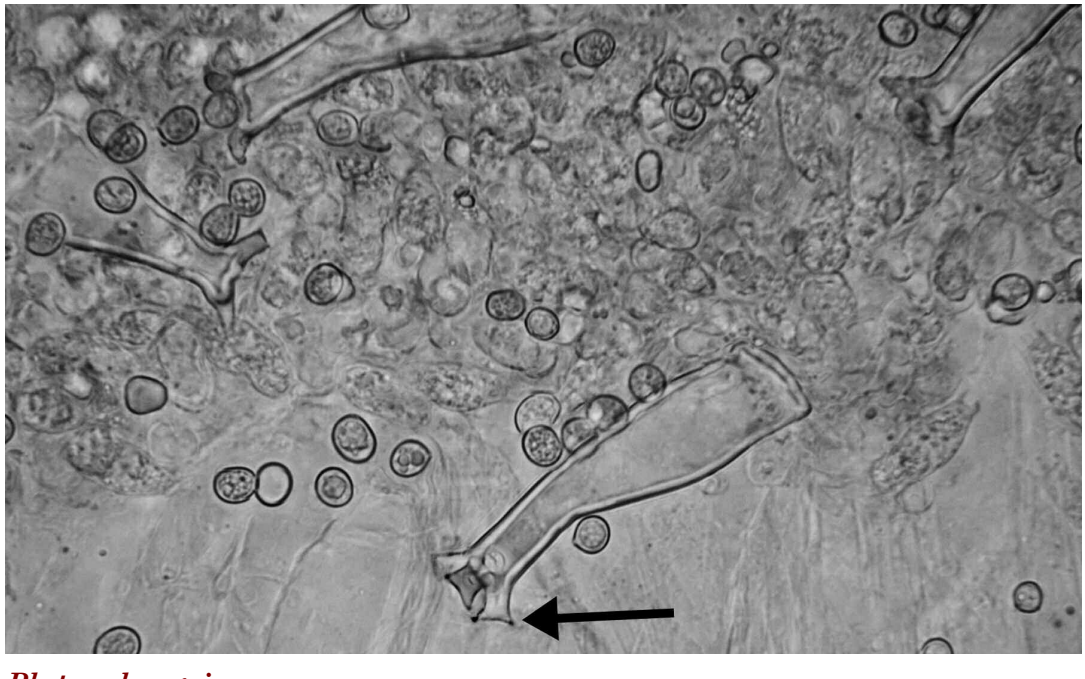
Readers'Finds

Cantharellula umbonata
Photograph © Jo Weightman
A distinctly uncommon species (your editor has only seen this perhaps twice in 40 years!) the soft, velvety grey to grey-brown caps, grey stems and white, somewhat decurrent and repeatedly forked gills are distinctive. Its elongated spores are amyloid.

A species of acid soils, mainly in heathland, possibly with a parasitic relationship with *Polytrichum* moss.

This photo was taken in Scotland in 2020.

Lactarius flavidus
Photograph © Mario Tortelli
One of our most beautiful *Lactarius* species, uncommon but easily recognised by the zonate, pale yellow cap and white latex staining the flesh deep violet. This collection was found under *Carpinus* on chalk soil in Kent, consistent with its usual habitat of calcareous deciduous woodland.



Pluteus hongoi

Photographs: in situ © Mario Tortelli, micrograph © Geoffrey Kibby

A poorly known species in Britain, also known by its synonym *P. nothopellitus*. This collection was found by Andy Overall as part of a survey in Bushy Park, Middlesex. It tends to be paler than the common *P. cervinus,* sometimes even completely white and although seen here on a deep pile of woodchips it will also grow on fallen logs, etc. It is best distinguished by its cheilocystidia in which the characteristic points or hooks at their ends (usually single points in *P. cervinus*) are frequently bifurcated into two smaller points (arrowed). It is probably more common than records would suggest, most likely passed over mistakenly as *P. cervinus*.

Neotiella rutilans

Photograph © Geoffrey Kibby

This beautiful species was found during a foray led by Alan Outen at Sandy Lodge, Herts and is a well known species at that site. It appears to prefer open, mossy habitats on sandy or gravelly soils. The cups reached about 3 cm across. It might be mistaken for the much more common and usually much larger *Aleuria aurantia* but it has very different spores, only partially reticulate in *N. rutilans* versus fully and coarsely reticulate in *A. aurantia*.

***Neoantrodia serialis* (= *Antrodia serialis*)**

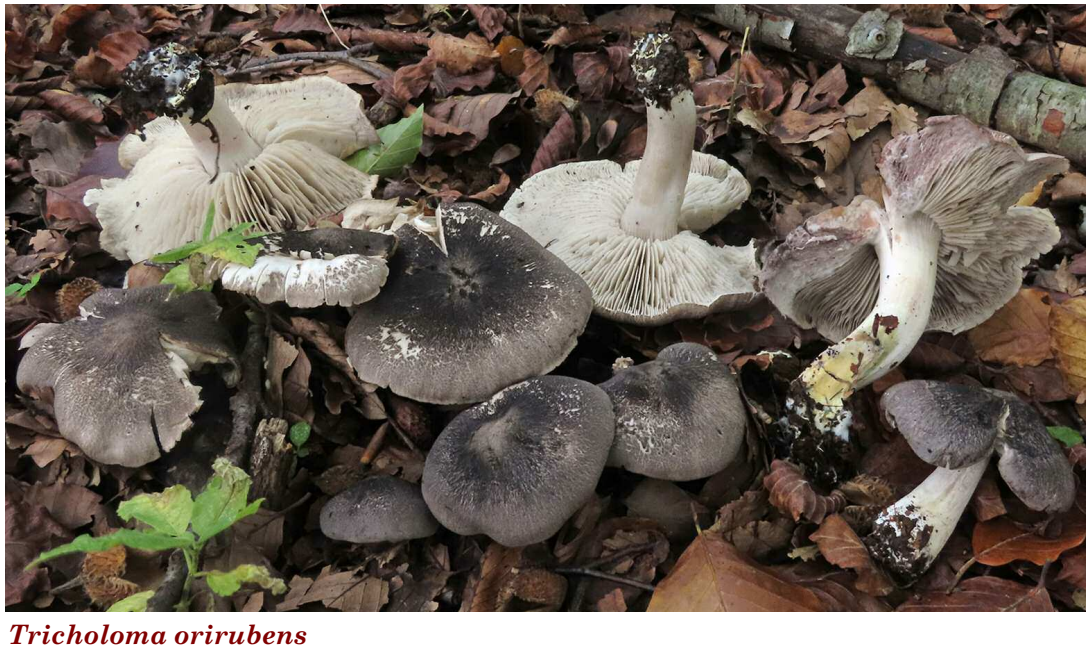
Photograph © Claudi Soler

This beautiful polypore was found on the cut end of a conifer log in the northwest part of Epping Forest known as the Warren during a survey there on November 19, 2021. The cascading tiers of brackets with elongated pores and the host association make it easily recognisable.

Tricholoma sulphureum var. bufonium

Photograph Andy Overall

Found during his survey of Bushy Park, Middlesex this group of the familiar *T. sulphureum* with its typical strong odour of coal gas differed in its unusual brick-red caps with just a hint of yellow at the margin. Once considered a separate species, phylogenetic sequencing places it squarely with the typical form of the species.



Tricholoma orirubens

Photograph Mario Tortelli

This uncommon species was found under beech on chalk at Sheepleas in Surrey. The species is characterised by the slow change of the gills to pink and often the base of the stem to greenish blue, both changes are visible on the large specimen at the right of the photograph. The mushroom has a faint smell of honey when fresh but is farinaceous if cut or tasted.

Two books for your foray bag

Mike Cruse & Archie McAdam

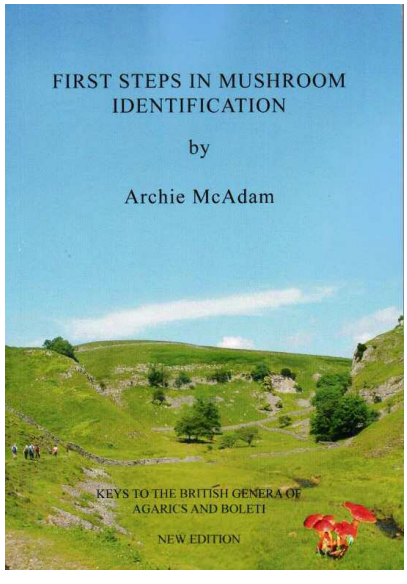
If you are going to embark on a fungal foray we recommend these books to anyone interested in finding a way through any field guide.

One of the members of our very own fungus group, the North East Fungus Study Group, Archie McAdam's new book *First Steps in Mushroom Identification* came out in December 2020. The book is a new edition of the book, revised from his previous book 'Keys to the British Genera of Agarics and Boleti'. Now updated it includes all of the new and name-changed genera in these groups.

It includes a colour chart so that we are all 'singing from the same hymn sheet' plus new illustrations, keys and photographs with an introduction to techniques of microscopy to help us on our way to getting firmly to genus ID. A table at the back shows where the genus can be found in a wide range of reference books and a comprehensive glossary defines all technical terms used in the book.

Archie anticipates that his book will be used by keen forayers in the field and of course the more people who have this book the more a common understanding of our fungal finds can be made.

Mike Cruse , NEFSG



Paul Nichol has published a new edition of his *Initial guide to Mushrooms and Toadstools* this year. His book helps us begin to identify toadstools of all form groups, balls, clubs, discs, cups, brackets, crusts, etc. Cap-and-stem mushrooms are dealt with more comprehensively, with the aim of getting to genus in this form group.

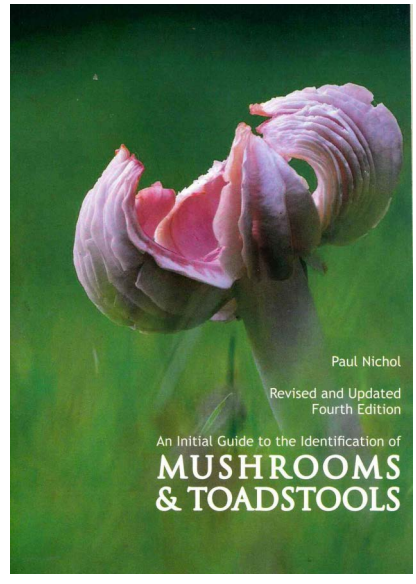
My book deals with the cap-and stem-form group in greater depth. It covers all the genera in the group so far known in Britain and attempts an almost impossible task: leading the collector of an unfamiliar mushroom to the genus where the experts currently believe it belongs. Both books are designed to be taken out on forays so that we can start our identification in the field.

Archie McAdam, MYFG

Both books can be purchased from Summerfield Books in Penrith (https://www.summerfield-books.com), Pemberley Natural History Books in Iver (www.pemberleybooks.com/Shop.asp) or from their respective authors for £9.00 each.

Paul Nichol is at pnichol20@gmail.com

Archie McAdam is at helenandarchie@helenandarchie.f9.co.uk



Some interesting fungi found in the Winchester, Hampshire area during 2021

Graham Mattock*

Reports are coming in about the bumper fruiting of fungi in Scotland during the 2021 autumn season. In contrast southern Britain has seen none of this. With Covid and travel restrictions I have been foraying locally around my home here in Winchester, Hampshire. Some genera such as *Russula*, *Lactarius* and *Boletus* have hardly made any appearance. However, a few interesting fungi have been found on the chalk soil of this area. This report highlights some of these.

22nd. October, *Leucoagaricus ionidicolor*

According to the recently published very comprehensive *Fungi of Temperate Europe* (Læssøe & Petersen, 2019) the colourful vinaceous agaric *L. ionidicolor* is a very rare species. British records on the FRDBI confirm its rarity with only six entries being logged, all from southern Britain. The first British record for the species came from Westonbirt Arboretum in 1974 where it was collected by John Keylock and identified by Derek Reid. Another early record of *L. ionidicolor* was made by me in 1999 where it was collected on rotting broadleaf wood in riverside woodland at Winnall Moors near Winchester, Hampshire (see photo 1). The identification of this collection was confirmed by Alick Henrici with the herbarium material deposited at Kew as K(M)86077. The old FRDBI has this record but for some reason there is an omission on the new version. It was reassuring to find this rare agaric again near Winchester at Whiteshute Ridge in October 2021. Found at the base of a fence line with rotting wood and litter, this was a rather faded small specimen (see photo 2). Microscopy confirmed this was a *Leucoagaricus* and one of the only three species of British *Leucoagaricus* with lilac or purplish scales on the cap: *L. purpureolilacinus*, *L.* cf. *ianthinophaeus* (for which see FM20(1): 31 (2019)) and *L. ionidicolor*; it agreed best with the latter. For further details of L. ionidicolor see its 'portrait' in FM 2(3): 75 (2000) after a find in chalk woodlands in Kent. An attempt was made to obtain a DNA sequence to confirm the identification but unfortunately the sequence failed, most likely due to contamination.

Fig. 1. The 1999 collection of *Leucoagaricus ionidicolor*. Photograph © Graham Mattock.

Fig. 2. The 2021 collection of *Leucoagaricus ionidicolor*. Photograph © Graham Mattock.

23rd. October, *Entoloma neglectum* and *Cortinarius pratensis*

With its pale, frosted cap and decurrent gills *Entoloma neglectum* (Fig. 3) was found in the grassland at Twyford Down and was nearly passed over as *Clitocybe dealbata*. Fortunately, the slight pink colouration of the gill was noticed, and a collection made. The pink spore print of angular spores confirmed this was an *Entoloma* and the aforementioned features quickly led to the identification of *Entoloma neglectum*. Good illustrations and photograph of this species may be found in Noordeloos (1992 & 2004). Cooke (1881-1891) shows collections from grassy places at Fortworth, Gloucestershire and Deerfold Forest in Herefordshire. With only 33 records on the FRDBI from central and Southern Britain *E. neglectum* is rare although possibly overlooked and confused with the small pale *Clitocybe* species.

In October 2019 I found a *Cortinarius* (section *Dermocybe*) in the open, dry calcareous pasture-land, here on Twyford Down (Fig. 4). Because of the absence of any tree species I struggled to make a positive identification. In 2021 as the *Cortinarius* was back at the same location in large numbers I sent a photograph to Geoffrey Kibby. Geoffrey suggested this was probably *C. pratensis*, a species known to be associated with *Carex* as well as with tree species. Mystery solved, so I thought, until I read, at Geoffrey's suggestion, the extensive coverage of *C. pratensis* given in FM 18 (3) with the recommendation that 'anyone finding a *Dermocybe* in open country should look for *Carex* nearby and preserve both in the hope of further amplifying the present meagre knowledge of its host range'. I am not yet fully convinced that *Carex* is present at the Twyford Down site but the *Cortinarius* has been dried for any later DNA work. With only nine records on the FRDBI *C. pratensis* remains an elusive species.

7th November, *Cortinarius croceocaeruleus*

Not a great rarity (48 records on the FRDBI) the finding of this colourful *Cortinarius* was more remarkable for its location- under a line of beeches in my local Winchester Tescos car park. The bright violaceous-capped fruitbodies were massed in large numbers; unfortunately the colours soon fade to pale ochraceous from the centre (Fig. 5).

14th November, *Calocybe obscurissimus*

Initially named as *Tricholoma ionides* var *obscurissimus* because it was thought to be a dark brown variant of the brightly coloured violet-blue *Tricholoma ionides* (now *Calocybe ionides*) it was raised to species level as

Fig. 3. *Entoloma neglectum* displaying its frosted cap surface. Photograph © Graham Mattock.

Fig. 4. *Cortinarius pratensis*, a species which can appear in open grasslands ssociating with *Carex* spp. as well as with tree species. Photograph © Graham Mattock.

Fig. 5. *Cortinarius croceocaeruleus* is a frequent species found under beech trees on chalk soils.
Photograph © Graham Mattock.

Fig. 6. *Calocybe obscurissimus*, a rather rare species with violaceous brown colours contrasting with the white gills. Photograph © Graham Mattock.

Tricholoma obscurissimum in 1960 (Fig. 6). Then, after a genus change to *Calocybe* in 1967 it became a *Rugosomyces* in 1991 but is now generally accepted as being best placed back in *Calocybe*! I struggled to name this species when I first encountered it at Magdalen Hill Cemetery on the outskirts of Winchester in 2014, but with the help of Geoffrey Kibby a positive identification was made. This record and a previous collection from Netley by Philip Budd have remained the only two records of *C. obscurissimus* from Hampshire. Another cemetery at West Hill, the other side of Winchester, brought this record count to three in 2021 with a small group of this rare species being found in the litter under Cypress. There are only 33 records on the FRDBI.

*Graham Mattock 16 Gordon Avenue,
Winchester, Hampshire SO23 0QQ.

References

Cooke, M. C. (1881-1891). *Illustrations of British Fungi*.

Edwards, A. & Leech, T. Evidence for an interesting association between *Cortinarius pratensis* (Section *Dermocybe*) and Sand Sedge, *Carex arenaria*. *Field Mycology* 18 (3):78–81.

Læssøe, T. & Petersen. J. (2019). *Fungi of Temperate Europe* Vol. 2. Princeton.

Noordeloos, M. E. (1992). *Entoloma* s.l. *Fungi Europaei* Vol. 5. Massimo Candusso, Italy.

Noordeloos, M. E. (2004). *Entoloma* s.l. supplement *Fungi Europaei* Vol. 5a. Massimo Candusso, Italy.

Fungi and Churchyards - a request

Dr George Peterken and I have been commissioned by HarperCollins to contribute a (long overdue) volume on churchyards to the prestigious New Naturalist series. We are both patrons of the churchyard conservation charity Caring for God's Acre which is deeply involved in, and invaluably supportive of the project. George and I have each contributed an individual volume on other subjects to the series in the past – George on The Wye Valley and me on Garden Natural History – so we know what we have taken on! Although entitled Churchyards, the new work will encompass the natural history of burial grounds and church buildings of all kinds and all faiths; and none.

Unfortunately, relatively little seems to have been published on fungi in burial grounds although it is obvious they represent ideal habitats in many ways and we would welcome any information and records colleagues might be willing to share with us. Photographs too would be greatly appreciated if they have obviously been taken in a burial ground context. It goes without saying that all and any information would be fully and properly acknowledged. Please contact me at info@stefanbuczacki.co.uk.

Thanking you in anticipation.

Stefan Buczacki

Notes and Records

Alick Henrici•

There is no common theme to the following notes apart from some personal involvement in all four. However the first three all arise from collecting in Kew Gardens, which I am lucky to have as a never ending source of fungal surprises ten minutes walk from my home.

Further records of *Clavulina etruriae*

In last year's April issue of FM David Harries published a well-illustrated account of *Clavulina etruriae* new to Britain found on his farm in Pembrokeshire, complete with DNA confirmation of its identity. It had been new to science as recently as 2018, described by the authors of the new 2-volume treatment of clavarioid fungi given a '5-star' review on p.36 of this issue. Etruria, the kingdom of the Etruscans, corresponds roughly to modern Tuscany. This account has quickly led to three further British finds: by Geoffrey Kibby in Scotland (Abernethy) in September, by me in Kew Gardens in October, and by Kerry Robinson in Herts in November.

In Kew it was growing in sizeable troops under two neighbouring trees, a *Tsuga caroliniana* from N. America and a *T. dumosa* from the Himalayas. The other three British records have all been with *Pinus sylvestris*. This is slightly odd as the type (the only collection cited) was with Cork Oak. With a stature somewhere between the two common species *C. rugosa* and *C. coralloides* (formerly *C. cristata*), I presume it will turn out to be common in Britain, probably frequently misrecorded in the past as one or the other. It took David Harries's acute observation, combined with a pioneering interest in amateur DNA extraction (Harries, 2017) to show that it was neither of these.

I had initially passed over the Kew material as young *C. rugosa*. I'd forgotten all about *C. etruriae* until a week later its picture in FM hit me while looking up something else. It looked so like my neglected sighting that I hurried back and collected some material which gave a good spore print. The spores all barely exceeded 10 µm long (many would be 12+ µm in *C. rugosa*) which struck me as conclusive. Furthermore the Kew fungarium was prepared to accept it without further DNA confirmation. The other collections are equally convincing on the same grounds.

A 'micro' *Macrocystidia*

Current literature knows only a single species of *Macrocystidia* in Europe, the well-known *M. cucumis*, easily recognised in the field on appearance alone, confirmed by the strong fishy or cucumber smell, often likened to cod-liver oil, once routinely doled out to build up resistance to

Fig. 1. *Macrocystidia cucumis* in a mass fruiting in Kew Gardens, 2004. Photograph © Geoffrey Kibby.

childhood infections. *M. cucumis* is also distinctive under the microscope, having huge numbers of absurdly large acutely pointed cheilocystidia plus similar but sparser pleuro- and caulocystidia. It has long occupied a family of its own, *Macrocystidiaceae*, which DNA shows to be amply justified. It groups loosely with white- or pink-spored families, but normally gives a pinkish brown spore print. It has become commoner in recent years with the use of woodchips as garden mulch, leading to occasional mass fruitings (Fig. 1).

As well as the usual form there are a number of poorly known variants, with no general agreement as to their rank or nomenclature. Lange recognised both a white-spored var. *leucospora* and a smaller var. *latifolia* with strongly ventricose gills. Courtecuisse & Duhem list both of these plus a minute var. *minor* of Josserand. By contrast Noordeloos in FAN3 has no varieties. He contents himself with the type form and a forma *minor*, noting that "intermediate variants frequently occur" and also sometimes odourless variants. In the Swiss journal SZP last year (Freléchoux *et al.*, 2021) there is a brief report of an ongoing research project into these variants, provoked by a find in 2020 of a *Macrocystidia* so atypical they thought it was a *Gymnopus*. They were astonished to discover there was officially only the one European species. Their odd collection scored only an 88% sequence match. They have now sequenced 33 Western European herbarium collections of variant forms and reckon they have found evidence for four different species-level taxa, though morphological distinctions remain to be worked out.

In Britain only the type variety has ever been recognised. But in August 2011 in Kew Gardens I too collected something that surpised me by being a *Macrocystidia*: four fruitbodies in grass, all only 9–15 mm in cap diameter, thus equating to the FAN concept of forma *minor*. I returned next day but failed to find more. However in October last year I found one more quite near my 2011 site (Figs 2, 3). This seemed to approach the *Funga Nordica* concept of var. *latifolia* as the cap was striate to at least half way and was clearly papillate. Smell was normal but fairly faint, micro characters not obviously different from var. *cucumis*. Further developments awaited.

Fig. 2. The diminutive specimen of *M. cucumis* found in Kew Gardens and matching the var. *latifolia* of Lange. Photograph © G. Kibby.

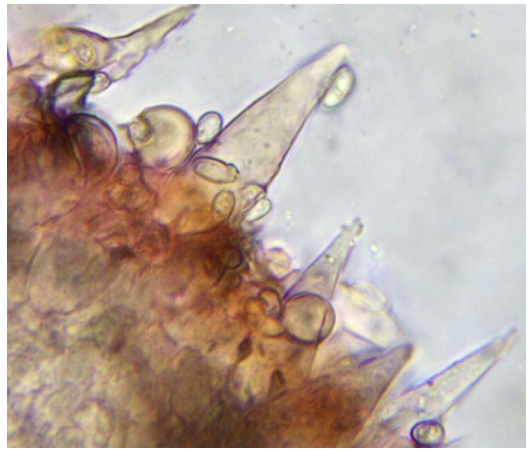


Fig. 3. The huge cheilocystidia of the *M. cucumis* shown above. Photograph © Geoffrey Kibby.

Why are there always more species to find?

Anyone with a favourite site they've visited several times a year for the last 20 years knows that at almost every visit something new turns up. The cumulative graph of total species recorded shows no sign of levelling off. Getting anything near a complete site inventory, even of macrofungi, is clearly an impossibility. An incident in Kew Gardens last year made it abundantly clear why this is the case.

The dry spring caused a total lack of fruiting of any mycorrhizal species in the Gardens up to the end of June. But I was told that *Lactarius circel-*

latus was 'having a good year' all over southern England. So on July 2 I went confidently to a hornbeam where I knew it fruits most years in small quantities to chalk up my first Kew mycorrhizal of the year. It wasn't there. But on July 8 there were 20 fruitbodies and on July 13 clearly well over a hundred. It was certainly having a wonderful year. On July 20 after several days of 30 degree heat all trace of these 100+ had vanished. They had been visible for at most a fortnight.

If so many quite sizeable fungi can vanish so quickly, what chance of meeting all the more obscure species present in small numbers, possibly fruiting only in 'good' years when conditions are exactly right for them. Thus probably only ever appearing exactly when all the more showy species fruit in large numbers and demand the forayer's attention. Is it any wonder that many such species continue to escape the attention even of the diligent 20-year forayer? Or that on most cumulative species lists at least 30% of the species have only ever been recorded in a single year.

Lepista densifolia new to Britain

What, you may ask, is a new British record doing hidden away in this column instead of in an article of its own? Its significance wasn't realised when it was collected and I'd wrongly thought it lacked a photograph (Fig. 4). Also I identified it and it allows me to make once more a point I have been making ad nauseam in recent issues of FM (see below). So here it is:

Lepista densifolia (J.Favre) Singer & Clémençon, collected by Jo Weightman in heathland at Uath Lochans. Strathspey, Easterness, 12 Sept. 2021 during the week of rich Scottish foraying mentioned in my column in the last issue. It was pale and looked like a *Clitocybe* and thus probably difficult. There were other more exciting things to look at; it was dried for further study later. Luckily, when later came the spores were ornamented, so *Lepista* not *Clitocybe*. Moreover they were very small, not more than 4.5 x 3.5 µm, which led easily to its determination from *Funga Nordica*. It is distinctly northern, rather unlikely in England. There are photos in FTE p.113 and (looking less similar) in B&K3:242.

And now my repeated point. The smell had gone unrecorded. But in FN it is said to be very strong and unpleasant, in FTE it is strangely described as 'rather neutral' and B&K3 says 'odour pleasant, somwhat fruity'. As far as I can see they are all describing the same small-spored dense-gilled species under this name. These are nice examples to support my contention that smells in keys are both unhelpful to those with a poor sense of smell and unreliable for those with a good one.

Fig. 4. *Lepista densifolia*, newly recorded from Scotland, 12 Sept. 2021. Photograph © Jo Weightman.

Going off at a tangent, very loyal readers with splendid memories may recall a wonderful list of sometimes surprising smell comparisons trawled from the fungal literature assembled by Penny Cullington in FM1(3):108 (2000). Much more recently she has contributed three highly informative articles to FM on *Inocybe* in the last two years for which she has been ill-rewarded by the accidental omission of her name from the 2-year index in the last issue. The missing entry should read; Cullington, Penny 21(3):102, 22(2):55, 22(3):98.

*8, Victoria Cottages, Sandycombe Rd., Richmond, Surrey TW9 3NW

References

Freléchoux, F., Gross, A. & Senn-Irlet, B. (2021). Recherchées: espèces du genre *Macrocystidia*. *Schweiz. Zeitschrift Pilzkunde* 99(3):33.

Harries, D. (2017). DNA and the field mycologist. *Field Mycol*. 18(1): 20-23 + 18(3): 92–96.

Harries, D. (2021). DNA barcoding reveals *Clavulina etruriae* - new to Britain. *Field Mycol*. 22(2): 47–49.

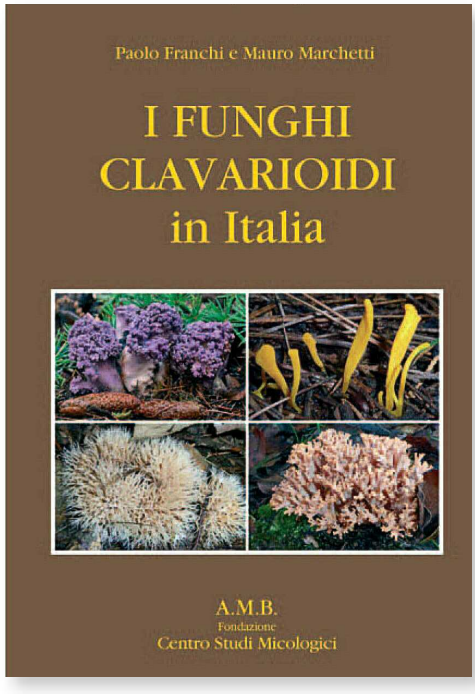
Book Review

I Funghi Clavarioidi in Italia Vols 1 & 2

Paolo Franchi & Mauro Marchetti
A.M.B. Fondazione Centro Studi Micologici
Hardback, full colour throughout
1362 pp. in total.
Available from Summerfield books
www.summerfieldbooks.com
£150 for the two volumes.

These two volumes have been greatly anticipated by anyone with an interest in the clavarioid or club fungi and it has certainly been worth the wait. At first sight, when you see the books listed by booksellers, you might think that they are expensive but once you actually get to see the real thing you quickly realise that they are well worth every penny.

The two volumes are large, 25 x 18 cm, each with over 650 pages printed on the highest quality paper and profusely illustrated throughout with extremely high quality photographs and micrographs. The text is in Italian while the identification keys are in both Italian and English. The language should present little difficulty in this age of electronic translation, assuming your Italian is as limited as mine, and well worth the effort.



Vol. 1 begins with a comprehensive (56 pages!) and beautifully illustrated history of the clavarioid fungi, making use of numerous pictures from the classic works of the past. That chapter concludes with a list of the principal authors both past and present and the species that each went on to describe.

There then follows a description of Materials and methods, including a useful glossary of terms.

Next is a page of photographs showing some examples of species with distortions and odd growth forms due to probable infections. A section on chemicals and their uses is particularly useful and shows why we should all be applying them to collections that we make, again illustrated throughout with examples of the results.

Particularly useful is a chart showing the trees and shrubs mentioned, giving their scientific names opposite their colloquial Italian names. This will be useful when using any Italian language books on fungi.

A long chapter follows on the systematics of the clavarioid fungi with phylogenetic trees showing their relationships and the families of fungi they fall into.

An admirably clear illustrated key to genera is given, first in Italian then in English, before the actual descriptions of each genus and the species contained therein follow. The genera and species are arranged alphabetically which makes finding them very easy and for each genus a phylogenetic tree of included species is presented along with a list of specimens sampled, from around the world, not just from Italy. A key to the species in each genus is presented, once again given in both languages.

A very high percentage of the species recorded in Britain are included here and even when not recorded from Italy a species is usually discussed and compared with others so these volumes are equally suitable for use in Britain.

The photographs of each species are of uniformly high quality and reproduction. Colour photos are also presented of their spores, often of their trama, clamp connections if present, etc. Several photos may be presented of each species and of any varieties. Full synonymy and

taxonomic notes are given at the end of each description. Particularly useful for researchers is the inclusion of the original description in each case and (dear to my own heart) the etymology of each specific epithet.

Volume 1 includes the genera *Alloclavaria*, *Artomyces*, *Clavaria*, *Clavariadelphus*, *Clavulina*, *Clavulinopsis*, *Gomphus*, *Kavinia*, *Lentaria*, *Macrotyphula*, *Mucronella*, *Multiclavula* and *Phaeoclavulina*.

Volume 2 includes *Ramaria*, *Ramariopsis*, *Schildia* and *Typhula*.

This means that any genus that would usually be thought of as even vaguely clavarioid i.e. club- or coral-shaped, is included even though they are from several disparate families.

The book closes with an exhaustive 46 page bibliography of references works.

These two volumes, based as they are entirely on phylogenetic studies represent an amount of work and study that can only leave one full of admiration and gratitude. The authors are to be congratulated on producing a work that will be the basis of identification in these genera for years to come.

Geoffrey Kibby

Field Mycology

Vol 23 (1) February 2022

British Mycological Society

www.britmycolsoc.org.uk