

Xylaria cinerea and *X. crozonensis*: two distinctive additions to the British mycota

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On a world scale, *Xylaria* is a large genus. The Dictionary of the Fungi, 9th Edn. 2001, reckoned 100 species; by the 10th Edn. 2008 this had risen to c.300! However in Britain, until very recently, only five species had been recorded more than once in the last hundred years. *Xylaria hypoxylon*, *X. polymorpha* and *X. longipes* are all too common and well known to need further comment. *X. carpophila* is slender and confined to *Fagus* cupules but also rather common. The fifth species, *X. oxyacanthae*, is much less well known, fruiting on fallen hawthorn berries, usually buried. Stromata are small, 1–2 cm high, very easily overlooked, possibly genuinely rather uncommon or at least seldom fruiting. There is fairly widespread material at Kew from as far north as Lancashire and Yorkshire with a single collection from Northern Ireland. Hoping it may become better known, I include photos here by Martyn Ainsworth (Figs 1 & 2) of a remarkable mass fruiting, when for once it was conspicuous. This was in June but the timing is probably not signif-

icant; Nick Legon had recorded it at the same site 12 years earlier in July.

Unfortunately the full British *Xylaria* picture includes several other obscure taxa. Two species, *X. bulbosa* and *X. digitata*, present something of a puzzle in that both were quite widely recorded in the 19th century in Britain and also elsewhere in Europe but appear to have subsequently vanished. Læssøe (1992, 1993) made a thorough Europe-wide study of these and related species and concluded that both "seem not to have been collected this century [anywhere in Europe]". By contrast the provisional British Red Data List (Evans *et al.*, 2006) gives the last known British records as 1911 and 1924 respectively. Læssøe also recognised single British collections of two other species: *X. friesii* newly described with a 1970 record from Wiltshire and *X. guepinii* (syn. *X. scotica* Cooke) from Perthshire 1875, this latter possibly better placed in *Podosordaria*. Summary descriptions of both (as New British Records 111 and 112) were given in *Mycologist* 8(1) (Spooner 1994, Læssøe 1994). Completing



Fig. 1. *Xylaria oxyacanthae*, associated with fallen hawthorn berries, fruiting in large numbers at Ham Lands Local Nature Reserve, Surrey, 14 June 2006. Photograph © A.M. Ainsworth.

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Fig. 2. *X. oxyacanthae* stroma and colonised hawthorn seed (split open) from Ham Lands collection. Photograph © A.M. Ainsworth.

the spores, and if you can't make them fit then investigate further. The two new species discussed below, the main theme of these notes, bypass all these complications since, surprisingly, both seem to be usually recognisable with confidence in the field. Any doubts can be

the roll-call of recorded British species: *X. mellisii* (syn. *X. arbuscula*) is a glasshouse alien; *X. hippotrichoides* on rush matting etc., last seen 1875, is probably also alien and now placed in *Thamnomycetes*; *X. tortuosa* is a name of uncertain application; so is *X. filiformis* as used in Britain.

The message to be taken from the above rather off-putting paragraph is that if you find an odd-looking *Xylaria* it is probably one of the common ones growing strangely. But check

removed by reference to the excellent descriptions and photographs provided by Jacques Fournier (2014) on his website.

Xylaria cinerea J.Fourn. & M.Stadler

This was first noted in 1983 but only recently described (Fournier *et al.*, 2011). Publication was delayed until it could be clearly distinguished from several similar species found in e.g. New Zealand and Brazil. By then it was quite widely known in southern France and Spain and also in the Canary Islands. It occurs on hardwoods with no obvious preferences, the commonest host being *Quercus*, but is even known from bamboo. Its authors consider it "common in European regions under Atlantic, i.e. maritime, influence" and speculate that "it will probably be met with soon in other European regions".

The first two British collections of *X. cinerea* were made before it was described. Firstly by John Bailey, 27 Aug. 2007 on a felled oak trunk in Weston Big Wood, Portishead, S. Somerset (beside the Bristol Channel, near Bristol). Michael Jordan published a photo of this collection in *The Forayer* 3(3):29 (2007) under the caption "*Xylaria hypoxylon* is not always what it seems", guessing it was an unusual morphological form of that species. After receiving a more mature collection from the same site Jordan sent this puzzling material to Brian Spooner at Kew



Fig. 3. *X. cinerea*: short fat fruitbodies on a moss-covered log (probably *Quercus*) in Tycanol National Nature Reserve, Pembrokeshire, 30 Oct. 2007. Photo © Trudy Fleming.



Fig. 4. *Xylaria cinerea*: more typical fruitbodies on *Corylus*, Horner Wood near Minehead, S. Somerset, 22 Sept. 2015. Photograph © John Bailey.

who passed it to Thomas Læssøe who passed it in turn to Jacques Fournier who recognised it as one of his still undescribed species. When Fournier eventually published it, this solitary British collection was duly cited as a paratype, together with numerous others from France and Spain.

A second British collection was made in October that same year by Trudy Fleming on the other side of the Bristol Channel in Tycanol National Nature Reserve, Pembrokeshire. She thought it was something unusual and preserved it carefully, but it was five years before she showed it to Brian Spooner who recognised it as more of the now published *X. cinerea*. Her collection (Fig. 3) had short fat fruitbodies but was otherwise similar. This variability was noted in the type description ("from stunted caespitose to long-stipitate candle-shaped stromata").

My own involvement, apart from compiling these notes, has been only with the third collection. I was with John Bailey when he found it again during the 2015 Justin Smith memorial foray (Fig. 4), this time on branches of *Corylus* but once more in S. Somerset near the Bristol Channel (about three miles inland). John of course recognised it as more of his Portishead species, but was unaware that it was now published. It had to wait until I took material back to Kew before Brian Spooner once more

produced the name. Next month Pauline Penna found a fourth site at St Loy near St Buryan, W. Cornwall (within five miles of Land's End) where it grew on a fallen *Fagus* trunk. There is one other possible British site: Ventnor Botanic Garden, Isle of Wight, noted for its mild climate. There on 15 Oct. 2010 Marika Parslow collected anamorphic *Xylaria* material on *Quercus ilex* subsequently annotated by Fournier as "recalling *X. cinerea*".

The outstanding field character of *X. cinerea* is its colour, grey from a distance, whence the epithet *cinerea* = ash-grey. But in close-up (Fig. 3) it is very distinctively pale with black granulation. Most *Xylaria* species are black externally. The white stroma; revealed when cut open, confirms that it is a *Xylaria*. Spores are 13–17 x 6–7 μm with a germ slit extending about 3/4 of their length.

Xylaria crozonensis Leroy & Mornand

This was formally published in Leroy & Mornand (2004). A full illustrated account had appeared earlier (Leroy & Mornand, 2001) but there it had been only provisionally named pending further research. It was described from collections made by Mornand on 5 Aug 1998 and again on 27 July 2000 on *Quercus petraea* in a south-facing wood at the tip of the Crozou peninsula in Finistère,



Fig. 5. *X. crozonensis*: showing its curiously flattened, cushion-like fruitbodies. On *Quercus* wood, Hustyn Wood near Wadebridge in Cornwall, March 2014. Photograph © Pauline Penna.

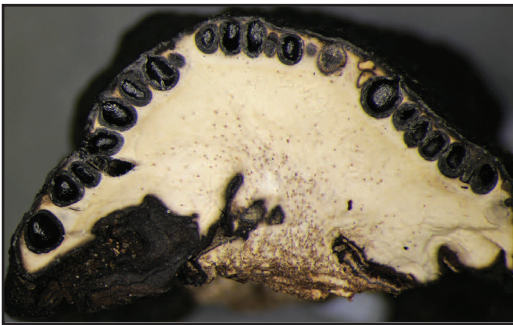


Fig. 6. *X. crozonensis*: cross-section showing the typical white flesh of a *Xylaria* with the perithecial chambers in the upper surface layer. Photograph © Paul Cannon.

thus almost at the western extremity of France, as far west as Cornwall but some 150 miles further south. The small, dark, centrally attached discs (Fig. 5), around 1 cm in diameter and often confluent, had the appearance of a *Hypoxylon*, but when sectioned surprisingly revealed the white stroma of a *Xylaria*. Mornand knew of no such thing as a flattened *Xylaria*. Research turned up a rather similar species described from Costa Rica and China but it was eventually concluded that this was new. *Xylarias* of this shape were formerly placed in a separate genus *Penzigia*. There are many such species in S. America, but this is as yet the only one known in Europe.

The first British record of *X. crozonensis* was made by Pauline Penna in W. Cornwall in a

damp sheltered wood near Wadebridge on 7 Mar 2014, again on *Q. petraea* but extending to nearby *Betula pubescens*. Her reaction was similar to that of Mornand: it looked as if it ought to be a *Hypoxylon* but it didn't fit. Photos were put on the Ascofrance website (www.ascofrance.fr) seeking help, where it was promptly recognised by Jacques Fournier. She soon found a second site in E. Cornwall by the coast near Bude, also on *Q. petraea*. Pauline organises the Cornwall Fungus Recording Group who then joined in the hunt. By the end of 2015 they had recorded a total of nine sites that included *Castanea* and especially *Ilex* as further hosts. It appears to be still only known from Finistère and Cornwall. Pauline's recent Cornish finds thus include both of the new *Xylarias* of these notes as well as the first British record of the 'orange ping-pong bat' *Favolaschia calocera* discussed in the last issue of FM.

X. crozonensis was selected as one of the initial hundred species for study in the 'Lost and Found Fungi' project (<http://fungi.myspecies.info/content/lost-found-fungi-project>). As such a full illustrated description of British material is available together with a map of the currently known British sites. Figs 5 and 6 are reproduced from that account with kind permission. Small grey to black discs on wood 7–20 mm diameter are likely to be this species if found to be white inside, confirmed if mature by dark spores 13–16 x 8–9 µm with a faint germ slit.

Devon, Cornwall and Finistère compared

Leroy & Mornand (2001) made some interesting remarks about the ecology of the Crozon peninsula of Finistère. They suggested it has an exceptional climate possibly enhanced by global warming. They noted the presence there of two thermophilic rarities otherwise Mediterranean in France: *Flaviporus brownii* and *Perenniporia ochroleuca*. Both are known from similarly 'Atlantic' sites in Devon and Cornwall. *F. brownii*, described by Humboldt from pit-props in mines, was profiled in FM11(3) (Henrici, 2010) with details of the only British record from a 'natural' (above ground) site. This was from Slapton Wood a mile from the sea in S. Devon, noted for its high humidity and for being virtually frost free. It was found there in 1995 by Bruce Ing on the underside of a *Castanea* log in dense undergrowth by a stream. Its world distribution is mainly subtropical. It evidently needs a very equable frost-free climate. *P. ochroleuca* was first reported in the British Isles from Jersey and Guernsey (Ainsworth *et al.*, 2001). Martyn Ainsworth has since found it to be widely distributed in coastal blackthorn (*Prunus spinosa*) scrub along the Cornish and Devon coasts and along the south coast of England as far east as Beachy Head. It is also known in this habitat on the Welsh coast, all these being further north than other European records.

The collections cited in Fournier *et al.* (2011) for *Xylaria cinerea* include one found in 2008 by J. Mornand, at or near his type site in Finistère for *X. crozonensis*. So Cornwall is not alone in hosting both these new Xylarias. Further evidence of a distinctive climate for fungi shared by Cornwall and Finistère comes from numerous finds of rare or undescribed microfungi, mainly pyrenomycetes, made in Cornwall in recent years by Ken Preston-Mafham. Several of the *X. crozonensis* sites are his, and a number of his other rarities, e.g. *Nectria viburnicola* on *Viburnum tinus*, were described in Crouan & Crouan 'Florule de Finistère' 1867 and have been rarely recorded anywhere since.

Martyn Ainsworth has suggested (Ainsworth, 2009) that there might be an 'Atlantic suite' of rare fungi largely confined to coastal *Prunus/Corylus* scrub. This was in the context of an article on a polypore *Dichomitus efibulatus*, recently described from Devon and Cornwall in this habitat. He cites *Aleurodiscus* (*Aleurobotrys*)

botryosus and *Hypocreopsis rhododendri* as further associated rarities. We both wonder how many of these might also be found on the Crozon peninsula and how long it will be before the rapidly spreading *Favolaschia calocera* makes its appearance there.

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