Plicatura crispa - spreading rapidly in Britain

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In the last issue of FM (Henrici, 2018) I noted the recent rapid spread of *Laxitextum bicolor* in Britain (unhappily misspelt - see Editorial in this issue). Several readers have remarked that *Plicatura crispa* is another species crying out for similar treatment. This also is distinctive and easily recognised, but until recently little known in Britain outside Scotland though very widespread in Europe. Its British range has increased dramatically this century, especially since 2010, for reasons that remain mysterious. Its unusual combination of features has led over the years to placement in several unrelated genera before its true affinities were recently established. This is another noteworthy story, outlined here before I document its spread.

Brief description

Plicatura crispa (Pers.) Rea is a corticioid in the broad sense, a white-rotting saprotroph, forming dense tiers of small sometimes confluent narrowly attached brackets, mainly on fallen hardwood branches, also on logs or standing dead trunks (Fig. 1). When young it is nearly white and pliable but soon yellow-brown with a pale hymenium and eventually very brittle (as the name suggests). Its most distinctive feature is the curious hymenial surface of low somewhat branched ridges (Fig. 2). These alone make it usually identifiable with confidence in the field. If further confirmation is needed it can be provided by the small spores: narrow allantoid, weakly amyloid, only 3–4.5 x 1–1.2 µm. For a full description see Eriksson *et al*. (1981).

Some history

P. crispa was first described in 1794 as *Merulius fagineus* and again in 1800 by Persoon as *M. crispus*. Persoon's later epithet wins as it was sanctioned by Fries in 1821 who moved it to *Cantharellus*. Much later, in 1862, Fries had second thoughts and moved it again, this time to *Trogia*, a genus he had himself erected earlier for some rather tough tropical clitocyboid species with similar hymenial ridges.

- In 1872 Peck described the new genus *Plicatura* (plicate = folded) for an American species *P. alni*, soon found to be already known to Fries in Europe who had described it as *Merulius niveus*, causing Karsten to make the necessary combination *Plicatura nivea*. This looks rather different, more like a white *Merulius tremellosus* (which is now a *Phlebia*). It has a continental distribution, mainly on *Alnus*, and is unknown and rather unlikely in Britain.
- In 1922 Carleton Rea in his *British Basidiomycetae* abandoned *Trogia* and moved *Trogia crispa* to become a second species of *Plicatura*.
- In 1964 Derek Reid stressed the morphological differences between these two species and erected a new monotypic genus *Plicaturopsis* for *P. crispa*. This has since been either adopted or considered unnecessary by subsequent experts in about equal measure. It is adopted in Breitenbach & Kränzlin (1986) where both species are illustrated.
- In 1981 in *The Corticiaceae of North Europe* Vol.6 Eriksson *et al*. also kept the two genera distinct "for practical reasons" but considered them to be related and close to two further genera *Amylocorticium* and *Ceraceomyces*.

Molecular findings

Much but not all has now been cleared up. Binder *at al.* (2010), on the basis of a 6-gene study, have erected a small new order *Amylocorticiales* that confirms the relationships suggested in Eriksson *et al.* (1981). *P. crispa* undoubtedly belongs here; *P. nivea* probably does also though (still?) unsequenced. The new order is sister to the *Agaricales* (closer than *Boletales*, much closer than *Russulales*). It also contains two other distinctive genera:

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1. *Podoserpula* (monotypic for *P. pusio*), the strangely shaped 'Pagoda Fungus', described from Australia and illustrated in FM from the Falkland Islands by Watling & Eggeling (2009). 2. *Irpicodon* (also monotypic, for *I. pendulus*) forming small white ± hydnoid clusters on standing dead trunks of *Pinus sylvestris* in winter in cold climates, often quite high up. It is known in Britain only from Castle Semple, Ayrshire in 1831, where it was collected by J.F. Klotszch, then curator of Hooker's Glasgow herbarium. The material is in Kew, verified by Reid as correctly identified. It is thus arguably Britain's rarest basidiomycete, on the grounds that 1831 is probably the earliest find date for any British species never refound. One to look out for!

Note that *Merulius*, *Cantharellus*, *Trogia* and *Plicatura*, so far from being closely related, are now not merely placed in different families, but each in a different order (*Polyporales*, *Cantharellales*, *Agaricales* and *Amylocorticiales* respectively).

Distribution and spread of *Plicatura crispa* in the British Isles

The following notes are mainly cobbled together from details of the collections held at Kew plus the very numerous records assembled in recent years on FRDBI and CATE. The spread of *P. crispa* over time is here cautiously inferred from its earliest reported record in each vice-county, plus some verbal reports of recent abundance. It is now widespread and in places common in three principal areas with scattered records elsewhere. These are discussed in turn below: 1) Scotland, 2) Northern England, 3) South-East England, 4) Other areas.

Records began in 1868 and were added in small numbers through to 1913. These I refer to as 'early' records. There was a dip in fungal recording in the inter-war years and apparently no more records at all of *P. crispa* until a Scottish one by Dr Dennis In 1944. Recording picked up slowly during the rest of the 20th century, but 78% of all *P. crispa* records in FRDBI and most of those in CATE are from the year 2000 onwards. A high proportion of these are from areas where it was previously unknown.

Scottish records

The first British record was in 1868 by Archibald Jerdan in his native Roxburghshire (VC80), so somewhere near the English border. Early records were also made in six other vice-counties further north (87-90, 95, 96). A further nine VCs were added in the 20th century, mostly by

Fig. 1. *Plicatura crispa* on fallen log (probably of *Corylus*), Putt Wood, Kent. October 2012. Photograph © Mario Tortelli.