Wildlife Report 2016

Fungi

Tony Leech

More teeth at St Faith's

In 2011, Anne Crotty found Bitter Tooth *Sarcodon scabrosus*, at St Faith's Common (TG1817), north of Norwich (Leech 2012). The tooth fungi bear their spores on spines rather than gills below the cap. There are relatively few species and most are much commoner in the Highlands of Scotland. Indeed, the disjunct distribution of *S. scabrosus* (in the highlands under pine and, rarely, in southern England under Sweet Chestnut *Castanea sativa*) suggests that more than one species is involved. Martyn Ainsworth at Kew (pers. comm.) has shown that this is the case but the new species has not yet been described.

Remarkably, in September 2016 Anne found another stipitate (stalked) tooth fungus new to Norfolk at St Faith's Common, close to where she found *S. scabrosus* and also under Sweet Chestnut. Again Martyn Ainsworth was able to confirm her identification, this time as Black Tooth *Phellodon niger*, and again he pointed out that two different species recorded in Britain have erroneously been united with this name and that resolution is underway through DNA sequencing.

Black Tooth *Phellodon nigra.* St. Faith's Common. Inset shows 'teeth' beneath cap. *Anne Crotty.*

Two other tooth fungi, both corky in texture and occurring on soil, have been recorded occasionally in Norfolk: Zoned Tooth *Hydnellum concrescens* and Velvet Tooth *H. spongiosipes.* The former is also present at St Faith's Common making the site a real hotspot for these fungi. The latter was recorded by Reg Evans at Felthorpe Woods, only a few kilometres away, on a number of occasions between 1981 and 1984. *H. concrescens* is also known from Wheatfen but the 2005 record from there of *Phellodon confluens* is considered suspect.

Waxcap developments

After finding the Bog Waxcap *Hygrocybe coccineocrenata* for the first time in Norfolk at Catfield Fen in 2015, Yvonne Mynett has subsequently found it at Holt Lowes (TG0937; August 2016) and at Upgate Common (TG1418; August 2017). Two new waxcap varieties, not recognised as separate species, were recorded for the first time in Norfolk in 2016; Glutinous Waxcap *H. glutinipes* var. *rubra* at Flordon Common (September 2016) and Meadow Waxcap *H. pratensis* var. *pallida* at Little Plumstead Woods (TG3110; November 2016), both by Tony Leech. The latter necessitates the removal of the record for *Hygrophorus penarius* at this site which was wrongly identified (by Tony) in 2013. The genus *Hygrocybe* has now been split into six genera as a result of molecular studies so that *H. pratensis* is now correctly known as *Cuphophyllus pratensis.*

Lost and found in Norfolk

In 2016, the five-year Lost and Found Fungus Project was launched to target one hundred species of fungus for which there were historical British records but no recent reports. This citizen science project has

a. *Puccinia cladii*. Swangey Fen. *James Emerson.*

b. Brian Douglas, Paul Cannon and Martyn Ainsworth searching for fungi at Wheatfen. *Tony Leech.*

been funded by the Esmée Fairbairn Trust and has involved the appointment of Brian Douglas, based at Kew, as coordinator. In July 2016, three Kew mycologists (Martyn Ainsworth, Paul Cannon and Brian Douglas) spent several days in Norfolk on the hunt. Their primary targets were *Puccinia cladii* (a rust fungus on Great-fen Sedge *Cladium mariscus*); *Puccinia cicutae* (a rust fungus on Cowbane *Cicuta virosa*) and *Anthracoidea pulicaris* (a smut fungus on the anthers of Flea Sedge *Carex pulicaris*). The first task was to locate host plants, and members of the Norfolk Fungus Study Group (NFSG) prepared an itinerary in advance and accompanied the professionals.

Puccinia cladii had been recorded extensively in the Broads by E.A.Ellis between 1935 and 1958 but since then only from Glamorgan and at Royden Fen near Diss (by M. Yeo in 2014, a record unknown to us at the time). The group found the rust on all populations of Great Fen-sedge examined (Wheatfen, Upton Fen, Sutton Fen and Catfield). *Anthracoidea pulicaris* had been found at West Caister by E.A.Ellis in 1932 but the only recent records have been from Scotland. The host plant was examined at Upton Fen and at Southrepps Common but there were no signs of black 'smut' in the flowers. Neither did the Cowbane plants examined at Sutton Fen, Wheatfen (where it was known 1934-1940) or Catfield bear the fungus (although it had been recorded at Woodbastwick in 2014). Further details of the LAFF project can be found on https://www.kew.org/blogs/kew-science/the-lost-and-found-fungi-project.

A dung surprise

Readers of these reports will have become familiar with my new county records for dung-loving fungi in Norfolk. Most of these are micro-fungi which appear when the dung is incubated and are generally overlooked, but occasionally a 'real' dung fungus is found. On a foray organised by the Dersingham Mushroom Club at East Winch Common (TF7015; July 2016) we were surprised to find dried cow dung bearing several brown funnel fungi which turned out to be *Clitocybe amarescens*, a species unfamiliar to all present. About

***Clitocybe amarescens* on dried cow dung.** East Winch Common. *Tony Leech.*

Table 1. New county fungus records in 2016, in addition to those given in the text

Species	Place	Date	Collector [Identifier if different]	Notes
Arthrobotrys superba	Sandringham. TF6828	17.12.2016*	Tony Leech	Incubated on Muntjac dung
Cladosporium uredinicola	Banham Zoo. TM0587	10.9.2016	Tony Leech	A small black microfungus on dead leaf of *Iris foetidissima.* Probably parasitic on rust *Puccinia iridis.*
Corynespora olivaceae	Bayfield Estate, nr. Glandford. TG0440	November 2016	Andrew Duff [Tony Leech]	Black spots on dead twig of Common Lime *Tilia* x *europaea.*
Marchandiomyces corallinus	Salthouse Heath. TG0734	29.7.2016	Tony Leech	A pink microfungus parasitic on lichens; here on *Parmelia sulcata.*
Microsphaerella microsora	Watermill Broad, Cranwich TL7795	17.8.2016	Tony Leech	Black spots on living leaf of Common Lime *Tilia* x *europaea.*
Mycotypha microspora	Sandringham TF6828	17.12.2016*	Tony Leech	Incubated on Muntjac dung.
Puccinia epilobii	The Lings, Little Snoring. TF9633	9.5.2016	Tony Leech	Rust fungus on *Epilobium* sp.
Puccinia iridis	Holt. TG0839	29.8.2016	Tony Leech	Rust fungus on Stinking Iris *Iris foetidissima* leaf.
Rhopalomyces magnus	Sutton Fen. TG3623	12.7.2016*	Tony Leech	A mould fungus from a disused Mute Swan nest.
Scutellaria superba	Holkham NNR. TF8645	May 2016	Andy Bloomfield [Tony Leech]	A small orange 'eyelash' fungus.

*examined later

half of the approximately 20 British records for this species, none of them from Norfolk, are associated with dung.

Several conecaps are coprophilous and *Conocybe pubescens* was added to the Norfolk list at Hudson's Fen (TF6922; September 2016). Several new micro-fungi for the county are included in Table 1.

Powdery mildews

Powdery mildews are parasitic ascomycete fungi that grow on the green parts of vascular plants. Until recently it has been easy to identify powdery mildews as it was assumed that many were host-specific; identify the host and you have a name for the fungus. Not any more! Molecular studies have shown that a number of plants can be attacked by more than one species of mildew so that identification can only be secured if asci are present, and then often with difficulty. Bearing this in mind, it is unlikely that the fungus found on Creeping Buttercup *Ranunculus repens* by Ian Senior in Earlham Cemetery (TG2108, 2016) is anything other than *Erysiphe aquilegiae* var. *ranunculi* which does not hitherto seem to have been recorded from Norfolk on this host (although there is an anonymous record of it on Greater Spearwort *Ranunculus lingua* from 1947).

Reference

LEECH, A.R. 2012. Fungus Report 2011. T*rans. Norfolk. Norwich Nat Soc.* 45(1): 118-120.

A.R. Leech. 3 Eccles Road, Holt, Norfolk NR25 6HJ. tonyleech3@gmail.com