Wildlife Report 2019

Fungi

Tony Leech

With increased activity and expertise within the Norfolk Fungus Study Group comes a surge in records – over 5000 in 2019. Work is being carried out to bring together the Norfolk county fungus records so that new additions can be identified more clearly. Over a hundred were made in 2019, mostly of microfungi.

Norfolk bubble fungus

In November, Ian Senior found a group of brown gill fungi in Earlham Cemetery with grossly abnormal caps. The 'bubbles' on the cap surface later coalesced and blackened until in some cases they enveloped the whole mushroom. The identity of the 'host' fungus was not at first clear. At much the same time, Tracy Money, Andy Gardiner and Anne Edwards encountered a similarly affected fungus in Ashwellthorpe Lower Wood. Here it was obvious that the affected species was Field Blewit *Lepista saeva.*

The most likely explanation was that the mushrooms were infected, but with what? A number of possibilities were suggested and followed up, including *Syzygospora tumefaciens*, a rare parasitic jelly fungus, and *Lecanicillium fungicola*, the causative agent of 'dry bubble disease', a superficially similar condition that can affect cultivated mushrooms. Microscopic examination excluded both but confirmed that an attack by a parasitic fungus had occurred.

And here the trail might have ended, as many do, were it not for the fact that Anne Edwards was able to sequence the ITS 'barcoding' region of the material. The result was a great surprise – a perfect match for an ascomycete parasite with a macroscopic fruiting body described from Oregon (Frank 2014) and named *Mycosymbioces mycenophila*. This fungus had been found at the base of Burgundydrop

A well-attended meeting of the Norfolk Fungus Study Group at Heydon Hall, September 2019, by kind permission of the owners. *Mark Joy.*

A: Bubble fungus at Earlham Cemetery. *Ian Senior.*

B: Bubble fungus at Ashwellthorpe Lower Wood (on Field Blewit). *Andy Gardiner.*

C: Later stage of infection, Earlham Cemetery. *Ian Senior*

Fruiting body of *Mycosymbioces mycenophila* growing from the base of Burgundydrop Bonnet *Mycena haematopus*, Oregon U.S.A. *Jonathan Frank.*

Bonnet *Mycena haematopus* and did not resemble the Norfolk specimens in any way. However, it did, at least superficially, resemble species of *Elaphocordyceps* that are parasitic on truffles.

Many ascomycetes have asexual forms (anamorphs) that do not remotely resemble their sexual forms (teleomorphs). An identical DNA sequence to that of the Norfolk specimens had earlier been found in a culture of a fungus derived from a webcap (*Cortinarius subsertipes* (now *C. casimiri*)) and named *Sarocladium mycophilum*. This would be the anamorph of *M. mycenophila* but subsequent studies (Giraldo *et al*. 2015) showed that its placing in the genus *Sarocladium* was not correct. Since only a single name covering both teleomorph and anamorph is now valid, that name would therefore be *M. mycenophila.* The distortions resulting from attack by the anamorph of *M. mycenophila* do not appear to have been reported hitherto and it is suggested that this fungus should be called the Norfolk Bubble Fungus. Further details will be found in Edwards *et al.* (2020).

Helpful discussions with Jonathan Frank (*in litt*.) have revealed that *M. mycenophila* has also been reported parasitising a truffle in South America. He and a colleague are planning further taxonomic studies of the species and all its manifestations.

One puzzle remained – the identity of the host at Earlham Cemetery. Although it, like the Ashwellthorpe fungus, appeared to be a *Lepista* species, it lacked any hint of blue on the fruiting bodies, thus excluding Field Blewit *L. saeva*, Wood Blewit *L. nuda* and Sordid Blewit *L. sordida*. The remaining possibilities are Flowery Blewit *L. irina* and *L. ovispora*. The lack of a perfumed smell excluded the former and, as the remaining characteristics were consistent with *L. ovispora*, an uncommon but widespread species with one previous Norfolk record, that was accepted as the host species.

Rust fungus v. Himalayan Balsam

Himalayan Balsam *Impatiens glandulifera* was introduced into the British Isles as an ornamental plant around the middle of the 19th century but in the last fifty years has spread extensively into a variety of natural habitats creating large stands. These substantially reduce biodiversity, especially along riverbanks. On a small scale, the pulling of plants by volunteers can limit spread but, once established, control is difficult and expensive.

Aecia of Balsam Rust at the base of the host plant. Thornage Beck (River Glaven tributary). *Henry Crawley.*

In 2014, after thorough testing to ensure that the fungus only infected the target species, Balsam Rust *Puccinia komarovii* var. *glanduliferae* became the first biological control agent against a weed species to be licensed for use in the European Union. In 2015, it was released at 25 sites across England and Wales into stands of Himalayan Balsam, and in 2017 and 2018 at a further 17 sites, three of them in Norfolk (Wroxham Broad; Layfield Lakes, Lenwade, and the River Glaven at Thornage).

Rust fungi are obligate plant parasites which, despite their humble appearance, are basidiomycetes and therefore much more closely related to familiar larger fungi than to mildews and moulds. Rust fungi have complex lifecycles, some more so than others. *P. komarovii* exhibits the full set of five stages, all on the same host plant species. The immediate post-infection studies aimed to show development of uredinia (brown powdery spots) on the undersides of late-summer leaves and aecia (clusters of orange 'cups') at the base of stems in the following year. The early results were disappointing but direct spraying of spores, rather than introducing infected plants, was found to improve establishment. It was also discovered that different British populations of Himalayan Balsam varied in their susceptibility to infection, suggesting that early introductions of the plant had been from a number of different sources. A second strain of the rust fungus, this time from Pakistan, was found to infect a different sub-set of host plants and in the Norfolk trials both strains were used.

Good formation of uredinia was observed in all three Norfolk introductions in 2018 but although aecia appeared at all of the sites in the following year, they were only abundant at the River Glaven site. In May 2020, infected stems were photographed there by Henry Crawley. Although it has been established that the fungus can complete its life-cycle in the wild, it is too early to know whether this will have the

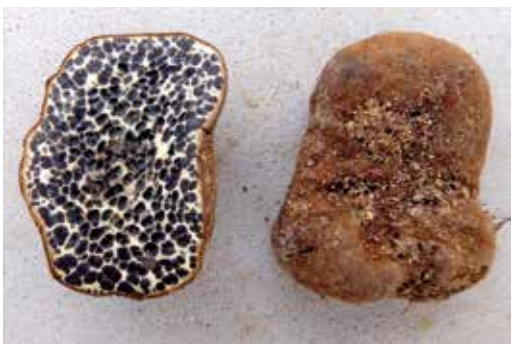
desired impact on populations. A further confounding factor is the discovery that endophytic fungi (present in tissues without apparently affecting the plant in any way) may have a safeguarding effect on pathological infections (Currie *et al.* 2020). A full account of the trials is given by Ellison *et al.* (2020).

Truffle hunting

In Britain, truffles are rarely sought and equally rarely found but some 80 species are known. The name is given to any fungus which 'fruits' below ground and truffles occur in diverse families of both basidiomycetes and ascomycetes; most are inedible. Gardeners are most likely to encounter them but not necessarily to recognise them. Robert Maidstone is an exception; he has recorded two interesting species this year, both second records for the county.

His first was the appropriately named Stinking Slime Truffle *Melanogaster ambiguus* which he found at Poringland in April. Its strong odour of rotting garlic is presumably an adaptation to attract animals to disperse its spores. The first, and only other, Norfolk record was made by Charles Plowright in 1872, most probably in the west of the county.

Robert's second find of 2019 was a pair of Red Truffles *Tuber rufum* at Wacton in August. Although this species belongs to the genus which includes the truffles of



Stinking Slime Truffle *Melanogaster ambiguus*. *Tony Leech.*

Red Truffle *Tuber rufum*. *Tony Leech.*

commerce, it is not highly esteemed or cultivated. The only other Norfolk record was from near Watton in 2008. Curiously, that was found by Marie-Anne French, a lady who was cultivating other species of *Tuber* truffles commercially at the time.

In 2009, I mentioned to Robert Maidstone that the highly sought-after Summer Truffle *Tuber aestivum* had never been recorded in Norfolk. He told me he came across them quite often and within a month he had collected a specimen at Tibbenham.

New 'larger' fungi for Norfolk

Amanita olivaceogrisea Not so long ago, grey amanitas without rings on their stipe would have been called Grisettes but the availability of accessible literature has led to the recognition that there are half-a-dozen or so such species which can be distinguished. *A. olivaceogrisea* was found by Tony Leech under Alder at Sculthorpe Moor (TF9029) on one of Jenny Kelly's monthly recording forays with volunteers on the site.

Entoloma albotomentosum is a tiny stalkless gill fungus that looks like an oysterling fungus until the distinctively-shaped pink spores are recognised. Yvonne Mynett recorded it at Hickling Broad (TG4222) in August on a dead grass stem. There are few British records, mostly from the Home Counties, but it is likely to be frequently overlooked as it grows well hidden at soil level

Entoloma albotomentosum. *Yvonne Mynett.*

Flammulaster subincarnatus is a small buff-coloured gill fungus that often occurs on the cupules of beech fruits. It is rarely recorded but widespread in Britain although not recorded in Norfolk until Yvonne Mynett found it in North Burlingham Woods (TG3610) in November.

Hohenbuehelia fluxilis, like the *Entoloma* above, is stalkless but slightly larger and with white spores. It is equally rare and was found by Gill Judd on a twig at Catfield Hall (TG3721) in August. It was identified, again, by Yvonne Mynett.

Mycena mirata was Yvonne's third addition to the Norfolk list. It is another small gill fungus, this time growing on woody debris under oak at Marsham (TG4317). Once again, it is uncommon but widespread and has been recorded once from Suffolk. This is one of 39 species (including varieties) of the genus *Mycena* recorded in Norfolk in 2019.

Parasola cuniculorum. This species is one of the many small agarics which grow on herbivore dung. It was only described as a new species in 2014 and appeared on rabbit dung collected by Yvonne Mynett from Winterton Dunes (TG4821) in February.

Russula atrorubens. *Russula* (brittlegill) expert Geoffrey Kibby has been heard to remark that "rare species of *Russula* are just as common as common species". This is clearly nonsense, but his point was that if recorders looked carefully and critically at a *Russula* species they have found (and over 150 have been recorded in Britain) they might realise that they had a less-recorded species. This is exactly what James Emerson did when he found one at Whittlingham Country Park (TG2607) in November. It closely resembled the common Purple Brittlegill *Russula atropurpurea* but his identification of *Russula atrorubens* was later confirmed by Geoffrey Kibby. There is a small number of British records for this species, mostly Scottish but with a few from the south.

Pinelitter Gingertail *Xeromphalina cauticinalis.* A second predominantly Scottish species made a surprise appearance on the Bayfield Estate (TG0440) in October where Tony Leech was leading a foray. Several of the ginger-coloured, bristly fruiting bodies were growing in soil in a straight line, which suggested that they might be on buried wood but it could not be found. The nearest pine tree was about 30 metres away.

Ciboria rufofusca. This small, stalked discomycete (cup fungus) is found only on the cone scales of *Abies* species, and very rarely at that. Rob Yaxley recorded it on *Abies grandis* at Brett's Wood, Thursford (TF9632) in April.

Ciboria rufofusca. *Rob Yaxley.*

Hymenoscyphus menthae. Another stalked discomycete, this one growing on the

Hymenoscyphus menthae. *Mark Joy*

dead stems of marsh plants, especially mints, spotted by Yvonne Mynett at Heydon Hall (TG1127) in September.

Hyphodiscus hymeniophilus (TG2635) When a specimen of the normally white Serried Porecrust *Antrodia serialis* was found at Southrepps Common in March, it was noticeably tinged pink. Although fruiting bodies were not seen, this was taken to indicate the presence of the parasitic cup fungus *H. hymenophilus* which has this effect on its host.

Serried Porecrust turned pink by *H. hymeniophilus.* *Mark Joy.*

Lamprospora crouani is one of a number of small orange discomycetes found on soil with mosses, in this case *Tortula muralis*, by Stewart Wright at Hoveton Hall (TG3132) in November.

Orbilia rubrovacuolata. Rob Yaxley has his eye in for rare discomycetes. *O. rubrovacuolata* has only recently been described, from mainland Europe, but is beginning to be recorded in Britain as the only red member of its genus. It typically occurs on dead wood but Rob found it on bark at Burnham Overy (TF8745) in December.

New spots, dots and mildews

When most gardeners encounter diseased leaves, they either ignore them or reach for the fungicide. But not Stewart Wright; he collects them and attempts to identify the causative agent. This is made easier by the fact that many are host specific. Amateurs rarely study these fungi and professional plant pathologists do not usually submit their records to national or local databases so these fungi are grossly under-recorded, although some are almost ubiquitous.

Microfungi that parasitise living plants, or decompose dead parts of them, belong to diverse groups. One of the more noticeable is the rust fungi which have been relatively well-recorded. Then there are the smuts, another basidiomycete group, which produce masses of dark spores on various parts of their hosts. Powdery mildews are ascomycetes, not to be confused with downy mildews which are not fungi at all; they are oomycetes, placed in the kingdom Chromista. The majority of 'spots and dots' on leaves are the asexual (conidial) forms of ascomycetes, known as anamorphs, some of which also occur in an entirely different form on other substrates.

We have been fortunate this year in being joined on some of our forays by Dr Chris Preston from Cambridge. He has an eye for small fungi and an expert botanical knowledge. Microfungi which he and Stewart added to the Norfolk list in 2019 are shown in Table 1.

When Chris Preston and Stewart Wright visited Weeting Heath on a Norfolk Fungus Study Group foray in September, they noticed Annual Knawel *Scleranthus annuus* growing in an adjacent field (TL7588). This arable 'weed' is now very rare but it, and other Breckland specialities, has been encouraged to persist and thrive on this field for fifty years. Rare plants are likely to have even rarer associates and on the leaves of the plant examined they found minute black specks which turned out to be the pycnidia of *Septoria scleranthi*, a fungus described from French material but one which does not appear on the British list (although there is one old record, from Suffolk). Chris has subsequently found the fungus on old herbarium material.

In August 2018, he found the gall-causing smut fungus *Doassansiopsis hydrophila* on Grass-leaved Pondweed *Potamogeton gramineus* in Langmere, East Wretham Heath (TL9088). Not only was this the first Norfolk record (although an undated record from Suffolk, near Bungay, appears on the national database), it was the first in Britain on this host.

Ramularia is a genus of anamorphic fungi which cause spots of dead tissue on living leaves. Probably the most familiar is *Ramularia rubella* which causes red-ringed spots on dock leaves, although it is not the only common fungus (or even the only *Ramularia*) to do so. Of the 138 species of *Ramularia* listed as British, Stewart Wright recorded 52 of them in 2019, including 26 new to the county. But even during the year the goalposts were changing as Chris Preston recorded an additional species new for Britain - *R. rigidula* on Knotgrass *Polygonum aviculare* at Blo' Norton Fen (TM0179) in July. This was confirmed by Prof. Uwe Braun in Germany. Whilst waiting for the train home at Attleborough Station (TM0595) after a Norfolk Fungus Study Group foray, Chris collected *R. inaequalis* on Bristly Ox-tongue *Helminthotheca echioides*, recorded only once before in Britain at Wicken Fen.

***Doassansiopsis hydrophila* on Grass-leaved Pondweed.** *Chris Preston.*

A number of microfungi featured in the Lost and Found Fungi project directed from Kew which came to an end in 2019. The aim was to search for fungi for which there were very few British records or which had not been found for a long period. Such fungi may be rare or simply overlooked. One such species was *Pseudoyuconia thalictri* which manifests itself as tiny spore-containing black spots on the dead stems of Common Meadow-rue *Thalictrum flavum*. Its only British record was from East Suffolk in 1991 but Stewart was able to find it at Wheatfen (TG3306) in April, adding yet another species to the Norfolk list. Its distinctive spores greatly assist identification .

Fungi from the far west

Jonathan Revett lives in Welney in the far west of the county. He has recently submitted a large batch of records which include some species new to Norfolk and other interesting fungi.

Amanita franchetii is rare enough not to possess an accepted English name. Jonathan found the first Norfolk specimen not in West Norfolk but at Foxley Wood (TG0522) in October 2007 under oak. It resembles a Blusher but is covered by a yellow veil when young that persists as a yellowing of the cap warts and as girdling on the stem.

Table 1. Microfungi recorded for the first time in Norfolk during 2019.

Recorders: ASW, Stewart Wright; CDP, Chris Preston; IS, Ian Senior; NM, Neil Mahler; YM, Yvonne Mynett.

Fungal groups: Conid., conidial (i.e. asexual forms); disc., discomycete; dmild., downy mildew; pmild., powdery mildew. asco.., other ascomycete.

Species	Group	Associated plant	Place	Grid ref	Date	Rec
Alternaria dianthi	conid.	*Dianthus caryophyllus*	Repps-with-Bastwick	TG424176	30/03/2019	ASW
Anthracoidea arenariae	smut	*Carex arenaria*	Winterton, north dunes	TG487214	23/06/2019	ASW
Botryotinia calthae	disc.	*Caltha palustris*	Hoveton Hall Gardens	TG313202	20/05/2019	ASW
Botrytis fabae	conid.	*Vicia faba*	Repps-with-Bastwick	TG424176	30/06/2019	ASW
Cercospora armoraciae	conid.	*Armoracia rusticana*	Hoveton Hall Gardens	TG313202	23/09/2019	ASW
Cercospora chenopodii	conid.	*Chenopodium album*	Repps-with-Bastwick	TG424176	13/10/2019	ASW
Cercospora resedae	conid.	*Reseda luteola*	Weeting Heath	TL758888	21/09/2019	CDP
Cercospora scandens	conid.	*Dioscorea communis*	Alderford Common	TG127184	28/06/2019	ASW
Cercospora violae	conid.	*Viola riviniana*	Ashmanhaugh	TG317208	08/08/2019	ASW
Cercospora zebrina	conid.	*Trifolium pratense*	Repps-with-Bastwick	TG424176	18/09/2019	ASW
Cercosporella primulae	conid.	*Primula*	Catfield Hall	TG370210	17/08/2019	ASW
Cyathicula starbaeckii	disc.	*Ranunculus repens*	Hoveton Hall Gardens	TG313202	29/04/2019	ASW
Cylindrocladium buxicola	conid.	*Buxus*	Little Plumstead Woods	TG3110	18/05/2019	ASW
Diaporthe aucubae	asco.	*Aucuba japonica*	Ashmanhaugh	TG317208	11/04/2019	ASW
Diplocarpon mespili	conid.	*Crataegus*	Little Plumstead Woods	TG3110	18/05/2019	ASW
Entyloma calendulae	smut	*Calendula officinalis*	Repps-with-Bastwick	TG424176	25/02/2019	ASW
Entyloma dahliae	smut	*Dahlia cv.*	Ashmanhaugh	TG317208	15/08/2019	ASW
Erysiphe akebiae	pmild.	*Akebia quinata*	Repps-with-Bastwick	TG424176	01/06/2019	ASW
Erysiphe howeana	pmild.	*Oenothera glazioviana*	Repps-with-Bastwick	TG424176	31/07/2019	ASW
Erysiphe lythri	pmild.	*Lythrum salicaria*	Hoveton Hall Gardens	TG313202	09/07/2019	ASW
Erysiphe magnifica	pmild.	*Magnolia*	Hoveton Hall Gardens	TG313202	13/08/2019	ASW
Erysiphe sedi	pmild.	*Sedum spectabile*	Hoveton Hall Gardens	TG313202	16/09/2019	ASW
Golovinomyces macrocarpus	pmild.	*Tanacetum parthenium*	Catfield Hall	TG377213	17/08/2019	CDP
Golovinomyces monardae	pmild.	*Mentha aquatica*	Bayfield, Natural Surroundings	TG048408	23/10/2019	ASW
Golovinomyces salviae	pmild.	*Salvia verticillata*	Repps-with-Bastwick	TG424176	24/08/2019	ASW
Golovinomyces sonchicola	pmild.	*Sonchus asper*	Earlham Cemetery (west)	TG205087	28/09/2019	IS
Golovinomyces verbasci	pmild.	*Verbascum*	Weeting Heath	TL7588	21/09/2019	ASW
Hyaloperonospora galligena	dmild.	*Alyssum saxatile*	Ashmanhaugh	TG317208	01/08/2019	ASW
Keissleriella culmifida	asco.	*Dactylis glomerata*	Hoveton Hall Gardens	TG313202	04/02/2019	ASW
Leveillula verbasci	pmild.	*Verbascum thapsus*	Ingham, Stonebridge Farm	TG385273	10/07/2019	ASW
Microsphaeropsis concentrica	conid.	*Yucca*	Hoveton Hall Gardens	TG313202	19/02/2019	ASW
Monilinia laxa	disc.	*Prunus domestica*	Hoveton Hall Gardens	TG313202	13/08/2019	ASW
Mycosphaerella mariae	asco.	*Digitalis lutea*	Repps-with-Bastwick	TG424176	20/03/2019	ASW
Neoerysiphe galii	pmild.	*Galium aparine*	Welney WWT	TL544943	15/06/2019	CDP
Passalora murina	conid.	*Viola palustris*	Upton Fen	TG384137	15/09/2019	ASW
Peronospora dipsaci	dmild.	*Dipsacus fullonum*	Welney WWT	TL538935	15/06/2019	CDP
Peronospora hariotii	dmild.	*Buddleja davidii*	Hoveton Hall Gardens	TG313202	15/07/2019	ASW
Peronospora meconopsidis	dmild.	*Meconopsis cambrica*	Repps-with-Bastwick	TG424176	04/05/2019	ASW
Peronospora myosotidis	dmild.	*Myosotis arvensis*	Repps-with-Bastwick	TG424176	28/03/2019	ASW
Peyronellaea curtisii	conid.	*Nerine bowdenii*	Repps-with-Bastwick	TG424176	25/02/2019	ASW
Phomopsis araucariae	conid.	*Araucaria araucana*	Hempstead-by-Holt	TG104368	09/10/2019	ASW
Phyllosticta aucubae	conid.	*Aucuba japonica*	Repps-with-Bastwick	TG424176	24/04/2019	ASW
Plasmopara pusilla	dmild.	*Geranium pratense*	Catfield Hall	TG370210	17/08/2019	ASW
Podosphaera amelanchieris	pmild.	*Amelanchier lamarkii*	Hoveton Hall Gardens	TG313202	05/08/2019	ASW
Podosphaera erigerontis-canadensis	pmild.	*Erigeron canadensis*	Weeting Heath	TL759881	21/09/2019	CDP
Podosphaera euphorbiae	pmild.	*Euphorbia peplus*	Repps-with-Bastwick	TG424176	20/02/2019	ASW
Podosphaera filipendulae	pmild.	*Filipendula ulmaria*	Welney WWT	TL542940	15/06/2019	CDP

Species	Group	Associated plant	Place	Grid ref	Date	Rec
Pseudopeziza calthae	disc.	*Caltha palustris*	Hoveton Hall Gardens	TG313202	08/04/2019	ASW
Pseudoyuconia thalictri	asco.	*Thalictrum flavum*	Wheatfen	TG330063	10/04/2019	ASW
Ramularia agrestis var. agrestis	conid.	*Viola arvensis*	Ashmanhaugh	TG317208	19/08/2019	ASW
Ramularia anthrisci	conid.	*Anthriscus sylvestris*	Ashmanhaugh	TG317208	11/04/2019	ASW
Ramularia beccabungae	conid.	*Veronica beccabunga*	Bayfield, Natural Surroundings	TG048408	23/10/2019	ASW
Ramularia beticola	conid.	*Beta vulgaris cv.*	Repps-with-Bastwick	TG424176	20/03/2019	ASW
Ramularia carneola	conid.	*Scrophularia nodosa*	Heydon Hall	TG1127	08/09/2019	ASW
Ramularia centaureae	conid.	*Centaurea nigra*	Ashmanhaugh	TG317208	11/04/2019	ASW
Ramularia chamaedryos	conid.	*Veronica chamaedrys*	Heydon Hall	TG1127	08/09/2019	ASW
Ramularia coccinea	conid.	*Veronica austriaca*	Hoveton Hall Gardens	TG313202	20/05/2019	ASW
Ramularia cupulariae	conid.	*Inula conyzae*	Ringstead Downs	TF695401	12/08/2019	ASW
Ramularia cynarae	conid.	*Cynara scolymus*	Hoveton Hall Gardens	TG313202	08/03/2019	ASW
Ramularia deusta	conid.	*Lathyrus latifolius*	Bayfield, Natural Surroundings	TG048408	23/10/2019	ASW
Ramularia galegae	conid.	*Galega officinalis*	Hoveton Hall Gardens	TG313202	23/09/2019	ASW
Ramularia gei	conid.	*Geum urbanum*	Southrepps Common	TG2635	16/03/2019	ASW
Ramularia inaequalis	conid.	*Helminthotheca echioides*	Attleborough Station	TM051950	20/07/2019	CDP
Ramularia keithii	conid.	*Malva moschata*	Repps-with-Bastwick	TG424176	09/11/2019	ASW
Ramularia montana	conid.	*Epilobium montanum*	Heydon Hall	TG1127	08/09/2019	ASW
Ramularia myosotidis	conid.	*Myosotis arvensis*	Hoveton Hall Gardens	TG313202	02/08/2019	ASW
Ramularia nymphaearum	conid.	*Nymphaea cv.*	Ashmanhaugh	TG317208	05/09/2019	ASW
Ramularia rhei	conid.	*Rheum x hybridum*	Ashmanhaugh	TG317208	20/06/2019	ASW
Ramularia rigidula	conid.	*Polygonum aviculare*	Betty's & Blo' Norton Fens	TM016790	20/07/2019	CDP
Ramularia septata	conid.	*Galanthus nivalis*	Hoveton Hall Gardens	TG313202	12/03/2019	ASW
Ramularia simplex	conid.	*Ranunculus repens*	Catfield Hall	TG370210	17/08/2019	ASW
Ramularia simplex	conid.	*Ranunculus repens*	Pigneys Wood	TG295321	26/06/2019	ASW
Ramularia spiraeae	conid.	*Spiraea cv.*	Repps-with-Bastwick	TG424176	10/07/2019	ASW
Ramularia stachydis	conid.	*Stachys macrantha*	Repps-with-Bastwick	TG424176	14/04/2019	ASW
Ramularia superflua	conid.	*Urtica dioica*	Barnham Cross Common	TL8681	02/11/2019	ASW
Ramularia sylvestris	conid.	*Dipsacus fullonum*	Repps-with-Bastwick	TG424176	14/07/2019	ASW
Ramularia vallisumbrosae	conid.	*Narcissus cv.*	Wheatfen	TG328056	10/04/2019	ASW
Ramularia variabilis	conid.	*Digitalis purpurea*	Catfield Hall	TG370210	17/08/2019	ASW
Ramularia variabilis	conid.	*Digitalis purpurea*	Ashmanhaugh	TG317208	11/04/2019	ASW
Scirrhia aspidiorum	asco.	*Osmunda regalis*	Winterton Dunes	TG4821	13/04/2019	ASW
Septoria chelidonii	conid.	*Chelidonium majus*	Barnham Cross Common	TL8681	02/11/2019	ASW
Septoria exotica	conid.	*Hebe cv.*	Repps-with-Bastwick	TG424176	24/04/2019	ASW
Septoria lavandulae	conid.	*Lavandula cv.*	Hoveton Hall Gardens	TG313202	30/07/2019	ASW
Septoria melissae	conid.	*Melissa officinalis*	Ashmanhaugh	TG317208	20/06/2019	ASW
Septoria melissae	conid.	*Melissa officinalis*	Repps-with-Bastwick	TG424176	28/06/2019	ASW
Septoria paeoniae	conid.	*Paeonia cv.*	Repps-with-Bastwick	TG424176	30/06/2019	ASW
Septoria scleranthi	conid.	*Scleranthus annuus*	Weeting Heath	TL7588	21/09/2019	ASW
Spilocaea pyracanthae	conid.	*Pyracantha coccinea*	Hoveton Hall Gardens	TG313202	21/10/2019	ASW
Stagonospora calystegiae	conid.	*Calystegia sepium*	Pigneys Wood	TG295321	26/06/2019	ASW
Stictis elongatispora	disc.	*Phragmites*	Southrepps Common	TG2635	16/03/2019	YM
Stigmina carpophila	conid.	*Prunus laurocerasus*	Repps-with-Bastwick	TG424176	02/03/2019	ASW
Taphrina sadebeckii	asco.	*Alnus glutinosa*	Catfield Hall	TG370210	17/08/2019	ASW
Trichophaeopsis bicuspis	disc.	*Salix*	Buckenham Carr	TG3605	12/05/2019	NM
Venturia carpophila	asco.	*Prunus armeniaca*	Hoveton Hall Gardens	TG313202	28/05/2019	ASW
Venturia potentillae	asco.	*Potentilla anserina*	Hoveton Hall Estate	TG322203	19/08/2019	ASW
Venturia pyrina	asco.	*Pyrus cv.*	Repps-with-Bastwick	TG424176	14/08/2019	ASW

Top: Pycnidia of *Pseudoyuconia thalictri* on the dead stems of Common Meadow-rue. *Stewart Wright.*

Bottom: Photomicrograph of stained squash of *P. thalictri* showing three-celled spores packed into asci. The dark club-shaped structures are immature asci. *Tony Leech.*

Gymnopus impudicus is an unassuming small brown mushroom with a distinctive odour. Jonathan found it in Risbeth Woods, Thetford Forest (TL8383) and describes it as smelling like rotting cabbage mixed with garlic. It is nationally scarce but with a single previous Norfolk record.

Leucoagaricus americanus is even less common. It is a large whitish mushroom the identity of which was confirmed by Brian Spooner (Kew). The specimen found at Downham Market (TF6103) under oak in July 2004 remains the only record for Norfolk

Lepiota cingulum is known from only three other sites in Britain but turned up in Cockley Cley (TF7904) under pines in October 2014.

Feather Stalkball *Onygena corvinum* has a most distinctive habit; it usually grows on feathers. However, as well as recording it on a dead Guillemot *Uria aalge* at Holkham (TF8845) in October 2005, Jonathan also found it on an owl pellet (Foxley Woods TG 0522, October 2012). There are three earlier records on the Norfolk database including one from Ted Ellis who found it growing on felt on a garden seat!

Erratum

We apologise for acknowledging David Waterhouse incorrectly in the caption to the fossil Hoof Fungus in the 2018 Fungus Report.

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Richard Shotbolt (1958 – 2020)

It is with great sadness that we report the death of Richard Shotbolt on 25 March. He was an expert field mycologist and a founding member of the Norfolk Fungus Study Group. Before he left Norfolk in 2008, he constructed a database for fungus recording which he gave freely to anyone who had use for it and which formed the basis of the Norfolk Fungus Database.