

Checklist of the non-lichenised fungi of Fair Isle, Scotland

R. Watling¹ & N.J. Riddiford²

¹26 Blinkbonny Avenue, Edinburgh EH4 3HU

²Schoolton, Fair Isle, Shetland ZE2 9JU

²E-mail: taibnick@gmail.com

ABSTRACT

A taxonomic list of the non-lichenised fungi recorded for Fair Isle is given. The total comprises 260 taxa: 251 verified species and 9 additional intraspecific variants. Several other entities remain provisional until fresh material is available. The list is annotated with summary details of abundance, distribution, habitat, phenology and, for notable species, their wider status within Britain. Four species are new citations for the British Isles. The list demonstrates the island's regional, national, international and conservation importance, particularly for grassland taxa and montane fungi associated with dwarf willow (*Salix herbacea*).

INTRODUCTION

Fair Isle is a small, isolated island just under 8 km² in area, situated roughly half-way between Orkney and Shetland in the far north of Scotland. The earliest records of Fair Isle fungi are those of R.W.G. Dennis (RWGD). They were made between 1954 and 1986 and are mostly supported by vouchers in the fungarium at the Royal Botanic Gardens, Kew, London. In September 1985 R. Watling (RW), accompanied by Shetland naturalist Bobby Tulloch, made a two-day collecting visit as part of a wider survey of Shetland fungi. The findings were published in Watling & Riddiford (1986, 1987) and Watling (1992). The last also incorporated records of the microfungi determined by RWGD (Dennis & Gray, 1954; Dennis, 1972). As a follow-up to Watling (1992), a list of new finds for Shetland including Fair Isle was published in Watling *et al.* (2001). Subsequent records came from a six-year study, 2006-2011, by resident N.J. Riddiford (NJR) and a three-day visit in September 2011 by A. Murfitt (AM). Both focused on the "CHEGD" group of grassland taxa – *Clavariaceae*, *Hygrocybe*, *Entoloma*, *Geoglossaceae* and *Dermoloma* (Rotheroe *et al.*, 1996) – leading to publications (Riddiford *et al.*, 2019; Riddiford & Watling, 2020a,b) and an unpublished report (Murfitt, 2011). Other records, derived from *ad hoc* collections by NJR with the help from interested Fair Islanders, have remained unpublished.

Most taxa collected after 1985, and certainly the critical ones, have been scrutinised by RW from material supplied by or through NJR, along with those collected by AM. Opportunistic collecting continues to be a regular source of records with increasing input from

other interested Fair Islanders. Voucher specimens and/or photographs are either held with NJR at Schoolton, Fair Isle, or in the fungarium at the Royal Botanic Garden, Edinburgh (E). Most records are in OS 10,000 m square HZ27. Grid references for locations mentioned in the text are given in the Appendix. Several species previously placed in *Omphalina* have been found to be lichenised but because of their agaricoid morphology we include them here. For a full list of Fair Isle lichens, see Price (2017).

With records scattered, hard to find, and some in out-of-print documents, the opportunity was taken to bring them together in this paper, both as a ready resource and as an update incorporating those not yet placed in the public domain.

LIST OF FAIR ISLE FUNGI

The list incorporates information for each species in the following order: scientific name; vernacular name(s), where known; Fair Isle status incorporating abundance, localities, substrate or habitat and fruiting body phenology – in summary form, or full dates for those rarely recorded. Additional details are given for species which achieve their northernmost known U.K. distribution and for species of particular conservation status. Nomenclature follows *Index Fungorum* (<http://www.indexfungorum.org/names/names.asp>) and *Mykoweb* (www.mykoweb.com). Synonyms or former names appear in parentheses after the name. Taxonomic treatment is included in square brackets where that differs from other interpretations of the taxon. Vernacular names are taken from <http://www.britmycolsoc.org.uk/library/english-names/new-english-names/> and http://www.davidmoore.org.uk/Assets/fungi4schools/Reprints/ENGLISH_NAMES.pdf.

References to Schoolton with no further detail relate to sheep-grazed semi-improved grassland reverting to unimproved. References to Ward Hill with no further detail relate to the *S. herbacea* montane heath of the Ward Hill summit north flank. The expression "Hill Grazings" refers to the upland, extensively grazed, moorland in the north of the island; "in-bye" is the southern half with its richer soils, agricultural land and crofting community. All determinations are by RW except where indicated.

A. TRUE FUNGI

1. Mushrooms, brackets and relatives

AGARICOMYCETES

Agaricales

Agaricaceae

Agaricus arvensis. Horse mushroom. Common, rough grazed grassland; fruiting variable from year to year but strong productivity at end of summer drought mid-August 2018, ten days later than *Agaricus campestris* emergence. A form with great fissures in the pileus has been named *A. fissuratus* but because of merging details it has been reduced to synonymy. It has been found in north and west Scotland's maritime grasslands. Known from Ward Hill (September 1985), Kenaby, South Haven and Ditfield.

Agaricus bernardii. Salty mushroom. Common, widespread, coastal grassland, grassy banks and roadside verges adjacent to sea such as above Mavers Geo, Utra Brae and (2020) in a line of 40 on South Light Brae; Autumn, extreme dates 5th September - 27th October.

Agaricus campestris. Field mushroom. Common, very occasionally super abundant, rich soil of moderately to strongly grazed grassland, in-bye, normally late July - August; unprecedented numbers with first rains after prolonged drought from 4th August in 2018. A particularly squamulose form with slightly larger basidiospores has been separated as *A. campestris* var. *squamulosus* and is recorded from Byerwall and Barkland.

Agaricus cupreobrunneus. Copper mushroom, brown field mushroom. Frequent, widespread, in clusters, sheep-grazed grassland; fruits late August.

Agaricus macrosporus. Frequent, sometimes abundant, rough grazing; records include very large fruiting bodies near Taing, a tightly clustered row in grazed dung-rich grassland at Barkland, below The Haa, on burnside at Leogh and probably this species on a raised short-turf bank in fields east of Stonybreck; mainly mid August - late September.

Chlorophyllum rhacodes (as *Macrolepiota*). Shaggy parasol. Coastal turf and improved grassland; two records - on deep soil, enriched by sheep droppings, Pund, September 1998 and clifftop, Linni Geo, October 2014. Only Shetland record.

Coprinus comatus. Shaggy ink cap, lawyer's wig. Frequent, largely unvegetated compacted substrates such as in-bye hardcore drives and in 1989 on the Hill, a ring of 100 thrusting through hard-packed stones and soil at the Lower Station communications mast; fruits September. This is the characteristic "inky cap", but most of the other species originally placed in *Coprinus* are unrelated and therefore placed in other genera; see Psathyrellaceae.

Amanitaceae

Amanita fulva. Tawny grisette. Rare. Ward Hill, 30th August 2010. Second Shetland record.

Bolbitiaceae

Agrocybe praecox (as *A. gibberosa*). Spring fieldcap. Rare or overlooked; recorded in small numbers,

grassland, at Quoy. The name *A. praecox* covers a number of forms. The present collection was identified as *A. gibberosa*, which is often considered merely a variety, although the slender build and more arachnoid veil makes it distinctive.

Bolbitius vitellinus. Yellow fieldcap. Common, widespread; rotting vegetation and weathered dung. Considered by *Index Fungorum* as junior synonym of *B. titubans* but treated separately here.

Conocybe intrusa. Accidental introduction. Single fruiting body in compost imported to island, Barkland, September 2019. Only Shetland record. *C. intrusa* is a U.K. non-native recently arrived from North America, originally found in botanic gardens and greenhouses but increasingly outdoors on compost or composted soil.

Conocybe vexans. Vexing conecap. Probable accidental introduction. Around 50 fruiting bodies in several clusters, compost imported to island, Barkland, August 2019. Only Shetland record.

Conocybe watlingii. Watling's downy conecap. In discarded household material mixed with pony dung, quarry at NE corner of Boini Mire, September 1985, and on horse dung, Barkland, March 2006 and March 2008. Watling (1992) assigned the name *Conocybe neoantipus* with the comment: "This collection is very close to *Conocybe pubescens* (Gillet) Kühner". However, the differences found between the holotype of the essentially North American agaric and the Fair Isle collection are sufficient to define two species.

Clavariaceae

Clavaria fragilis (as *C. vermicularis*). White spindles. Very common, widespread, coastal grassland, roadside verges and upper slopes of Ward Hill.

Clavaria fumosa. Smoky coral, smoky spindles. Multiple clumps, roadside bank just south-east of North Grind; annual 2011-2019, 28th August - 22nd September. Two clumps on bank of ditch, Pund, 22nd October 2019.

Clavulinopsis corniculata. Meadow coral. Abundant everywhere, clifftop turf, grassland and grassy heath to Ward Hill summit, even growing through hardcore drive at the Kirk. End August - late October.

Clavulinopsis fusiformis. Golden spindles. Very common throughout, close-cropped grassland from coast to Ward Hill. September - mid October.

Clavulinopsis helvola. Yellow club. Abundant throughout, unimproved grassland and particularly heath-grassland mosaics, some apparently attached to heather (*Calluna vulgaris*) roots, September - mid October.

Clavulinopsis laeticolor. Handsome club. Occasional, unimproved grassland and heath in north, 3rd - 5th September 2011 (AM). Only Shetland records.

Clavulinopsis luteoalba. Apricot club. Possibly montane, heathy grassland, Ward Hill, 27th October 2009.

Cortinariaceae

Cortinarius albonigrellus. Moderate population, Ward Hill, 14th October 2016, amongst the moss *Mnium hornum* but will be associated with nearby *S. herbacea*, the only ectomycorrhizal host present. Apparently new

to Britain. Known from France, Norway, Finland, Russia and Turkey in montane and subalpine habitats with *Salix* spp. and other deciduous trees. Not listed by Legon & Henrici (2005) (hereafter LH) for U.K.

Cortinarius anomalus. Variable webcap. Diminutive form with *S. herbacea*, Ward Hill, 6th September 1985. A related species lacking any blue flushes, with slight viscid pileus and spores faintly ellipsoid, has been called *C. tabularis*, and possibly found on loose rocky substrate with scattered *S. herbacea* and lichens, Ward Hill, 9th September 1989.

Cortinarius possibly *caesionigrellus*. One fruiting body, Ward Hill, 30th August 2010.

Cortinarius cinnamomeobadius. An abundant, well-established colony with creeping willow (*Salix repens*) in the wet south-east corner of Chatham's Land; recorded June and September. LH treat as junior synonym of *C. croceus*.

Cortinarius cinnamomeolutescens. Heathy grassland with *S. repens* near School, September 1985.

Cortinarius fulvosquamosus. Associated with *S. repens*, School, 7th September 1985. Only Shetland record.

Cortinarius obtusus s.l. Blunt webcap. Fairly common in rough grassland, Ward Hill, September - early October. Only Shetland record. Best treated as a complex of species; see *C. scotoides* and *C. striatuloides* below.

Cortinarius phaeopygmaeus. Two fruiting bodies with *S. herbacea*, Ward Hill, 27th October 2009. Second U.K. record. The first is from Ben Macdui, Cairngorm, 2002, also montane on peaty soil with *S. herbacea*.

Cortinarius cf. *scotoides*. Two, Ward Hill, 2nd October 2011. Similar in all ways to *C. scotoides*, but possesses more rusty brown coloration. LH give one record: Cairngorm, 1984, montane, on soil. A species in the *C. obtusus* group.

Cortinarius striatuloides. With *S. repens*, September 1985. LH treat as junior synonym of *C. acutus* but is sufficiently distinct to be retained as a full species based on its lack of cheilocystidia, spores less than 10 µm long, clamp-connections, and small size of basidiomes.

Cortinarius triumphans. Birch webcap. Three fruiting bodies on *S. repens*, roadside, School, 1st September 2016. Only Shetland record.

Cortinarius trivialis. Girdled webcap. Small group with *S. repens*, wet peat and shallow pools, Chatham's Land, 4th September 1989.

Cortinarius uliginosus. Marsh webcap. Well established, *S. repens*-dominated pools, Chatham's Land; fruits early September.

Entolomataceae Pink gills. Incorporates all species previously placed in *Leptonia* and *Nolanea*, as well as *Entoloma*.

Entoloma ameides. Three fruiting bodies, flower-rich grassland, Chatham's Land, 19th August 2020.

Entoloma anatinum (as *Leptonia*). In rough grassland-heath mosaic, near School, 7th September 1985.

Entoloma atrocaeruleum. Navy pinkgill. Recorded from Schoolton, 14th September 2011 and two in short *Festuca* grassland, Vatstrass, 19th September 2020. Only Shetland records.

Entoloma atromadidum. Single fruiting body, rough grassland, near School, 28th September 2020. First Shetland record. Newly described, 2018, so wider status not yet ascertained.

Entoloma atromarginatum (as *Leptonia*). Wet heathy pasture, Ward Hill, September 1985. (See *Entoloma* nov. sp. below.)

Entoloma bloxamii. Big blue pinkgill, Bloxam's Entoloma. Near South Light HZ1982069850, 4th September 2011 (AM, as *Entoloma bloxamii* f. *bloxamii*) and rough grassland near School, 15th September 2020. First Shetland records of a nationally and internationally rare taxon. It is a U.K. BAP (Biodiversity Action Plan) species and on the provisional Red Data list. Recent studies have determined "*E. bloxamii*" as a cryptic complex of four taxa, two of which, *E. bloxami* s.st. and *E. atromadidum*, are known from Fair Isle.

Entoloma caesiocinctum (as *Leptonia*). Blue-girdled pinkgill. Roadside verge towards Bird Observatory, 6th September 1985.

Entoloma chalybaeum var. *chalybaeum* (as *Leptonia*). Indigo pinkgill. Heathy grassland near Bird Observatory HZ2193072147, September 2011 (AM).

Entoloma clandestinum (as *Nolanea*). Common throughout in sea pink (*Armeria maritima*) and sea plantain (*Plantago maritima*) dominated clifftop turf, unimproved grassland and amongst *S. herbacea* on Ward Hill; late August - mid October.

Entoloma conferendum. Star pinkgill. Commonest *Entoloma*, abundant throughout the island from *A. maritima* and *P. maritima* dominated clifftop turf and unimproved grassland to summit of Ward Hill amongst *S. herbacea*; September - October. Better known in many texts as *Nolanea staurospora*.

Entoloma corvinum (as *Leptonia*). Crow pinkgill. Schoolton, late August - September.

Entoloma elodes (often given incorrectly as *E. "helodes"*). Common in moorland pasture and particularly peaty marshland and mire, September. It is increasingly rare in northwest and central Europe due to habitat loss. It differs from *E. fuscomarginatum* particularly in the absence of a dark edge to the gill.

Entoloma exile (as *Leptonia pyrospila*). Roadside heading to Observatory, 6th September 1985.

Entoloma fernandae (as *Nolanea*). Grassy heath at HZ2094 73323, September 2011 (AM). Also known from coastal grassland, Sumburgh, so habitat differences (LH give unimproved grassland and coniferous woodland) possibly indicate different species within an aggregate.

Entoloma formosum (as *Leptonia*). Coastal turf, unimproved grassland and roadside verges; recorded as *Leptonia fulva* in September 1985 (RW) and as *E. formosum* s.l. with *E. formosum* s.str. at HZ22567239 in September 2011 (AM). A sienna-coloured capped form has been separated out as *Leptonia fulva* but now considered to belong to *E. formosum*. However, a diversity of field and microscopic characters suggests a complex of closely related taxa still to be resolved.

Entoloma griseocyaneum (as *Leptonia*). Felted pinkgill. Four, clifftop turf, Bunes HZ2263372420, 4th September 2011 (AM).

Entoloma hebes. Pimple pinkgill. Grassy heath, south flank of Ward Hill HZ20897338, September 2011 (AM). Only Shetland record.

Entoloma infula (as *Nolanea*). Schoolton, 29th September 2006.

Entoloma juncinum (as *Nolanea*). Schoolton, 25th September 2008.

Entoloma lividocyanulum (as *Leptonia*). Frequent, Schoolton, and two, cliff-top, Field HZ2111771524, 5th September 2011 (AM). Only Shetland records.

Entoloma ?ochromicaceum. Schoolton, 14th September 2011. Two other U.K. records, Beinn Eighe, Wester Ross and Schiehallion, Perthshire, both in 2000.

Entoloma ortonii. Two fruiting bodies, 14th September 2011, Schoolton. Described from Shetland under the name *Nolanea farinolens*.

Entoloma papillatum (as *Nolanea*). Papillate pinkgill. Frequent, damp unimproved grassland, Hill Grazings, 4th September 2011 (AM). Recognised by the papillate, brown pileus and white immature gills.

Entoloma porphyrophaeum. Lilac pinkgill. Common, widespread, coastal grassland, heathy pastures and cliff top, 5th September 2011 (AM).

Entoloma prunuloides. Mealy pinkgill. Common, widespread, roadside verges and sheep pasture, September. *E. prunuloides* var. *obscurum* was recorded in cliff-top heathy grassland, Furse, 5th September 2011 (AM). Only Shetland record.

Entoloma pseudoturci. Schoolton, 23rd September 2006. Only Shetland record. This species would be placed in *Leptonia* if the segregate genera were accepted.

Entoloma sericellum (as *Leptonia* and *Alboleptonia*). Cream pinkgill. Common, coastal heath, well-drained acid grassland, sheep pasture and moorland to Ward Hill summit. Early September.

Entoloma sericeum (as *Nolanea*). Silky pinkgill. Widespread throughout, often in large numbers, grazed grassland from clifftops to Ward Hill summit, mid July - early September. Three forms have been recognised: *E. sericeum* var. *sericeum* at HZ2089573376 and HZ2256572397, September 2011 (AM); *E. sericeum* var. *cinereo-opacum*, three at HZ2063070658, 3rd September 2011 (AM); only Shetland record; described for collections with an overall greyish coloration, even when drying; and *E. sericeum* var. *nolaniforme*, Schoolton, 26th August 2009 and Rippack HZ20647064, 3rd September 2011 (AM); only Shetland records; restricted to *E. sericeum* with the outward form of a *Nolanea*.

Entoloma serrulatum (as *Leptonia*). Blue edge pinkgill. Common, heathy pastures, as at Lower Station HZ21097321 and coastal grassland, as at Springfield. September.

Entoloma solstitialle (as *Nolanea*). Heathy grassland near Kirk, 3rd September 2011 (AM). Very close to *E. conferendum* but differs in the 4-sided, not distinctly stellate basidiospores and lack of mealy taste.

Entoloma undatum (as *Eccilia*). Schoolton, 26th September 2011. Only Shetland record.

Entoloma vernum (as *Nolanea*). Early spring pinkgill. Abundant but localised, late August - early September. Includes exceptional swarms of hundreds in *A. maritima*

and *P. maritima* dominated coastal turf and coastal grassland at North Light, 8th September 1989.

Entoloma sp. Coastal grassland, Bunes, 4th September 2011. Like *E. papillatum* but with distinctive dark edge to gills; likely to be a new species, not currently described according to AM/RW.

Hydnangiaceae

Laccaria laccata. Deceiver. Frequent, wet acid to base-rich soils including Quoy and Springfield flush, June 2019. It differs from *L. proxima* in the globose spores. There is much variation within this taxon and some forms have been given specific identity, including a montane form. This variation is now considered insufficient.

Laccaria proxima (as *Laccaria proximella*, Mountain deceiver). Scurfy deceiver. Abundant as well as frequent at its one known site, north flank of Ward Hill. Mid-September to mid October.

Hygrophoraceae Waxcaps

Arrhenia cf. *parvivelutina*. Ward Hill, on base-poor peaty soil, 6th September 1985. This differs from original description in lack of clamp-connections. Not in LH.

Cuphophyllus flavipes (as *Hygrocybe*). Yellow foot waxcap. One record, unimproved acidic grassland, September 2011 (AM). Recorded undoubtedly as *H. lacma* for Mainland Shetland.

Cuphophyllus pratensis (as *Hygrocybe*). Meadow waxcap. The island's commonest waxcap, very abundant throughout, unimproved, generally dry grassland from littoral to Ward Hill summit, end August - September and residually to early December. An overall ivory-coloured pale form - which has been called *Hygrocybe pratensis* var. *pallida* (synonym: *Hygrocybe berkeleyi*), pale waxcap or white meadow waxcap - is infrequent in sheep walk and unimproved grassland, as at Schoolton. September - early October.

Cuphophyllus russocoriacea (as *Hygrocybe*). Cedarwood waxcap. Schoolton, 6th October 2011.

Cuphophyllus virgineus (as *Hygrocybe*). Snowy waxcap. Common, unimproved and coastal grassland, including clifftops, September. The form with smaller stature, which is common on Fair Isle, has been traditionally separated as *Hygrocybe nivea*. Pinkish mottled fruiting bodies are frequently seen and have been called var. *roseipes* but it has been shown that the coloration is due to colonization by the fungus *Fusarium sporotrichioides*.

C. virginea var. *fuscescens*. Schoolton, 30th August 2011. Only Shetland record. Formerly considered a separate species.

Gloioxanthomyces vitellinus (as *Hygrocybe*). Possibly montane on acidic soils, Lower Station to Ward Hill, 5th September 2011 (AM).

Gliophorus irrigatus (as *Hygrocybe*). Slimy waxcap. Common, widespread in unimproved grassland, sheep walk and rough grassland-heath mosaic, first half of September.

Gliophorus laetus (as *Hygrocybe*). Heath waxcap. Abundant, often in large, dense groups on rather acidic,

dry free-draining close-cropped grassland from low altitude to summit of Ward Hill, September–October.

Gliophorus psittacinus (as *Hygrocybe*). Parrot waxcap. Abundant throughout, unimproved grassland from littoral sites to Ward Hill summit, September - mid October. The concept adopted here is that of LH. Subsequent molecular studies have demonstrated the existence in British material of several cryptic species within a complex.

Hygrocybe aurantiosplendens. Orange waxcap. Two fruiting bodies, Schoolton, 19th September 2010. Close to *H. quieta*, which has similar spores but possesses an oily smell when rubbed and a more viscid pileus at first with less pronounced red.

Hygrocybe acutoconica var. *acutoconica* (as *Hygrocybe persistens*). Persistent waxcap. Relatively common, widespread, unimproved and maritime grassland, September.

Hygrocybe cantharellus. Goblet waxcap. Common, widespread, unimproved grassland, second half of September. Only Shetland records.

Hygrocybe ceracea. Butter waxcap. Very common, widespread, in-bye to Ward Hill summit, unimproved and maritime grassland, late August - mid October. Characterised by a viscid to greasy pileus but dry stipe.

Hygrocybe chlorophana s.str. Golden waxcap. Highly abundant, unimproved and maritime grassland, late August - early October.

H. chlorophana var. *flavescens* (= *H. euroflavescens*). Often intermixed with *H. chlorophana* s.str., is also very common in roadside verges and grassland, noted at Bunes, Chatham's Land, School and Schoolton, mid July - early October. These orange-yellow coloured forms have received full status as *H. flavescens* but are now considered no more than a variety.

Hygrocybe coccinea. Scarlet waxcap. Highly abundant, widespread, semi-improved and unimproved grassland, coastal turf and heath, early September - mid October.

H. coccinea typically possesses a convex pileus but a distinctly umbonate variety has been bestowed the name *H. coccinea* var. *umbonata* – recorded at Schoolton, 11th October 2010.

Hygrocybe conica. Blackening waxcap. Abundant, widespread. Semi-improved and unimproved grassland, early September. This has been demonstrated recently to comprise a mixture of cryptic species.

Hygrocybe conica var. *pseudoconica* (= *H. nigrescens*). *S. repens* rich grassy heath near School, September 1985. This differs in its more robust stature and distinctly white base to the stipe. It is considered by some authorities to be a form of *H. conica* associated with *S. repens* beds.

Hygrocybe glutinipes. Glutinous waxcap. Frequent, unimproved bryophyte-rich grassland, end August - October; records include a substantial colony in maritime grassland with scattered prostrate heather, lower slopes of Hoini, 16th October 2014. Its occurrence is known to be associated with the presence of pleurocarpous mosses.

Hygrocybe helobia. Garlic waxcap. Very common, widespread, in-bye to Ward Hill summit, unimproved grassland, particularly amongst moss on wet soils,

sometimes in crowded patches, mid July - mid September.

Hygrocybe insipida. Spangle waxcap. Frequent, widespread, in-bye to Ward Hill north flank, acidic soil in unimproved grassland as well as neutral or relatively base-rich grassland and grassy areas, end August - late October. European Red List species.

Hygrocybe miniata. Vermilion waxcap. Very common, widespread, unimproved grassland and grassy heath, mid July to early October; records from roadside between Observatory to School, the Rippack, Schoolton and Chatham's Land. A form described from Britain (*Hygrophorus strangulatus*: orange-red waxcap) by Orton (1960) has strongly constricted basidiospores; this is not considered sufficiently distinct and Arnolds (1986) considers this to be the same as Fries' concept of *Agaricus* (= *Hygrophorus*) *miniatus*.

Hygrocybe mucronella. Bitter waxcap. Known from Schoolton, late August - mid September. Well characterised by the bitter taste and better known as *H. reai*.

Hygrocybe punicea. Crimson waxcap. Common, particularly along roadside verges, September - October.

Hygrocybe quieta. Oily waxcap. Relatively common, widespread, neutral unimproved and coastal grassland; records include Bunes, Schoolton and roadside between School and Bird Observatory, end August - early October. European Red List species. An odourless form found at Schoolton, 30th August 2008 and 26th September 2016, has been equated with the concept of *H. obrussea* adopted by Orton (1960).

Hygrocybe reidii. Honey waxcap. Infrequent, scattered, unimproved grassland and sheep walk, September to mid October. Has been confused with *H. marchii* in Britain.

Hygrocybe, probably *saliceti-herbaceae*. With *S. herbacea*, montane heathy grassland and loose soil, Ward Hill, 11th October 2009.

Hygrocybe turunda. Schoolton, 18th September 2006. The concept adopted is that of Orton (1960) and Moeller (1945); see Watling (1992).

Lichenomphalia flava (as *L. luteovitellina*). Sunburst lichen. Unimproved montane grassland, *S. herbacea* zone, Ward Hill, predominantly May - August. Also recorded from clifftop grassland, north coast, 2nd June 2015 in Price (2017) as *L. alpina*, an alternative name reflecting its habitat preferences. It is not uncommon elsewhere in Shetland.

Lichenomphalia umbellifera (as *L. ericetorum*). Heath navel. Abundant all year, damp peat substrates, particularly wet eroded overhangs, sea level to Ward Hill summit; recorded as frequent and widespread in Price (2017). *Omphalina fulvopallens*, described from Scotland and applied to over-all pale coloured specimens with two-spored basidia from boggy areas, is now considered a synonym; it has been found on Ward Hill.

Lichenomphalia hudsoniana. Arctic mushroom scales. Montane, Ward Hill, anamorphic (asexual) *Coriscium* state, 6th September 1985; also recorded in Price (2017), 2nd June 2015. This taxon was described from North America; in Britain it is probably better known as

Omphalina luteolilacina, under which name it is recorded from many sites elsewhere in Shetland.

Lichenomphalia velutina (as *Omphalina grisella*). On base-poor soil by trackside in short moss cover between Bird Observatory and School, September 1985. Only Shetland record.

Porpolomopsis calyptiformis (as *Hygrocybe calyptiformis*). Pink ballerina, pink meadow-cap, ballerina waxcap. Rare or overlooked, one record; fruiting body, low rough acid grassland, edge of airstrip, 22nd September 2019.

Hymenogastraceae

Galerina cerina (as *G. cerina* var. *longicystis*). Peaty soil, Ward Hill, September 1985. First U.K. record.

Galerina clavata. Ribbed bell. Two, on soil amongst mosses in grassy area, north flank of Ward Hill, 27th October 2009.

Galerina hypnorum. Moss bell. Dry heath, Rippack close to Kirk, 7th September 1985. Best treated as one of a complex of species.

Galerina paludosa. Bog bell. One record (but probably more widespread), small group, saturated *Sphagnum*-rushy grassland, Lower Station, 12th August 2018.

Galerina pseudomniophila. Five basidiomes, all within 100 cm, loose rocky substrate covered in *S. herbacea* and lichens but few flowering plants, Ward Hill, 9th September 1989.

Galerina pseudomycenopsis. Widespread known from coastal grassland, unimproved grassland (Schoolton) and Ward Hill, second half of August. First evidence was small clump, Meoness, 22nd August 2001. Recorded for Mainland Shetland as *G. pseudopumila*.

Galerina pumila. Dwarf bell. Widespread, frequent, mid September to early November; can be plentiful e.g. numerous, Ward Hill, October 2009 and 2011, and ca. 15 in line amongst hypnum moss (*Hypnum cupressiforme*), Tarryfield, 5th November 2019. Commonly appears as the synonym *Galerina mycenopsis*.

Galerina subcerina. Peat soil, Barkland, September 1985.

Galerina terrestris (*sensu* Watling). Schoolton, 11th October 2010. This agrees in all ways with material from south Norway; it differs from *G. vittiformis* in the four-spored basidia and presence of ring-zone.

Galerina vittiformis. Hairy-leg bell. Common, Schoolton, late August - mid September. Easily recognised by the distinctly roughened basidiospores, prominent caul-, cheilo- and pleurocystidia but lack of similar cells on pileus. Commonly recorded in literature as *G. rubiginosa*.

Hebeloma mesophaeum. Veiled poison-pie. Plentiful amongst bryophytes, Ward Hill, 14th October 2016.

Psilocybe semilanceata. Liberty cap. Abundant throughout, semi-improved and dung-rich grassland, late August - September.

Psilocybe subcrophila. Rare or overlooked; one record on dung, September 1985. Previously not always separated from *P. coprophila*, which differs in the much larger basidiospores.

Psilocybe subviscida (as *P. bullacea*). Occasional, Schoolton; also known (as a cluster of four) from

Chatham's Land; mid August - September. Recent research has shown that *P. subviscida* is rather variable and "*P. bullacea*", previously treated as independent, now has varietal status as *P. subviscida* var. *velata*. The species is easily confused with *P. montana*.

Inocybaceae

Inocybe fulvella. One record, with *S. herbacea*, Ward Hill, September 1985. Only Shetland record.

Lycoperdaceae

Bovista nigrescens. Brown puffball. Common, widespread, horse and sheep grazed coastal and acid grassland, clifftops to Ward Hill, late August - mid October.

Bovista plumbea. Grey puffball. Frequent, semi- and unimproved grassland, also, growing through compressed unmetalled track, Rippack, August - early September.

Lycoperdon excipuliforme. Pestle puffball. Four, roadside grass verge, Schoolton, 11th September 2014. Only Shetland record.

Lycoperdon nigrescens. Dusky puffball. *Empetrum/Calluna* heath, edge of airstrip and Ward Hill summit, September - early October.

Lycoperdon molle. Soft puffball. *S. repens* turf on peaty stony ground, near Schoolhouse, September 1985. Second Shetland record.

Vascellum pratense. Meadow puffball. Common, in-bye and north, coastal turf, unimproved acid grassland and roadside verges, late July - early September.

Lyophyllaceae

Calocybe gambosa. St. George's mushroom. Common at four known sites: grass verges at Quoy and at Wirvie, close-cropped maritime grassland above Hesti Geo and clifftop grassland at Kirki Geo, mid May - early June.

Rugosomyces carneus (as *Calocybe*). Pink dome-cap. Frequent, roadside verges, e.g. roadside heading to Observatory, near Taing, September.

Tephroclype palustris. Sphagnum greyling. Clump of four, edge of very wet *Sphagnum* bog, Swey, 9th September 1989.

Marasmiaceae

Marasmius oreades. Fairy ring mushroom, fairy ring champignon. Two small clusters on clifftop, Linni Geo, 28th June 2015, one at roadside, Quoy, 16th June 2017 and two clumps at side of track, Midway, 25th May 2020.

Mycenaceae

Mycena aetites. Drab bonnet. Widespread including close-cropped grassland at Schoolton, montane heath grass mosaic on north flank of Ward Hill summit and prostrate *Calluna* heath at Malcolm's Head, end August - end October.

Mycena epipterygia. Yellowleg bonnet. Widespread, acidic grassland and heath, September. Noted for the glutinous, yellow stem.

Mycena filopes. Iodine bonnet. Frequent on and under prostrate juniper (*Juniperus communis* ssp. *nana*),

Swey, Breed Piece and Byerwall, October - mid November.

Mycena flavoalba. Ivory bonnet. Known from Schoolton, end September - early October.

Mycena leptcephala. Nitrous bonnet. Schoolton, 11th September 2006. LH report this species as "on soil or decayed leaf and woody litter (twigs, etc.) in deciduous and coniferous woodland...". Its appearance in grassland relates to *S. repens* – a widespread component of grassland in Fair Isle.

Omphalotaceae

Gymnopus dryophilus. Russet toughshank. Frequent from Setter north to Ward Hill summit, *Empetrum/Calluna* moorland and montane heath, September - mid October. Better known as *Collybia dryophila*. Fruiting body on Ward Hill parasitised by the fungus *Syzygospora (Christiansenia) mycetophila* q.v. *Gymnopus alpinus*. Alpine toughshank. One record: two fairy rings in close proximity, dry prostrate *Calluna* heath, south-facing aspect, Rippack, 20th May 2011. A recently described Arctic-alpine species now known to be widespread in montane areas of Scotland including Shetland. U.K. conservation status: notable.

Pluteaceae

Pluteus cervinus. Deer shield. One record: on buried wood, overgrown garden, Schoolton, 27th January 2009.

Psathyrellaceae

Coprinopsis cordispora (as *Coprinus*). On fresh dung, Ward Hill, 2nd October 2011.

Coprinopsis laanii (as *Coprinus*). Loosely tufted group, oil-soaked wood chippings and old sawdust, car pit, Shirva, 24th January 2000. Only Shetland record.

Coprinopsis lagopides (as *Coprinus* and *Coprinopsis jonesii*). Post-fire inkcap. Sparsely vegetated ground at two localities: School grounds and Lower Stonybreck, March 2019; a second "crop" at Lower Stonybreck a month later. Only Shetland records.

Coprinopsis tuberosa (as *Coprinus*). Tuberous inkcap. One record, plentiful on rotted manure in garden, Barkland, 10th August 2020. Only Shetland record.

Psathyrella panaeoloides. Schoolton, 23rd September 2006.

Schizophyllaceae

Schizophyllum commune. Splitgill. A recent colonist first recorded, group of 12, facing east on sea-borne soft wood trunk lifted from sea a few months earlier, Quoy, 10th October 2015, followed by three autumn records in 2020: ca. six on exposed weathered silage, Midway, 17th September 2020; two clusters, growing from slits in silage bags, Quoy, 4th October 2020; one on year-old silage, Setter ca. 12th October. Northernmost U.K. records. *S. commune* has come a long way from being rare in mid-20th century to expanding its range throughout the U.K. with a special liking for exposed silage.

Strophariaceae

Deconica Horizontalis. Wood oysterling. Rare, one record: four fruiting bodies on underside of wooden ladder, Finniquoy gully, 18th July 2015. Only Shetland record. Better known as *Melanotus*, a genus based on the pleurotoid aspect of the fruiting bodies.

Deconica inquilina. Flecked brownie. Common at Schoolton; first evidence, 14th September 2008, end August - end September. Only Shetland records.

Deconica montana. Mountain brownie. Common, known from Lower Stonybreck (roadside) and Schoolton, mainly September but outlier 20th February 2018. The Schoolton samples include material with slightly larger basidiospores, a form sometimes separated as "*Psilocybe physaloides*" but not now considered worthy of separation.

Hypholoma elongatum. Sphagnum brownie. Known from acidic bog, Sukka Mire, 6th September 1989.

Hypholoma ericaeoides. Common, wettest parts of *Sphagnum* bog across Hill, e.g. ca. 20, scattered in the wettest part of a very wet *Sphagnum* bog, Swey, 9th September 1989.

Hypholoma ericaeum. Frequent in moss on wet peaty soil, e.g. Byerwall, September.

Hypholoma fasciculare. Sulphur tuft. Rare, one record: two clusters, base of fence post, 6th April 2019.

Hypholoma subericaeum. Occasional, widespread, on disturbed soil; classically in swarms of 100 or more amongst rotting vegetation thrown up during ditch excavations, September - October.

Protostropharia semiglobata (as *Stropharia*). Dung roundhead. Abundant across the island on weathered dung, grassland, heath and clifftops, June - early November. A collection on pony dung, NE Boini Mire quarry, 7th September 1985, was identified as var. *stercoraria* because of its flattened pileus and large size but it does not warrant separation.

Agaricales: Family uncertain. The listing of the genera of Agaricales below is not intended to mean that they possess a close relationship to each other, but only that they cannot, as yet, be placed in the main classification of agarics.

Gamundia striatula. Lined meadowcap. Grazed maritime grassland, Bunes, September 1985.

Lepista multififormis (as *L. multiforme*). Fruiting bodies frequent and abundant at four known sites: amongst hypnum moss, crowded, ca. 100 within 30 m radius, on mossy part of airstrip in 1989; neutral grassland at Eas Brecks in 2013; maritime grassland at Hjukni Geo in 2013 and 2019; and base of Hoini in 2020. Arctic-alpine species, rare in U.K. This taxon differs from *L. ovisporum*, of which there is a possible collection from Fair Isle, in its more robust habit and larger basidiospore size.

Lepista nuda. Wood blewit. Common, strictly coastal, rocky south-facing slope, Utra Brae, under cliff edge above Hesti Geo, Swarts Geo, above North Haven beach, Bullock Holes, above North Naaversgill, edge of Grand Canyon (Breed Piece); rarely from early October but normally end October - early December.

Lepista panaeola. Rare, single record: acid grassland/heather mosaic, above Wester Lothar, 9th November 2019.

Melanoleuca schumacheri. Clouded cavalier. Close cropped acidic grassland, Airstrip roadside verge, 14th October 1989.

Tricholomopsis rutilans. Plums and custard. Occasional, rotting fence post, disturbed soil and well-drained grassland, Vaadal Plantation, Bullock Holes, Wirvie, Barkland, mid August - late September.

Panaeolina foeniseccii. Brown mottlegill, brown haycap. Abundant throughout island, dung-rich grazed grassland, mainly mid July into October.

Panaeolus acuminatus. Dewdrop mottlegill. Schoolton, 9th October 2011. Determination as outlined by Hora (1957); it is difficult to separate from *P. rickenii* q.v., except the basidiome is generally not as slender and the pileus broader and often with a constriction toward the apex.

Panaeolus fimicola. Turf mottlegill. Common, Schoolton, late August - early October. A very dark form that has been separated as *P. ater* found at Schoolton, two basidiomes on 23rd September 2006 and at Valsbrough, two on 26th April 2019.

Panaeolus rickenii. Very common, dung-enriched grassland, Observatory to School and Schoolton, mid September - early October. Although LH treat this as a junior synonym of *P. acuminatus*, in our view it is sufficiently distinct to remain as a separate species.

Panaeolus semiovatus. Dung mottlegill. Very common, grassland on dung, including pony dung middens at Boini Mire and Barkland; also recorded Kenaby, Quoy and near School; all months, particularly in spring.

Panaeolus papilionaceus. Petticoat mottlegill. Dung-rich semi-improved grassland at Schoolton, September. This species is perhaps better known as *P. sphinctrinus*.

Auriculariales

Auriculariaceae

Auricularia auricula-judae. Jelly ear, Jew's ear fungus. Short-lived introduction. Colony on slab of heart-wood or teak set in a concrete base, new slipway, North Haven, 4th June 2001. Only Shetland record.

Boletales

Hygrophoropsidaceae

Hygrophoropsis aurantiaca. False chanterelle. Known from a solitary example in damp, poor grazing pasture mainly of moss and *S. repens*, Rippack, 4th September 1989.

Cantharellales

Hydnaceae

Clavulina cinerea. Grey coral. Localised, montane, several small "swarms" in grassland with *S. herbacea*, Ward Hill, 6th September 1985.

Hymenochaetales

Rickenellaceae

Rickenella fibula. Orange mosscap. Common at Schoolton, also known from Ward Hill, end August - mid September. Better known and cited in many texts as *Mycena* or *Omphalina fibula*.

Rickenella swartzii. Collared mosscap. Common, Schoolton, mid - end September.

Polyporales

Fomes fomentarius. Hoof fungus, tinder bracket. Short-lived adventive. On driftwood, probably birch (*Betula* sp.), undated but late 20th century. Specimen destroyed when wood burned on croft house fire. Only Shetland record.

Gloeophyllum sepiarium. Conifer mazegill, rusty-gilled polypore. Infrequent; an efficient "rotter", destroying pine framework to windows and walls, older buildings, in-bye; dated records from Lower Stonybreck, 6th March 1998 and colony on window frame of old hut, Quoy, 13th August 2014. Only Shetland records.

Russulales

Bondarzewiaceae

Heterobasidion annosum. Root rot, root fomes. Base of ca. 50 year old fence post, probably of larch (*Larix* sp.), Quoy, 18th June 1996. Only Shetland record.

Russulaceae

Lactarius lacunarum. Very common with *S. herbacea*, Ward Hill and *S. repens* at Chatham's Land and roadside near Kirk, first half of September.

Lactarius lanceolatus. Abundant. Montane grassland and stony *S. herbacea*-lichen heath, Ward Hill, August - November, peaking October. Annual, first recorded 19th August 1998. Second U.K. and Shetland record (Arctic-alpine).

Russula densifolia. Crowded brittlegill. Several on stony *S. herbacea* heath, Ward Hill, 11th and 14th October 2016. Only Shetland records.

Russula felleaecolor. Plentiful, Ward Hill, 2nd October 2011. First confirmed British record. Described originally from the Italian Alps.

Russula fragilis. Fragile brittlegill. With *S. repens*, Rippack and Rippack clifftop, 7th September 1985.

Russula medullata. Occasional amongst *S. herbacea*, Ward Hill; first evidence September 1985; small numbers at same site, 17th October 2008, 11th and 12th October 2009. Only British records (Arctic-alpine). Agrees in all ways with collections of this agaric, recently described from arctic alpine communities (Kühner, 1975).

Russula nana. Alpine brittlegill. Common, stony *S. herbacea*-lichen heath, Ward Hill and alongside semi-permanent rain pools, moss, lichen and *S. repens* rich wet grassland on the Rippack; probably associated with roots of *Salix*; October. Formerly treated, including in Watling (1992), incorrectly as *R. alpina*.

Russula norvegica. Occasional, Ward Hill, September - October; first evidence September 1985. U.K. Red Data List. One other Shetland record. LH treat this as junior synonym of *R. laccata*, but some authorities considered *R. norvegica* distinct - an opinion followed here.

Russula pallescens. Three, one fresh, Ward Hill, 13th September 2017. Second U.K. record.

Russula pascua. Pasture brittlegill. With *S. repens*, Rippack and *S. herbacea*, Ward Hill, September - mid October. Full distribution unclear but recorded from

many montane areas of Scotland and common in Shetland.

Russula persicina. Weathered basidiomes recorded, Ward Hill, September 1985.

Thelephorales

Thelephoraceae

Thelephora terrestris. Earth fan. Short-term introduction, probably with compost or trees; colony on soil and base of trunk, imported oak (*Quercus* sp.) sapling, in pot outside house, Lower Stonybreck, 9th July 2001. Did not persist.

2. Jelly fungi

DACRYMYCETES

Dacrymycetales

Dacrymycetaceae

Calocera viscosa. Yellow stagshorn. On timber from derelict war-time building, Ward Hill, September 1985. Very unusual on worked wood. Second Shetland record.

Dacrymyces stillatus. Common jellyspot. Relatively frequent on decaying worked wood, planks and old untreated fence posts. All year.

EXOBASIDIOMYCETES

Tilletiales

Tilletiaceae

Tilletia sphaerococca. On common bent (*Agrostis capillaris*), Ward Hill, 30th July 2004. Second Shetland record.

TREMELLOMYCETES

Tremellales

Carcinomycetaceae

Syzygospora mycetophila. Collybia jelly. Parasitic on *Gymnopus dryophilus* (= *Collybia dryophila*), Ward Hill, 14th October 2016. Only Shetland record.

3. Rust fungi and smuts

PUCCINIOMYCETES

Pucciniales

Coleosporiaceae

Coleosporium tussilaginis. Frequent. On various eyebrights including *Euphrasia arctica* and *E. foulaensis*, August. Sometimes treated as separate entity, *C. rhinanthacearum*.

Gymnosporangiaceae

Gymnosporangium clavariiforme. Tongues of fire, juniper rust. Substantial colony on single prostrate juniper, Breed Piece, 9th April 2010. Only Shetland record.

Melampsoraceae

Melampsora epitea. Willow leaf rust. Common, particularly around the School, on *S. repens* leaves, often in heavy clusters of orange spots, July-August.

Melampsora caprearum. Goat willow leaf rust. Rare, on leaves of introduced *Salix* cf. *cinerea*, Vaila's Trees, 11th September 2019. Only Shetland record.

Pucciniaceae

Puccinia arenariae. On leaves of red campion (*Silene dioica*), garden, Schoolton, 25th June 2009. Probably under-recorded.

Puccinia obscura. Occasional. On field wood-rush (*Luzula campestris*), summer. Alternate host is common daisy (*Bellis perennis*), which is common on island.

Puccinia punctiformis. Thistle rust. Very common, on creeping thistle (*Cirsium arvense*), mid June - August, peaking July.

Puccinia urticata. Nettle clustercup rust. Common, occasionally as heavy gall infestations, on nettles (*Urtica dioica*) (aecidial stage) at Pund and Bullock Holes, mid - late June. This is a member of the *P. caricina* complex with alternate hosts sedges (*Carex* spp.).

Pucciniastraceae

Melampsorella caryophyllacearum. Reported by RWGD with no further detail.

USTILAGINOMYCETES

Ustilaginales

Microbotryaceae

Microbotryum violaceum (as *Ustilago violacea*). Reported by RWGD, undated, on anthers of sea campion (*Silene maritima*).

Ustilaginaceae

Ustilago striiformis. Stripe smut of grasses. On Yorkshire fog (*Holcus lanatus*), roadside, in-bye, 19th September 2016. Probably common but overlooked.

4. Cup fungi and relatives

PEZIZOMYCETES

Geoglossales

Geoglossaceae

Geoglossum barlae. Rare, lower slopes of Ward Hill, September 2011 (AM). Only Shetland record. Vulnerable, according to the Fungi Red Data list for Britain and Ireland.

Geoglossum cookeianum. Earthtongue. Frequent in acidic grassland, slopes of Ward Hill, 5th September 2011 (AM).

Geoglossum fallax. Deceptive earthtongue. Occasional, sometimes abundant as at Kenaby where hundreds scattered through dry well-drained close-cropped grassland in late October 1989; also known from Ward Hill summit north flank; October.

Geoglossum nigratum. Scarce. Mossy heath, September 1985. Probably one of Britain's commonest earthtongues.

Geoglossum starbaeckii. Star earthtongue. Rare, single spike on saturated soil, mat-grass (*Nardus stricta*) dominated acid grassland, clifftop, Rippack, 19th September 1998. Only Shetland record.

Geoglossum umbratile. Plain earthtongue. Scattered, mossy grassland in north, 3rd and 5th September 2011 (AM). Only Shetland records.

Microglossum olivaceum. Olive earthtongue. Several groups of two to three spikes per group, buck's-horn plantain (*Plantago coronopus*)-red fescue (*Festuca rubra*) coastal turf, free draining clifftop slope, Utra

Brae overlooking Shalstane, 18th September 1998; fruiting bodies appeared to be attached to the plantain. First for Shetland, fifth Scottish record. On the Red Data list and a U.K. BAP species.

Helotiales

Drepanopezizaceae

Leptotrochila cerastiorum. Reported by RWGD, undated, on fading leaves of common mouse-ear chickweed (*Cerastium fontanum*). Only Shetland record.

Erysiphaceae

Erysiphe knautiae. Scabious mildew. Probably common, widespread, on devil's-bit scabious (*Succisa pratensis*) leaves, rough grassland, late summer - autumn.

Gelatinodiscaceae

Phaengellina empetri. On dead attached leaves of crowberry (*Empetrum* sp.), September 1985. Probably common but overlooked.

Helotiaceae

Hymenoscyphus calyculus. Rare or overlooked, several on stick in garden, Barkland, 10th July 2020. Only Shetland record.

Sclerotiniaceae

Myriosclerotina curreyana. Probably widespread but overlooked, known on jointed rush (*Juncus articulatus*), waterlogged mires and flushes, Sukka Mire and Springfield, June.

Pezizales

Ascobolaceae

Ascobolus denudatus. Three on soil among potato shards, garden, Lower Stonybreck, 24th September 2001. Only Shetland record.

Ascobolus furfuraceus. Reported by RWGD, undated, with no further detail.

Saccobolus obscurus. Reported by RWGD, undated, on sheep droppings.

Saccobolus versicolor. Reported by RWGD, undated, on rabbit pellets.

Pezizaceae

Iodophanus carneus. Widespread, on dung.

Peziza cerea. Cellar cup. Infrequent, wet plasterboard in out-buildings and damp housing; Nissen hut, 1981, North Haven; inside lounge wall, Schoolton, 7th June 1995 and other side of same wall, Schoolton kitchen, 12th July 1995.

Peziza domiciliana. Carpet cup, domicile cup fungus. Several fruiting bodies clustered on soil, grassland half-buried with cast-out garage and household material, Shirva, 6th April 2019. Only Shetland record. Characterised by very faintly verruculose ascospores.

Peziza vesiculosa. Blistered cup, common dung cup. On horse and pony dung, Barkland, 17th June 2006. Only Shetland record.

Pyronemataceae

Aleuria aurantia. Orange peel fungus. Two records: ca. 50, dry disturbed ground, Vaadal gully, 9th October 1989, and small cluster on turned-over bare soil, Brekkawalls, 28th September 2020.

Cheilymenia raripila. Reported by RWGD, undated, on rabbit pellets.

Neottiella vivida. Occasional. In small colonies amongst rocks, soil and sparse vegetation, Lower Station and Ward Hill.

Scutellinia olivascens. Little skullcap. Rare adventive. Several strong groups, wet clay soil, footpath, back of Houll, 28th October 2015. Only Shetland record. Vector for spores could be birdwatchers' boots.

Tricharina gilva. Small cluster, ash-rich soil, The Haa, 11th September 2016.

Uncertain position

Coprotus aurora. Reported by RWGD, undated, on rabbit pellets. Only Shetland record.

Coprotus sexdecimsporus. Reported by RWGD, undated, on sheep dung.

Rhytismatales

Rhytismataceae

Lophodermium juniperinum. Juniper split. Reported by RWGD, undated, on juniper. Only Shetland record.

Rhytisma salicinum. Willow tar spot. Abundant on *S. herbacea* leaves, Ward Hill, late June - July. Not found yet on *S. repens*.

SORDARIOMYCETES

Hypocreales

Calcarisporiaceae

Calcarisporium arbuscula. On *Agaricus cupreobrunneus*, below Burkle, 23rd August 2018. Only Shetland record. Endophyte of discomycetes, occasionally on agarics. An anamorphic taxon lacking evidence of a sexual stage.

Clavicipitaceae

Claviceps purpurea. Ergot. Common to abundant on sweet vernal grass (*Anthoxanthum odoratum*) capitula, particularly roadsides (e.g. Gilsetter roadside), occasional on mat-grass and infrequent on perennial rye-grass (*Lolium perenne*); records only as sclerotia, these evident first in mid summer, well-developed by late August - September.

Cordyceps gracilis. Rare or overlooked. Ward Hill, 3rd July 2010.

Cordyceps militaris. On buried caterpillar, September 1985.

Nectriaceae

Fusarium sporotrichioides. Fusarium head blight. On snowy waxcap *Cuphophyllus virgineus* Schoolton, 19th September 2016. An anamorphic taxon lacking known sexual stage.

Magnaporthales

Magnaporthaceae

Gaeumannomyces graminis. Take-all. Dark brown structures on cultivated oat (*Avena sativa*) heads, Upper

Leogh, 13th December 2017. This would be *G. graminis* var. *avenae* (Turner), according to Dennis (1960).

Phyllachorales

Phyllachoraceae

Phyllachora graminis. Common grass tar spot, black leaf spot of grasses. Frequent on couch grass (*Agropyron repens*) leaves, roadside, Leogh, 19th June 2020.

Phyllachora sylvatica. Fescue black leaf spot, fescue tar spot. Frequent on leaves of red fescue in semi-improved and ungrazed rough grassland, from late June.

Sordariales

Lasio-sphaeriaceae

Schizothecium conicum. On sheep droppings, September 1985.

Schizothecium vesticola. On sheep droppings, September 1985.

Sordariaceae

Sordaria minima. On rabbit droppings, September 1985.

Xylariales

Amphisphaeriaceae

Physalospora empetri. Reported by RWGD, undated, on dead attached twigs of crowberry. Only Shetland record. But highly likely to occur elsewhere in the archipelago.

Diatrypaceae

Diatrypella favacea. Birch blackhead. Casual introduction. Abundant fruiting bodies on silver birch (*Betula pendula*) trunk, Shirva, 15th October 2013. Imported from Norway on wood destined for carpentry and destroyed.

DOTHIDEOMYCETES

Hysteriales

Hysteriaceae

Glioniopsis praelonga. On *Salix* bark (an atypical host), Plantation, 25th August 2016 (Brian Coppins). Often misidentified as the lichen *Graphina ruiziana* but the latter has iodine-positive purple brown spores whereas *G. praelonga* has iodine-negative spores.

Pleosporales

Didymellaceae

Epicoccum purpurascens. On perennial rye-grass, Schoolton, 11th September 2006. Probably common but overlooked. An anamorphic taxon with no known sexual stage.

Pithomyces chartarum. Lamb's ear. Isolated cases on sheep, Hill Grazings. There is possibly a causal relationship with parched grasses in dry summers, as in 2018 (according to Iain Stout, crofter). Only Shetland record. An anamorphic taxon with no known sexual stage.

Mycosphaerellaceae

Ramularia pratensis. Reported by RWGD, undated, on common sorrel (*Rumex acetosa*). Only Shetland record.

Causes round or elliptic pale brown-purple to red-bordered lesions on *Rumex* species. An anamorphic taxon.

Septoria scabiosicola. Rust spots on leaf of devil's bit scabious, below Stackhoull Stores, 22nd August 2015. An anamorphic taxon.

Phaeotrichaceae

Trichodelitschia bisporula. Reported by RWGD, undated, on rabbit pellets. Only Shetland record.

Pleosporaceae

Dilophospora alopecuri. Twist, plumed spore disease of cereals. On Yorkshire fog leaves, Schoolton, 19th September 2016. An anamorphic taxon.

Uncertain position: Hyphales ("Hyphomycetes")

Endoconospora cerastii. Reported by RWGD, undated, on mouse-ear chickweed (*Cerastium fontanum*); only Shetland record. An anamorphic taxon.

5. True moulds

MUCOROMYCETES

Mucorales

Pilobolaceae

Pilobolus crystallinus. Dung cannon. Reported by RWGD, with no further detail.

Entomophthorales

Entomophthoraceae

Conidiobolus coronatus. Relatively common in gardens; characterised by classic moribund Diptera at apex of plants; summer. Only Shetland records.

B. "FAKE FUNGI"

A group of organisms previously considered to be fungi and studied as such by mycologists.

1. Chromista

OOMYCOTA

Peronosporales

Peronosporaceae

Peronospora rumicis. Sorrel downy mildew. Reported by RWGD with no further detail. A downy mildew on common sorrel and sheep's sorrel (*Rumex acetosella*).

Phytophthora infestans. Potato blight. Common, on potato (*Solanum tuberosum*). A persistent pest of potato rigs, particularly prevalent in damp hollows such as Houll Cuppas and during damp summers.

Plasmopara densa. Downy mildew. On eyebright (*Euphrasia* sp.), Bunes, 13th August 2018.

Plasmodiophorales

Plasmodiophoraceae

Plasmodiophora brassicae. Club root, finger-and-toe. Occasional in gardens on brassicas. Also reported by RWGD with no further detail.

2. Protista (slime moulds and others)

Stemonitidea

Didymiidae

Mucilago crustacea. Dog sick slime mould. Common and widespread, on ungrazed rough grassland, particularly roadsides, in-bye, end of summer; extreme dates 11th August and 10th October; short-lived, degrading within a few days. Only Shetland records.

Physarida

Physaridae

Fuligo septica. Scrambled egg slime, flowers of tan. Small group, north slope of Utra Brae, 7th May 2016. First for Northern Isles.

DISCUSSION

From the 52 taxa appearing in Watling & Riddiford (1986), the tally has grown to 260, nine of which are additional intraspecific variants. Several further entities remain provisional until fresh mature material becomes available. Watling (1992) listed 989 taxa for Shetland, with a further 62 unconfirmed or not identified to a known species. The Fair Isle totals are only a quarter of that number and, notably, a number of common Shetland fungi are absent. The lower proportion and absences can be attributed to several factors: much smaller land area; more restricted range of substrates and habitats, not least the absence of trees; and, perhaps, some imbalance in the intensity of collecting between the two areas. Most importantly, the geographical isolation of an island 34 km from the nearest land mass (the southern tip of Shetland Mainland) will have its effect. This has been illustrated for two other well-worked taxonomic groups – vascular plants and spiders. Fair Isle shares only 40% of the Shetland flora (Quinteros Peñafiel *et al.*, 2017; Scott & Palmer, 1987) and there are some notable absences. The spider diversity is more complete but still 30% short of the full Shetland fauna (Milner, 2006; Riddiford, unpublished data).

Lower diversity does not equate to diminished biodiversity. The current list includes four taxa that are first notifications for the British Isles and three for the second time. A further seven are conservation listed and more than 60 are first citations for Shetland. Amongst the fungi is an *Entoloma* sp. which could yet prove to be an undescribed species. The CHEGD grassland fungi are notably represented. This is a group endangered throughout Europe as their unimproved habitat is lost to modern agriculture (Arnolds, 1989; Eriksson *et al.*, 1995; Lovegrove *et al.*, 1995). There is a strong Nordic theme to some exceptional montane taxa, particularly associated with *Salix herbacea*. For its size (768 ha), Fair Isle registers an impressively rich fungus "flora" of regional, national and international importance.

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APPENDIX

Ordnance Survey grid references for locations mentioned in the text

Fair Isle belongs to vice-county 112 (Shetland) for recording purposes.

Airstrip HZ211721	Hesti Geo HZ198702	North Light HZ221740	Swarts Geo HZ209702
Back of Houll HZ204707	Hill Grazings HZ27	North Naaversgill HZ203726	Swey HZ213734
Barkland HZ208711	Hjukni Geo HZ202711	Plantation HZ212717	Taing HZ208709
Bird Observatory HZ222723	Hoini HZ203714	Pund HZ206714	Tarryfield HZ208718
Boini Mire HZ205706	Houll Cuppas HZ205706	Rippack HZ20647064	The Haa HZ202700
Breckawalls HZ207709	Kenaby HZ207702	Quoy HZ204704	Upper Leogh HZ201702
Breed Piece HZ210723	Kirk HZ206706	School HZ207709	Ultra Brae HZ198699
Bullock Holes HZ219727	Kirki Geo HZ200698	Schoolton HZ204704	Vaadal Plantation HZ212717
Buness HZ2272	Leogh HZ201702	Setter HZ209715	Vaila's Trees HZ204708
Burkle HZ204702	Linni Geo HZ199706	Shalstane HZ197699	Valsbrough HZ2070
Byerwall HZ2171	Lower Station HZ211731	Shirva HZ202709	Vatstrass HZ217721
Chatham's Land HZ208710	Lower Stoneybrek HZ20547092	South Haven HZ224724	Ward Hill HZ208734
Ditfield HZ221721	Malcolm's Head HZ198704	South Light HZ197688	Ward Hill north slope HZ20827343
Eas Brecks HZ2172	Mavers Geo HZ222723	South Light Brae HZ197697	Wester Lother HZ211738
Field HZ21117 71524	Meoness HZ205697	Springfield HZ207699	Ward Hill summit HZ20847341
Furse HZ224732	Midway HZ202705	Stackhoull Stores HZ204708	Wirvie HZ217736
Gilsetter HZ214718	North Grind HZ212717	Stonybreck HZ205709	
Grand Canyon HZ209723	North Haven HZ224725	Sukka Mire HZ208721	