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NOTES ON BRITISH LICHENICOLOUS FUNGI: VI*

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ABSTRACT. Following a survey of recent literature, notes are provided on 15 species. *Abrothallus cladoniae* R. Sant. & D. Hawksw., *Capronia normandinae* R. Sant. & D. Hawksw. and *Weddellomyces macrospora* D. Hawksw., Renobales & Coppins are described as new species. Nine species are reported from the British Isles for the first time: *Buelliella physciicola* Poelt & Hafellner, *Cercidospora lichenicola* (Zopf) Hafellner, *Leptosphaerulina peltigerae* (Fuckel) Riedl, *Lichenopuccinia poeltii* D. Hawksw. & Hafellner, *Lichenostigma rugosa* Thor, *Nectriella anisospora* Lowen, *N. tenacis* (Vouaux) Weese, *Phaeosporobolus usneae* D. Hawksw. & Hafellner, and *Taeniolella punctata* M. S. Christ. & D. Hawksw. The British records of *Dactylospora urceolata* (Th. Fr.) Arnold and *Lecidea umbonata* (Hepp) Mudd are shown to be based on misidentifications of *D. frigida* Hafellner and *Cecidonia umbonella* (Nyl.) Triebel & Rambold respectively. Some additional records of *Bachmanniomyces uncialicola* (Zopf) D. Hawksw. are also presented.

Since the last paper in this series (Hawksworth, 1986) was published there has been an increased interest in lichenicolous fungi resulting in their inclusion in regional lists, systematic revisions, and numerous papers on additions to species in particular countries. This resurgence in interest is to be welcomed, and it is pertinent to draw particular attention here to publications revising species already known in the British Isles or reporting species from Great Britain or Ireland for the first time.

Generic revisions have been provided for *Cercidospora* Körber (Hafellner, 1987), *Phacopsis* Tul. (Triebel & Rambold, 1988), and *Polycoccum* Sauter ex Körber (Hawksworth & Diederich, 1988); these works should be consulted for revisions and additional reports of British and Irish species in those genera. New generic names have been introduced for several British species: *Cecidonia* Triebel & Rambold includes *Lecidea umbonella* Nyl. (Triebel & Rambold, 1988), *Geltingia* Alstrup & D. Hawksw. includes *L. associata* Th.Fr. (Alstrup & Hawksworth, 1990), *Lauderlindsaya* J. C. David & D. Hawksw. includes *Sphaerulina chlorococca* (Leighton) R. Sant. (David & Hawksworth, 1989), *Lichenochora* Hafellner includes *Epicymatia thallina* (Cooke) Sacc. (Hafellner, 1989), and *Skyttella* D. Hawksw. & R. Sant. includes *Agyrium flavescens* Rehm (Hawksworth & Santesson, 1988).

Two new species of *Opegrapha* Ach. on *Thelotrema* Ach. in Scotland were described by Coppins (1987; previously included as 'A' and 'B' in Hawksworth, 1983: 17), a new species of *Hobsonia* Berk. was reported from Britain by Lowen *et al.* (1986), one of *Skyttea* Sherw. *et al.* on *Toninia lobulata* (Sommerf.) Lynge by Coppins (1988), one of *Tremella* Pers. on *Mycoblastus sterilis* Coppins & P. James by Diederich (1986; illustrated by Coppins & James, 1979: 161), and four of *Arthonia* Ach. on various corticolous crustose lichens by Coppins (1989). The name *Nectriella santessonii* Lowen & D. Hawksw. was introduced by Lowen & Hawksworth (1986) for the species on *Anaptychia runcinata* (With.) Laundon previously incorrectly regarded as conspecific with *N. tincta* (Fuckel) R. Sant. *Tremella coppinsii* Diederich & Marson, recently described on a species of *Platismatia* Culb. & C. Culb. from Sarawak (Diederich &

*in *Notes RBG Edinb.* 43: 497–519 (1986).

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Marson, 1988), has also been discovered on *P. glauca* (L.) Culb & C. Culb on the Isle of Skye (Santesson, 1988).

The generic placement of some further species known in the British Isles has also been revised in the light of further information: *Metasphaeria tartarina* (Nyl.) Keissler to *Sagediopsis campsteriana* (Lindsay) D. Hawksw. & R. Sant. (Alstrup & Hawksworth, 1990), *Pleospora peripherica* (Taylor) D. Hawksw. to *Weddellomyces* D. Hawksw. (Alstrup & Hawksworth, 1989), *Skyttea thallophila* (P. Karsten) Sherw. & D. Hawksw. to *Unguiculariopsis* Rehm (Zhuang, 1988), and *Trichothyrina cetrariicola* (Nyl.) D. Hawksw. to *Lichenopeltella* Höhnel (Santesson, 1989). *Nesolechia oxyspora* (Tul.) Massal. was perhaps prematurely transferred to *Phacopsis* by Triebel & Rambold (1988), and the former genus was still accepted by Alstrup & Hawksworth (1989).

Attention is also drawn to two other works which include keys to many lichenicolous fungi. Clauzade *et al.* (1989) provide a useful extensively revised key to lichenicolous fungi described throughout the world, based mainly on the literature, but which also incorporates sketches of spores and fruit bodies, as well as an index to host lichens. A key to 124 species from Greenland is included in the study of Alstrup & Hawksworth (1989) and should be of value for the identification of material from arctic areas throughout the Northern Hemisphere.

Abrothallus cladoniae R. Sant. & D. Hawksw. , **sp. nov.** Fig. 1.

Ascomata apothecia, superficialia, convexa, ad basim constricta, viridi-pruinosa ad nigra, emarginata, (0.1–)0.15–0.25(–0.30)mm diam, aliquando breve-stipitata; epithecium pallide virescens; hymenium 30–50(–65)μm tall, I–; hypothecium et stipes atrobrunneum. Asci late clavti, bitunicati, 28–35 × 7.5–9.5μm, 8-spori ad 16- semi-spori. Ascosporae late ellipsoideae ad soleiformes, 1-septatae, cellulis disjunctis, atrobrunneae, plusminusve laeves, 7–11 × 3–4.5μm, semisporae 4–5.5 × 2.5–4.5μm.

Type. U.S.A., North Carolina, Moore County, 4.1 miles east of Cameron, on *Cladonia polycarpoides* Nyl. by roadside, 5 xi 1988, *D. L. Hawksworth* 5342 (holo. IMI 328756, iso. UPS).

Ascomata arising on the apothecia, decolorized podetia or sometimes squamules of the host lichen, apothecioid, superficial, convex, strongly constricted at the base and often shortly stipitate, densely green pruinose at first but in older fruits these disappear so that the apothecia then appear black, exciple absent, (0.1–)0.15–0.25(–0.3)mm diam; stipe, when developed, black, to 50μm tall and 150μm wide; epithecium greenish, 4–7μm tall; hymenium 30–50(–65)μm tall, I–; hypothecium brown, of irregularly pseudoparenchymatous cells, not clearly separated from the stipe, 25–40(–50)μm tall. *Hamathecium* of densely branched and anastomosed paraphysoids, short-celled, often swollen between the septa, (1–)1.5–2μm thick, not or slightly swollen at the tips which are greenish. *Asci* broadly clavate, not distinctly stalked, strongly thickened at the apex, with a thin acicular internal apical beak, bitunicate in structure, apex I–, protoplast I + deep orange, 28–35 × 7.5–9.5μm, 8-spored. *Ascospores* distichously arranged in the asci, broadly ellipsoid to soleiform, 1-septate, the upper cell often slightly larger, constricted at the septum, splitting into semi-spores along the septum while still within the ascus so that the asci can superficially appear 16-spored, dark brown, smooth walled but tending to become slightly verrucose on degeneration, intact ascospores

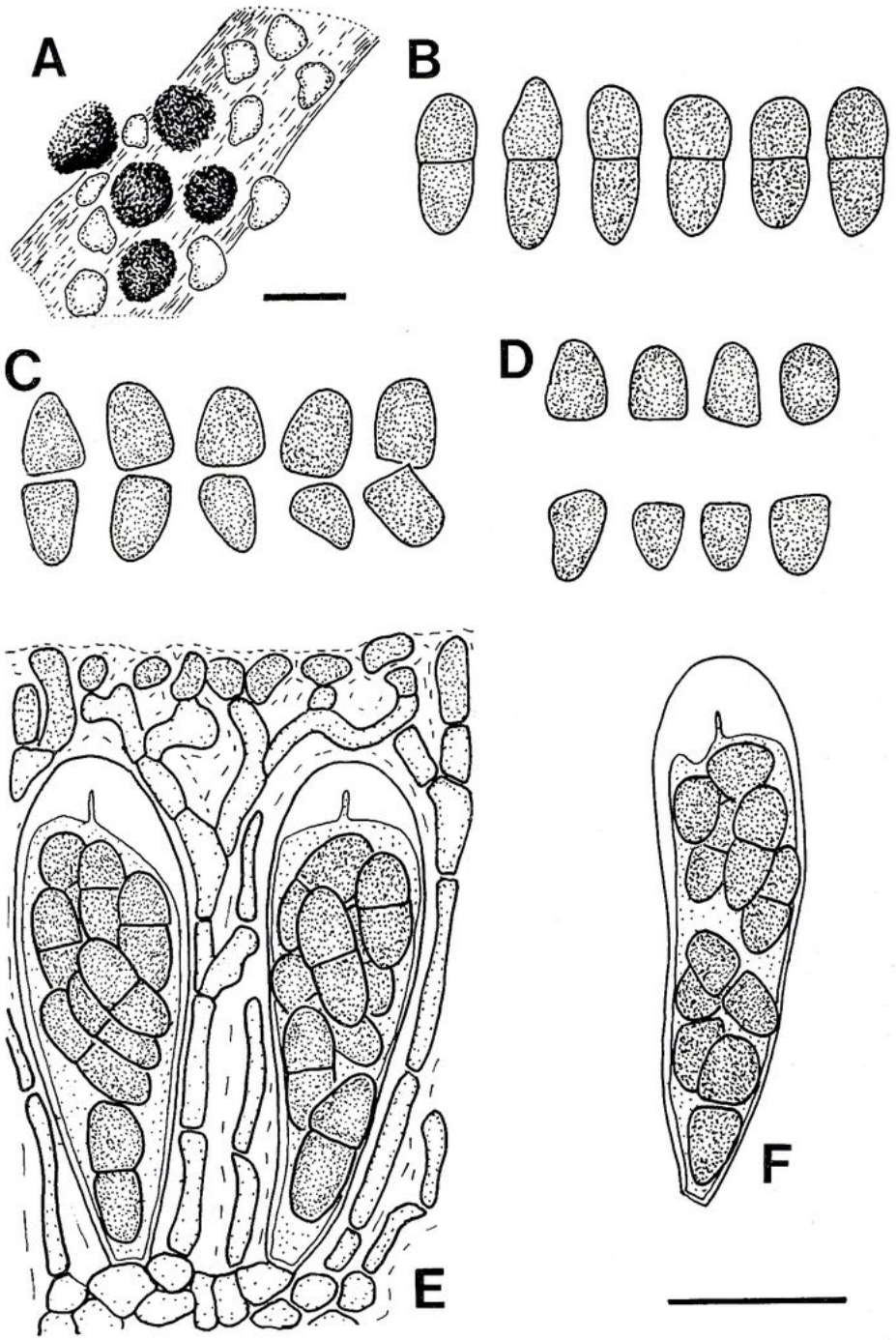

FIG. 1. *Abrothallus cladoniae*. A, ascomata arising on *Cladonia* podetium; B, intact ascospores; C, separating ascospores; D, separated semi-spores; E, maturing asci and paraphysoidal hamathecium; F, maturing ascus with separating ascospores. Scale A = 0.25mm, B–F = 10μm. From the isotype, IMI 328756.

7–11 × 3–4.5μm, semi-spores subglobose to heel-shaped, 4–5.5 × 2.5–4.5μm. *Anamorph* unknown.

DENMARK. Jylland, Skagen, on dunes near the lighthouse of Höjen, on *Cladonia ciliata* var. *tenuis* (Flörke) Ahti, 15 vii 1956, *R. Santesson* 11346*a* (UPS); *loc. cit.*, on *C. portentosa* (Dufour) Coem., 15 vii 1956, *R. Santesson* 11346*c* (UPS).

ENGLAND. East Kent, Dungeness, near power station on *C. portentosa*, 27 iv 1961, *R. Santesson* 15192*c* (UPS).

SWEDEN. Västmanland, Sala, mining region south-west of the Christina shaft, on *C. grayi* G. K. Merrill ex Sandst., 26 x 1958, *R. Santesson* 12673*c* (UPS).

U.S.A. Maine, Prince's Point near Brunswick, Arcadia Inn, on *C. mitis* Sandst., 27 viii 1939, *G. Degelius* (UPS). Missouri, near Emma, on *C. cariosa* (Ach.) Sprengel, iv 1889, *C. H. Demetrio* [Ellis & Everhart, *N. Am. Fungi*, ser. 2, no. 2383] (K, M—with *Lichenoconium usneae* (Anzi) D. Hawksw.); ibid., 1890, *C. H. Demetrio* [Rabenhorst, *Fungi Eur.* no. 3891] (K, UPS—with *L. usneae*).

This is the first species of *Abrothallus* to be described with ascospores which break into part-spores prior to discharge. However, this phenomenon has also been seen by Santesson (*in litt.*) in three yet undescribed species of the genus: two species on *Erioderma* Fée in South America with ascospores 9–14 × 4.5–5.5μm and 20–28 × 7–9μm respectively, and one on *Lobaria quercizans* Michaux from the U.S.A. with 3-septate rupturing ascospores 11–15 × 4–5μm.

A. cladoniae appears to be pathogenic when on podetia from subgenus *Cladonia*, the infected tissues becoming decolourized, whitish and brittle. However, when the fungus occurs on species in subgenus *Cladina* (Nyl.) Leighton, the apothecia are mainly found on the lower parts of the podetia which are naturally degenerating.

Demetrio's material from Missouri was distributed under the name *Sphaeropsis cladoniae* Ellis & Everh. as Ellis & Everhart's *N. Am. Fungi*, ser. 2, no. 2383 and constitutes isotypes for that name. However, as pointed out previously (Hawksworth, 1977: 192), his collections are a mixture of an *Abrothallus* species and *Lichenoconium usneae*. Although the former predominates in many examples of this number, and indeed is the only one present in some (e.g. that in UPS), it is clear from the original description of *S. cladoniae* that the authors described the coelomycete and not the ascomycete. Their name must therefore be placed as a synonym of *L. usneae* and does not provide an epithet for the *Abrothallus* as previously reported by Santesson (*in* Hawksworth, *loc. cit.*).

Bachmanniomyces uncialicola (Zopf) D. Hawksw. in Bull. Br. Mus. nat. Hist., Bot. 9: 11 (1981).

IRELAND. Co. Longford, Cleoneen, on *Cladonia uncialis* subsp. *biuncialis* (Hoffm.) M. Choisy in raised bog, 1986, *C. Douglas* (IMI 321428).

SCOTLAND. East Sutherland, Cuthill Links, on *C. uncialis* subsp. *biuncialis*, 1987, *B. J. Coppins* 11791 (E). West Sutherland, Ben Loyal, on *C. uncialis* subsp. *biuncialis* in summit heath, vii 1984, *O. L. Gilbert* (IMI 288465). Mid-Ebudes, Tiree, Caoles, on *C. uncialis* subsp. *biuncialis*, 1983, *B. J. Coppins* 9529 (E). South Ebudes, Colonsay, west of Loch Cholla, 1981, *B. J. Coppins* 8729 (E).

This species, which has not previously been reported from Ireland, was noted by Hawksworth (1981) from the British Isles on the basis of a collection made in Perthshire in 1858. It has subsequently been rediscovered in Scotland and these collections are consequently cited here.

Buelliella physciicola Poelt & Hafellner, apud Hafellner in Beih. Nova Hedwigia 62: 155 (1979).

ENGLAND. Northamptonshire, Evenley, on *Phaeophyscia orbicularis* (Necker) Moberg, 26 iii 1986, *T. W. Chesters* (E).

This fungus, which is described in detail and illustrated by Hafellner (1979), has not previously been reported from the British Isles.

It should be noted that the generic name *Buelliella* is correctly attributed to Fink (1935: 372). Although Fink only distinguished the genus from *Buellia* de Not. on the basis of the lichenicolous habit, this was stated in Latin and is a diagnosis in the sense of Art. 32.2, i.e. 'a statement of that which in the opinion of its author distinguishes the taxon from others'. The 'validation' by Hafellner (1979: 153) was therefore superfluous because to Fink the absence of a photobiont was the distinguishing criterion. The case is identical to that of *Epilichen* Clem., as discussed by Hawksworth (1979).

Capronia normandinae R. Sant. & D. Hawksw., **sp. nov.** Figs 2, 3.

Ascomata perithecia, ostiolata, singularia, plus minusve superficialia, subglobosa ad obpyriformia, nigra, setosa, 0.1–0.15mm diam; setae plerumque arcuatae, atrobrunneae, non ramosae, non septatae, laeves, crassi-tunicatae, 25–50(–90)µm altae; muris atrobrunneis, e texturis angularibus compositis, cellulis (3–)4–5µm diam. Hamathecium deest. Asci obpyriformes ad late clavati vel late cylindrici, bitunicati, apicibus elongatis ubi maturitatibus, 65–80 × 22–30µm, 8-spori. Ascosporae ellipsoideae ad late fusiformes, (3–)5(–6)-transseptatae et 0–1(–2)-longiseptatae, guttulatae, pallide olivaceo-brunneae, laeves, (13–)15–21(–27) × 7.5–9µm.

Type. Scotland, West Inverness, Loch nan Uamh, 4–5km east of Arisaig, on *Normandina pulchella* (Borrer) Nyl. on *Parmeliella plumbea* (Lightf.) Vainio on *Fagus sylvatica,* 12 vii 1969, *R. Santesson* 20243*d* (holo. UPS, iso. IMI 333572).

Ascomata perithecioid, ostiolate, arising singly, dispersed, ± superficial and immersed only at the base when mature, subglobose to obpyriform, black, densely setose around the ostiole, 0.1–0.15µm diam; setae curved towards the ostiole, dark brown, unbranched, non-septate, smooth, thick-walled, 25–50(–90)µm tall, mainly 3–4µm wide, tapering towards the apex which is ± pointed, arising from a discrete dark foot-cell or directly from the peridium; peridial walls mainly 10–15µm thick, becoming thicker and to 18–20(–25)µm near the ostiole, composed of 5–8 layers of radially compressed angular pseudoparenchymatous cells (*textura angularis*), the outermost layers brown to dark brown, darkest near the ostiole, the inner layers pale brown to fuscous, individual outer cells (3–)4–5µm diam in surface view, individual inner cells 6–12 × 2.5–4µm. *Mycelium* composed of torulose pale brown to brown hyphae, frequently septate and irregularly branched, ramifying from the base and lower parts of the ascomatal walls into the host tissues, 2.5–3.5µm wide. *Hamathecium* absent. *Asci* obpyriform to broadly clavate or broadly cylindrical, the apex strongly thickened, at first rounded but becoming attenuated and penetrated by a long narrow internal apical beak, bitunicate in structure, I–, discharge fissitunicate, 65–80 × 22–30µm, 8-spored. *Ascospores* ellipsoid to broadly fusiform, the apices rounded or commonly attenuated, (3–)5(–6)-transseptate and 0–1(–2)-longiseptate, tending to appear densely dictyosporous through the production of guttules and putative distosepta, pale olivaceous brown, smooth-walled, lacking a conspicuous gelatinous sheath, (13–)15– 21(–27) × 7.5–9µm.

CHILE. Prov. Chiloé, Isla Chiloé, Peninsula Lacui, Punta Corona, 41°47′S 73°52′W, on *Normandina pulchella* on *Berberis buxifolia,* 26 x 1940, *R. Santesson* S 376 (UPS, with *Lauderlindsaya borreri*). Prov. Magallanes, Isla Riesco, Mina Elena, 52°41′S 71°55′W, on *N. pulchella* on *Pseudocyphellaria coriifolia* (Müll. Arg.) Malme on *Nothofagus betuloides,* 30 iv 1940, *R. Santesson* 2047 (UPS).

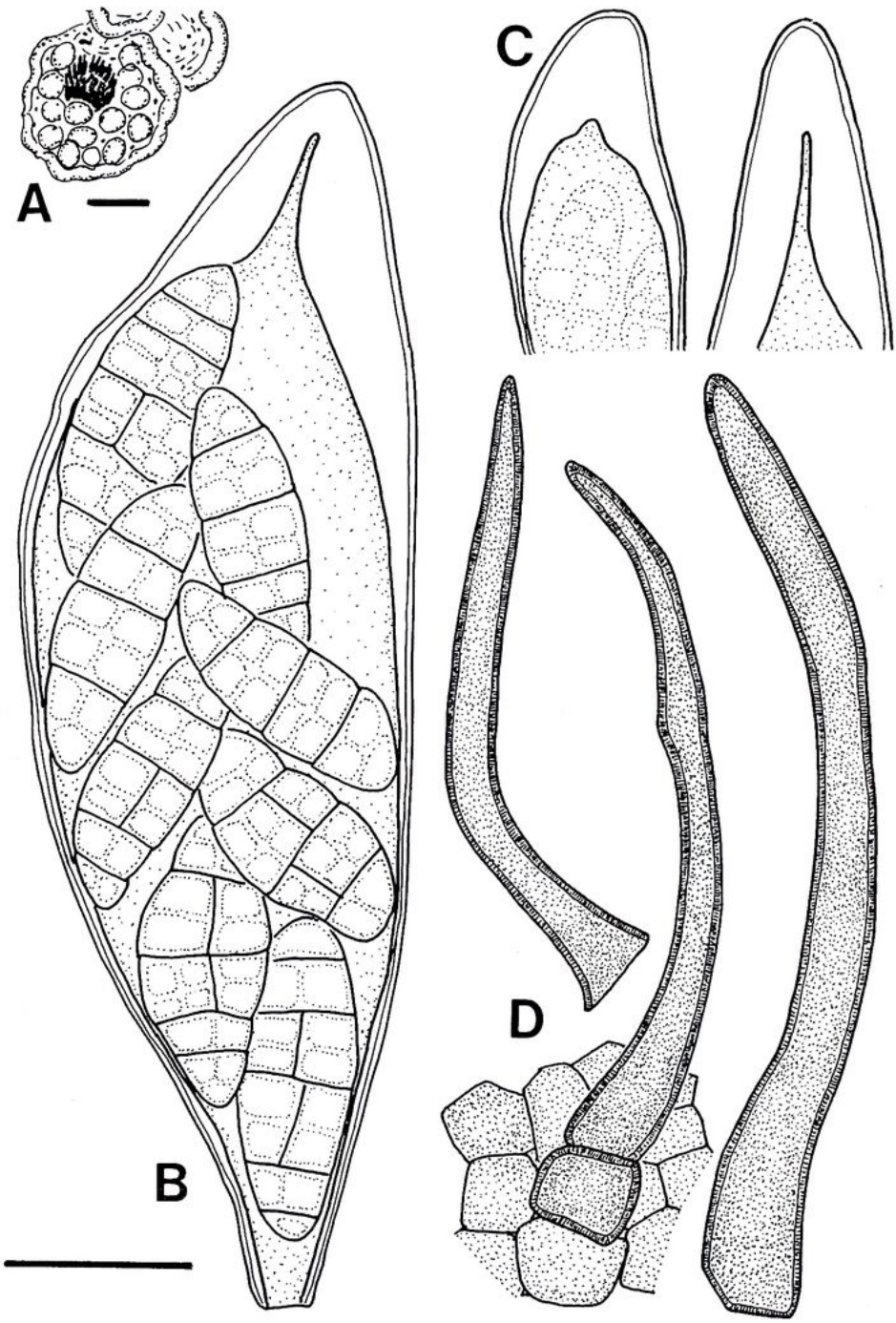

FIG. 2. *Capronia normandinae*. A, ascoma arising on *Normandina* squamule; B, ascus; C, immature and mature ascus apices; D, peridial setae. Scale A = 0.1mm, B–D = 10μm. From the isotype, IMI 333572.

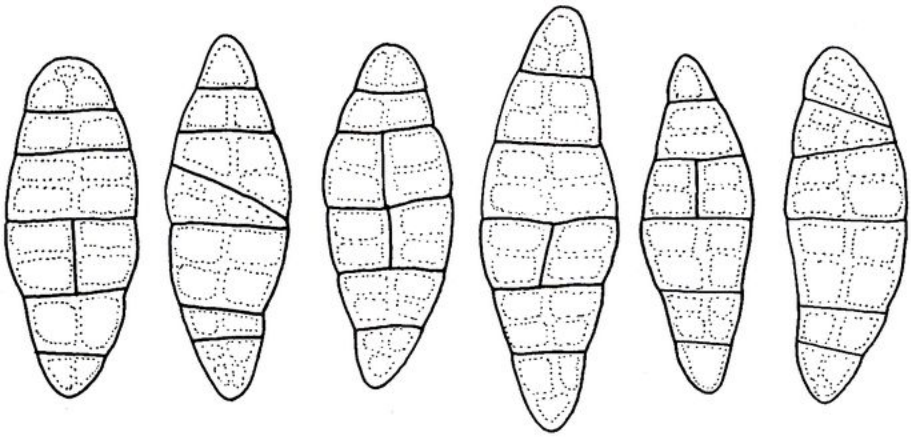

FIG. 3. *Capronia normandinae*. Ascospore outlines. Scale = 10μm. From the isotype IMI 333572.

MADEIRA. Vista Navios, 1.3km south-west of Poiso, alt. 1350m, on *N. pulchella* on *Laurus azorica*, 18 i 1969, *L. Tibell* 3298 (UPS).
SCOTLAND. Mid-Ebudes, Coll, A Chròic, alt. 0–40m, on *N. pulchella* on shaded rocks, 14 iv 1983, *B. J. Coppins* 9629 (E, IMI 334787).

This previously undescribed species clearly belongs to the broad concept of *Capronia* Sacc. as adopted by Müller *et al.* (1987). These authors rejected the use of ascospore septation as a generic criterion in the Herpotrichiellaceae; on the basis of the ascospore septation this new species would otherwise have been referred to *Dictyotrichella* Petrak. The only other currently accepted lichenicolous species of *Capronia* is *C. peltigerae* (Fuckel) D. Hawksw. described from thalli of *Peltigera* species in Switzerland but also present in Sweden (Prov. Härjedalen, Tännäs parish, Mt Funäsdalsberget, on *P. rufescens* (Weis) Humb., 1958, *R. Santesson*, UPS) and Greenland; that species differs in having 1–3-transseptate hyaline ascospores 19–24 × 6–8μm (Hawksworth, 1980; Eriksson & Hawksworth, 1987).

The infected thalli of *Normandina* are scarcely affected by the presence of *Capronia normandinae* and retain their normal colour. The species consequently appears to be commensalistic rather than pathogenic.

The only other lichenicolous fungus known on *Normandina* Nyl. in the British Isles is *Lauderlindsaya borreri* (Tul.) J. C. David & D. Hawksw. which has asetose perithecia and hyaline 3–7-transseptate ascospores 25–35(–45) × 6–9μm (David & Hawksworth, 1989). *Globosphaeria jamesii* D. Hawksw., a monotypic genus known on *Normandina* only from Tasmania, has asetose perithecia with hyaline, globose, thick-walled ascospores 8–10μm diam. (Hawksworth, 1990).

Cercidospora lichenicola (Zopf) Hafellner in Herzogia 7: 360 (1987).
Syn.: *Leptosphaeria lichenicola* Zopf in Hedwigia 35: 358 (1896).
Metasphaeria lichenicola (Zopf) Vouaux in Bull. Soc. mycol. Fr. 29: 102 (1913).
SCOTLAND: Mid Perth, Ben Lawers, near late snow patch, on *Solorina crocea* (L.) Ach., 28 vii 1986, *B. W. Fox* (IMI 314122).

This species, which has not previously been reported from the British Isles,

was treated, including illustrations of ascospores, by Hafellner (1987). It is restricted to the apothecia and thallus of *Solorina crocea* and characterized by the production of (3–)4–6-septate hyaline ascospores measuring 18–23 × 4.5–6μm. The species has previously been found in Austria, Greenland, Norway, Spitzbergen, and Sweden.

Metasphaeria stereocaulorum (Arnold) Sacc., first reported from the British Isles by Hawksworth (1982: 286), has also been correctly transferred to *Cercidospora* Körber by Hafellner (1987: 362) as *C. stereocaulorum* (Arnold) Hafellner; in that species the ascospores are consistently 3-septate when mature.

Dactylospora frigida Hafellner in Herzogia 7: 166 (1985).
SCOTLAND: West Perthshire, Breadalbane Mountains, Beinn Heasgarnich, on *Brigantiaea fuscolutea* (Dickson) R. Sant., vii 1978, *B. J. Coppins* 3496 (E).

This specimen was originally referred to *Dactylopsora urceolata* (Th. Fr.) Arnold and formed the basis of the report of that species in the checklist of Hawksworth *et al.* (1980: 35). Following the appearance of Hafellner's work, the specimen was redetermined by Coppins (*in litt.*) as belonging to the above species which is here reported from the British Isles for the first time. Apothecia of *Brigantiaea fuscolutea* occurred close by on a thallus identical to the sterile one on which the ascoma of *D. frigida* were found.

Dactylopsora frigida has a wide distribution and in addition to Europe it is known from Argentina and New Zealand.

Lecidea umbonata (Hepp) Mudd, Man. Br. Lich.: 204 (1861).
Syn.: *Biatora umbonata* Hepp, Flecht. Eur. II, tab. 29, no. 257 (1857).

This species was reported as occurring in the British Isles by Mudd (*loc. cit.*) on the basis of a single specimen from Perthshire (Benmore, *Adm. Jones,* BM). In the course of the preparation of the treatment of *Lecidea s. lat.* for the forthcoming *Lichen Flora of Great Britain and Ireland,* this specimen was re-examined and proved to be the lichenicolous fungus *Cecidonia umbonella* (Nyl.) Triebel & Rambold (syn. *Lecidea umbonella* Nyl.) growing on the lichen *Lecidea lapicida* var. *lactea* (Flörke ex Schaerer) V. Wirth. A modern description and also illustrations and distribution maps of this fungus are provided by Triebel & Rambold (1988: 284–291).

Lecidea umbonata is an autonomous lichen which is widespread on calcareous rocks in the Northern Hemisphere (Hertel, 1977: 379, 398, 1981: 178), but has not so far been correctly reported from the British Isles. All subsequent published listings from the British Isles appear to have been based on Mudd's misidentification.

Leptosphaerulina peltigerae (Fuckel) Riedl in Sydowia 22: 399 (1969).
Syn.: *Pleospora peltigerae* Fuckel in Jb. nass. Ver. Naturk. 23/24: 132 (1870) ['1869'].
SCOTLAND. West Inverness, north shore of Loch Garry, on moribund thallus of *Peltigera praetextata* (Flörke ex Sommerf.) Zopf, 19 vi 1979, *B. J. Coppins* 4214 (E).

The nomenclature and characteristics of this species have been discussed by Hawksworth (1980: 376–378) who examined material of the isotype collected in Germany. The species has not previously been recognized as occurring in the

British Isles. The Scottish collection agrees with those previously reported except that some ascospores were only 17μm long and 4–4.5μm wide.

Lichenopuccinia poeltii D. Hawksw. & Hafellner, apud Hawksworth in Beih. Nova Hedwigia 79: 374 (1984).

SCOTLAND. Isle of Skye, Kyle of Lochalsh, south of Loch na Beiste, on the thallus of *Parmelia saxatilis* (L.) Ach., 31 v 1987, *P. Diederich* 8830 (herb. Diederich, IMI 328885).

This species, which has not previously been found in the British Isles, was previously only known from thalli of the closely allied *Parmelia sulcata* Taylor collected in Austria. Diederich (*in litt.*) also mentions finding the species in three other sites on Skye: on *P. saxatilis* at Coille Gaireallach (SW of Broadford) and Ardnameacan (SSE of Broadford), and on *P. sulcata* at Coille Gaireallach. It has also recently been recognized as occurring in Greenland (Alstrup & Hawksworth, 1990).

Lichenostigma rugosa Thor in Lichenologist 17: 267 (1985).

ENGLAND. South Devon, Dartmoor, Lustleigh Cleave, on apothecia of *Diploschistes scruposus* (L.) Norman, 31 iii 1979, *D. L. Hawksworth* 4912*b* (IMI 322543).

SCOTLAND. Argyll, Lismore, on *D. scrupsosus*, 1980, *B. J. Coppins* 8160 (E).

This fungus, although not previously reported from the British Isles, has a widespread distribution on species of *Diploschistes* Norman in the Northern Hemisphere and was therefore expected to be found in Britain.

Nectriella anisospora Lowen in Mem. N. Y. Bot. Gds 49: 248 (1989).

SCOTLAND. Argyll Main, Cowall, Benmore Forest, west side of Lock Eck, wood c.1km south of Bernice, on *Hypogymnia physodes* (L.) Nyl., 23 ix 1988, *B. J. Coppins* [12846] & *R. Brinklow* (E).

This species, described by Lowen (*loc. cit.*) on the basis of a single collection on the same host lichen collected in Maine (U.S.A.) in 1987, is distinguished from other lichenicolous species known in the British Isles by the bright orange perithecia which have hairs 12–32 × 3.5–5.5μm, broadly clavate asci, and soleiform ascospores 14.5–17 × 4–7μm.

Nectriella tenacis (Vouaux) Weese in Annls Mycol. 12: 156 (1914).

Syn.: *Pharcidia mammillula* f. *tenacis* Vouaux in B. de Lesd., Rech. Lich. Dunk.: 273 (1910).

Nectria tenacis (Vouaux) Vouaux in Bull. Soc. mycol. Fr. 28: 184 (1912).

ENGLAND. North Devon, Braunton, Braunton Burrows, on *Collema tenax* (Swartz) Ach. in stabilized dunes, 16 iv 1988, *D. L. Hawksworth* 5314 (IMI 327003).

This species has not previously been reported from the British Isles and does not appear to have been otherwise collected since its original gathering on *Collema tenax* from Bray Dunes near Dunkirk in northern France. Although the type material for this taxon has been destroyed, the Devon specimen agrees so closely with the original description that there can be little doubt that it belongs to the same species. This record is not discussed further here as the taxon will be treated more fully in Mrs R. Lowen's forthcoming revision of the lichenicolous fungi referred to *Nectriella* Nitschke ex Fuckel.

Phaeosporobolus usneae D. Hawksw. & Hafellner in Nova Hedwigia 43: 526 (1986).

SCOTLAND. Isle of Skye, SSE of Broadford, Ardnameacan, on *Usnea flammea* Stirton, 27 May 1987, *P. Diederich* 8317 (herb. Diederich).

When originally described, this species was known from Austria, Italy, the Canary Islands and U.S.A. (Michigan). It is clearly widely distributed, being subsequently recognized from California and Washington in the U.S.A., Peru (Prov. Cuszco and Prov. Huanuco), and the People's Republic of China (Prov. Yunnan) according to Santesson (*in litt.*). However, the species has not hitherto been reported from the British Isles.

Taeniolella punctata M. S. Christ. & D. Hawksw., apud Hawksworth in Bull. Br. Mus. nat. Hist., Bot. 6: 254 (1979).

SCOTLAND. Isle of Skye, Broadford, Kilmore, on *Graphis scripta* (L.) Ach., 30 v 1987, *P. Diederich* 8818 (herb. Diederich).

This species was originally described on the basis of a single specimen from Denmark but has subsequently been discovered in Belgium, Germany, and Luxembourg (Diederich, 1986) as well as from a further locality in Denmark. It has not, however, previously been reported from the British Isles.

Weddellomyces macrospora D. Hawksw., Renobales & Coppins, **sp. nov.** Fig. 4.

Ascomata perithecia, singularia, erumpescentia, subglobosa, nigra, 0.3–0.35(–0.4)mm diam, irregulariter aperientia, supra distincte cephalothecoidea. Hamathecium e pseudoparaphysibus compositum, (1–)2–3(–4)μm latum; centrum I–. Asci elongato-clavati ad late cylindrici, bitunicati, 140–200 × 35–40μm, (6–)8-spori. Ascosporae elongato-ellipsoideae ad late subfusiformes, aliquando arcuatae, 3(–4)-transseptatae et 0(–1)–longiseptatae, stramineae, leviter verruculosae, (35–)42–60(–67) × (10–)12–18(–20)μm.

Type. Wales, Breconshire, near Llangattock, Craig y Cilan National Nature Reserve, on *Aspicilia calcarea* (L.) Mudd, 12 viii 1985, *B. J. Coppins* [11073] & *R. G. Wood* (holo. IMI 334045).

Ascomata perithecioid, arising singly, erumpent, bursting through the cortex, strands of which may adhere to the ascomatal wall, finally to about 1/3 exposed, subglobose, black, 0.3–0.35(–0.4)mm diam; ostiole distinct at first but becoming irregular as the surrounding tissues tend to break away, only the base often remaining in old ascoma; ascomatal walls formed of cephalothecoid plates in the upper parts, in surface view composed of groups of radially arranged elongated pseudoparenchymatous cells 3–4(–4.5)μm wide, dark brown in the centre of the plates, pale red-brown in the intervening regions, the lower parts of the peridium not cephalothecoid but composed of dark brown pseudoparenchymatous subglobose to polyhedral cells mainly 4–6μm diam, in vertical section 15–25μm thick, thickest near the ostiole, the cephalothecoid nature evident by less-pigmented tissues. *Hamathecium* composed of branched and anastomosed cellular pseudoparaphyses, (1–)2–3(–4)μm wide; centrum I–. *Asci* elongate-clavate to broadly cylindrical, thickened at the apex with an internal apical beak, bitunicate in structure, I–, discharge fissitunicate, 140–200 × 35–40μm, (6–)8-spored. *Ascospores* overlapping monostichous to almost distichous, elongate-ellipsoid to broadly subfusiform, often somewhat curved, especially at the base, the apices rounded to somewhat attenuated, 3(–4)-transseptate, exceptionally with a single longiseptum in one cell, not or slightly constricted at the septa, septa lacking a distinct central pore, pale yellowish brown, appearing smooth at low magnifications but sparsely verrucose at × 1500, large guttules often present between the septa, with a gelatinous sheath swelling in K to around 10μm thick apparent in younger ascospores, (35–)42–60(–67) × (10–)12–18(–20)μm.

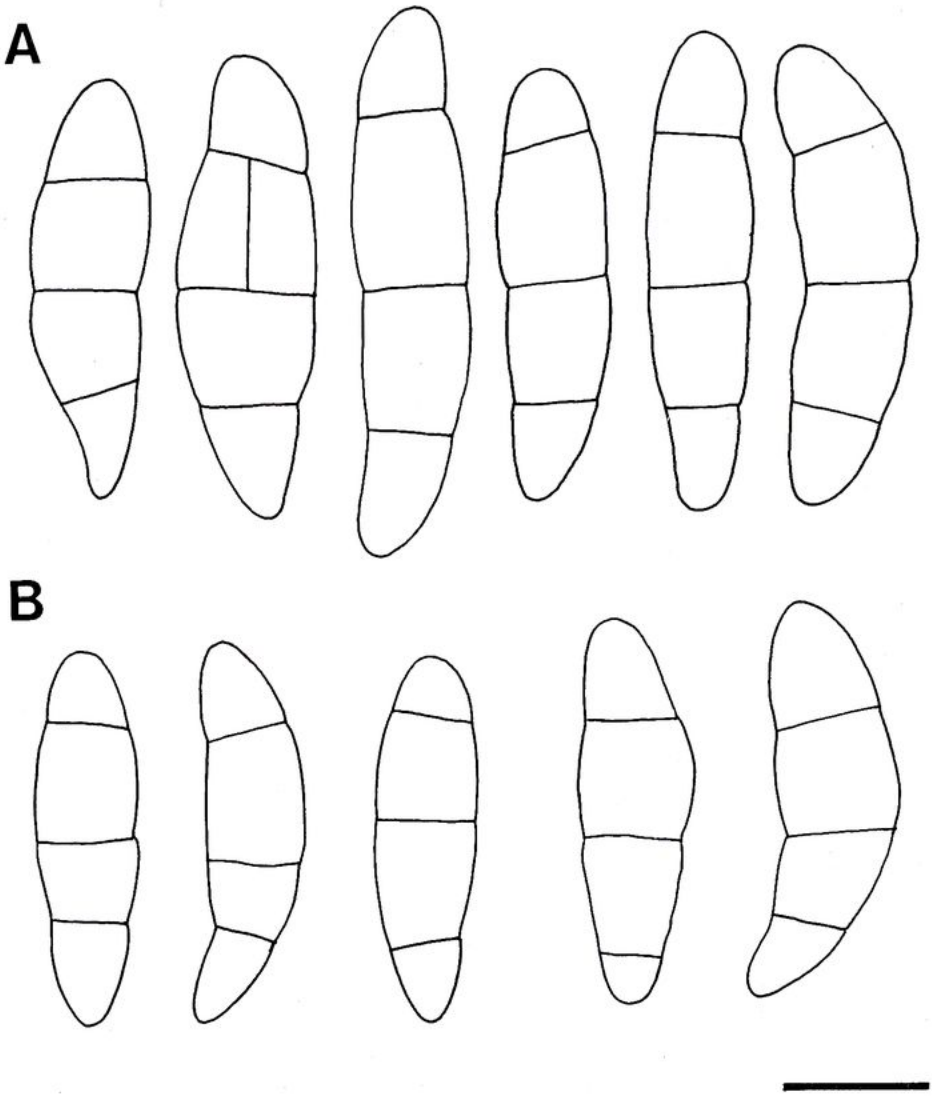

FIG. 4. *Weddellomyces macrospora*. Ascospore outlines. Scale = 10μm. A from the holotype, IMI 334045; B from *Barreno & Renobles*, BIO.

SPAIN. País Vasco, Prov. Vizcaya, Ceauuri, Mt Aldamin, on *Aspicilia calcarea*, 18 vii 1985, *E. Barreno & G. Renobales* (BIO).

This new species strongly recalls *Weddellomyces epicallopisma* (Weddell) D. Hawksw., which occurs on placodioid yellow *Caloplaca* Th. Fr. species, but that fungus has smaller, more deeply golden, verruculose ascospores which measure only 24–28(–30) × (8–)9.5–11μm (Hawksworth, 1986). The species epithet selected above recalls the massive ascospores which are much larger than any hitherto known in the genus. The presence of an occasional longiseptum does not preclude a placement in *Weddellomyces* as its concept has already been expanded to embrace taxa with a variety of ascospore septation types (Alstrup & Hawksworth, 1990). *Leptosphaeria crozalsii*

Vouaux, described from *A. calcarea* and *Caloplaca teicholyta* (Ach.) Steiner, closely resembles the new species, but in the original description (Vouaux, 1913) was reported to have smaller ascospores 16–24 × 7–10.5μm. We would have preferred to have been able to check these measurements and study the material on which Vouaux's name was based but unfortunately it is not represented amongst the remnants of Vouaux's herbarium in Marseille (Rondon, 1970) nor on Crozal's specimens of these hosts in US.

As is the case with *W. epicallopisma, W. macrospora* is pathogenic to its host, the thalli becoming fragmented and moribund as the infection develops.

In addition to the two collections of this species cited above, this fungus has also been collected in Cataluña, Spain by P. Navarro-Rosinés on *Aspicilia calcarea* (G. Renobales, *in litt.*).

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