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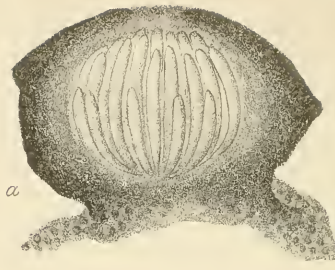
ILLUSTRATED WITH PLATES AND CUTS

LONDON:
WEST, NEWMAN & CO., 54, HATTON GARDEN.

1911.



1.



a

2.



b

c



a



b

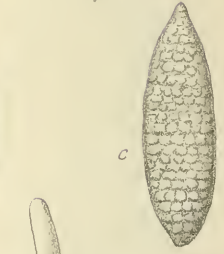


3.



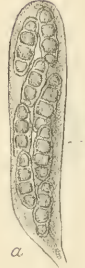
a

4.



c

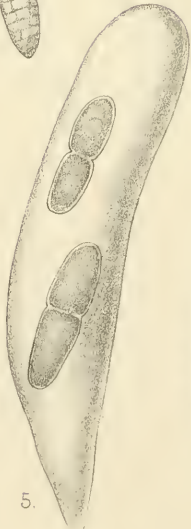
b



a



6.



5.



a



b

7.



8.



a

b

9.

A. L. S. del.
P. Highley lith.

West, Newman imp.

NEW LICHENS.

BY A. LORRAIN SMITH, F.L.S.

(PLATE 510.)

SEVERAL of the species of lichens described below were collected by well-known lichenologists many years ago, and are preserved in the herbarium of the British Museum. At that time less use was made of the microscope for purposes of determination than in our day of improved optical instruments; the microscope, however, must always be the final criterion in the case of plants that are classified chiefly on their microscopical characters. Field identification by trained naturalists is marvellously accurate, but mistakes are liable to occur unless constant use is made of high powers of magnification.

Other species, collected recently, were sent to me on various occasions for identification, and have proved to be of extreme interest. It is with great pleasure that I tender my thanks to the various donors. They will all be included in the forthcoming second volume of the *Monograph of British Lichens*, the first volume of which was prepared by the late Rev. J. M. Crombie and has been before the public for some years.

Lecidea pleiospora, sp. n. Thallus tenuis, virescens, indistinctus. Apothecia minuta, immarginata, circa 0.250 mm. diam., nigro-fusca, intus rufescentia, disco fusco-rubro; hypothecio angustato, etiam fusco-rubro; paraphysibus paucis, gracilibus, conglutinatis; ascis oblongo-clavatis, circa 0.075 mm. longis, 0.012 mm. crassis; sporis 12 ad 18 in ascis, globosis vel leviter angulatis, episporio distincto instructis, hyalinis, 0.006-8 mm. diam.

Ad terram argillaceam.

Belongs to the *Biatora* section of *Lecidea*, near to *L. rubidula*. Collected by the Rev. H. P. Reader in November on the soil of a disused clay-pit at Little Bowden, Northants. The thallus becomes a dull dark green when dry. The apothecia are fairly abundant. The species is distinguished from others by the many-spored ascus, and by the irregularly globose spores.

VERRUCARIA PROMINULA var. MINOR, var. nov. Thallus tenuis tartareus, cinereo-albidus vel subfuscus. Pentheciis numerosis, sparsis, minoribus quam typi iis; sporis ellipsoideis, hyalinis, 0.014-17 mm. longis, 0.006-7 mm. crassis.

Ad saxa maritima.

Collected at Nanorbee, Tenby, Pembrokeshire, by the late W. Phillips.

Gongylia Koerb. Syst. Lich. Germ. p. 351 (1855).

Thallus crustaceous, not corticated. Agal cells *Pleurococcus*. Perithecia almost sessile, soft in texture, bright or dark-coloured, with a poriform ostiole; paraphyses slender, free; asci 4-8-spored; spores acicular, straight or somewhat bent, colourless, multiseptate.

A small well-marked genus, belonging to the *Verrucariaceæ*, with representatives in North and Central Europe; now for the first time discovered in Great Britain.

Gongylia viridis, sp. n. Thallus primum læte-virescens, tenuis, effusus. Perithecia numerosa, in statu humecto nitid-nigra, globosa, ad basim leviter immersa, ostiolis distinctis amplius dehiscentibus; tunica externa nigra, mollis, dinidiata, interne nigro-smaragdina; ascis elongato-clavatis ad basim curvatis, circa 0·140 mm. longis, 0·010–12 mm. latis; paraphysibus longioribus quam ascis, numerosis, filiformibus; sporis angustate fusiformi-acicularibus, subito sursum angustatis vel apice obtusis, ad basim sensim decrescentibus, 0·060–65 vel –85 mm. longis, 0·002–3 mm. latis.

Ad terram arenaceam.

Collected in the early months of 1910 by Mr. B. W. J. Starling on the side of a footpath near Horsley, Surrey, and communicated to me by Mr. A. W. Dennis. It is interesting to note that the same species was gathered last autumn at two different localities in Epping Forest, near Theydon Bois and near Loughton. It is nearly allied to *G. sabuletorum*, a species recorded from Central Europe, but differs in the thallus and in the much longer spores.

Microglæna Larbalestierii, sp. n. Thallus tenuis sub-brunneus mucilaginatus, vel, in statu sicco, rimosus, rugosus, sparsus. Perithecia in thallo immersa, conica, ostiolis tantum notata, tunica ad basim hyalina, paraphysibus gracilibus, numerosis; ascis magnis oblongo-cylindraceis; sporis octonis, oblongo-fusiformibus, hyalinis, muriformibus, circa 0·050–55 mm. longis, 0·010 mm. latis.

Ad saxa in flumine.

Collected by Mr. C. Larbalestier at Twelve Pins, Connemara, Galway. It belongs to this genus by its well-developed paraphyses and by its muriform spores with many transverse septa and one or more longitudinal divisions. It differs from other species by the habitat and structure, and by the large subfusiform spores.

Microglæna Holliana, sp. n. Thallus effusus, albidus, tenuis vel obsoletus. Perithecia fusca, conica, semi-immersa, in statu humecta læte-brunnea, sparsa vel interdum conferta, raro due vel plura inter sese coherentia; tunica ad basim hyalina supra læte-brunnea; paraphysibus gracilibus paucis; ascis elongato-oblongis; sporis octonis, magnis, ellipsoideo-fusiformibus, interdum medio leviter constrictis, muriformibus, 0·050–60 mm. longis, 0·015–17 mm. latis, cellulis parvis.

Ad terram, ad thallum *Cladoniae*, ad muscos, &c.

Collected by the late H. B. Holl at Dolgelly, Merioneth. The squamules of the *Cladonia* are dotted with the clear brown conical perithecia.

Arthopyrenia areniseda, sp. n. Thallus albido-cinereus, continuus, granulatus, leviter furfuraceus. Perithecia minuta, nigra, semi-immersa, subglobosa, integra, ostiolo lato notata; paraphysibus numerosis, gracilibus, ramosis; ascis elongatis, utrinque angustatis, circa 0·140 mm. longis, 0·025 mm. latis; sporis

normaliter octonis, elongato-clavatis, sursum latioribus, interdum guttulatis, hyalinis, 1-septatis, majusculis, 0·032–37 mm. longis, 0·010 mm. latis.

Ad litora humida arenacea.

Collected at Formby, Lancashire, by Mr. J. A. Wheldon in spring. The thin grey thallus follows the inequalities of the substratum. The scanty algal symbiont, *Trentepohlia*, has the deep yellow colour of the gonidia characteristic of many maritime species. The perithecia are few and inconspicuous; the spores resemble in form those of *A. epidermidis*, but they are much larger.

Arthopyrenia foveolata, sp. n. Thallus tenuis subflavo-virescens vel obsoletus. Perithecia minuta, nigra submersa, foveolata, subintegra; tunica superne nigra ad basim brunnea; paraphysibus paucis vel obsoletis; ascis cylindraceo-clavatis, 0·070–80 mm. longis, 0·017 mm. crassis; sporis octonis, 1-septatis, hyalinis, oblongo-ovatis, utrinque angustatis, 0·015–18 mm. longis, 0·006–7 mm. latis.

Ad conchas mari ejectas.

Collected by Mr. E. M. Holmes at Robin Hood's Bay, Yorkshire. It differs from *A. litoralis*, which also grows on shells, in the size of the perithecia, and in their immersion in the substance of the shell.

ARTHOPYRENIA HALODYTES var. **HOLLII**, var. nov. Thallus lurido-nigrus, late effusus, minute rimoso-areolatus. Perithecia similia typi iis.

Ad saxa maritima.

Collected by the late H. B. Holl on rocks near the sea between Barmouth and Dolgelly, Merioneth. The thallus covers considerable patches with a thin blackish crust; the minute areolation is only visible under high magnification, but is sufficiently marked to give the whole plant a scabrid appearance.

Arthopyrenia Crombiei, sp. n. Thallus effusus, tenuis, subflavus, vel rubro-fuscus, subnitidus. Perithecia sparsa, minuta, hemispherica, dimidiata, immersa, ostiolo minuto notata; ascis obovato-cylindraceis, circa 0·055 mm. longis, 0·017–20 mm. latis; paraphysibus paucis, confertis; sporis octonis, oblongo-clavatis, 3-septatis, 0·020–22 mm. longis, 0·005–6 mm. latis.

Ad corticem arborum (*Abni*).

Collected by the late J. M. Crombie on the banks of the Garry, Blair-Athole, Perthshire. It is closely allied to *A. submicans*, but differs in the form of the spores, which tend to break up into halves, and also in the presence of the rather stoutish paraphyses.

Leptorhaphis Carrollii, sp. n. Thallus crustaceus, tenuis, subfuscus. Perithecia minuta, nigra, sparsa, hemispherica, immersa, dimidiata, ostiolo minuto notata; paraphysibus gracilibus, ramosis, confertis; ascis cylindraceis, circa 0·090–100 mm. longis, 0·010 mm. latis; sporis octonis, parallelo-dispositis, filiformibus, obscure multo-septatis, 0·050–80 mm. longis, 0·001–2 mm. latis, rectis vel curvatis.

Ad corticem arborum.

Collected by the late Isaac Carroll at Glenbower, Cork. It is distinguished from allied species by the long slender spores.

Microthelia dispersa, sp. n. Thallus cinereo-albidus, furfuraceus, tenuis vel obsoletus. Perithecia minuta, 0.150–200 mm. diam., globosa, nitido-nigra, semi-immersa, vel subsessilia, sub-integra; paraphysibus gracilibus, ramosis, confertis; ascis elongato-clavatis, 0.065 mm. longis, 0.015 mm. latis; sporis binis, oblongis, fuscis, majusculis, 1-septatis, 0.025–35 mm. longis, 0.010–12 mm. latis.

Ad saxa calcarea.

Apt to be confused with *Arthopyrenia saxicola*, under which species it had been classified by the late W. Joshua, who collected it at Sapperton, Gloucestershire.

Porina Curnowii, sp. n. Thallus olivaceo-fuscus, tartareus, tenuis, inæqualis, continuus vel rimosus. Perithecia sparsa, minuta, nigra, hemispherica, dimidiata, ad basim immersa, ostiolis minute papillatis, haud prominulis, notata; paraphysibus numerosis, gracilibus; ascis cylindraceo-clavatis, 0.080 mm. longis, 0.007–8 mm. latis; sporis octonis, anguste fusiformibus, 7- vel pluri-septatis, circa 0.052 mm. longis, 0.003 mm. latis.

Ad saxa.

Collected by the late W. Curnow on fragments of rock at Penzance. It differs from *P. lucens*, to which it is closely allied, by the size and form of perithecia and spores.

DESCRIPTION OF PLATE 510.

1. *Lecidea pleiospora*. Ascus and spores, $\times 550$. 2. *Gongylia viridis*. a, perithecium, $\times 100$; b, ascus and paraphyses, $\times 300$; c, spore, $\times 550$. 3. *Microglæna Lorbalestierii*. a, ascus; b, spores, $\times 550$. 4. *M. Holliana*. a, perithecium in section, $\times 100$; b, ascus, $\times 120$; c, spore, $\times 550$. 5. *Arthopyrenia areniseda*. Ascus and two of the spores, $\times 550$. 6. *A. Crombiei*. a, ascus; b, spore, $\times 550$. 7. *Leptorkaphis Carrollii*. a, ascus; b, spore, $\times 550$. 8. *Microthelia dispersa*. a, ascus and spores, $\times 550$. 9. *Porina Curnowii*. a, ascus and paraphyses, b, spore, $\times 550$.

THE PIMPERNELS.

By C. E. Moss, B.A., D.Sc.

MR. F. N. WILLIAMS, in the seventh part of his scholarly *Prodromus Floræ Britannicæ* (1910, 427, *et seq.*), gives a highly interesting account of the British forms of the Pimpernel. To the references he gives may be added the records of a blue Pimpernel near Cambridge, by Ray (Cat. 1660, 11), by J. Martyn (Meth. 1727, 71), by Relhan (Flo. Cantab. 1785, 86), and by Babington (Flo. Camb. 1860, 190). Babington states that "most, if not all, those gathered were blue-flowered *A. arvensis*." A blue Pimpernel still occurs in this locality; but it is rare. Hind (Flo. Suff. 1889, 285) may be added to the authorities mentioned by Mr.