

Hymenophyllum unilaterale Bory. 8. Streamlet on the Maam-turk range, near Maam.

Ceterach officinarum Willd. The only form that we observed in the west was var. *crenatum* Milde, which is common on the limestone. *A. Trichomanes* is very fine about Cong, the fronds being sometimes over a foot in length, and the pinnules much incised.

Cystopteris fragilis Bernh. Near Cong, both in Mayo and Galway, but uncommon.

Lastræa Oreopteris Presl. 8. About two miles N. of Maam. The var. *paleacea* of *L. Filix-mas* grows here, and also about Clonbur and Cong.

Phegopteris polypodioides Fée. 8. Between Clonbur and Mount Gable, and on the hill itself.

Ophioglossum vulgatum L. 8, 9. Damp hollows of the limestone S. of L. Mask.

Equisetum sylvaticum L. 8. Near Clonbur. — *E. limosum* L., var. *fluviatile* (L.). 8. In the river a little above Maam Bridge.

Lycopodium inundatum L. 8. Plentiful over a considerable area of the wet heath lying immediately W. of Maam. This station may be covered by the first reference in *Cybele*.

Pilularia globulifera L. 8. In a swamp adjoining L. Mask, about two miles north of Clonbur; on the N. shore of "the narrow lake"; and on wet sand by L. Mask at Maamtrasna.

Chara fragilis Desv. 8. In L. Corrib and L. Mask. — Var. *barbata* Gant. 9. Stream at Cong; S.E. end of L. Mask. — Var. *delicatula* Braun. 9. In the steamboat harbour, L. Corrib, near Cong, with *C. aspera* Willd. — *C. hispida* L., var. *rudis* Braun. 9. S.E. end of L. Mask.

Nitella opaca Agardh. 8. At the junction of the Maam river with L. Corrib. 9. Mill-pond at Cong, in two forms, one of which is of a remarkably light green for this species.

LICHENES ANTILLARUM A W. R. ELLIOTT COLLECTI.

EXPONIT EDV. A. WAINIO.

(Continued from p. 210.)

B. GRAPHIDEÆ.

1. GRAPHIS.

1. G. (GRAPHINA) *ELONGATA* Wain. Étud. Brés. ii. 107.

Var. *CONFUSIOR* Wain. Apotheciis brevioribus, circ. 5–1 millim. longis, magis flexuosis, parcius radiatim dispositis a forma typica hujus speciei differt. Ad corticem arboris prope Government House (900 ped. s. m.) in St. Vincent. Sporæ 4næ aut 2næ, long. 0.030–0.035, crass. 0.014–0.022 millim., septis transversalibus 6, cellulis circ. 6 in quavis serie, iodo cæruleo-violascentes. Thallus KHO lutescens et demum leviter rubescens.

2. *G. (GRAPHINA) SUBNITIDA* Nyl. in Leight. Lich. Amaz. 453, tab. lvi. fig. 14; Nyl. Lich. Fueg. 34, Lich. Guin. 49. Ad corticem arboris in Morne Couronne in Dominica (n. 171). Perithecium pallidum, tenuissimum, basi deficiens. Apothecia labiis conniventibus, demum leviter hiantibus, tenuibus, thallo concoloribus, modice elevatis instructa, 1-0.5 millim. longa, approximata. Thallus glaucescenti-pallidus, tenuis, nitidiusculus aut sat opacus. Sporæ 8næ, decolores, subfusiformes, long. 0.030-0.036, crass. 0.012-0.014 millim., murales, cellulis haud numerosis, septis transversalibus 6, loculis mediis septa una longitudinali divisis, iodo haud reagentes (metaplasmate ascorum iodo rubente).

3. *G. (PHÆOGRAPHIS) DIVERSA* Nyl. Syn. Lich. Nov. Cal. 74. *Phæographis* Müll. Arg. Lich. Beitr. n. 455; Fl. 1888, 522. *Lecanactis exaltata* Mont. et v. d. Bosch test. Nyl. et Hue, Lich. Exot. 239. Ad corticem arboris in Morne Anglais in Dominica (n. 526). Apothecia disco plano, nigro, epruinoso, margine thallo concolore, esorediato. Perithecium fuliginium, integrum, in labiis amphithecio thallino obductum. Sporæ fuscescentes, pluriseptatæ, long. 0.030-0.042, crass. 0.010-0.013 millim.

4. *G. (PHÆOGRAPHIS) albida*, sp. n. Thallus tenuis, lævigatus aut sat lævigatus, nitidiusculus, albidus aut pallescenti-albidus, KHO sordide fulvescens. Apothecia vulgo sat approximata, elongata, simplicia aut ramosa, vulgo flexuosa curvatave, long. 5-1 millim., latit. 0.3-0.25 millim., elevata adpressaque, labiis conniventibus, lævigatis aut demum fissura tenui apud rimam discoideam instructis, basi abruptis, thallo concoloribus, esorediatis. Perithecium tenue, pallidum et partim pallido-fuscescens, in labiis amphithecio thallino et cellulas substrati continente obductum. Discus rimæformis, inconspicuus aut nigricans. Sporæ 8næ, demum fuscescentes, oblongæ aut fusiformi-oblongæ, membrana incrassata, long. 0.026-0.028, crass. 0.008-0.012 millim., septis 5-7. Hymenium iodo cærulescens. Paraphyses apice clavatæ, clava fuscescente, 1-septata. Ad corticem arboris in Morne Anglais in Dominica (n. 528).

5. *G. (PHÆOGRAPHIS) MEDUSÆFORMIS* Krempelh. Fl. 1876, 416; Wain. Etud. Brés. ii. 115. Ad corticem arboris in Morne Anglais in Dominica planta huic speciei proxime affinis, at disco apotheciorum nigro nudo ab ea differens, parce lecta est. Sporæ 4næ, 7-septatæ, long. 0.025-0.030, crass. 0.009-0.010 millim. Variatio sit hujus speciei.

6. *G. (PHÆOGRAPHIS) TRICOSA* Ach.; Wain. l.c. 116. Ad corticem arboris in Château Belair in St. Vincent.

7. *G. (PHÆOGRAPHIS) rosea*, sp. n. Thallus tenuis, lævigatus, nitidiusculus, pallidus aut glaucescenti-pallidus, KHO non reagens. Apothecia increbra, elongata, long. circ. 15-5 millim., parce ramosa aut simplicia, flexuosa, lirellas roseas, 0.5-1 millim. latas formantia. Perithecium laterale tenue, fusco-nigrum, basale albidum, in labiis conniventibus, modice elevatis et basi sensim in thallum abeuntibus, amphithecio thallino, extus roseo, lævigato, obductum. Discus rimæformis, angustus, immersus, pallescens aut obscuratus. Sporæ

8næ, fuscescentes aut pallidæ, ellipsoideæ, membrana incrassata, long. 0·013–0·018, crass. 0·009–0·012 millim., 3-septatæ, iodo cæruleo-violascentes, fere distichæ. Hymenium iodo haud reagens. Epithecium decoloratum. Asci subcylindrici. Ad corticem arboris in Morne Anglais in Dominica (n. 523). Apotheciis extus roseis majusculis facile dignota.

8. G. (SCOLÆCOSPORA) COOPERTA Zenk. in Goeb. Pharm. Vaarenk. i. 187, tab. 24, fig. 3; Müll. Arg. Graph. Féean. 31. Ad corticem arboris in Morne Anglais in Dominica. Thallus glaucescenti-albidus, sat tenuis, nitidulus, leviter inæqualis. Apothecia long. 2–0·7 millim., latit. 0·4–0·5 millim., flexuosa curvatave, elevata, labiis arcte conniventibus, basi abruptis. Perithecium fuligineum, integrum, crassum, amphithecio thallino, lævigato, fere omnino obductum aut apice anguste denudatum, lævigatum. Sporæ long. circ. 0·052–0·095, crass. 0·011–0·012 millim., 16–17-septatæ (raro –9-septatæ), iodo cæruleo-violascentes, 8næ, decolores.

9. G. (SCOLÆCOSPORA) TENELLA Ach.; Wain. Étud. Brés. ii. 121. Ad corticem arborum pluribus locis in St. Vincent (n. 128 et 450).

10. G. (SCOLÆCOSPORA) DUPLICATA Ach. Syn. Lich. 81 (secund. herb. Ach.); Müll. Arg. Graph. Féean. 34. Thallus albidus, tenuis, lævigatus aut sat lævigatus, nitidiusculus. Apothecia vulgo sat approximata, elongata, long. circiter 3–1 millim. vel breviora, latit. 0·25–0·2 millim., pr. p. apicibus sensim attenuatis, simplicia aut parce ramosa, recta aut curvata, semi-immersa. Perithecium fuligineum, dimidiatum, basi deficiens, labiis conniventibus, longitrorsum bene aut parce sulcatis, parte superiore late denudatis, basi amphithecio thallino sat anguste obductis. Discus rimæformis, inconspicuus. Sporæ 8næ, decolores, long. 0·040–0·050, raro –0·020 millim., crass. 0·010 aut raro –0·007 millim., septis 10–12, raro –5, halone indutæ, iodo violaceo-cærulescentes (halone haud reagente). Paraphyses apice fuscescenti-clavatæ. Ad corticem arboris in Roseau Valley in Dominica (n. 125).

11. G. (SCOLÆCOSPORA) BONPLANDIÆ (Fée) Müll. Arg. Graph. Féean. 36. Ad corticem arboris in Morne Trois Pitons in Dominica (n. 533). Thallus flavescenti-glaucescens aut partim obscuratus, sat lævigatus, nitidiusculus. Apothecia increbra aut sat approximata, long. 3–0·8 millim., vulgo simplicia, rectiuscula aut curvata, lirellas 0·5–0·8 millim. latas formantia, labiis conniventibus et sæpe demum partim mediove leviter hiantibus, modice elevatis et basi sensim in thallum abeuntibus, thallo concoloribus, crassiusculis. Perithecium pallidum, in labiis amphithecio thallino obductum. Discus rimæformis aut angustus, immersus, obscuratus. Sporæ 8næ, decolores, monostichæ, ellipsoideæ, membrana incrassata, 3-septatæ, long. 0·015–0·025, crass. 0·010–0·018 millim., iodo sat dilute cærulescentes (etiam membrana incrassata dilute cærulescente). Hymenium parte superiore partim pallidum, partim decoloratum, iodo haud reagens.

12. G. (SCOLÆCOSPORA) LACTEA (Fée) Nyl.; Müll. Arg. Graph. Féean. 37. Ad corticem arboris in Morne Trois Pitons in Dominica (n. 535). Thallus albidus, lævigatus, nitidiusculus, tenuis. Apo-

thecia numerosa, simplicia, long. circ. 1-0·3 millim., subrecta aut subflexuosa, thallo immersa, labiis indistinctis. Discus apertus, circ. 0·25-0·2 millim. latus, leviter impressus aut thallum subæquans, obscuratus, epruinus. Hymenium circ. 0·100 millim. crassum, superne olivaceum, iodo haud reagens. Perithecium pallidum, latere basin versus iodo cærulescens, parte superiore vinose rubens. Sporæ 8næ, decolores, long. 0·018-0·022, crass. 0·008-0·009 millim., 3-septatæ, distichæ. Asci clavati. Disco obscuriore apotheciorum et sporis paullo majoribus a *G. lactea* (Fée) differt, at variatio sit ejus. Nominetur var. *dominicana* Wain.

13. *G. (SCOLÆCOSPORA) GRAMMITIS* Fée; Wain. Étud. Brés. ii. 126. Ad corticem arboris in Richmond Valley in St. Vincent. Male evoluta et sine sporis (n. 248).

14. *G. (GLYPHIS) CICATRICOSA* (Ach.) Wain. var. *SIMPLICIOR* Wain. l. c. 127. Ad corticem arboris in Emsol Estate in Dominica (n. 540).

2. OPEGRAPHA.

1. *O. CYLINDRICA* Raddi; Wain. Étud. Brés. ii. 132. Ad corticem arborum ad Government House, 900 ped. s. m. (n. 124), et in Richmond Valley (n. 245) in St. Vincent.

2. *O. sexocularis*, sp. n. Thallus tenuis, glaucescenti-albidus. Apothecia subsolitaria, elevata, vulgo elongata, long. 1-0·2 millim., latit. 0·2 millim., simplicia aut parce ramosa, recta aut curvata. Perithecium integrum, fuligineum, labiis conniventibus aut demum rima angusta levissime hiantibus. Discus rimæformis, nigricans. Hymenium iodo vinose rubens. Sporæ 8næ, decolores, fusiformes, long. 0·027-0·030 millim., crass. 0·005 millim., 5-septatæ, halone tenui indutæ, cellulis fere æque longis. Ad corticem arboris in Union Island prope St. Vincent (n. 280 pr. p.). Habitu vix differt ab *O. cylindrica* (*O. Bonplandi* Fée). Perithecium KHO smaragdulo-fuligineum.

3. *O. brachycarpoides*, sp. n. Thallus tenuissimus, rufescenti-obscuratus, aut parum distinctus. Apothecia subsolitaria, elevata, elongata, long. 0·9-0·3 millim., latit. 0·15 millim., simplicia aut parce ramosa, recta aut curvata. Perithecium integrum, fuligineum, labiis arcte conniventibus. Discus rimæformis, nigricans. Hymenium iodo vinose rubens (hypothecium subhymeniale iodo cærulescens). Sporæ 8næ, decolores, fusiformes, apicibus obtusis, long. 0·014-0·026, crass. 0·005-0·007 millim., 3-5-septatæ, halone sat tenui indutæ, cellula mediana reliquis longiore. Ad corticem arboris in Walleboo Valley in St. Vincent (n. 449). Ab *O. brachycarpa* Müll. Arg. Lich. Beitr. n. 158, apotheciis clausis, pr. p. longioribus, et sporis crassioribus differt.

4. *O. navicularis*, sp. n. Thallus tenuis aut tenuissimus, glaucescenti-albidus. Apothecia subsolitaria, elevata, oblonga aut pr. p. rotundata, long. 0·5-0·15, latit. 0·2-0·15 millim., simplicia, recta aut leviter curvata. Perithecium integrum, fuligineum (basi fuscescens), labiis primum conniventibus, demum hiantibus, tenuibus. Discus demum apertus, planiusculus, nigricans, epruinus. Hymenium iodo vinose rubens. Hypothecium (et perithecium basale)

dilutius fuscescens. Paraphyses ramoso-connexæ. Sporæ 8næ, decolores, fusiformes, apicibus obtusis, long. 0·014–0·017, crass. 0·004–0·005 millim., 3-septatæ, halone tenui indutæ. Ad corticem arboris in Union Island prope St. Vincent (n. 280 pr. p.), una cum *O. sexloculari*.

5. *O. sordidescens*, sp. n. Thallus tenuis, glaucescens. Apothecia numerosa crebraque, elevata, long. 0·7–0·2, latit. 0·3–0·2 millim., oblonga et pr. p. rotundata, simplicia aut subsimplicia, recta aut leviter curvata. Perithecium integrum, fuligineum, labiis arcte conniventibus. Discus rimæformis, inconspicuus. Hymenium iodo vinose rubens. Paraphyses ramoso-connexæ. Sporæ 8næ, dilute fuscæ (in KHO pr. p. decoloratæ), aciculari-fusiformes, apicibus obtusis, long. 0·034–0·054, crass. 0·003–0·0045 millim., 7-septatæ, halone nullo indutæ, cellulis fere æque longis. Ad corticem arboris prope Government House in St. Vincent. Ad subg. *Sclerographam* Wain. Etud. Brés. ii. 136, pertinet.

6. *O. FILICINA* Mont.; Wain. Étud. Brés. ii. 133 (*Opegraphella* Müll. Arg. Lich. Beitr. n. 1540). Ad folia arborum in Dominica et ad Bonhomme Woods in St. Vincent. Perithecium dimidiatum. Gonidia phycopeltidea. Huc etiam pertinet *O. phyllobia* Nyl. Fl. 1874, 73, et Wain. *l. c.* (gonidia phycopeltidea, nec chroolepoidea), conf. Müll. Arg. *l. c.*

3. CHIODECTON.

1. *C. (ENTEROGRAPHIA) rufescens*, sp. n. Thallus tenuis, albido-glaucescens, crebre contextus, hypothallo evanescente aut tenui nigricante crebre contexto limitatus. Apothecia thallo immersa, approximata, elongata, long. 1·5–0·3 millim., abundanter radiatim et dichotome ramosa, flexuoso, disco rufescenti-testaceo, epruinoso, 0·05 millim. lato, thallum æquante. Hypothecium albidum. Perithecium indistinctum. Hymenium iodo persistenter cærulescens (demum obscuratum), ascis vinose rubentibus. Sporæ 8næ, decolores, ovoideo-oblongæ, long. 0·015–0·019, crass. 0·007 millim., 3-septatæ, cellula apicis superioris reliquis longiore crassioreque, iodo non reagentes, polystichæ. Asci obovoidei, membrana leviter incrassata apicem versus. Ad corticem arboris in Emsol Estate in Dominica.

2. *C. (BYSSOPHORUM) CINERITUM* (Ach.) Wain. *Parmelia cineritia* Ach. Syn. Lich. 201, secund. specim. orig. in herb. Ach. (conf. Wain. Étud. Brés. ii. 143), *C. diplosporum* Nyl. Fl. 1886, 104 (Wright, Lich. Cub. n. 179, suppl. n. 3). Thallus crassitudine mediocris, sat laxè contextus, cinereo-glaucescens aut sordide albido-glaucescens, hypothallo laxissime contexto, infra thallum nigricante, ad ambitum cinerascens aut nigricante aut rarius subalbido. Pseudostromata elevata, rotundata aut difformia, demum depresso-convexa, basi demum abrupta aut leviter constricta, extus et intus albida, gonidiis chroolepoideis superficiem versus instructa, circ. 2–0·5 millim. lata, hymenia numerosissima aut rarius pauciora continentia. Disci punctiformes, minutissimi, impressi, epruinosi. Perithecium latere tenue, basi sat tenue, fusco-fuligineum. Hypothecium albidum, tenue (dilute fuscescens in Wright, Lich. Cub.

n. 179). Hymenium circ. 0·080 millim. crassum, decoloratum, raro morbose fuscescens, iodo vinose rubens. Paraphyses ramoso-connexæ. Asci clavati. Sporæ 8næ, polystichæ, medio valde attenuatæ, quasi e duabus sporis fusiformi-acicularibus connatis formatæ, parte crassiore superioreque 2-septatæ, cauda sive parte tenuiore simplice aut 1-2-septata, decolores, long. 0·042-0·044 millim., crass. parte superiore 0·003-0·004 millim., parte media 0·0007 millim., parte inferiore 0·002 millim., apicibus obtusis.

Var. CORALLINUM Wain. Thallus isidiis plus minusve instructus. Isidia long. circ. 0·7 millim. aut breviora, crass. circ. 0·2 millim. Ad corticem arboris in Richmond Valley (n. 269) fertile et ad rupem prope Baleine Falls (n. 268) sterile in St. Vincent. Huc etiam Wright, Lich. Cub. suppl. n. 3, et specim. orig. *P. cineritiæ* Ach. pertinent. Wright, Lich. Cub. n. 179 ad var. *denudatum* Wain., isidiis destitutum, pertinet.

3. C. (BYSSOPHORUM) SANGUINEUM (Sw.) Wain. Étud. Brés. ii. 143. Ad corticem arboris in Morne Anglais (2000 ped. s. m.) in Dominica (n. 520).

Var. LUTESCENS Wain. Thallus superne lutescens aut glaucescenti-lutescens, aut isidiis pro minore parte etiam rubescentibus, hypothallo lutescente. Ad corticem arboris in Morne Couronne (n. 160) et ad Basin Will (n. 545) in Dominica.

4. C. (MAZOSIA) STRIGULINUM (Nyl.) Wain. *l. c.* 147.

f. *granularis* Müll. Arg. Lich. Beitr. n. 1533. Ad folia arboris in Bonhomme Woods in St. Vincent (n. 351). Thallus continuus, verruculis sparsis instructus.

f. *lævis* Müll. Arg. *l. c.* Ad folia arboris in Bonhomme Woods in St. Vincent. Thallus continuus, lævigatus.

Subgenus *Mazosia* perithecio proprio laterali fusco et magis evoluto et apotheciis typice angulosis ab *Ectolechiis* differt et affinitatem cum *Chiodectone* ostendit, at habitu etiam *Ectolechiæ* valde est simile.

4. ARTHONIA.

1. A. (ALLARTHOTHELIUM) *Elliottii*, sp. n. Thallus crassiusculus aut mediocris, verrucoso-rugosus et demum verrucoso-areolatus superficie partim demum farinoso-sorediosa, glaucescens aut sordide albidus, sorediis glauco-virescentibus, hypothallo albo. Apothecia aggregata verrucis 0·5-1·5 millim. latis immersa, rotundata aut difformia, 0·3-0·1 millim. lata, disco plano, fusco-nigro, opaco, superficiem verrucæ æquante. Hypothecium fuscescens. Hymenium parte superiore fuscescens, iodo cærulescens, ascorum protoplasmate vinose rubente. Paraphyses ramoso-connexæ. Asci late clavati, membrana apice primum bene incrassata, demum tota extenuata. Sporæ 8næ, decolores, oblongæ aut ovoideæ, halone vix ulla indutæ, murales, cellulis numerosis, in seriebus transversalibus 8-10, long. 0·024-0·028, crass. 0·009-0·012 millim. Gonidia protococcoidea, globosa, membrana tenui. Medulla thalli iodo intense cærulescens. In rupe ad Boery River in Dominica (n. 154), una cum *Urceolaria actinostomate*. In subg. *Allarthothelio* Wain. gonidia sunt protococcoidea et sporæ murales.

2. *A. (EUARTHONIA) SUBSTELLATA* (Ach.) Nyl. *A. conferta* (Fée) Nyl.; Müll. Arg. Graph. Féean. 55; Willey, Syn. Arth. 12. Ad corticem arboris in Anguilla (n. 74 et 77 pr. p.). Thallus iodo cærulescens. Hypothecium pallidum. Hymenium iodo persistenter cærulescens, sporis vinose rubentibus. Sporæ primum 3- et 4-septatæ, demum 5-septatæ, long. 0·014–0·022, crass. 0·006–0·007 millim., ovoideo-oblongæ, cellulis 2 medianis reliquis longioribus.

3. *A. (ARTHONIOPSIS) microsticta*, sp. n. Thallus tenuissimus, continuus, lævigatus, glaucescens, gonidia phycopeltoidea continens. Apothecia sat approximata, anguloso-rotundata aut pr. p. difformia, diam. 0·25–0·1 millim., disco nigro aut fusco-nigricante, nudo, plano, opaco. Hypothecium fuscescens. Hymenium 0·020–0·025 millim. crassum, parte superiore fuscescens, iodo vinose rubens. Asci pyriformes, membrana sat tenui. Sporæ 8næ, decolores, ovoideo-oblongæ aut oblongæ, 1-septatæ, medio leviter constrictæ, long. 0·008–0·010 millim., crass. 0·003–0·0035 millim., cellulis æque longis. Ad folia arboris in Dominica. *A. leptospermata* (Müll. Arg.) Lich. Epiph. 17, et *A. aciniformi* Stirt. Lich. Leav. Amaz. 7, affinis est.

II. PYRENOLICHENES.

1. VERRUCARIA.

1. *V. ÆTHIOBOLIZA* Nyl. Fl. 1886, 322. Thallus tenuis, sub-continuus aut rimoso-diffractus aut subdispersus, cæcio-cinereus aut cæcio-glaucescens, lævigatus, sat opacus, hypothallo indistincto. Apothecia crebra, verrucas hemisphæricas, 0·3–0·25 millim. latas, atras, nitidulas, vertice convexas formantia. Perithecium fuligineum, integrum. Nucleus hemisphæricus, iodo vinose rubens aut violascens. Paraphyses haud evolutæ. Periphyses breves, simplices, parti superiori perithecii affixæ. Asci clavati. Sporæ 8næ, ellipsoideæ aut oblongæ aut oblique oblongæ, decolores, simplices, distichæ, long. 0·018–0·013, crass. 0·009–0·005 millim., apicibus obtusis aut rotundatis. In rupe ad Château Belair in St. Vincent, una cum *Placodio diplacioide*. Forsan est variatio *V. æthiobolæ* Ach. (Wain. Adj. Lich. Lapp. ii. 173).

2. STAUROTHELE.

1. *S. acarosporoides*, sp. n. Thallus squamuloso-areolatus, areolis circ. 1–2 millim. latis, difformibus, angulosis aut demum sublobatis, adpressis, planiusculis, testaceo- aut cinereo-fuscescentibus, sat opacis, subcontiguis aut subdispersis, crassitudine mediocribus. Apothecia thallo immersa, apice nigricante haud aut leviter prominente. Perithecium globosum, fusco-fuligineum, integrum. Paraphyses nullæ. Periphyses in parte apicali perithecii numerosæ, breves. Gelatina hymenialis iodo intense cærulescens. Gonidia hymenialia numerosissima, globosa aut ellipsoidea, simplicia, long. 0·002–0·003, crass. 0·002–0·0015 millim., virescentia. Sporæ binæ aut singulæ, fuscescentes, murales, long. 0·030–0·035, crass. 0·012–0·016 millim., ellipsoideæ aut oblongæ, apicibus rotundatis, cellulis numerosissimis. Gonidia thalli pleurococcoidea, cellulis singulis aut binis, diam.

0.005–0.007 millim. Thallus parenchymaticus, fere homœomericus, inferne hyphis nigricantibus substrato affixus, circa apothecia strato corticali subamorpho obductus. Ad cementum muri in Kingstown in St. Vincent (n. 289). Habitu subsimilis est *Acarospora fuscata*.

Var. *PALLESCENS* Wain. Thallus pallidus, pr. p. distincte squamosus. Sporæ decolores aut pr. p. pallidæ. Locis umbrosis ad lapides in Fort Charlotte in Kingstown in St. Vincent (n. 258) una cum *Lecidea variabili*.

3. NORMANDINA.

1. *N. PULCHELLA* (Borr.) Leight.; Wain. Étud. Brés. ii. 188. Ad corticem arborum in Roseau Valley in Dominica.

4. BOTTARIA.

1. *B. LIBRICOLA* (Fée) Wain. *Pyrenula* Fée, Ess. Crypt. Ecorc. ii. 82; Müll. Arg. Rev. Lich. Mey. 318. *Verrucaria* Nyl. Syn. Lich. Nov. Cal. 87. *Anthracothecium libricolum* Müll. Arg. Pyr. Cub. 415; Pyr. Féean, 36. *Verrucaria aspistea* Nyl. Exp. Pyrenoc. 43 (haud Ach.). Ad corticem arboris in Anguilla (n. 73). Thallus albidus et partim flavido-pallescent. Apothecia aggregata, primum immersa et demum emergenti-semi-immersa, circ. 0.340 millim. lata. Perithecium integrum, fuligineum, globosum. Sporæ 8næ, fuscescentes, murales, long. 0.035–0.048, crass. 0.014–0.019 millim., septis transversalibus 7. Paraphyses simplices.

5. PYRENULA.

1. *P. MARGINATA* (Hook.) Trev.; Wain. Étud. Brés. ii. 200. Ad corticem arboris in Morne Trois Pitons (4500 ped. s. m.) in Dominica (n. 531).

2. *P. KUNTHII* Fée; Wain. *l. c.* 201. Ad corticem arboris in Richmond Valley in St. Vincent (n. 238).

3. *P. MAMILLANA* (Ach.) Trev.; Wain. *l. c.* Ad corticem arborum in Roseau Valley in Dominica (n. 122) et in Richmond Peak in St. Vincent (cum n. 265).

4. *P. aggregans*, sp. n. Thallus hypophlœodes aut endophlœodes, macula pallido-albescente et partim glaucescente indicatus, nitidulus, hypothallo nigricante limitatus. Apothecia minutissima, 0.3–0.25 millim. lata, verrucas atras conoideo-hemisphæricas formantia, crebre aggregata, parcius etiam confluentia. Perithecium elevato-hemisphæricum aut depresso-subglobosum, fuligineum, integrum. Sporæ 8næ, fuscescentes, fusiformi-ellipsoideæ, long. 0.013–0.015, crass. 0.007–0.008 millim., 3-septatæ, loculis regularibus aut sæpe irregularibus obliquisque. Paraphyses simplices. Ad corticem arboris in Morne Trois Pitons in Dominica (n. 534). Potius ad stirp. *Pyramidalem* Müll. Arg. quam *Subglobosam* Müll. Arg. pertinet. A *P. subaggregata* Müll. Arg. Pyr. Cub. 410, apotheciis nudis, nec thallino-velatis, differt.

5. *P. BONPLANDIÆ* Fée; Müll. Arg. Pyr. Féean. 31. *P. aspistea* Ach. Syn. Lich. 123 pr. p. Ad corticem arboris in Morne Anglais in Dominica (n. 529).



Vainio, Edv. A. 1896. "Lichenes Antillarum a W.R. Elliott collecti." *Journal of botany, British and foreign* 34, 258–266.

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