

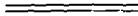
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Additamenta

ad Lichenographiam Antillarum illustrandam

Scriptis

Edv. A. Wainio



Helsingforsiae

Sumptibus Academiae Scientiarum Fennicae

En 1895 et 1896, j'ai publié dans le „Journal of Botany“ un mémoire concernant les lichens des îles Saint-Vincent et Dominique („*Lichenes Antillarum a W. R. Elliott collecti*“).

Ayant eu, plus tard, l'occasion d'étudier deux grandes collections de lichens recueillis dans d'autres îles des Indes Occidentales, je présente ici une continuation du précédent mémoire sous forme d'un catalogue de ces nouvelles collections.

C'est l'abbé R. P. Duss, professeur au collège diocésain de Basse-Terre à la Guadeloupe, qui m'a envoyé l'une de ces collections, recueillie par lui en 1898—1900 à la Guadeloupe et par le lieutenant au service du Camp Balata à la Martinique.

Les éruptions volcaniques ayant, depuis ce temps, dévasté une partie des Petites Antilles et recouvert des vastes étendues d'épaisses couches de cendres dans ces îles, il est possible que certaines espèces de cette collection n'existent plus dans la nature. Peut-être par suite de la catastrophe des Antilles, l'abbé Duss a été obligé d'interrompre ses explorations si utiles à la science, en quittant les Indes Occidentales, pour se rendre dans l'Amérique du Sud, où il n'a pas continué ses relations avec les naturalistes d'Europe, de sorte qu'on ignore actuellement s'il a pu sauver son herbier précieux, où se trouvaient les doubles des échantillons numérotés qu'il m'a envoyés:

L'autre collection soumise à mes études appartient au musée de Copenhague. Elle a été recueillie principalement par le professeur C. Raunkiaer et le docteur F. Boergesen dans les îles danoises Saint-Thomas, Sainte-Croix (Santa Cruz) et Saint-Jean (San Jan) en 1905 et 1906, et, en échantillons plus ou moins

nombreux, à Sainte-Croix en 1895 et 1896 par Ove Paulsen, à Saint-Thomas en 1875—1877, à la Tortola en 1887, dans les îles de New-Providence en 1866, de Fortune-Island et de Hog-Island en 1888 par H. F. A. Eggers, à Saint-Thomas et dans les îles Vierges par Hornbeck, à la Guadeloupe en 1787 par Isert, à la Trinidad en 1891 et 1892 par H. Lassen, à la Jamaïque par F. Boergesen (en 1906), par H. F. A. Eggers (en 1888), par O. Hansen et par Isert, à Saint-Domingue par C. Raunkiaer en 1906.

De même, plusieurs échantillons recueillis à la Dominique par W. R. Elliott en 1896 sont mentionnés dans ce mémoire.

Le manuscrit a été terminé au mois de mai 1911, mais, pour plusieurs raisons, sa publication a été retardée.

Helsingfors le 1 novembre 1914.

Lichenes.

I. DISCOLICHENES.

A. *Cyclocarpeae*.

Trib. 1. *Parmelleae*.

1. *Usnea*.

1. *U. barbata* Hoffm., *Deutschl. Fl.* (1796) p. 132.

F. dasypoga Ach.

Thallus pendulus, ramis adventitiis spinulaeformibus parum evolutis aut parvis, soraliis verrucaeformibus minutis crebre interspersus, ramulis isidioideis e soraliis enatis passim numerosissimis crebrisque. Stratum myelohyphicum crebre contextum, KHO lutescens, dein rubescens (tantum in partibus junioribus).

In arboribus ad La Cumbra in S. Domingo (n. 494: C. Raunkiaer). *Magis atypica*, thallo parcius verruculoso neque spinuloso in Jamaica (F. Boergesen). Ster.

2. *U. florida* (L.) Wain.

Var. *subcomosa* Wain. (Wain., *Lich. Bras. Exs.* n. 387, 974, 1527).

Stratum myelohyphicum crebre contextum, KHO lutescens (haud crystallae rubrae formans).

In „*U. plicata* b. *comosa*“ secundum specimen e Suecia in herb. Ach. stratum myelohyphicum crebrum, KHO non reagens, at in specimine dextro item e Suecia stratum myelohyphicum KHO levissime lutescens.

In arboribus in monte Conliabon, 3700 p. s. m., in Dominica (1586, 1930 p. p.: W. R. Elliott), ad Barrabas (478) et La Cumbra (500 p. p.) in S. Domingo (C. Raunkiaer), ad New Castle (3533) et Flamstead, 3000 p. s. m. (3529), in Jamaica (H. F. A. Eggers). Locis numerosis in Jamaica etiam a F. Boergesen lecta. Interdum fert.

3. **U. perplexans** (Stirt.) Wain. (Étud. Lich. Brés. I p. 5, Lich. Bras. Exs. n. 272).

Stratum myelohypticum crebre contextum, KHO lutescens, dein rubescens. Axis chondroideus mediocris. Thallus spinulis nullis aut parcis instructus.

Ad ramos arborum in Jamaica (F. Boergesen). Ad Clusiam roseam prope Bains-Jaunes, 1040 m. s. m., in Guadalupa (1034: P. Duss). Etiam fert.

F. dasycera Nyl. apud Cromb., Enum. Lich. Falkl. (Journ. of Bot. 1877) p. 226 (secund. specim. orig. in herb. Nyl.). **U. florida* var. *perplexans* f. *spinulifera* Wain., l. c. p. 6.

Thallus demum creberrime spinulosus. Stratum myelohypticum crebre contextum, KHO lutescens, dein rubescens.

Ad ramos arborum in La Cumbra in S. Domingo (468, 500: C. Raunkiaer).

4. **U. australis** Fr., Syst. Orb. Veg. (1825) p. 282. *U. barbata* v. *australis* Müll. Arg., Lich. Beitr. (Fl. 1887 p. 57) n. 1066. **U. florida* v. *australis* Wain., Cat. Welw. Afr. Pl. Lich. (1901) p. 396. *U. microcarpa* Pers. in Gaudich. Voy. Uran. (1826) p. 210 (medulla laxa, KHO —: specim. orig. in herb. Nyl.).

Stratum myelohypticum laxo contextum, KHO lutescens. Axis chondroideus tenuis.

Ad ramos arborum in Jamaica (F. Boergesen). Ad Illicem nitidam in Houelmont, 450 m. s. m., in Guadalupa (552: P. Duss).

5. **U. cinchonarum** (Fée) Wain. *U. florida* var. β . *Cinchonarum* Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 133 (secund. specim. orig. in herb. Müll. ad f. *subinermem* Wain. pertinet, conf. Müll.

Arg., Lich. Beitr. n. 1065, Fl. 1887 p. 57). *U. australis* **U. cinchonarum* Wain., Lich. Ins. Philipp. (1909) p. 652 (obs. errat. typogr.). *U. florida* v. *subelegans* Wain., Étud. Lich. Brés. I p. 6.

F. subnervis Wain., l. c. p. 7.

Stratum myelohyphicum laxè contextum, KHO lutescens, dein rubescens. Axis chondroideus tenuis aut sat tenuis.

Ad ramos arborum in Jamaica (F. Boergesen).

5. ***U. glabrata*** (Ach.) Wain. *U. plicata* e. *U. glabrata* Ach., Lich. Univ. (1810) p. 624 (in specim. orig. ex Helvetia thallus erectus, laevigatus aut basin versus parce verruculosus, apicem versus solediosus, spinulis passim parce instructus, axi chondroideo tenui; stratum myelohyphicum laxè contextum, KHO lutescens). *U. xanthopoga* Nyl., Lich. Campbell (Compt. Rend. Ac. Sc. 1876) p. 2 (secund. n. 36338 in herb. Nyl.).

Ad ramos arborum in Jamaica (F. Boergesen) et ad Conliabon, 3700 p. s. m., in Dominica (1930 pr. p.: W. R. Elliott).

6. ***U. gracilis*** Ach.

Var. **Achariana** Wain.

Secundum specim. orig. e Borbonia in herb. Ach. stratum myelohyphicum crebrum, KHO non reagens, thallus solediiis et verruculis destitutus, dichotome ramosus, ramis primariis 0.2 millim. crassis, ramis adventitiis parcissimis.

Var. **subplicata** Wain.

Stratum myelohyphicum crebre contextum, KHO leviter lutescens, post tempus longius demum aurantiaco-rubescens, crystallia rubra nulla formans. Axis chondroideus jodo haud reagens.

Ad ramos arborum in Jamaica (F. Boergesen). Ster.

7. ***U. subgracilis*** Wain. (n. sp.).

Habitu similis *U. gracili* Ach., at reactionibus ab ea differens. Stratum myelohyphicum crebre contextum, KHO intense lutescens, dein mox rubescens, solutionem rubescentem et granula rubra, subglobosa, minutissima formans. Axis chondroideus jodo haud reagens.

—Thallus long. circ. 100—150 millim., pendulus, ramis primariis crass. circ. 0.4—0.6 (—0.7) millim., dichotome ramosus, ramis adventitiis nullis aut passim parce evolutis aut raro passim sat crebris, circ. 2—4 millim. longis, tenuibus, laevigatus, sorediis verrucisque destitutus. Axis crassitudine mediocris (mesinus).

In ramibus arborum in Jamaica (F. Boergesen) et in Martinnica (87: Isert). Ster.

8. *U. trichodea* Ach., Meth. Lich. (1803) p. 312.

Var. *Boergesenii* Wain.

Habitu similis *U. trichodeoidi* Wain., at axi chondroideo thalli jodo non reagente ab ea differens. — In *U. gracilem* transire videtur. Thallus pendulus, long. circ. 200 millim., parce dichotome ramosus, ramis primariis circ. 0.4—0.7 millim. crassis, ramis adventitiis circ. 2—20 millim. longis crebre instructus, teres, laevigatus, verrucis sorediisque destitutus. Stratum myelohyphicum crebre contextum, KHO lutescens, demum (post tempus longius) aurantiacorum rubescens. Axis chondroideus crassitudine mediocris (mesinus) aut comparate sat crassus (pachynus). Reactione a var. *primaria* distinguitur. Ramis adventitiis numerosis ab *U. gracili* differt. In *U. trichodea* Ach. secundum specimen orig. e Nova Scotia (lectum a Menzies) in herb. Ach. thallus jodo non reagens, extus laevigatus, ramis adventitiis spinaeformibus sat numerosis, stratum myelohyphicum crebre contextum, KHO haud distincte reagens, apothecia spinulis vulgo 3—4 ornata, subtus laevigata (var. *primaria* Wain.). In specimine a Persoon misso, in Capite Bonae Spei lecto, in herb. Ach. axis chondroideus jodo intense caerulescens. Hoc specimen ad *U. trichodeoidem* Wain. pertinet (= *U. trichodea* Nyl., Syn. Lich. p. 270, pr. maj. p., cet. auct.). — *U. trichodea*, errato typographico in Wain. Lich. Ins. Philipp. I p. 653 commemorata, nominanda est *U. trichodea* **U. ciliata*.

Ad ramos arborum in Jamaica (F. Boergesen). Ster.

9. *U. angulata* Ach. (Wain., Étud. Lich. Brés. I p. 11).

Stratum myelohyphicum crebre contextum, KHO lutescens, dein rubescens.

In arboribus ad Flamstead, 3000 p. s. m., in Jamaica (3780: H. F. A. Eggers). Ster.

10. *U. (Letharia) Dominicana* Wain. (n. sp.).

Thallus pendulus, demum elongatus, longitudine — circ. 400 millim., sat rigidus, sulphureus, opacus, ramis primariis 1—0.5 millim. crassis, irregulariter subteretibus aut leviter compressis aut partim subcanaliculatis, totus subfarinoso-decorticatus, jodo haud reagens. Stratum corticale deficiens. Stratum myelohyphicum tenue, crebre contextum, hyphis materia granulosa, lutea incrustatis, KHO non reagens. Axis chondroideus simplex, crassus, rigidus, ex hyphis formatus vulgo 0.004. millim. crassis, pachydermaticis, conglutinatis, cavitate cellularum minuta, limite membranarum distincta.

In arboribus prope Lidroment in Dominica (1370: W. R. Elliott). Ster.

2. *Eumitria* Stirt.1. *E. Antillarum* Wain. (n. sp.).

Thallus erectus, long. circ. 50—80 millim., rigidus, glaucescenti-stramineus, teres, basin versus laevigatus aut totus verruculis minutissimis (vix 0.1 millim. latis), demum saepe apice soredia efferentibus aut diffractis, increbris aut partim crebris instructus, sat increbre aut basi crebre dichotome ramosus, maxima parte creberrime ramis adventitiis spinulaeformibus, circ. 2—5(—10) millim. longis, sat tenuibus munitus, jodo non reagens. Stratum corticale tenue, KHO non reagens, ex hyphis irregulariter contextis aut subverticalibus, crebre anastomosantibus conglutinatis formatum. Stratum gonidiale tenue, rubescens, materiam continens miniatam, granulosa, in KHO partim dissolutam deindeque praecipitatum.

miniatum minutissime granulosum formantem. Gonidia cystococcacea, tantum simplicia visa, globosa, diam. 0.010—0.008 millim., membrana sat tenui. Stratum chondroideum tubaeforme, KHO non reagens, cavitate lata. Stratum myelohyphicum in cavitate strati chondroidei evolutum, laxissime contextum, KHO intense lutescens. — *Eumitria* Stirt., On Gen. Usn. (Scott. Nat. 1881) p. 2, autonomum est genus, ab *Usnea* textura thalli insigni bene differens. Observationes Mülleri de evolutione monstruosa hujus notae (Lich. Beitr. n. 389) erroneae sunt. *U. densirostra* Tayl. thallum typicum *Usneae* habet. Axis in *U. longissima* basi interdum demum cavus, at strato medullari deficiens, et in nonnullis aliis speciebus interdum monstruose laceratus, cavitatibus strato myelohyphico impletis. In *Eumitria* autem constructio thalli non est monstruosa, at typica et constans. Ad hoc genus pertinent: *E. Baileyi* Stirt., *E. implicita* Stirt., *E. asperrima* (Müll. Arg.), *E. Tasmanica* (Müll. Arg.), *E. Liechtensteinii* Stein. et *E. percava* Stein.

Ad rupem in Signalhill (1400 p. s. m.) in insula S. Thomas (H. F. A. Eggers).

4. *Ramalina*.

1. *R. gracilis* (Pers.) Nyl. **R. Antillarum* Wain., Lich. Antill. (Journ. of Bot. 1896) p. 1.

Thallo distinctius stramineo, striis medullaribus parum evolutis et apotheciis minus pruinosis a *R. gracili* differt, at in eam transit.

Ad ramulos arborum in Crown (435) et in summo monte St. Peter (F. Boergesen) et alibi in montibus (1500 p. s. m.: H. F. A. Eggers) in insula S. Thomas et in insula Tortola (n. 3197 b, 1500 p. s. m.: H. F. A. Eggers). Fert.

2. *R. anceps* Nyl.

Medulla KHO lutescens deindeque rubescens.

Ad Illicem sideroxyloidem in Houelmont in Guadalupa (551) fert. et ad Psidium guavam in summo monte Calebassé in Martinica (1640) legit P. Duss.

3. **R. dendroides** Nyl., Fl. 1876 p. 412. *R. rigida* f. *dendroides* Nyl., Mon. Ram. (1870) p. 14. *R. Sintenisii* Müll. Arg., Lich. Portor. (Fl. 1888) p. 491.

Var. **polyclada** Müll. Arg., l. c. p. 492.

Medulla KHO lutescens deindeque rubescens.

Ad Ilicem sideroxyloidem in Houelmont in Guadalupa (553: P. Duss). Ad arbores in Conliabon, 3700 p. s. m., in Dominica (1930: W. R. Elliott). Fert.

4. **R. peranceps** Nyl.

Ad Myrciam leptocladam in Houelmont in Guadalupa (550: P. Duss). Ster.

5. **R. gracilentia** Ach.

Ad Erythroxyton obovatum prope Petit-Canal, 200 m. s. m., in Guadalupa (549: P. Duss), ad arbores in Fortune-Island in Insulis Bahama (3814 pr. p.: H. F. A. Eggers). Fert.

6. **R. peruviana** Ach., Lich. Univ. (1810) p. 599; Wain., Étud. Lich. Brés. I p. 26.

Thallus sat brevis aut mediocris, long. circ. 20—50 millim., suberectus aut subpendulus, crebre dichotome et parcius irregulariter laciniatus, laciniis primariis 1—0.5 millim. latis, compressus, laciniis sublinearibus, patentibus, laciniis superioribus angustis, apicibus attenuatis et pr. p. obtusis, compressus et passim parce canaliculatus aut apices versus passim subteres, passim leviter nervoso-et rugoso-inaequalis, striis albidis parcissimis, soraliis ellipsoideis aut oblongis, albidis, parvis, in margine et saepe etiam in apice laciniarum instructus, stramineo-pallescens, leviter nitidus aut partim sat opacus. Stratum medullare KHO non reagens. Apothecia lateralia aut marginalia, mediocria, 2.5.—1 millim. lata, peltata, subsessilia, disco vulgo plano aut demum leviter convexo, pallido, nudo aut primum tenuiter pruinoso, sat opaco. Excipulum subtile pallescens, leviter aut bene rugosum. Hypothecium dilute stramineum. Hymenium circ. 0.050—0.060 millim. crassum. Epithecium

stramineo-pallidum, leviter granulosum. Paraphyses tenues, apice parum incrassatae. Sporae 8:næ, distichae, oblongae, apicibus rotundatis aut rarius obtusis, rectae, decolores, long. 0.021—0.012, crass. 0.0035—0.003 millim. — Habitu intermedia est inter *R. farinaceam* et *R. pollinariam*, sporis oblongis, tenuioribus ab iis differens. *R. pollinaria* et *R. inaequalis* etiam apotheciis subterminalibus majoribusque ab ea distinguuntur. In *R. farinacea* sporae sunt variables in eodem apothecio, saepe ellipsoideae aut pr. p. oblongae aut ovoideo-oblongae aut fusiformes, apicibus rotundatis aut obtusis, long. 0.011—0.016, crass. 0.006—0.004 millim., rectae aut nonnullae leviter curvatae.

Ad corticem arborum in montibus in partibus borealibus Jamaicae (O. Hansen). Fert.

7. *R. subpollinaria* Nyl., Rec. Mon. Ram. (Bull. Soc. Linn. Norm. 2 sér., IV, 1870) p. 27; Wain., Étud. Lich. Brés. I (1890) p. 26.

Stratum myelohyphicum KHO lutescens, dein rubescens, praecipitatum rubrum granulosum formans. Apothecia marginibus laciniarum affixa, cupuliformia, basi bene constricta, sessilia aut raro breviter substipitata, latitudine circ. 3—2 millim., disco concavo, carneopallido, nudo, opaco, excipulo subtus laevigato. Hypothecium albidum aut stramineum. Hymenium circ. 0.050—0.060 millim. crassum. Epithecium stramineum, granulosum. Paraphyses arcte cohaerentes, tenues, crass. 0.001 millim. aut tenuiores, apice leviter incrassatae (crassit. 0.0015 millim.). Sporae haud evolutae (tantum unam sporam juvenilem, ellipsoideam, apicibus rotundatis instructam, 1-septatam, parvam, rectam vidi).

Ad truncos arborum in montibus Jamaicae borealis (O. Hansen). Fert.

8. *R. Yemensis* (Ach.) Nyl.

In arboribus in Jamaica (F. Boergesen). Fert.

9. *R. complanata* (Sw.) Ach.

Medulla thalli KHO non reagens.

In arboribus in New Providence et Hog-Island (4102 pr. p.) et Fortune-Island (3814 a) in insulis Bahama lecta ab H. F. A. Eggers, in Jamaica (F. Boergesen), ad La Cumbra in S. Domingo (470: C. Raunkiaer), ad Judith-Fancy in S. Croix; ad rupem in Signalhill, 1000 p. s. m., in S. Thomas (H. F. A. Eggers). Fert.

10. *R. denticulata* (Eschw.) Nyl.

Var. *canalicularis* Nyl., l. c. p. 28; Wain., l. c. p. 24.

Ad arbores in Fortune-Island (3814 pr. p.), ad Anonam palustrem (4102 pr. p.) et Randiam aculeatam (4162) in Hog-Island in insulis Bahama (H. F. A. Eggers), in montibus Jamaicae borealis (O. Hansen).

5. *Parmelia*.

1. *P. (Amphigymnia) perlata* Krempelh., Fl. 1869 p. 222: Wain. in Schmidt Fl. Koh Chang Lich. (1908) p. 104.

Ad corticem arborum in Trinidad (H. Lassen). Ster.

Var. *flavogranulosa* Wain.

Thallus superne stramineo-glaucescens aut pallide stramineo-glaucescens aut subglaucescens, soraliis flavido-glaucescens marginatus, ciliis destitutus, medulla alba, KHO superne flavescens, intus lutescens, Ca Cl₂ O₂ non reagens, at his reagentiis unitis intus rubescens, paullo minor, quam in forma typica.

Ad corticem arborum in Prince Rupert in Dominica (1310: W. R. Elliott) et in Mount Stewart in S. Croix (433: C. Raunkiaer). Ster.

2. *P. Dominicana* Wain., Lich. Antill. (1896) p. 2.

P. praeperlata Nyl., Lich. Ins. S. Pauli (Fl. 1886) p. 319, secund. specim. orig. n. 35548 in herb. Nyl. ab hac specie differt thallo subtus usque ad marginem rhizinis instructo, ad *Irregulares* pertinens.

Ad saxa, 800 p. s. m., prope Magensbay (F. Boergesen) et Mafolly (Biese) in S. Thomas. Ster.

3. **P. crinita** Ach., Syn. Lich. (1814) p. 196; Wain., Étud. Lich. Brés. I p. 31. *P. Schweinfurti* Müll. Arg., Diagn. Lich. Socotr. (1882) p. 3.

Thallus superne et intus KHO lutescens, addito $\text{Ca Cl}_2 \text{O}_2$ alio modo haud reagens.

Ad saxa in Guava-Ridge, 2000 p. s. m., in Jamaica (3779: H. F. A. Eggers), in Signalhill et Highest Ridge, 1500 p. s. m., in S. Thomas (Eggers), in Insulis Virgineis (Hornbeck).

4. **P. Sanctae Crucis** Wain. (n. sp.).

Thallus superne glaucescenti-albidus, intus albus, subtus nigricans et ambitu castaneus aut testaceus aut pallidus, laciniis circ. 10—3 millim. latis, irregulariter lobatis, lobis 3—1.5 millim. latis, rotundatis, subintegris aut leviter crenatis, laevigatus aut medio demum rugulosus, marginibus demum adscendentibus et solediosis, saepe etiam undulato-crispatis, isidiis et ciliis destitutus, subtus late nudus, passim parce rhizinis brevibus, crebre dispositis, pallidis aut nigricantibus intractus, KHO superne lutescens, intus non reagens, $\text{Ca Cl}_2 \text{O}_2$ non reagens (medulla his reagentiis unitis non reagens). Apothecia sat parva, circ. 4—2.5 millim. lata, cupuliformia, subpodicellata aut subsessilia, imperforata, disco rufo, sat opaco, nudo, margine subintegro aut ruguloso, excipulo extus sat laevigato aut rugoso, parte superiore saepe soledioso. Hypothecium albidum. Hymenium? circ. 0.060 millim. crassum, ascis solis jodo caerulescentibus. Epithecium testaceum aut pallidum. Paraphyses tubulis mediocribus (0.0015 millim. crassis), gelatinam sat abundantem percurrentibus. Asci late clavati aut ellipsoidei, membrana praesertim apicem versus incrassata. Sporae 8-nae, polystichae, oblongae aut ellipsoideae, apicibus rotundatis, membrana sat tenui (crassit. 0.0015 millim. aut tenuiore, raro 0.002 millim.), long. 0.022—0.015, crass. 0.011—0.008 millim. — Sporis minoribus a *P. mesogena* Nyl., Fl. 1885 p. 609, distinguitur. Item comparanda *P. perlata* omnibus partibus est major et reactionibus ab ea differens.

Ad corticem arborum prope Fair Plane in S. Croix (F. Boergesen). Fert.

4. *P. latissima* Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 119, tab. XXXVIII fig. 4; Hue, Lich. Extra-Eur. I (1901) p. 204.

Var. *glaberrima* Krempelh., Fl. 1869 p. 223.

Thallus sorediis et ciliis destitutus, subtus rhizinis parcis, confertis, 1—0.5 millim. longis, nigricantibus passim instructus, KHO superne lutescens, intus lutescens deindeque rubescens. Apothecia cupuliformia, imperforata.

Ad rupem in montibus borealibus (O. Hansen) et ad corticem arborum in Guava-Ridge, 2000 p. s. m. (3721: H. F. A. Eggers), in Jamaica. Fert.

Var. *cristifera* (Tayl.) Hue, l. c. p. 205; Wain. in Schmidt Fl. Koh Chang Lich. (1908) p. 105.

Thallus soraliis marginalibus iustructus, ciliis et isidiis destitutus, intus KHO lutescens deindeque rubescens.

Ad lapidem in Monte Coeruleo et ad saxa in montibus borealibus (O. Hansen) Jamaicae, ad corticem arborum prope La Cumbra in S. Domingo (497: C. Raunkiaer), ad corticem arborum in Mount Eagle (F. Boergesen) in S. Croix, ad cortices et saxa in Signalhill, 1200—1400 p. s. m., in S. Thomas (H. F. A. Eggers), ad saxa prope Pomti-Noué in Guadalupa (442: P. Duss), ad plantas vetustas in Roseau-Valley in Dominica (1339: V. R. Elliott). Ster.

5. *P. perforata* (Jacqu.) Ach., Meth. Lich. (1803) p. 217; Wain., Étud. Lich. Brés. I p. 38; Hue, Lich. Extra-Eur. I (1901) p. 187.

Thallus margine ciliato, isidiis et sorediis destitutus, subtus nigricans et ad ambitum castaneus, rhizinis passim crebris instructus, ad ambitum plus minusve late aut in nonnullis laciniis solum anguste denudatus, medulla alba, KHO superne lutescens, intus lutescens deindeque rubescens.

Ad saxa in Jamaica (F. Boergesen). Ster.

3. **P. crinita** Ach., Syn. Lich. (1814) p. 196; Wain., Étud. Lich. Brés. I p. 31. *P. Schweinfurti* Müll. Arg., Diagn. Lich. Socotr. (1882) p. 3.

Thallus superne et intus KHO lutescens, addito $\text{Ca Cl}_2 \text{O}_2$ alio modo haud reagens.

Ad saxa in Guava-Ridge, 2000 p. s. m., in Jamaica (3779: H. F. A. Eggers), in Signalhill et Highest Ridge, 1500 p. s. m., in S. Thomas (Eggers), in Insulis Virgineis (Hornbeck).

4. **P. Sanctae Crucis** Wain. (n. sp.).

Thallus superne glaucescenti-albidus, intus albus, subtus nigricans et ambitu castaneus aut testaceus aut pallidus, laciniis circ. 10—3 millim. latis, irregulariter lobatis, lobis 3—1.5 millim. latis, rotundatis, subintegris aut leviter crenatis, laevigatus aut medio demum rugulosus, marginibus demum adscendentibus et sorediosis, saepe etiam undulato-crispatis, isidiis et ciliis destitutus, subtus late nudus, passim parce rhizinis brevibus, crebre dispositis, pallidis aut nigricantibus instructus, KHO superne lutescens, intus non reagens, $\text{Ca Cl}_2 \text{O}_2$ non reagens (medulla his reagentiis unitis non reagens). Apothecia sat parva, circ. 4—2.5 millim. lata, cupuliformia, subpodicellata aut subsessilia, imperforata, disco rufo, sat opaco, nudo, margine subintegro aut ruguloso, excipulo extus sat laevigato aut rugoso, parte superiore saepe soredioso. Hypothecium albidum. Hymenium? circ. 0.060 millim. crassum, ascis solis jodo caerulescentibus. Epithecium testaceum aut pallidum. Paraphyses tubulis mediocribus (0.0015 millim. crassis), gelatinam sat abundantem percurrentibus. Asci late clavati aut ellipsoidei, membrana praesertim apicem versus incrassata. Sporae 8-nae, polystichae, oblongae aut ellipsoideae, apicibus rotundatis, membrana sat tenui (crassit. 0.0015 millim. aut tenuiore, raro 0.002 millim.), long. 0.022—0.015, crass. 0.011—0.008 millim. — Sporis minoribus a *P. mesogena* Nyl., Fl. 1885 p. 609, distinguitur. Item comparanda *P. perlata* omnibus partibus est major et reactionibus ab ea differens.

Ad corticem arborum prope Fair Plane in S. Croix (F. Boergesen). Fert.

4. *P. latissima* Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 119, tab. XXXVIII fig. 4; Hue, Lich. Extra-Eur. I (1901) p. 204.

Var. *glaberrima* Krempelh., Fl. 1869 p. 223.

Thallus sorediis et ciliis destitutus, subtus rhizinis parcis, confertis, 1—0.5 millim. longis, nigricantibus passim instructus, KHO superne lutescens, intus lutescens deindeque rubescens. Apothecia cupuliformia, imperforata.

Ad rupem in montibus borealibus (O. Hansen) et ad corticem arborum in Guava-Ridge, 2000 p. s. m. (3721: H. F. A. Eggers), in Jamaica. Fert.

Var. *cristifera* (Tayl.) Hue, l. c. p. 205; Wain. in Schmidt Fl. Koh Chang Lich. (1908) p. 105.

Thallus soralis marginalibus instructus, ciliis et isidiis destitutus, intus KHO lutescens deindeque rubescens.

Ad lapidem in Monte Coeruleo et ad saxa in montibus borealibus (O. Hansen) Jamaicae, ad corticem arborum prope La Cumbra in S. Domingo (497: C. Raunkiaer), ad corticem arborum in Mount Eagle (F. Boergesen) in S. Croix, ad cortices et saxa in Signalhill, 1200—1400 p. s. m., in S. Thomas (H. F. A. Eggers), ad saxa prope Pomti-Noué in Guadalupa (442: P. Duss), ad plantas vetustas in Roseau-Valley in Dominica (1339: V. R. Elliott). Ster.

5. *P. perforata* (Jacqu.) Ach., Meth. Lich. (1803) p. 217; Wain., Étud. Lich. Brés. I p. 38; Hue, Lich. Extra-Eur. I (1901) p. 187.

Thallus margine ciliato, isidiis et sorediis destitutus, subtus nigricans et ad ambitum castaneus, rhizinis passim crebris instructus, ad ambitum plus minusve late aut in nonnullis laciniis solum anguste denudatus, medulla alba, KHO superne lutescens, intus lutescens deindeque rubescens.

Ad saxa in Jamaica (F. Boergesen). Ster.

6. **P. Claudelli** (Harm.) Wain. in Schmidt Fl. Koh Chang Lich. (1903) p. 105.

Ad saxa in Jamaica (F. Boergesen). Ster.

7. **P. subcrinita** Nyl., Lich. Jap. (1890) p. 26 (secund. specim. orig. n. 35472 in herb. Nyl.); Hue, Lich. Exot. (1892) p. 310. *P. Mauriensis* Hue, Lich. Extra-Eur. (1898—1901) p. 201.

Thallus superne isidiosus, margine ciliatus, medulla alba, KHO superne lutescens, intus primum lutescens deindeque rubescens.

Ad saxa in Flamstead, 3000 p. s. m., in Jamaica (3529: H. F. A. Eggers) et in montibus, 1500 p. s. m. (H. F. A. Eggers), et alibi (D. Hornbeck, F. Boergesen) in insula S. Thomas. Ster.

8. **P. coralloidea** (Mey. et Flot.) Wain., Étud. Lich. Brés. I p. 33. *P. tinctorum* Despr. in Nyl., Pyr. Or. (Fl. 1872) p. 16; Hue, Lich. Extra-Eur. p. 200.

Thallus ciliis marginalibus destitutus, superne isidiosus, medulla alba, KHO superne lutescens, intus non reagens, Ca Cl₂ O₂ intus rubescens.

Ad corticem arborum prope La Cumbra in S. Domingo (495: C. Raunkiaer), ad saxa in Signalhill (H. F. A. Eggers), in summo monte S. Peter (F. Boergesen), Crown (415: C. Raunkiaer) in S. Thomas et ad Bordeaux in S. Jan (462: C. Raunkiaer, F. Boergesen), ad corticem arborum in Sage Mountain, 1500 p. s. m., in Tortola (3192: H. F. A. Eggers). Ster.

9. **P. sulphurata** Nees et Flot.

Ad corticem arborum ad Barrabas in S. Domingo (473: C. Raunkiaer), in S. Thomas (Ove Paulsen), in Sage Mountain, 1500 p. s. m., in Tortola (3192: H. F. A. Eggers), ad Makumbi (442: C. Raunkiaer) et in rupe ad Bordeaux et prope Susannaberg (F. Boergesen) in S. Jan. Ad Artocarpum integrifoliam in Houelmont in Guadalupa (447: P. Duss) et ad Myrsinem coriaceam in Bois des Bains-Jaunes in Martinica (1584: hb. Duss). Interdum fert.

10. **P. (stirps Irregularis) cetrata** Ach.

Var. **soredifera** Wain., Étud. Lich. Brés. I p. 40.

Thallus praesertim margine passim solediosus, ciliatus. Apothecia appanato-cupuliformia, circ. 6—3 millim. lata, imperforata aut raro perforata, margine incurvo, extus soledioso. Sporae ellipsoideae, long. 0.015—0.013, crass. 0.011—0.007 millim., apicibus rotundatis, distichae, membrana tenui (crassit. 0.001 millim.). — Forsan est species autonoma, at habitu et reactionibus cum var. *typica* hujus speciei congruens.

Ad saxa in Jamaica (F. Boergesen). Fert.

11. **P. (stirps *Cyclochella*) *tropica*** Wain., Lich. Antill. (1896) p. 3.

Thallus crebre isidiosus, KHO superne lutescens, intus non reagens, intus nec CaCl_2O_2 , nec his reagentiis unitis reagens. Apothecia 4.5—1.5 millim. lata, cupuliformia aut subpeltata, imperforata, disco concavo aut concaviusculo, rufescente aut testaceo-rufescente, nudo, sat opaco, margine subintegro aut lobato aut isidioideo-denticulato, excipulo subtus ruguloso et isidioso. Hypothecium pallidum aut albidum. Hymenium 0.060—0.050 millim. crassum, jodo totum caerulescens aut partim ascis solis caerulescentibus. Epithecium pallidum aut testaceum aut superne fere decoloratum. Paraphyses crebre septatae, tubulis 0.0015 millim. crassis, apicibus saepe rufescentibus incrassatisque, strato interiore membranae tenui distincto, strato exteriori gelatinoso-incrassato. Asci late clavati, apice membrana incrassata. Sporae 8-nae, polystichae aut distichae, ellipsoideae aut oblongae, apicibus rotundatis, membrana 0.0015 millim. crassa, long. 0.018—0.013, crass. 0.004—0.007 millim.

Ad corticem arboris in Shawford-Estate (1529: W. R. Elliott) in Dominica, ad Ingam laurifoliam abundanter in Camp Jacob (468: P. Duss) in Guadalupa et ad Myrsinem lacteam in Bois-Jaunes (709: P. Duss) in Martinica, ad corticem arboris in S. Croix (Ove Paulsen). Fert.

12. **P. *isidiza*** Nyl., Fl. 1885 p. 612.

Var. **Domingensis** Wain.

Thallus laciniis apicalibus angustioribus, quam in f. *Nylande-*

riana (typica), circ. 0.7—0.3 millim. latis, apicibus vulgo truncatis, crebre isidiosus, KHO superne lutescens, intus lutescens deindeque rubescens, CaCl_2O_2 non reagens. Apothecia cupuliformia, circ. 2.5—1.5 millim. lata, imperforata, ambitu lobato-crenato, pycnoconidangiis ornato, excipulo extus laevigato (nudoque), disco concavo, testaceo-rufescente, nudo, nitido. Hypothecium albidum. Hymenium 0.070 millim. crassum. Epithecium testaceum. Paraphyses tubulis 0.0015 millim. crassis, apicibus modice incrassatis, membrana gelatinoso-incrassata aut strato intimo tenui passim distincto. Asci clavati, apice membrana incrassata. Sporae 8-nae, distichae, ellipsoideae, apicibus rotundatis, long. 0.012—0.017, crass. 0.008—0.011 millim., membrana 0.001 millim. crassa. Pycnoconidangia in lamina thalli et in margine apotheciorum sita, semi-immersa aut emergentia. Conidia haud visa. — In specimine orig. n. 35126 in herb. Nyl. thallus latus, apothecia plana, pannarioidea, pycnoconidangiis nullis ornata. *P. meiophora* Nyl. est major, ad *P. tenuirimem* accedens.

Ad corticem arboris in La Cumbra (492: C. Raunkiaer) in S. Domingo.

13. ***P. Martinicana*** Nyl., Obs. Lich. Pyr. Or. (Fl. 1872) p. 16, Lich. Pyr. Or. Obs. Nov. (1891) p. 40, Fl. 1885 p. 609, 614; Hue, Lich. Exot. (1892) p. 75 (316).

Thallus superne calcareo-albidus aut pallido-glaucescens, intus albus, inferne nigricans et ambitu pallidus aut testaceus, superne et inferne partim praesertimque centrum versus plus minusve distincte rugulosus, laciniis adpressis, lobatis, lobis apice rotundatis, integris aut crenatis, 6—1.5 millim. latis, adpressis, axillis vulgo acutis, ciliis destitutus, lamina medium versus isidiosa, isidiis brevibus, subcylindricis aut partim granuliformibus, tenuibus aut sat tenuibus (crassit. 0.1—0.2 millim.), crebris, saepe denuo in soredia fatiscens, ad ambitum subtus plus minusve late nudus, ceterum subtus rhizinis nigricantibus, brevibus, passim sat parce instructus, KHO superne et intus lutescens, CaCl_2O_2 non

reagens, at his reagentiis unitis intus rubescens. Apothecia circ. 4—3 millim. lata, subpeltata aut cupuliformia, sessilia, imperforata, ambitu saepe demum fisso, disco testaceo-rufescente, nudo, sat opaco, planiusculo aut concavo, excipulo subtus ruguloso et isidioso. Sporae 8-nae, distichae, ellipsoideae aut oblongae, apicibus rotundatis aut raro obtusis, long. 0.013—0.018, crass. 0.006—0.008 millim., membrana crassit. 0.0015—0.001 millim. — Sec. annotationem Nylanderii in herb. suo (n. 35315) thallus „K \ddagger lut., K (C) $\bar{\Gamma}$ erythr.“.

Ad corticem arborum prope Krausses-Lagoon (547: C. Raunkiaer), Fair Plane et Judith-Fancy et alibi in partibus septentrionalibus insulae S. Croix (F. Boergesen) et in Morne Conliabon, 3700 p. s. m., in Domiuica (1538 pr. p.: W. R. Elliott). Partim fertilis.

14. *P. Raunkiaeri* Wain. (n. sp.).

Habitu similis *P. Martinicanae*, at thallo crebre soledioso, isidiis destituto ab ea differens. Thallus superne glaucescens aut calcareo- sive pallido-albidus, intus albus, inferne nigricans et ambitu pallidus, superne et inferne centrum versus bene rugulosus, ambitum versus minus distincte rugulosus, laciniis adpressis, lobatis, lobis apice rotundatis, integris aut crenatis, 3—1 millim. latis, substrato adpressis, axillis vulgo acutis; cillis et isidiis destitutus, lamina medium versus solediosa, soraliis irregularibus, primum minutis, demum confluentibus, solediiis granulosis aut partim tenuibus farinosisque, thallo concoloribus, ad ambitum subtus plus minusve late nudus, ceterum subtus rhizinis nigricantibus, brevibus, passim sat parce instructus, superne et intus KHO lutescens, Ca Cl₂ O₂ non reagens, at his reagentiis unitis intus rubescens. Apothecia circ. 2 millim. lata, cupuliformia, sessilia, imperforata, disco testaceo-rufescente, nudo, sat opaco, concavo, excipulo soledioso. Hymenium circ. 0.055—0.060 millim. crassum. Epithecium testaceo-rufescens. Paraphyses tubulis tenuibus, membranis gelatinoso-incrassatis. Asci late clavati, apice membrana incrassata. Sporae 8-nae, distichae, aut tristichae, oblongae aut ellipsoideae, apicibus rotun-

dati, long. 0.013—0.016, crass. 0.005—0.009 millim., membrana 0.0015 millim. crassa.

Ad corticem arboris prope Cane-Bay (461: C. Raunkiaer) et una cum *P. Martinicana* prope Judith-Fancy (F. Boergesen) in S. Croix. Parcissime fert.

15. *P. Borreroides* Nyl., Obs. Lich. Pyr. Or. (Fl. 1872) p. 17, Lich. Pyr. Or. Obs. Nov. (1891) p. 41.

Habitu similis *P. tiliaceae*, at lamina thalli soraliis rotundatis inspersa ab ea differens. Thallus subtus nigricans, ad ambitum testaceum aut pallescens, KHO superne leviter flavescens deindeque fuscens, intus non reagens, CaCl_2O_2 non reagens, his reagentiis unitis intus rubescens. — Secundum annotationes Nylanderii in specim. n. 35040 e Bolivia in herb. suo „thallus $\text{K}(\text{C}) \mp$ erythr., sporae long. 0.012—0.018, crass. 0.009—0.011 millim., spermata long. 0.007—0.011, crass. 0.0005 millim., recta“. Etiam *P. conflucens* Nyl., Lich. Ins. S. Pauli (Fl. 1886) p. 319, facie externa huic similis est, at thallo subtus usque ad marginem nigricante ab ea distinguitur.

Ad corticem arborum in insula Trinidad (H. Lassen). Ster.

16. *P. Granatensis* Nyl., Fl. 1885 p. 613. *P. Amazonica* Nyl. var. *Husnoti* Hue, Lich. Extra-Eur. (1891) p. 158 (secund. descriptionem).

Thallus isidiosus, KHO superne flavescens, intus non reagens, CaCl_2O_2 non reagens, at his reagentiis unitis intus leviter aurantiacus. — *P. Capensis* Nyl., Fl. 1885 p. 613, potius affinis est *P. tiliaceae*, quam *P. laevigatae*, et ob eam rem cum *P. Granatensi* forsán jungenda est (secund. specim. orig. in herb. Nyl.). In specimine typico *P. Granatensis* Nyl. (n. 35170 in herb. Nyl.) thallus est nitidus, isidiosus et ex annotatione Nylanderii $\text{K} \pm, \text{C} =, \text{K}(\text{C}) \mp$ erythr. In speciminibus n. 35164 et 35165, hoc nomine a Nyl. salutatis, thallus est isidiis destitutus, ergo huc non pertinent. *P. subsinuosa* Nyl., l. c., secundum specimen orig. in herb. Nyl.

thallo isidiis destituto et laciniis sublinearibus instructa, huic speciei non est affinis.

Ad corticem arboris prope Krausses-Lagoon (545: C. Raunkiaer) in S. Croix. Fert.

17. *P. (stirps Sublinearis) addenda* Wain. in Schmidt Fl. Koh Chang Lich. (1908) p. 339.

Thallus crebre laciniatus, laciniis sublinearibus, apicibus truncatis, parce et passim etiam crebre isidiosus, KHO superne lutescens, intus non reagens, CaCl_2O_2 non reagens. Apothecia 6—2.5 millim. lata, subpeltata aut cupuliformia, imperforata, disco concavo aut applanato, rufescente aut testaceo, nudo, sat opaco, margine subintegro aut lobato, excipulo subtus laevigato aut demum parce isidoso. Hypothecium albidum. Epithecium testaceum. Paraphyses tubulis mediocribus, apice incrassatis. Sporae 8-nae, distichae, ellipsoideae, apicibus rotundatis, membrana 0.0015 millim. crassa, long. 0.015—0.013, crass. 0.010—0.007 millim. Pycnoconidangia in lamina thalli sita (sine conidiis).

Ad truncum Bixae orellanae prope Gourbeyre in Guadalupa (1030) et ad ramos Floanae Massoni in silva prope Bains-Jaunes. 330 m. s. m., in Martinica (463) lecta a P. Duss. Fert.

18. *P. microblasta* Wain., Étud. Lich. Brés. I p. 57.

Thallus laciniis 3.5—0.5 millim. latis, parce isidiosus, KHO superne non reagens aut leviter lutescens, intus lutescens deindeque rubescens. Apothecia 4—2 millim. lata, cupuliformia, sessilia, margine lobulato aut denticulato vel crenulato, excipulo extus laevigato, disco concavo, testaceo-rufescente, nudo, nitido. Hypothecium pallidum aut albidum. Epithecium testaceum. Paraphyses tubulis 0.0015 millim. crassis, apice haud aut leviter incrassatis, membrana gelatinoso-incrassata. Asci late clavati, apice membrana incrassata. Sporae 8-nae, polystichae aut distichae, oblongae aut rarius ellipsoideae, apicibus rotundatis, long. 0.018—0.013, crass. 0.008—0.006 millim., membrana 0.001 millim. crassa. Pycnoconidangia in lamina thalli immersa. Pycnoconidia recta, apices ambos versus leviter

incrassata, altero apice subacuto, altero rotundato, aut fere cylindrica, long. 0.005—0.004, crass. 0.0007—0.0005 millim.

Supra corticem *Bixae orellanae* in Camp Jacob in Guadalupa (676: P. Duss).

19. **P. scortella** Nyl., Fl. 1885 p. 615.

Thallus crebre dichotome repetito-laciniatus, laciniis 1.5—0.5 millim. latis, lamina increbre isidiosa, KHO superne flavescens, intus non reagens, CaCl_2O_2 intus rubescens. — Secundum specim. orig. n. 35650 in herb. Nyl. ad *Sublineares* pertinet et thallo KHO superne lutescente, intus non reagente instructa est, et ex annotatione Nylanderii „C+“. *P. laevigatula* Nyl., Fl. 1885 p. 614, laciniis magis discretis secund. specimen orig. ab hac specie differt, at forsitan cum ea confluit.

Ad corticem arboris in America collegit H. Lassen („Warmings Rejse til Vest-Ind. og Venezuela 1891—92“). Ster.

20. **P. dissecta** Nyl. apud Hue, Addend. Fl. Eur. (1886) p. 42. *P. laevigata* **dissecta* Nyl., Fl. 1882 p. 451, Lich. Paris (1896) p. 37. Nyl., Herb. Lich. Par. III (1856) n. 112.

Thallus adpressus, lamina crebre isidiosa, KHO superne lutescens, intus non reagens, CaCl_2O_2 non reagens, at his reagentiis unitis medulla intense rubescens. Apothecia cupuliformia aut demum concava, disco fusco-rufescente, nudo, margine saepe lobato, excipulo extus isidioso. Hypothecium albidum. Hymenium 0.055—0.050 millim. crassum. Epithecium rufescens. Paraphyses membranatis gelatinoso-incrassatis, tubulis 0.001 millim. crassis, apice bene incrassatis rufescentibusque. Asci late clavati. Sporae 8-nae, tristichae aut distichae, ellipsoideae, apicibus rotundatis, long. 0.012—0.015, crass. 0.009—0.007 millim., membrana 0.001 millim. crassa. — *P. subdissecta* Nyl. apud Cromb., On Coll. Lich. East As. (1882) p. 51, secund. specim. orig. in herb. Nyl. apotheciis applanatis adpressisque et laciniis thalli paullo magis discretis ab hac specie differt.

Ad lignum putridum in pariete domi in Girondelle, 2000 p. s. m., in Dominica (1584: W. R. Elliott). Fert.

21. *P. Peruviana* Nyl., Fl. 1885 p. 613.

Thallus etiam secundum specimen orig. in herb. Nyl. isidiis destitutus et habitu *P. sublaevigatae* aut *P. laevigatae*, KHO superne lutescens, intus non reagens, CaCl_2O_2 non reagens.

Ad ramos arboris in Morne Conliabon, 3700 p. s. m., in Dominica (1556: W. R. Elliott). Ster.

22. *P. laevigata* (Sm.) Ach., Syn. Lich. (1814) p. 212; Nyl. apud Hue, Addend. Lich. Eur. (1886) p. 41; Hue, Lich. Extra-Eur. (1898—1901) p. 146.

Thallus KHO superne lutescens, intus non reagens, CaCl_2O_2 non reagens, his reagentiis unitis plus minusve distincte rubescens, sorediis instructus.

Ad truncos arborum in Roseau-Valley (1321) et in Morne Conliabon, 3700 p. s. m. (1559), in Dominica (W. R. Elliott). Ster.

23. *P. Jamalensis* Wain. (n. sp.).

Affinis *P. dactyliferae* Wain., Étud. Lich. Brés. I p. 57, at thallo multo magis increbre ramoso et laciniis linearibus patentibusque, nec conniventibus, ab ea differens, at forsan in eam transiens. — Thallus superne albidus aut caesio-vel glaucescenti-albidus, sat nitidus, intus albus, subtus niger aut ambitu anguste castaneus, laxe adpressus, increbre dichotome repetito-laciniatus, laciniis 2.5—0.5 millim. latis, planiusculis aut convexiusculis, linearibus, vulgo patentibus, apice vulgo obtusis, axillis vulgo obtusis, sorediis destitutus, medium versus demum parce aut parcissime isidiosus, isidiis firminusculis (circ. 0.2 millim. crassis et — 1.5 millim. longis), terebibus, saepe demum ramosis, subtus rhizinis sat brevibus (circ. 1—0.5 millim. longis), demum bene ramosis, nigris, partim crebris, vulgo tantum parcis, fere usque ad apicem lacinarum instructus aut partim late subnudus, KHO superne non reagens aut leviter flavescens, intus lutescens deindeque rubescens, CaCl_2O_2 non rea-

gens. Apothecia (tantum juvenilia visa), cupuliformia, sessilia, margine crenulato, disco concavo, rufo, excipulo subtus laevigato. Pycnoconidangia laminae thalli immersa. Conidia haud visa.

Ad saxa in Jamaica (F. Boergesen).

24. **P. (Xanthoparmelia) Lusitana** Nyl., Fl. 1881 p. 450, Lich. Pyr. Or. Obs. Nov. (1891) p. 5, 74; Hue, Add. Lich. Eur. (1886) p. 40.

Habitu non differt a *P. conspersa* f. *coralloidea* Flot., at reactionibus ab ea recedit. — Thallus superne flavescens vel stramineo-flavescens, isidiosus, isidiis tenuibus, subtus pallidus et rhizinis brevibus aut brevissimis, pallidis, parcis aut parcissimis instructus, late nudus, KHO superne non reagens, intus lutescens, CaCl_2O_2 non reagens, at his reagentiis unitis superne lutescens, intus lutescens deindeque aurantiaco-rubescens aut leviter rubescens.

Ad saxa prope Crown in S. Thomas (424: C. Raunkiaer) et in Martinica (87: Isert), in rupibus littoralibus prope Cruz-Bay in insula S. Jan (F. Boergesen) ster. Ad tectum ligneum putridum in Basse-Terre in Guadalupa (687: P. Duss) fert.

Var. **deciplens** Wain.

Thallus isidiosus, KHO superne non reagens, intus lutescens, CaCl_2O_2 non reagens, at his reagentiis unitis superne et intus lutescens.

Ad saxa in Buck-Island prope portum insulae S. Thomas et in rupibus littoralibus prope Cruz-Bay in insula S. Jan (F. Boergesen). Ster.

Trib. 2. Stereocaulaeae.

1. Stereocaulon.

1. **St. (Phaeobasis) cornutum** Müll. Arg., Lich. Beitr. (Fl. 1886) n. 1001 (p. 252); Lojka, Lichenoth. Univ. (1886) n. 154.

Apothecia gonidiis destituta, KHO solutionem luteam effundentia. Epithecium fuscum. Hypothecium fuscum. Excipulum sub-

tus albidum, laevigatum, strato corticali chondroideo, haud bene pellucido, ex hyphis pachydermaticis, conglutinatis, subradiantibus, crebre ramoso-connexis (quod optime in KHO videri potest), cavitate cellularum tenui, strato medullari gonidiis destituto, ex hyphis formato irregulariter contextis, in medio apothecii conglutinatis, infra stratum corticale partim aëre disjunctis, KHO demum fulvescente. — Habitu *St. pityrizans* Nyl., Lich. Exot. (1859) p. 209, Syn. Lich. p. 234, in memoriam revocans. In sect. **Phaeobasi** Wain. hypothecium fuscum et excipulum habitu lecanorinum et strato medullari saltem partim ex hyphis haud conglutinatis formato instructum et, quantum cognitum, gonidia nulla continens (huc etiam *St. Salazinum* Bor. pertinet). Sect. **Diplocheilon** Wain. perithecium habet cartilagineum, amphithecio thallino gonidia continente aut gonidiis destituto obductum (huc pertinent *St. nesaeum* et aliae species). Sect. **Myelocarpon** Wain. hypothecio pallido, excipulo simplice, habitu lecanorino, at gonidiis destituto, stratum myelohyphicum ex hyphis aëre disjunctis continente dignotum (huc pertinent *St. ramulosum*, *St. implexum*, cet.). Sect. **Lecldocaulon** hypothecio pallido, strato medullari excipuli chondroideo, ex hyphis conglutinatis formato (huc pertinet *St. virgatum* Ach.).

Arcte adnatum ad rupem in montanis (alt. c. 5000 p. s. m.) prope Gordon-Town in insula Jamaica (W. Joshua). Fert.

2. *St. (Myelocarpon) ramulosum* Ach.

F. *proxima* (Nyl.) Müll. Arg., Lich. Eckf. (1894) p. 89. *St. proximum* Hue, Lich. Extra-Eur. (1898—1901) n. 50 (excl. f. et var.).

Cephalodia algam, ad *Sirosiphon (Stigonema)* pertinentem, continentia. Pseudopodetia KHO extus lutescentia, intus non reagentia. Apothecia margine simplice, demum excluso instructa. Excipulum subtus vulgo albidum, strato corticali circ. 0.065—0.070 milim. crasso, decoloratum, ex hyphis radiantibus, sat pachydermaticis, conglutinatis formato, cavitate cellularum sat angusta, strato

medullari gonidiis destituto, ex hyphis irregulariter contextis, aëre disjunctis formato. Hypothecium pallidum aut dilutissime fuscescenti-pallidum, KHO non reagens, ex hyphis creberrime contextis, conglutinatis formatum. Hymenium KHO haud distincte reagens.

Ad rupem arcte adnatum in Jamaica (F. Boergesen). Fert.

3 \times **St. (Lecidocaulon) virgatum** Ach.

Apothecia lecideina, gonidiis destituta. Excipulum subtus pallidum aut cinereo-pallidum, strato corticali circ. 0.060—0.070 millim. crasso, ex hyphis radiantibus, crassis, pachydermatis, conglutinatis formato, cavitate cellularum saepe mediocri. Hypothecium pallidum, ex hyphis tenuibus, irregulariter creberrime contextis, conglutinatis formatum, membranis modice incrassatis. Stratum medullare ex hyphis irregulariter et minus crebre contextis, conglutinatis, sat pachydermatis formatum.

F. **primaria** Wain., Lich. Antill. (1896) p. 4.

Axis centralis pseudopodetiorum KHO lutescens et demum rubescens. Ramuli phyllocladoidei teretes.

Ad plantas destructas et terram humosam in summo monte Conliabon, 3700 p. s. m., in Dominica (1919: W. R. Elliott). Fert.

F. **Achariana** Wain., l. c.

Axis centralis pseudopodetiorum KHO lutescens. Ramuli phyllocladoidei teretes.

Ad detritum rupis in Soufrière in Dominica (1846: W. R. Elliott) et in Matouba, 700—900 m. s. m., in Guadaloupa (558: P. Duss). Fert.

Trib. 3. **Lecanoreae.**

1. **Candelaria.**

1. **C. concolor** (Dicks.) Wain.

Ad truncum Rosae in Camp Jacop in Guadaloupa (1512: P. Duss). Ster.

2. Haematomma.

1. *H. puniceum* (Ach.) Wain.

Ad truncos arborum prope Camp Balata in Martinica (1708: P. Duss misit).

3. Lecanora.

1. *L. sulphureofusca* Fée, Ess. Crypt. Écorc. (1824) p. 116; Nyl., Lich. Exot. (1859) p. 220, Lich. Nov.-Gran. (1863) p. 446. *Lecania* Müll. Arg., Rev. Lich. Féean. (Rev. Mycol. 1887) p. 9.

Var. *albidofusca* Wain.

Thallus glaucescenti-albidus, haud distincte stramineus, crustaceus, tenuis, verruculoso-inaequalis, verruculis irregularibus, depressis, basin versus vulgo sensim dilatatis, minutis, sat crebris, inter verruculas laevigatus, continuus, sorediis et isidiis destitutus, glaucescenti-albidus, leviter nitidus, intus albus (non distincte stramineus), KHO leviter lutescens, CaCl_2O_2 non reagens, hypothallo cinereo-nigricante tenuissimo passim ad ambitum evoluto. Apothecia sat parva, 0.7—0.5 millim. lata, basi constricta, at medio late adnata, disco plano aut leviter concavo, fusco aut fusco-nigricante (humido fusco-rufescente), nudo, sat opaco, margine sat tenui (crassit. vix 0.1 millim.), discum haud superante, laevigato, rotundato-convexo, persistente, thallo concolore aut extus et intus substramineo-albicante. Epithecium rufescens, KHO non reagens. Sporae singulae, oblongae, apicibus rotundatis, decolores, 1-septatae, haud constrictae, long. 0.072—0.080, crass. 0.030—0.034 millim., membrana 0.004—0.003 millim. crassa. — Excipulum lecanorinum, KHO superne et intus lutescens, gonidia continens cystococcacea, globosa (tantum simplicia visa), diam. 0.006—0.007 millim., membrana tenui. Hypothecium albidum, ex hyphis irregulariter contextis, tenuibus, conglutinatis formatum, jodo leviter caerulescens. Hymenium circ. 0.130—0.140 millim. crassum, jodo intense persistenter caerulescens. Paraphyses tenues, crass. 0.001 millim., apice leviter aut parum incrassatae, simplices, haud connexae,

membrana haud gelatinosa, laxe cohaerentes. Asci clavati, membrana apice leviter incrassata. Ad div. *Pachylechaniam* Müll. Arg., Rev. Lich. Féean. p. 9, pertinet. *L. sulphureofusca* Fée secundum specim. orig. n. 24480 in herb. Nyl. thallo distinctius sulphureo a var. *albidofusca* differt.

Ad corticem arboris minoris in Soufrière-Hill in Dominica (1518: W. R. Elliott).

2. *L. atroaeruginosa* Wain.

Thallus crustaceus, uniformis, sat tenuis, continuus, verruculoso-inaequalis, sorediis destitutus, stramineus aut stramineo-albicans, KHO lutescens, CaCl_2O_2 leviter rubescens, his solutionibus unitis intensius rubescens, hypothallo caeruleo-nigricante limitatus. Apothecia crebra, adpressa, basi constricta, mediocria, 1.2—0.7 millim. lata, disco plano aut leviter convexo, aeruginoso- aut livido-aeruginoso-nigricante, tenuissime aeruginoso- aut flavido-pruinoso aut fere nudo, opaco, margine sat tenui, minute verruculoso-crenulato, discum haud superante, thallo concolore, CaCl_2O_2 leviter rubescente. Hypothecium violaceo-fuscescens, sat crassum, ex hyphis erectis, tenuibus, conglutinatis formatum. Hymenium circ. 0.090—0.100 millim. crassum, maxima parte dilute aeruginosum, superne intensius coloratum, epithecio summo olivaceo-lutescente, leviter granuloso, jodo persistenter coeruleescens. Paraphyses arcte cohaerentes, tubulis tenuibus, apice parum incrassatis, membranis gelatinosis, leviter incrassatis, haud distincte limitatis, parce ramoso-connexae. Asci clavati, apice membrana incrassata. Sporae 8-nae, distichae, simplices, decolores, ellipsoideae, apicibus rotundatis, long. 0.012—0.014, crass. 0.007—0.010 millim. Parathecium modice evolutum, inferne intus hypothecio fere concolor, ceterum pallidum aut fulvescens, in margine deficiens. Apothecia KHO haud insigni modo reagentia, colore plus minusve dilutescente. — Affinis *L. flavovirenti* Fée, at omnibus partibus minor.

Ad tectum ligneum domi in Girondelle, alt. 2000 p. s. m., in Dominica (n. 1585: W. R. Elliott).

3. *L. subtilissima* Wain. (n. sp.).

Thallus crustaceus, uniformis, tenuis aut tenuissimus, continuus, verruculoso-inaequalis, verruculis minutissimis (tantum lente conspicuis), sorediis et isidiis destitutus, albido-stramineus, neque KHO, nec CaCl_2O_2 , nec his solutionibus unitis reagens, hypothallo cinereo-nigricante passim parce conspicuo, tenuissimo. Apothecia crebra, emergentia et demum adnata, basi haud constricta, minutissima, 0.2—0.15 millim. lata, tenuissima, disco plano, fusco, nudo, opaco, margine thalode, tenui, leviter crenulato aut sublacerato, thallo concolore. Hypothecium decoloratum aut pallidum, ex hyphis irregulariter contextis, conglutinatis formatum. Hymenium circ. 0.030—0.035 millim. crassum, jodo fulvescens, ascis persistenter caerulescentibus. Epithecium sordide rubescens aut rufescenti-rubescens, KHO non reagens. Paraphyses sat arcte cohaerentes, mediocres, crass. 0.0015 millim., apice haud aut parum incrassatae, extus leviter gelatinosae, simplices. Asci clavati, apice membrana leviter incrassata. Sporae 8-nae, distichae, simplices, decolores, ellipsoideo-oblongae, rectae aut partim leviter curvatae, apicibus rotundatis, lateribus fere cylindricis, long. 0.007—0.009, crass. 0.003—0.004 millim. Gonidia cystococcoidea. Apothecia nova supra et inter vetusta emorientia efferens, adspectum abnormem morbosumque habet. Habitu versus *L. effusam* (Pers.) accedens, at apotheciis multo minoribus. Species analogae *L. minutula* Müll., *L. perminuta* Müll. et *L. minutella* Nyl. variis notis a planta nostra differunt.

Ad corticem arboris prope cataractam ad Reef-Bay in insula S. Jan (F. Boergesen). Una cum *L. cinereocarpa* Tuck. et *Rinodina intrusa* Krempelh. crescit.

4. *L. subfusca* (L.) Ach.Var. *chlarona* Ach.

Apothecia leviter aut parum crenulata, demum majora, quam in v. *suberenulata* Nyl., disco fuscorufescente, opaco.

Ad corticem arboris prope Puerto Cabello (H. Lassen).

Var. **chlorotera** (Nyl.) Wain., Étud. Lich. Brés. I p. 77.

Ad truncum Arecae oleraceae in Basse-Terre in Guadalupa (465: P. Duss). Vix certe a var. *subgranulata* Nyl. et var. *subcrenulata* Nyl. distingui potest.

Var. **subcrenulata** Nyl., Lich. Nov.-Gran. Addit. (1867) p. 310; Wain., Étud. Lich. Brés. I p. 77.

Ad Anacardium occidentale et Spondiam purpuream in Basse-Terre (449, 459), ad Coccolobam diversifoliam in Houelmont (455), ad Artocarpum incisam in Safaga (1420) et truncum Rosae in Camp Sacul (1579) in Guadalupa legit P. Duss.

5. **L. cinereocarnea** (Eschw.) Wain. in Schmidt Fl. Koh Chang. Lich. (1909) p. 340.

Ad corticem arborum prope Sandypoint et Cane-Bay in S. Croix (550, 407: C. Raunkiaer); ad Peresciam aculeatam (fam. Cactaceae) et Spondiam cytheream in Basse-Terre (502, 452), ad Erythroxyllum ovatum prope Petit-Canal (1153), ad Lagerstroemiam indicam in Gourbeyre (1187) et ad Artocarpum incisam in S. Rose (1419) in Guadalupa legit P. Duss.

6. **L. prosecha** Ach., Lich. Univ. (1810) p. 346; Wain., Lich. Antill. (1896) p. 5.

Var. **granulifera** Wain., l. c.

Ad lapidem vulcanicum in savannis prope Trois-Rivières in Guadalupa (1398: P. Duss). Fert.

Var. **rubescens** Wain., l. c., Cat. Welw. Afr. Pl. II P. II (1901) p. 404.

Thallus KHO extus et intus lutescens, jodo epithallus sat dilute vinose rubens, medulla non reagens. Reactiones tales etiam in var. *granulifera* observantur. Sporae long. 0.011—0.013, crass. 0.0045—0.005 millim. Hymenium jodo persistenter caerulescens.

Ad lapides et saxa in Crequis et in Caledonia-Dal in S. Croix (F. Boergesen). Passim ad saxa vulcanica in campis Trois-Rivières in Guadalupa (1426: P. Duss).

Trib. 4. **Pertusarieae.**1. **Pertusaria.**1. **P. (Lecanorastrum) torulosa** Wain. (n. sp.).

Thallus endophloeodes, zona gonidiali in strato suberoso substrati inclusa, laevigatus, glaucescens aut rarius partim stramineo-glaucescens, leviter nitidus, isidiis destitutus, soraliis 2 --0.4 millim. latis, rotundatis, saepe demum bene elevatis et convexis et basi constrictis, vulgo increbris aut parce confluentibus, impure albidis, KHO intus rubescentibus (crystalla acicularia rubra haud formantibus), CaCl_2O_2 non reagentibus, at his solutionibus unitis rubescentibus, ceterum thallus tantum passim KHO rubescens, CaCl_2O_2 non reagens. Gonidia cystococcacea, tantum simplicia visa, membrana sat tenui. In herb. Nyl. (n. 3688) nominata est „*Coniocarpon torulosum* Fée“, quod autem ad *Arthoniam torulosam* Fée spectat.

Ad Spondiam in Basse-Terre (917), ad Bixam orellanam in Gourbeyre (1219), ad Eugeniam Jambos (1885) et Byrseram gummiferam in S. Rose (1410) in Guadalupa (P. Duss); ad truncos arborum prope Prince Rupert (1312), in Roseau-Valley (1322) et Grand Soufrière-Hills (1506) in Dominica (W. R. Elliott). Ster.

2. **P. commutata** Müll. Arg., Lich. Beitr. (Fl. 1884) n. 706, Rev. Lich. Féean. (1887) p. 4; Wain., Étud. Lich. Brés. I p. 105.

Ad corticem Byrsonimae spicatae in Morne Pavillon in Guadalupa (1799: P. Duss).

3. **P. velata** (Turn.) Nyl. apud Hue, Addend. (1886) p. 118; Wain., l. c. p. 106.

Ad corticem Ingae (1389) et Hymenaeae courbaril (1789) in Camp Jacob et abundanter ad truncum Arecae oleraceae in Basse-Terre (565) in Guadalupa (P. Duss). Fert.

4. **P. variolosa** (Krempelh.) Wain., l. c. Haud *P. communis* b. *variolosa* Hepp, Flecht. Eur. n. 677.

Ad Spondiam cytheream in Basse-Terre (562) et ad Anonam muricatam in Gourbeyre (563) et ad truncum arboris in Morne Pavillon (1788) in Guadalupa (P. Duss). Fert.

5. **P. coccopoda** Wain. (n. sp.).

Thallus sat tenuis aut crassitudine mediocris, demum saepe crebre aut sat crebre rimuloso-areolatus, sat laevigatus aut partim verruculoso-inaequalis, sat opacus aut leviter nitidus, albidus, KHO superne lutescens, dein fulvescens aut aurantiaco-fulvescens aut punctis aurantiaco-rubescens, intus lutescens aut parum reagens, CaCl_2O_2 non reagens, jodo intus haud caerulescens, soraliis rotundatis, circ. 0.5—1 millim. latis, vulgo sat planis, primum sessilibus, demum stipitatis, stipite usque ad 1 millim. longo, toruloso-cylindrico, crebris, parce etiam confluentibus, KHO eodem modo reagentibus, quam thallus, CaCl_2O_2 non reagentibus. Affinis *P. lacteae* Nyl., quae soraliis haud distincte stipitatis et reactionibus thalli ab ea differt. *P. dealbata* Nyl., Lich. Scand. p. 180, verrucis sterilibus isidioideis crassis et medulla jodo caerulescente (diversa in Lich. Nov.-Gran. Prodr., p. 447), *P. leucosora* Nyl. soraliis haud stipitatis et reactionibus thalli, *P. amurescens* Nyl. thallo sordide glaucescente et soraliis haud stipitatis et *P. stalactiza* Nyl. pseudo-stromatibus haud sorediosis ab ea distinguuntur (secund. specim. orig. in herb. Nyl.).

In rupibus in America-Hill ad Foygut-Bay in insula S. Jan (F. Boergesen). In summo monte S. Peter in insula S. Thomas (F. Boergesen). Ster.

6. **P. (Porophora) griseola** Wain. (n. sp.).

Thallus tenuis aut tenuissimus, continuus, laevigatus, albidus, sorediis destitutus, isidiis tenuissimis, 0.060—0.080 millim. crassis, long. circ. 0.5—0.7 millim., simplicibus aut ramulosis, cylindricis, demum confertis et crustam areolatam formantibus, cinereo-glaucescentibus aut pallido-cinereis, neque KHO, nec CaCl_2O_2 reagentibus, at his solutionibus unitis leviter rubescentibus; ceterum thallus

nec KHO, nec CaCl_2O_2 reagens; medulla jodo non reagens. *P. isidioides* (Anzi) Nyl. secundum specim. orig. in herb. Nyl. (n. 22943) thallo crassiore et isidiis brevioribus, *P. pseudocorallina* (Sw.) Th. Fr. (*P. Westringii* Nyl.) reactionibus, *P. grisea* Wain. reactione et statione ab hac specie differunt. — Verisimiliter ad species *Pertusas* Müll. Arg. pertinet.

Ad tecta lignea putrida in Les Palmistes in Guadalupa (1196: P. Duss). Ster.

7. *P. polysticta* Wain., l. c.

Ad sp. *Pertusas* Müll. Arg. pertinet.

Ad Trichiliam simplicifoliam prope Gourbeyre in Guadalupa (478: P. Duss). Fert.

8. *P. ochrocarpa* Wain., l. c. p. 254.

Ad sp. *Pertusas* Müll. Arg. pertinet.

Ad corticem Spondiae in Basse-Terre in Guadalupa (470: P. Duss). Fert.

9. *P. intermedia* Wain. (n. sp.).

Thallus sat tenuis, areolato-rimosus, sat laevigatus aut leviter inaequalis, sat opacus, glaucescenti-albido-stramineus, sorediis et isidiis destitutus, extus et intus nec KHO, nec CaCl_2O_2 reagens, at his solutionibus mixtis intus fulvescenti-aurantiacus. Pseudostromata crebra, 1—0.2 millim. lata, thallo subconcoloria, KHO extus haud reagentia, intus lutescentia, dein fulvescentia, demum depresso-subglobosa, laevigata, demum basi constricta, apice sat late aut raro angustius impresso, impressione communi vulgo 0.7—0.2 millim. lata, irregulari et fundo inaequali, apothecia vulgo plura (circ. 8—1) continentia, ostioliis impressis, cinereo-flavescentibus aut flavido-fuscescentibus, saepe angulosis, 0.1—0.4 millim. latis, partim confluentibus, partim sparsis, in impressione communi dispositis. Epithecium sordide pallescens (sub microscopio). Sporae binae, oblongae, membrana 0.006—0.004 millim. crassa, stratis aequaliter incrassatis, limite stratorum leviter undulato, long. 0.076

—0.097, crass. 0.026—0.034, decolores. Habitu *P. tetrathalamiam* (Fée) Nyl. et *P. trypetheliiformem* Nyl. in memoriam revocans, at jam colore thalli et pseudostromatum ab iis differens. Inter sp. *Depressas* Müll. Arg. et *Pertusas* Müll. Arg. est intermedia, forsitan rectius ad priores pertinens.

Ad Arecam oleraceam in Basse-Terre in Guadalupa (1279: P. Duss).

10. **P. Dussii** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 253.

Ad sp. *Depressas* Müll. Arg. pertinet. Sporae decolores, 8:nae, 4:nae aut 2:nae, long. 0.104—0.125, crass. 0.032—0.044 millim.

Ad truncos Icicae heptaphyllae prope Bains-Jaunes, 740 m. s. m. (559), et ad Ingam laurifoliam prope Camp Jacob, 580 m. s. m. (561), in Guadalupa collegit P. Duss. Fert.

11. **P. Parnassia** Wain., l. c.

Ad sp. *Depressas* Müll. Arg. pertinet.

Ad corticem Calophylli calabae in Parnasse in Guadalupa (469: P. Duss). Fert.

12. **P. xanthodes** Müll. Arg., Lich. Beitr. (Fl. 1884) n. 726.

Var. **biformis** Wain.

Pseudostromata apice abrupte impresso aut convexo, alia statura sp. *Depressarum*, alia forma sp. *Leioplacarum*. Thallus flavus, sat tenuis, verruculis subtilibus crebre inspersus. Pseudostromata et thallus supernè et intus KHO lutescentia, dein fulvescentia, CaCl_2O_2 non reagentia. — Thallus parum nitidus, continuus, linea hypothallina nigricante, tenuissima limitatus divisusque. Pseudostromata sat crebra aut crebra, raro parceque confluentia, 1—0.5 millim. lata, hemisphaerica, basi demum abrupta aut sat abrupta, ambitu vulgo leviter gibboso-irregularia, thallo concoloria, impressione irregulari et 0.2—0.5 millim. lata, ostiola pauca (1—4), vulgo sordide flavescentia, haud denuo impressa, continente, alia (in eo-

dem thallo) apice convexo et impressione nulla instructo. Sporae binae, long. 0.070—0.100, crassit. 0.023—0.040 millim., membrana 0.004—0.006 millim. crassa, stratis aequaliter incrassatis, limite undulato. Hymenium jodo caerulescens. Epithecium haud obscuratum (sub microscopio). Paraphyses ramoso-connexae. Medulla thalli jodo non reagens. — Cum hac specie forsan etiam *P. perlutescens* Stiz., Lich. Afr. p. 140, confluit.

Ad truncos arborum prope Cane-Bay (467 pr. p.: C. Raunkiaer) et in Mount Eagles (F. Boergesen) in S. Croix. Fert.

Var. *stramineoalbida* Wain.

Thallus stramineo-albicans. Ceterum similis v. *biformi*. Sporae binae, ellipsoideae aut oblongae, apicibus rotundatis, long. 0.097—0.064, crass. 0.048—0.025 millim., membrana 0.006—0.008 millim. crassa, stratis aequaliter incrassatis, limite demum bene reticulato-undulato, in medio demum fissura longitudinaliter dehiscente. Ostiola apotheciorum sordide straminea, vulgo impressa, irregularia.

Ad corticem Hippomanis mancenillae in parte septentrionali insulae S. Croix (F. Boergesen). Fert.

13. *P. stramineocarpa* Wain.

Thallus tenuis aut sat tenuis, continuus, verruculoso-inaequalis, albedo-glaucescenti- et stramineo-glaucescenti-variegatus, leviter nitidus, sorediis et isidiis destitutus, extus et intus nec KHO, nec CaCl_2O_2 reagens, at his solutionibus mixtis aurantiaco-rubescens, hypothallo nigricante aut cinerascete partim limitatus. Pseudostromata sparsa, 0.8—1 millim. lata, hemisphaerica aut depresso-subglobosa, basi demum leviter constricta, ambitu leviter verrucoso-inaequalia, thallo concoloria, KHO extus haud reagentia, intus lutescentia et demum fulvescentia, apothecium unum aut rarius 2 apothecia continentia, ostiolis impressis, difformibus, circ. 0.5—0.2 millim. latis, confluentibus, pallidis aut carneo-pallidis. Sporae binae, decolores, simplices, oblongae, apicibus rotundatis aut rotundato-obtusis, membrana 0.005 millim. crassa, stratis aequaliter incrassatis, limite undulato, long. 0.084—0.090, crass. 0.036

—0.038 millim. — Habitu *P. pustulata* (Ach.) in memoriam revocans, at ostiolo impresso, pallido, et membrana sporarum ab ea differens. Ad species *Depressas* Müll. Arg. pertinet.

Ad corticem *Ingae Swartzii* in Calebasse, alt. 680 m. s. m., in Guadalupa (1650: P. Duss). Fert.

14. *P. simplicata* Wain. (n. sp.).

Thallus tenuis, continuus, verruculis subtilibus, basim versus sensim dilatatis, crebris inspersus, sat opacus aut leviter nitidus, glaucescens, sorediis et isidiis destitutus, extus et intus KHO non reagens aut intus leviter lutescens, CaCl_2O_2 non reagens, his solutionibus mixtis parum reagens aut levissime flavescens, hypothallo indistincto. Pseudostromata crebra aut sat crebra aut parce confluentia, 0.4—0.6 millim. lata, thallo concoloria, hemisphaerica, basi demum sat abrupta, leviter verruculoso-inaequalia, apothecium unum aut raro 2 apothecia continentia, ostiolo impresso, rotundato aut anguloso aut leviter sphinctrine rimuloso, glaucescente, circ. 0.2 millim. lato, KHO superne non reagentia, intus lutescentia, demum fulvescentia, CaCl_2O_2 non reagentia. Epithecium albidum aut dilute pallidum (sub microscopio). Sporae binae, decolores, ellipsoideae aut oblongae, apicibus rotundatis, membrana 0.004—0.003 millim. crassa, stratis sat aequaliter incrassatis, limite demum undulato, diu laevigato, long. 0.054—0.086, crass. 0.024—0.030 millim. Medulla jodo non reagens. Ad species *Depressas* Müll. Arg. pertinet. — *P. rhexostoma* Nyl. thallo laevigato et disco nigro secundum specim. orig. n. 23733 in herb. Nyl. ab hac specie differt. *P. pustulata* (Ach.) Nyl. disco nigro, haud aut minus impresso et sporis intus laevigatis ab ea distinguitur.

Ad corticem trunci putridi prope Cane-Bay in S. Croix (467 pr. p.: C. Raunkiaer). Fert.

15. *P. praetervisa* Wain. (n. sp.).

Facie externa *P. communem* D.C. in memoriam revocans, at sporis haud costatis et thallo colore alio modo variabili et pseudo-

stromatibus basi haud constrictis ab ea differens. Ad species *Leio-placas* Müll. Arg. pertinet.

Var. straminea Wain.

Thallus et pseudostromata straminea aut albido-straminea, concoloria, ostiolo apothecii haud prominente. — Thallus sat tenuis aut crassitudine mediocris, areolato-rimosus aut partim continuus, sat laevigatus aut verruculis subtilibus crebre inspersus, sat opacus, KHO superne leviter lutescens, intus intensius lutescens, CaCl_2O_2 non reagens, his solutionibus mixtis parum reagens, sorediis et isidiis destitutus, jodo non reagens, hypothallo nullo distincto aut partim linea nigricante angustissima limitatus. Pseudostromata sat crebra et partim irregulariter confluentia, circ. 1 (0.7—1.5) millim. lata (confluentia usque ad 3 millim. longa latave), hemisphaerica aut confluentia in formam plus minusve irregularem, basi vulgo demum abrupta aut sat abrupta, leviter aut parum gibboso-inaequalia, apice vulgo rotundato-convexo, haud impresso, discis 1—3 (aut pluribus in pseudostromatibus confluentibus), nigris, rotundatis, diam. 0.15 (0.2—0.1) millim., plus minusve immersis aut superficiem pseudostromatum aequantibus, KHO extus leviter et intus intense lutescentia, CaCl_2O_2 non reagentia. Sporae binae, decolores, oblongae, apicibus rotundato-obtusis, stratis membranae laevigatis, long. 0.084—0.136, crass. 0.026—0.040 millim. Endosporium duplo aut multoties crassius, quam exosporium. — *P. pluripuncta* Nyl. secundum specimen orig. n. 23455 in herb. Nyl. pseudostromatibus minus elevatis, ostioliis numerosissimis et thallo ruguloso ab hac variatione differt.

In rupibus ad Hams-Bluff et Viam Oxholmiam (F. Boergesen) et prope Cane-Bay (425, 426: C. Raunkiaer) in S. Croix. In rupibus littoralibus in Buck-Island prope S. Croix (F. Boergesen). In rupibus littoralibus prope Brynes-Bay (429: C. Raunkiaer) et prope Cruz-Bay (F. Boergesen) in insula S. Jan. Fert.

Var. expallescens Wain.

Thallus et pseudostromata minus distincte straminea, potius albido-glauescentia, aut partim substramineo-glauescentia. — Thallus sat tenuis aut crassitudine mediocris, areolato-rimosus aut

sat continuus, sat laevigatus, sat opacus, KHO superne leviter lutescens aut partim non reagens, intus lutescens aut demum fulvescens, CaCl_2O_2 non reagens, his solutionibus mixtis parum reagens, soreidiis et isidiis destitutus, jodo non reagens, hypothallo nullo distincto aut partim linea nigricante angustissima limitatus decussatusve. Pseudostromata sat crebra aut sparsa, circ. 1—0.7 millim. lata, hemisphaerica aut depresso-hemisphaerica, basi haud abrupta aut rarius demum abrupta, leviter aut parum gibboso-inaequalia, apice vulgo rotundato-convexo, haud impresso, discis 1—3, nigricantibus aut cinerascentibus, rotundatis, punctiformibus, impressis aut superficiem pseudostromatum aequantibus aut in gibbis ostiolaribus glaucescentibus leviter prominentibus dispositis, KHO superne leviter lutescentia aut partim haud reagentia, intus lutescentia aut demum fulvescentia, CaCl_2O_2 non reagentia. Sporae binae aut 3-nae, decolores, oblongae aut ellipsoideae, long. 0.092—0.066, crass. 0.048—0.026 millim., stratis membranae laevigatis. Endosporium demum duplo aut multoties crassius, quam exosporium. Hymenium jodo caerulescens, sporae haud reagentes. Pycnoconidangia verruculis 0.2—0.5 millim. latis, hemisphaericis basi abrupta instructis aut parum prominentibus inclusa, vulgo solitaria aut raro bina in eadem verruca, ostiolo rotundato, 0.2—0.1 millim. lato, superficiem verrucae aequante aut rarius immerso. Pycnoconidia fusiformia, apicibus sensim attenuatis, acutis, medio aut propius alterum apicem versus incrassata, recta, long. 0.008—0.011, crass. 0.001 millim. — *P. impallescens* Nyl. (Cromb., Lich. Ins. Rodrigu., 1877, p. 440) secundum specim. orig. n. 23609 in herb. Nyl. habitu huic variationi sat similis et thallo (intus aurantiaco-maculato, forsan fortuito) KHO superne leviter lutescente, intus bene lutescente, pseudostromatibus KHO extus et intus lutescentibus instructa est, at, observante Nyl., sporis 8-nis ab ea differt. *P. subcicutricosa* Steiner, Flecht. Madeir. (1904) p. 27, praesertim ostiolis pallidis, reactione thalli et sporis costatis ab hac specie differt. In *P. praetervisa* tantum asci demum transversim costati.

In rupibus prope Hams-Bluff et in Crequis in S. Croix (F. Boergesen). In rupibus littoralibus prope Cruz-Bay in insula S. Jan. Fert.

Var. pileolata Wain.

Thallus stramineus aut sulphureo-stramineus, vulgo intensius coloratus, quam in v. *straminea*. Pseudostromata thallo concoloria, at apice et margine ostiolarum apothecii, vulgo gibbum leviter prominentem formante, glaucescenti- vel cinerascenti-stramineo. — Thallus crassitudine mediocris aut sat tenuis, vulgo crebre areolato-rimosus, verruculis subtilibus crebre inspersus aut sat laevigatus, sat opacus, KHO superne leviter lutescens, intus intensius lutescens, CaCl_2O_2 non reagens, his solutionibus mixtis parum reagens, sorediis et isidiis destitutus, jodo non reagens, linea hypothallina nigricante, angustissima partim limitatus. Pseudostromata vulgo sat crebra, circ. 1—1.5 millim. lata, vulgo sphaerica, basi vulgo demum abrupta aut sat abrupta, leviter aut parum gibboso-inaequalia, apice rotundato-convexo aut leviter impresso aut depresso-applanato, discis 1—4, nigricantibus, rotundatis, minutissimis, haud impressis, in gibbis ostiolaribus dispositis, KHO superne leviter et intus intensius lutescentia, CaCl_2O_2 non reagentia. Sporae binae aut quaternae, decolores, oblongae, stratis membranace laevigatis, long. 0.086—0.110, crass. circ. 0.040 millim. Endosporium crassius, quam exosporium.

In rupibus ad Hams-Bluff et Salt-River et in rupibus littoralibus ad Prosperity in S. Croix (F. Boergesen). Fert.

16. *P. flavens* Nyl., Enum. Lich. Antill. (1869) p. 12; Müll. Arg., Lich. Beitr. (Fl. 1884) n. 762 (p. 397).

Thallus superne et intus nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens. Pseudostromata KHO extus non reagentia, intus levissime lutescentia aut non reagentia, papillis ostiolaribus citrinis, leviter prominentibus, disco inconspicuo (concolore). Sporae 8-nae, distichae, long. 0.060—0.036, crass. 0.030—0.015 millim., membrana crass. 0.004 millim., stratis aequalibus aut

exosporium duplo crassius, quam endosporium, limite laevigato. Ad sp. *Leioplacas* Müll. Arg. pertinet.

Ad corticem arboris in insula S. Croix (Ove Paulsen) et prope Shawford in Dominica (1549: W. R. Elliott). Ad lignum in S. Rose in Guadalupa (1401: P. Duss).

17. *P. glaucopunctata* Wain. (n. sp.).

Thallus sat tenuis aut tenuis, continuus aut demum rimulosus, sat laevigatus aut leviter inaequalis, albido-stramineus, sat opacus aut leviter nitidus, nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens, sorediis et isidiis destitutus, hypothallo nullo distincto. Pseudostromata sat crebra, leviter aut parum prominentia, ambitu sensim in thallum abeuntia, vertice saepe demum leviter convexo, sordide glaucescente vel cinereo-glaucescente, latere thallo concoloria, discis 1—4, cinereo-nigricantibus, rotundatis, minutissimis, superficiem pseudostromatum aequantibus aut in gibbis ostiolaribus cinereo-glaucescentibus levissime prominentibus dispositis, nec extus, nec intus KHO aut CaCl_2O_2 reagentia, sat laevigata aut leviter inaequalia. Sporae 8:nae, distichae, decolores, oblongae, apicibus obtuso-rotundatis, long. 0.038—0.056, crass. 0.016—0.026 millim., membrana circ. 0.005 millim. crassa, stratis aequaliter incrassatis, limite laevigato. *P. leioplacella* Nyl., Énum. Lich. Antill. (1869) p. 12 (*P. Husnotiana* Müll. Arg.), forsan specie non differt a planta nostra, at colore thalli et reactione aurantiaca, $\text{CaCl}_2\text{O}_2 + \text{KHO}$ producta, ei dissimilis. Secundum specimen orig. n. 23642 (e Guadalupa) in herb. Nyl. thallo stramineo-glaucescente, vertice pseudostromatum sordide glaucescente, convexo instructa est. Diversa est primitiva *P. leioplacella* Nyl., Syn. Lich. Nov. Cal. (1868) p. 32 (Fl. 1867 p. 195), secundum specim. orig. n. 23640 in herb. Nyl. thallo et pseudostromatibus stramineis, ostioliis prominentibus, luteis ab ea differens. — *P. glaucopunctata* ad species *Leioplacas* Müll. Arg. pertinet.

Ad corticem Mangiferae Indicae prope Crown in S. Thomas (417 pr. p.: C. Raunkiaer). Fert.

18. *P. thlostomoides* Wain. (n. sp.).Var. *citri* Wain.

Thallus et pseudostromata cinereo-glaucescencia, verruculis albidis inspersa.

Thallus sat tenuis aut crassitudine mediocris, continuus aut rimulosus, cinereo-glaucescens, verruculis rotundatis aut oblongis, albidis crebre inspersus, sorediis et isidiis destitutus, leviter nitidus, extus et intus KHO non aut parum reagens, CaCl_2O_2 non reagens, at his solutionibus mixtis extus aurantiaco-fulvescens, intus non reagens, hypothallo nigricante partim anguste limitatus. Pseudostromata crebra, irregulariter depresso-subglobosa, basi constricta, bene verruculosa, verruculis partim albidis, circ. 1—1.3 millim. lata, apice convexo aut appanato, thallo concoloria, papillis ostiolaribus 1—6, thallo concoloribus aut flavido-glaucescens, 0.15—0.2 millim. latis, sat bene prominentibus, vulgo sparsis, KHO extus haud reagentia, intus lutescencia, dein intense fulvescencia, maculis aurantiaco-rubescens. Asci cylindrici. Sporae 4-nae, monostichae, decolores, oblongae, apicibus rotundatis aut rotundato-obtusis, membrana 0.005—0.006 millim. crassa, stratis sat aequaliter incrassatis, limite laevigato aut demum leviter undulato, long. 0.102—0.140, crass. circ. 0.034 millim. — *P. cinerascens* (Müll. Arg.) Wain. et *P. quassiae* (Fée) Nyl. in memoriam revocans, sporis 4-nis a priore et ostiolo apotheciorum a posteriore distinguitur. Inter species *Leioplacas* Müll. Arg. et *Verrucosus* Müll. Arg. est intermedia.

Ad Citrum aurantium in Palmistes in Guadalupa (1177: P. Duss). Fert.

Var. *calophylli* Wain.

Thallus et pseudostromata verrucosa et verruculosa, sordide albedo-glaucescencia, vulgo unicoloria.

Thallus sat tenuis aut mediocris, continuus, sordide albedo-glaucescens, verruculis et verrucis thallo concoloribus aut rarius albidis, rotundatis, inspersus, sorediis et isidiis destitutus, leviter nitidus, KHO superne leviter lutescens aut parum reagens, intus

leviter lutescens, CaCl_2O_2 non reagens, his solutionibus mixtis extus dilute aurantiaco-rubescens, intus non reagens. Pseudostromata crebra, irregulariter depresso-subglobosa, basi leviter constricta, apice vulgo leviter impresso, verrucoso-inaequalia, circ. 1—1.5 millim. lata, thallo concoloria, papillis ostiolaribus 1—4, flavido-glauciscentibus, 0.15—0.2 millim. latis, sat bene prominentibus, aggregatis aut sparsis, haud confluentibus, KHO extus leviter lutescentia aut haud reagentia, intus lutescentia et demum fulvescentia, CaCl_2O_2 non reagentia, his solutionibus mixtis intus et extus dilute aurantiaco-rubescens. Sporae 4:nae, monostichae, membrana 0.005 millim. crassa, stratis sat aequaliter incrassatis, limite laevigato, long. 0.074—0.100, crass. 0.026—0.030 millim. — Huic proxima est *P. thiostroma* Nyl. (Lich. Jap. p. 54), quae secundum specim. orig. n. 23216 in herb. Nyl. pseudostromatibus minus elevatis et basim versus sensim dilatatis ab ea differt. *P. rhodiza* Nyl. (*P. leioplacoides* var. *rhodiza* Müll. Arg., Lich. Beitr. n. 739) habitu ei item subsimilis est, at secundum specim. orig. in herb. Nyl. ostioliis prominentibus, demum nigricantibus (et sporis) ab ea distinguitur.

Ad corticem Calophylli calabae in Parnasse in Guadalupa (1211: P. Duss). Fert.

19. *P. arecae* Wain. (n. sp.).

Thallus sat tenuis, continuus, sordide albidus, leviter verruculoso-inaequalis, sorediis et isidiis destitutus, leviter nitidus, extus et intus nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens, hypothallo nullo distincto. Pseudostromata sat crebra aut sparsa, depresso-subglobosa, ambitu saepe leviter verrucoso, basi demum leviter constricta, vertice saepe leviter impresso, thallo concoloria, circ. 1 (— 0.8) millim. lata, papillis ostiolaribus 1—3, glauciscenti-flavidis, 0.15—0.2 millim. latis, sparsis aut aggregatis, sat leviter prominentibus, KHO extus haud reagens, intus lutescens et demum fulvescens, CaCl_2O_2 non reagens, his solutionibus mixtis non reagens. Asci cylindrici, crassit. circ. 0.050 millim. Sporae 8:nae, monostichae, oblongae aut ellipsoideae, apicibus ob-

tusis aut rotundato-obtusis, membrana 0.004 millim. crassa (in apicibus saepe 0.011 millim.), stratis sat aequaliter incrassatis, limite laevigato, long. 0.054—0.074, crass. 0.027—0.030 millim. A specie praecedente sporis 8:nis et pseudostromatibus minus verrucosis et a *P. confundente* Nyl. (Müll. Arg., Lich. Beitr. n. 742) sporis minoribus et pseudostromatibus magis regularibus et minus verrucosis differt. Ad species *Leioplacas* Müll. Arg. pertinet.

Ad corticem vetustae *Arecae oleraceae* in Basse-Terre in Guadalupa (1418: P. Duss).

20. *P. ascidioides* Wain. (n. sp.).

Thallus sat tenuis aut mediocris, continuus, albido-glauescens, verruculoso-inaequalis, sorediis et isidiis destitutus, plus minusve nitidus, KHO superne leviter lutescens aut non reagens, intus lutescens et demum aurantiaco-fulvescens aut aurantiaco-rubescens aut partim non reagens, CaCl_2O_2 non reagens. Pseudostromata crebra aut sparsa, depresso-subglobosa, basi demum constricta, vertice applanato aut leviter impresso, thallo concoloria, circ. 1.5—3.5 millim. lata, vulgo apothecia plura continentia, ostiolis indistinctis aut punctiformibus, rotundatis, nigricantibus, superficiem attingentibus aut in papillis levissime prominentibus et thallo concoloribus dispositis, KHO extus haud reagentia, intus lutescentia et demum fulvo-rubescencia aut fulvo-aurantiaca. Asci cylindrici. Sporae 4-nae, monostichae aut imbricato-monostichae, oblongae, apicibus obtusis, membrana 0.005—0.006 millim. crassa (in apicibus strato interiore saepe valde incrassata), ceterum stratis sat aequaliter incrassatis, limite undulato, long. 0.090—0.150, crass. 0.026—0.030 millim. Ad species *Tuberculiferas* Müll. Arg. pertinet. A *P. tuberculifera* Nyl. pseudostromatibus depressis, KHO intus reagentibus distinguitur.

Ad corticem *Sloaneae caribaeae* in Parnasse (531: P. Duss) et ad truncum *Acnisti arborescentis* in Camp Jacob (1571: P. Duss) in Guadalupa. Fert.

21. **P. plana** Wain., Lich. Nov. Rar. III (Hedwigia 1899)

p. 254.

Ad species *Irregulares* Müll. Arg. pertinet.

Ad *Citrum aurantium* in Basse-Terre in Guadalupa (728: P. Duss).

Trib. 5. Theloschisteeae.

1. Theloschistes.

1. **Th. flavicans** (Sw.) Müll. Arg.

F. glabra Wain., Étud. Lich. Brés. I p. 114. *Evernia flavicans* var. *crocea* f. *maxima* et f. *tenuissima* Mey. et Flot. (conf. Müll. Arg., Rev. Lich. Mey. p. 309).

Thallus glaber, sorediosus.

In arboribus prope La Cumbra in S. Domingo (496: C. Raunkiaer) et in Martinica (Isert). In Erythroxylo obovato ad Houelmont (554: P. Duss) et in Myroxylo marhansi in Morne-Vert, alt. 600 m. s. m. (1639: P. Duss) in Guadalupa. N. 554 fert., ceterum ster.

2. ***Th. acromelus** (Pers.) Wain., l. c. p. 115.

In ramis arborum ad La Cumbra in S. Domingo (496 pr. p.: C. Raunkiaer), ad New Castle (3533: H. F. A. Eggers) et alibi in Jamaica (F. Boergesen). Ster.

2. Placodium.

1. **Pl. cupuliferum** Wain. (n. sp.).

Thallus arcte adnatus, sat-tenuis, circ. 0.1—0.15 millim. crassus, crustaceus, ambitu passim irregulariter crenulatus, haud distincte effiguratus, subeffusus, areolato-diffractus aut partim areolatus, areolis difformibus, partim etiam lacinulaeformibus oblongisque, planis aut partim depresso-convexis, sat laevigatis, parum nitidulis, vitellinus aut vitellino-aurantiacus, isidiis et pruina destitutus, sora-

liis circ. 0.3—0.4 millim. latis inspersus, cupularibus, profundis, margine saepe leviter prominente, granulis solediorum subtilibus, sat parcis, hypothallo nullo distincto, at margine saepe sensim attenuato, thallo subconcolore, medulla crebre contexta. Thallo neque pruinoso, neque lacinulato-disperso a *Pl. cirrochroo* (Ach.) Hepp et f. *obliterante* (Nyl.) Wain. et nota posteriore a *Pl. cirrochrooide* Wain. differt. Magis affine est *Pl. cinnabarino* (Ach.) et *Pl. rubelliano* (Ach.), quam *Pl. cirrochroo*. *Pl. flavocitrinum* (Nyl.) areolis thalli margine solediosis secund. specim. orig. n. 29196 ab ea distinguitur.

In saxis prope cataractam ad Reef-Bay in insula S. Jan (F. Boergesen), una cum *Buellia pachyphragmate*. Ster.

2. *Pl. cinnabarinum* (Ach.) Anzi.

Thallus irregulariter areolatus et areolato-diffractus, fulvo-rubescens, solediiis et isidiis destitutus, crassitudine mediocri, medulla crebre contexta, hypothallo nullo distincto. Apothecia thallo immersa aut demum leviter emergentia.

Ad saxa granitica in Buck-Island prope portum oppidi S. Thomas (leg. Riise). Fert. et specimini originali Achariano omnino simile.

3. *P. subfulgescens* (Nyl.) Wain.

F. *primaria* Wain. *Lecanora subfulgescens* Nyl., Fl. 1876 p. 510. Wright, Lich. Cub. ser. II n. 50.

Thallus fulvo-aurantiacus, continuus et rimulosus aut partim rimoso-diffractus, ambitu neque effiguratus, neque abrupte limitatus, tenuior et pallidior, quam in *Pl. cinnabarino*, hypothallo caeruleo-nigricante partim limitatus. Apothecia emergentia, disco aurantiaco-rubescente, margine habitu biatorino et disco (nec thallo) fere concolore. In *Pl. cinnabarino* apothecia sunt thallo immersa aut parce demum leviter emergentia. *Callopisma cinnabarinum* var. *opacum* Müll. Arg., Lich. Beitr. (1881) n. 333, secund. specim. orig. in herb. Nyl. apotheciis immersis cum *Pl. cinnabarino* congruens, thallo ad hanc formam accedit.

F. dispersa Wain., Lich. Antill. (1896) p. 6.

Thallus dispersus, aurantiaco-rubescens (sicut in *Pl. cinnabarrino*), locis umbrosis flavido-fulvescens, hypothallo caeruleo-nigricante passim distincto. Apothecia emergentia, margine habitu biatorino, disco fere concolore. — Huic formae proxima est *Callopisma aurantiacum* ♂. *gyalectoides* Mass., Mon. Lich. Blast. (1853) p. 75 (Syn. Blast., 1852, p. 10), secundum specim. orig. n. 29514 in herb. Nyl. hypothallo caeruleo-nigricante bene evoluto subcontinuoque ab ea differens (areolis thalli minutis, aurantiaco-rubescensibus, apotheciis emersis, habitu biatorinis (et, observante Nyl., sporis long. 0.009—0.011, crass. 0.006—0.007 millim.).

Ad lapides in muro in America-Hill in S. Jan et in saxis in valle Caledonia in S. Croix (F. Boergesen). Modificatio thallo flavido-fulvescente instructa in saxis magis umbrosis ad Magensbay-Estate, 800 p. s. m., in S. Thomas (F. Boergesen). Fert.

4. **Pl. citrinum** (Hoffm.) Hepp.

Thallus fulvus, KHO violascens, sorediosus, granulis sorediorum tenuissimis. Omnino simile in herb. Nyl. (n. 2685) adest nomine *Lecanorae phloginae* (false determinatum) e Gallia. *Leproplaca xantholyta* Nyl. secundum specim. orig. thallo ambitu verrucoso, effigurato-crenato, ab eo differt. — *Callopisma aurantiacum* var. *granulare* Müll. Arg., Lich. Parag. (Rev. Mycol. 1888), p. 11, thallo albedo, soraliis difformibus aut rotundatis, fulvis, farinosis insperso, autonoma est species (secundum specim. orig. in herb. Nyl.) et nominetur *Pl. granulare*.

Ad corticem arboris (*Sapota achras*) in Montéran, 250 m. s. m., in Guadalupa. Ster.

5. **Pl. aurantiacum** (Lightf.) Tuck.

***Pl. Bassiae** (Willd.) Wain., Lich. Antill. (1896) p. 7. *Leprosora Bassiae* (Willd.) Ach., Meth. Lich. (1803) p. 5. *Lecanora epiphora* Tayl. in Hook. Journ. Bot. 1847 p. 159 (secundum fragmentum speciminis orig. in herb. Nyl.: n. 30216).

In specimine, in Sepitiba prope Rio de Janeiro a me lecto,

pycnoconidangia fulva, verrucaeformia, sterigmata 0.0015 millim. crassa, constricta articulata, articulis rotundatis aut ellipsoideis, pycnoconidia ellipsoidea, recta, long. 0.002, crass. 0.001 millim.

Ad corticem arboris prope Crown in S. Thomas (422: C. Raunkiaer). Ad Spondiam cytheraeam (448), Arecam oleraceam (1282) et Anacardium occidentale (1505) in Basse-Terre et ad Ingam laurifoliam in Parnasse (472) et ad Perseam gratissimam (1417) in Bouillante et ad Mammeam humilem (1413) in Sofaga (parcissime isidiosa) et ad Ingam martinicensem in Houelmont (1802) in Guadalupa (P. Duss). Fert.

6. **Pl. aphanotriptum** (Nyl.) Wain. *Lecanora aphanotripta* Nyl., Lich. Jap. (1890) p. 104 (secund. herb. Nyl.).

Thallus crustaceus, effusus, tenuis, sat laevigatus, albidus aut sordide albicans, isidiis apice cinerascens, circ. 0.5—1 millim. longis, 0.050—0.030 millim. crassis, vulgo ramosis, saepe demum confertis instructus, sorediis destitutus, nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens, hypothallo caeruleo-nigricante partim limitatus. Apothecia adpressa, basi bene constricta, latit. 0.5—1.2 millim., sat tenuia, zeorina, disco plano aut leviter convexo, croceo- aut aurantiaco-rubescens, nudo, opaco, margine proprio tenui aut tenuissimo, integro, disco vulgo concolore, margine thalode tenui aut tenuissimo, minutissime isidioido-verruculoso, thallo et isidiis concolore. Hymenium circ. 0.060—0.070 millim. crassum. Epithecium fulvum, KHO purpureum. Asci ventricosi. Paraphyses laxae cohaerentes, crass. 0.001—0.0015 millim., apicibus leviter aut parum incrassatis, simplicibus et pro minore parte furcatis. Sporae 8-nae, distichae, decolores, 1-septatae, septo 0.005—0.009 millim. crasso, poro tenui, ellipsoideae, apicibus obtusis aut rotundatis, long. 0.013—0.017 (raro 0.011), crass. 0.008—0.009 millim.

Ad corticem arboris in Morne Conliabon, alt. 3700 p. s. m., in Dominica (1538: W. R. Elliott) et in ramulis Myriciae splendentis in Morne Pavillon in Guadalupa (1792: P. Duss). Fert.

7. *Pl. aureofulvum* Wain. (n. sp.).

Thallus crustaceus, effusus, tenuis aut sat tenuis, continuus aut partim dispersus, leviter inaequalis et depresso-verrucosus aut sat laevigatus, glaucescenti-albidus, leviter nitidus, sorediis et isidiis destitutus, hypothallo caeruleo-nigricante passim praesertimque ad ambitum evoluto, KHO haud reagens. Apothecia sat crebra, adpressa, basi bene constricta, latit. 1.2—0.6 millim., sat tenuia, zeorina, disco plano aut demum leviter convexo, fulvo aut aurantiaco-fulvescente, denudato aut vix distincte ferrugineo-pruinoso, opaco, margine proprio tenui, integro, disco concolore, margine thalode tenui aut tenuissimo, minutissime verruculoso-crenulato. Hymenium circ. 0.065—0.080 millim. crassum. Epithecium fulvum, KHO purpureum. Paraphyses crassitudine mediocres, apice leviter incrassatae, haud ramosae. Asci ventricosi. Sporae (tantum 4-nae visae), decolores, 1-septatae, septo vulgo crasso, crass. 0.008—0.010 (raro 0.003) millim., ellipsoideo-orculaeformes aut oblongae, apicibus rotundatis aut obtusis, poro vulgo tenui, long. 0.009—0.017, crass. 0.004—0.008 millim. Gonidia cystococcoidea. — Habitu simile est *Pl. gilvo* var. *sereniori* Wain., Lich. Bras. Exs. n. 109, a qua margine apotheciorum tenuissime crenulato differt. *Pl. erythranthum* (Tuck.) thallo magis verruculoso-inaequali, disco apotheciorum aurantiaco-rubescente, margine crassiore, integro aut demum crenulato, crenulis majoribus, secundum specimina originalia n. 30029 et 30031 in herb. Nyl. ab ea distinguitur. *L. russeola* Nyl. tantum sporis paullo minoribus differt a *Pl. erythrantho*.

Ad truncum Pimentae vulgaris in Champflore, alt. 300—400 m. s. m., in Guadalupa (1646: P. Duss). Fert.

8. *Pl. ferrugineum* (Huds.) Hepp.

Var. *caesiorufa* (Nyl.) Wain., Lich. Caucas. (1899) p. 298, Lich. Pitlekai (Ark. för Bot. Sv. Vet. Stockh. 1909, B. 8 N:o 4) p. 66.

In his speciminibus thallus crassitudine mediocris aut sat crassus, rimosus aut subcontinuus, sordide albicans aut sordide cinerascens, ruguloso- aut verruculoso-inaequalis, sorediis destitutus,

hypothallo caeruleo-nigricante limitatus aut nullo distincto. Apothecia 0.7—1.3 millim. lata, adpressa, basi bene constricta, disco ferrugineo- aut fulvo-rubescente, plano aut demum leviter convexo, opaco, pruina concolore, margine proprio mediocri, disco concolore, integro, ferrugineo-pruinoso, margine thallode tenui, tantum infra apothecia visibili, integro. Hypothecium cartilagineum, ex hyphis tenuibus, leptodermaticis, irregulariter contextis, conglutinatis formatum, strato medullari excipuli, glomerulos sparsos gonidiorum continenti, ex hyphis haud conglutinatis formato, impositum. Hoc stratum medullare extus strato corticali albido, minute pseudo-parenchymatico obductum. Parathecium marginem proprium formans, ex hyphis radiantibus, sat tenuibus, leptodermaticis, conglutinatis constitutum. Sporae 8-nae, distichae, ellipsoideo-orculaeformes, apicibus rotundatis aut obtusis, lateribus vulgo convexis, septo 0.008—0.004 millim. crasso, poro tenui, long. 0.012—0.015(—0.010), crass. 0.006—0.009(—0.005) millim.

In saxis ad cataractam prope Reef-Bay et in America-Hill in insula S. Jan (F. Boergesen). Ad saxa in savannis siccis prope Trois-Rivières in Guadalupa (1390: P. Duss). Fert.

9. *Pl. leptozonum* (Nyl.) Wain. *Lecanora leptozona* Nyl. in Nyl. et Cromb., On Collect. Lich. East. As. (Linn. Journ. Bot. XX, 1882) p. 52 (secund. specim. orig. n. 29194 in herb. Nyl.).

Thallus crustaceus, effusus, crassitudine mediocris, subcontinuus, crebre areolato-rimulosus vel rimuloso-diffractus, sat laevigatus aut partim leviter verrucoso-inaequalis, glaucescenti-albidus, sat opacus vel leviter nitidus, sorediis et isidiis destitutus, KHO lutescens, CaCl₂O₂ non reagens, his solutionibus mixtis extus et intus lutescens, hypothallo caeruleo-nigricante partim limitatus. Apothecia adpressa, basi bene constricta, sat crebra, latit. 0.5—0.7 millim., crassitudine mediocria, disco plano aut demum leviter convexo, ferrugineo vel subrufescenti-ferrugineo, haud distincte ferrugineo-pruinoso, opaco, margine proprio tenui, integro, nigricante, nudo, amphithecio thallino (margine thallode), gonidia continente, thallo

concolore, tantum infra apothecia visibili, integro. Hypothecium albidum aut pallidum, ex hyphis varie contextis maxima parte conglutinatis formatum, saepe lacunis numerosis instructum. Parathecium bene evolutum, pseudoparenchymaticum, cellulis majusculis aut mediocribus, sat leptodermaticis, superne aeruginoso-fuligineum, ceterum pallidum. Amphithecium strato corticali pseudoparenchymatico, pallido, e cellulis sat leptodermaticis, sat parvis aut mediocribus formato, circ. 0.040 millim. crasso, strato medullari gonidia continente. Hymenium circ. 0.070 millim. crassum. Epithecium fulvescens aut obscure fulvescens, KHO purpureum. Paraphyses mediocres, apice leviter incrassatae, simplices, laxe cohaerentes. Asci ventricosi. Sporae 8-nae, distichae, decolores, orculaeformes, apicibus obtusis, latere convexo, septo crasso, poro tenui, long. 0.008—0.012, crass. 0.005—0.006 millim. Pycnocondangia verruculas hemisphaericas, 0.100—0.120 millim. latas, nigricantes, formantia. Pycnoconidia oblonga aut rarius alterum apicem versus incrassata (subpistillaria), recta, apicibus rotundatis, long. 0.003, crass. 0.0008 millim. — *Pl. peragratum* (Fée) Wain., Lich. Bras. Exs. n. 94, ab hac specie apotheciis diu immersis, demum emergentibus, perithecio fuligineo, bene evoluta, amphithecio thalino haud evoluta differt, at habitu subsimile est.

In saxis ad cataractam prope Reef-Bay in insula S. Jan (F. Boergesen). Fert.

10. *Pl. Boergesenii* Wain. (n. sp.).

Thallus subsquamulosus aut squamuloso-areolatus, squamulis circ. 1.1—0.2 millim. latis, crassitudine mediocribus (0.080—0.110 millim.), adnatis, angulosis aut difformibus, saepe crenulatis, vulgo planis, supra hypothallum caeruleo-nigricantem dispersis aut contiguis, albis, leviter nitidis, KHO superne et intus lutescentibus, CaCl_2O_2 non reagentibus, his solutionibus mixtis leviter lutescentibus. Apothecia saepe sat crebra, adpressa aut basi sat late adnata, bene constricta, latit. 0.4—0.5 millim., sat tenuia (crassit. circ. 0.125 millim.), disco plano, rufescente aut ferrugineo aut cinereo-

fulvescente aut gilvo, nudo, opaco, margine thallino, tenui, integro, anguste aut plus minusve late nigricante, opaco, ceterum excipulo thallo concolore. Hypothecium pallidum, ex hyphis sat irregulariter contextis, conglutinatis formatum, saepe lacunis instructum. Parathecium pseudoparenchymaticum, tenue, superne dilatatum, albidum, at in superficie ad hymenium anguste nigricans. Excipulum lecanorinum, strato corticali pseudoparenchymatico, 0.020—0.025 millim. crasso, in margine extus aeruginoso-nigricante, ceterum albedo, e cellulis leptodermaticis, mediocribus formato, strato medullari gonidia continente bene evoluto. Epithecium fulvo-fuscescens aut sordide fulvescens, KHO purpureum. Paraphyses laxe cohaerentes, crassit. 0.0015 millim., apice 0.004 millim., haud ramosae, apice crebrius septatae. Asci ventricosi. Sporae 8-nae, distichae, decolores, orculaeformes, apicibus obtusis, lateribus convexis, septo crasso, poro tenui, long. 0.010—0.011, crass. 0.004—0.005 millim. Pycnoconidangia numerosa, verruculas hemisphaericas, nigricantes (aeruginoso-nigricantes sub microscopio), circ. 0.080 millim. latae formantia. Sterigmata long. circ. 0.025—0.035, crass. 0.003 millim., articulis numerosis, globosis aut ellipsoideis, basin versus ramosa, apicibus et lateribus pycnoconidia efferentibus. Pycnoconidia oblonga aut rarius alterum apicem versus leviter incrassata, recta, apicibus rotundatis, long. 0.003, crass. 0.0008 millim. Squamae thalli superne strato corticali tenui, pseudoparenchymatico, inferne obductae strato subaeruginoso-fuligineo, tenui, hypothallio, ex hyphis longitudinalibus, partim conglutinatis formato, subtus hyphas albidas, solitarias, numerosas, rhizinoideas emittentes. Gonidia cystococcacea. — Proxime affine *Pl. leptozono* (Nyl.), at hypothallo bene evoluto et thallo subsquamuloso areolato (neque continuo) ab eo differens. *Pl. Balansanum* (Müll. Arg.) secundum specim. orig. n. 2582 in herb. Nyl. margine apotheciorum thallo concolore, raro nigricante, disco rufo, raro ferrugineo-rufescente (KHO purpureo) thallo areolato, areolis contiguis, angulosis, KHO lutescentibus dignotum, item affine est, at autonoma species.

Var. squamosoareolata Wain.

Thallus squamulosus aut squamuloso-areolatus. Apothecia margine nigricante.

In saxis ad cataractam prope Reef-Bay in insula S. Jan et in saxis littoralibus ad Nord-Side-Bugten (Magensbay) in insula S. Thomas (F. Boergesen). Fert.

Var. leptozonoides Wain.

Thallus areolatus, areolis partim contiguus, partim dispersis, hypothallo caeruleo-nigricante, bene evoluto. Apothecia margine nigricante aut raro pallido.

Ad lapides prope Salt-River in S. Croix (F. Boergesen). Fert.

11. **Pl. Janinum** Wain. (n. sp.).

Thallus crustaceus, effusus, tenuis aut sat tenuis, partim sub-continuuus rimulosusque, partim supra hypothallum caeruleo-nigricantem areolato-dispersus, sat laevigatus aut partim leviter verrucoso-inaequalis, glaucescenti-albidus, sat opacus aut leviter nitidus, sorediis et isidiis destitutus, KHO leviter lutescens, CaCl_2O_2 non reagens, his solutionibus mixtis leviter lutescens. Apothecia sat crebra, adnata, basi leviter constricta, latit. 0.4—0.3 millim., crassitudine mediocria aut sat tenuia, disco plano aut leviter convexo, ferrugineo aut rufescenti-ferrugineo, haud distincte ferrugineo-pruinoso, opaco, margine proprio tenui, integro, nigro, nudo, opaco. Hypothecium albidum aut pallidum, sine limite distincto in hymenium transiens, ex hyphis formatum sat erectis, conglutinatis, basin versus partim crassioribus, sat irregulariter contextis et minus conglutinatis, basin versus saepe lacunis instructum. Parathecium (proprium) bene evolutum, pseudoparenchymaticum, cellulis mediocribus, sat leptodermaticis, superne et extus aeruginoso-fuligineum aut basin versus partim minus obscuratum vel pallescens, intus albidum, superne denudatum, usque ad basin apothecii continuatum. Amphithecium thallinum, parathecium parte inferiore obducens, tenue, gonidia continens, strato corticali nullo aut evanescente instructum. Zona gonidialis thalli, infra hypothecium sita, in basin apothecii

intra parathecium paulum continuata. Hymenium circ. 0.080 millim. crassum. Epithecium obscure fulvescens, KHO purpureum. Asci ventricosi. Sporae 8-nae, distichae, decolores, orculaeformes, apicibus obtusis, latere convexo, septo crasso, poro tenni, long. 0.008—0.011, crass. 0.004—0.005 millim. — Intermedium est inter *Pl. leptozonum* (Nyl.) et *Pl. Benguellense* (Nyl.), parathecio fuligineo magis et amphithecio thallino minus evoluto, quam in praecedente. In *Pl. Benguellensi* perithecium fuliginium usque ad basim apothecii denudatum, neque amphithecio thallino obductum. In *Pl. albidofusco* (*Lecanora* Nyl., Lich. Ins. Princ., 1888, p. 222, Lich. Ins. Guin., 1889, p. 14, Énm. Lich. Annob., 1896, p. 4), secund. specim. orig. in herb. Nyl. apothecia adnata, basi leviter constricta, perithecio nigro, toto denudato, thallo mediocri, continuo, rimuloso, partim supra hypothallum nigrum disperso, sorediis destituto, KHO lutescente; tantum thallo et hypothallo magis evoluto differt a *Pl. Benguellensi* et intermedium inter hoc et *Pl. peragratum* (Fée). Specimina sorediosa, a Nyl. in Lich. Guin. p. 14 commemorata, ad *Pl. Guineense* Wain. pertinent, thallo continuo, mediocri, sorediis rotundatis insperso, KHO lutescente (apotheciis sicut in *Pl. albidofusco*) dignota (secundum specimen n. 29205 ex Insula Principis, in herb. Nyl.). *Lecanora nigrocinctella* Nyl., Lich. Ceyl. (1900) p. 10 (op. posthum.) secund. specim. orig. n. 29684 in herb. Nyl. a *Pl. peragrato* (Fée) vix differt (thallo continuo, sorediis destituto apotheciis semiimmersis, margine et perithecio nigro, amphithecio thallino nullo). Var. sorediosa ibi commemorata ad *Pl. Guineense* pertinet (n. 29668 in herb. Nyl.).

In saxo prope Kebay in insula S. Jan (F. Boergesen). Fert.

12. *Pl. agratum* Wain. (n. sp.).

Thallus areolatus aut subsquamoso-areolatus, areolis 0.8—0.2 millim. latis, crassitudine mediocribus, rotundatis aut angulosis aut difformibus, raro leviter crenulatis, planis aut depresso-convexis, dispersis aut rarius partim contiguus, albis, leviter nitidis, KHO extus et intus levissime lutescentibus aut haud distincte reagenti-

bus, CaCl_2O_2 non reagentibus, his solutionibus mixtis leviter lutescentibus, hypothallo caeruleo-nigricante tenui inter areolas thalli evoluti aut nullo distincto. Apothecia sat crebra, adnata, basi leviter constricta, latit. 0.4—0.3 millim., sat tenuia aut crassitudine mediocria (circ. 0.2 millim.), disco plano aut demum leviter convexo, sordide aut rufescenti- aut rubescenti-ferrugineo, tenuiter aut haud distincte ferrugineo-pruinoso, opaco, margine proprio tenui, integro, nigro, nudo, opaco. Hypothecium pallidum, ex hyphis sat irregulariter contextis, conglutinatis formatum, gonidia nonnulla fortuito continens. Amphithecium haud evolutum. Perithecium proprium bene evolutum, denudatum, pseudoparenchymaticum, superne et extus aeruginoso- aut cyanescenti-fuligineum, intus pallidum vel albidum, basi apothecii deficiens. Stratum medullare, ex hyphis haud conglutinatis formatum, in basi apothecii evolutum, tenue, gonidiis instructum, in zonam gonidiale thalli continuatum. Hymenium circ. 0.090 millim. crassum. Epithecium obscure fulvescens aut fuscescenti-fulvescens, KHO purpureum. Paraphyses laxae cohaerentes, crass. 0.0015 millim., apice clavato-incrassatae et crebrius septatae, haud ramosae. Asci ventricosi. Sporae 8-nae, distichae, decolores, orculaeformes aut oblongae ellipsoideae, apicibus rotundatis aut obtusis, lateribus vulgo convexis, septo crasso, poro tenni, long. 0.010—0.013, crass. 0.005—0.006 millim. — Pycnoconidangia numerosa, verruculas hemisphaericas, nigricantes, 0.110—0.090 millim. latas formantia. Pycnoconidia oblonga aut raro alterum apicem versus leviter incrassata, recta, apicibus rotundatis, long. 0.003, crass. 0.0008 millim. — Proxime affine *Pl. Benguellensi* (Nyl.), quod thallo minus evoluti et apotheciis minoribus ab eo differt. *Pl. peragratum* (Fée) Wain., Lich. Bras. Exs. n. 94, thallo continuo et apotheciis diu immersis, et *Pl. albido-fuscum* (Nyl.) Wain. (vide p. 53) thallo continuo ab eo distinguuntur.

In saxis et rupibus ad Hams-Bluff et Viam Oxholmiam et alibi in insula S. Croix (F. Boergesen). Fert.

13. *Pl. diplacioides* Wain., Lich. Antill. (Journ. Bot. 1896) p. 7.

Ad rupes, saxa et lapides prope Kebay et Esperance et cataractam ad Reef-Bay in insula S. Jan et prope Crequis in S. Croix (F. Boergesen), in Loevenlund in S. Thomas (413: C. Raunkiaer). Etiam fert. Thallo soredioso jam sterile a *Pl. diplacio* facile dignotum.

14. *Pl. diplaclum* (Ach.) Wain., l. c. *Lecanora diplacia* Ach., Syn. Lich. (1814) p. 154; Nyl., Fl. 1880 p. 127.

Var. *carneofusca* (Nyl.) Wain. *Lecanora carneofusca* Nyl. in Cromb. Lich. Ins. Rodrigu. (Linn. Journ. Bot. XV, 1877) p. 438.

Thallus continuus aut demum areolato-diffractus. Apothecia disco rufescente, margine thallode, thallo concolore, margine proprio indistincto. — Thallus crassitudine mediocris aut sat tenuis, vulgo continuus et varie rimulosus, rarius demum areolato-diffractus, sat laevigatus aut leviter inaequalis, albidus aut glauco- vel cinerascenti-albidus, leviter nitidus, sorediis et isidiis destitutus, KHO superne lutescens, intus non reagens, CaCl_2O_2 non reagens, his solutionibus mixtis superne lutescens, intus non reagens, hypothallo caeruleo-nigricante praesertim ad ambitum instructus. Apothecia vulgo sat crebra, adpressa, basi bene constricta, latit. 0.8—0.5(—0.1) millim., crassitudine mediocria, disco plano aut rarius demum convexo, rufo aut testaceo-rufescente, nudo, vulgo leviter nitido, margine thallode, thallo concolore, tenui, integro aut subintegro, margine proprio indistincto (at fere in omnibus speciminibus nonnulla apothecia margine proprio plus minusve evoluto instructa sunt). Excipulum in strato medullari bene evoluto gonidia continens, parathecio evanescente aut sat tenui, albido, extus (in superficie marginis) rufo, ex hyphis tenuibus, leptodermaticis formato, cellulis oblongis. Hypothecium albidum, ex hyphis irregulariter contextis, tenuibus, conglomeratis formatum. Hymenium 0.070—0.080 millim. crassum. Epithecium rufescens aut rubescenti-rufescens, KHO non reagens. Paraphyses arcte cohaerentes, tenues, apice leviter aut parum incrassatae, simplices aut interdum furcatae. Sporae 8-nae, distichae, decolores, orculaeformes, apicibus

rotundato-obtusis, lateribus rotundatis, 1-septatae, septo crasso (0.006 millim.), poro tenui, long. 0.010—0.013, crass. 0.005 millim. Pycnoconidangia numerosa, verruculas depresso-hemisphaericas, nigricantes, 0.100—0.070 millim. latas formantia. Pycnoconidia oblonga aut rarius alterum apicem versus leviter incrassata, recta, apicibus rotundatis, long. 0.003—0.002, crass. 0.0008—0.0006 millim. Facie externa *Lecanoram subfuscam* (var. *chlaronam*) in memoriam revocans. In *L. carneofusca* Nyl. secund. specimina orig. thallus sat laevigatus aut leviter inaequalis, areolato-diffractus, cinereo-glauescens aut albidus, sorediis destitutus, apothecia disco fuscescente, margine lecanorino (in n. 2634 et majore parte in n. 30021) aut zeorino (in n. 30022, qui potius ad v. *phaeam* pertinet). Planta, hoc nomine in Nyl. Add. Lich. Jap. (1900) p. 29 salutata, ad speciem autonomam pertinet, habitu *Rinodinae pyrinae* et *R. sophodis*, apotheciis minoribus, margine thallose (neque zeorino) et statione alia (corticola) dignotam.

Ad saxa et rupes in Loevenlund in S. Thomas (405: C. Raunkiaer) et in Esperance et prope Kebay et cataractam ad Reef-Bay in S. Jan (F. Boergesen) et in Caledonia-Dal et in Crequis in S. Croix (F. Boergesen). Fert.

Var. **phaea** (Tuck.) Wain. *Placodium phaeum* Tuck., Obs. Lich. (Proceed. Am. Ac. Art. Sc. VI, 1864) p. 266, Syn. North. Am. II (1888) p. 146. *Lecanora phaea* Tuck., Wright Lich. Cub. n. 112 (ined.); Nyl., Prodr. Fl. Nov.-Gran. ed. 2 (1863) p. 30.

Thallus continuus aut areolato-diffractus aut areolatus, areolis planis. Apothecia disco fusco aut fusco-nigricante, margine proprio, disco concolore, bene evoluto, margine thallose, thallo concolore, distincto. — Thallus crassitudine mediocris aut sat tenuis, continuus et varie rimulosus aut areolatus, areolis continuis aut partim supra hypothallum nigricantem dispersis, sat laevigatus aut rarius verruculoso-inaequalis, albidus aut glaucescenti- vel cinerascenti-albidus, leviter nitidus, sorediis et isidiis destitutus, KHO superne lutescens. Apothecia saepe sat crebra, adpressa aut sat late adnata, basi vulgo bene aut sat bene constricta, latit. 1.2—0.5 millim.,

crassitudine vulgo mediocria (circ. 0.260 millim.), zeorina, disco plano aut raro demum convexo, fusco aut fusco-nigricante, nudo, saepe leviter nitido, margine proprio, disco concolore, bene evoluto, crassitudine mediocri aut sat tenui, integro, leviter aut haud prominente, margine thallode vulgo tenui, distincto, plus minusve evoluto, disco concolore, integro. Parathecium (perithecium) bene evolutum, pseudoparenchymaticum, cellulis parvis, membranis tenuibus, extus tenuiter fuscescens, intus albidum, impellucidum. Amphithecium strato corticali tenui (cr. 0.020 mm.). pseudoparenchymatico, albido, impellucido, cellulis parvis, membranis tenuibus, strato medullari bene evoluto, gonidia abundanter continente. Hypothecium pallidum aut albidum, tenue, ex hyphis tenuibus, irregulariter contextis, conglutinatis, formatum. Hymenium circ. 0.060—0.070 millim. crassum. Epithecium fuscescens, KHO non reagens. Paraphyses apice leviter incrassatae. Asci ventricosi. Sporae 8-nae, distichae, decolores, orculaeformes, septo crasso, poro tenui, long. circ. 0.009—0.011, crass. 0.005—0.006 millim. Pycnoconidangia numerosa, verruculas nigricantes formantia. — In specimine orig. *L. phaeae* Tuck. (n. 30040 in herb. Nyl.) thallus continuus, tenuis, sat laevigatus, glauco-virescens, nitidus, apothecia fusco-rufescentia, pr. p. minora. Etiam *L. diplacia* Ach. secund. specim. orig. ad hanc variationem spectat, disco apotheciorum fusco aut fusconigro, margine proprio bene evoluto, margine thallode distincto, interdum solo visibili, thallo sorediis destituto instructa. Huc item pertinent: *Lecanora diducta* Nyl., Fl. 1864 p. 619, Prodr. Nov.-Granat. Addit. (1867) p. 308 (540), secundum specim. orig. malum (n. 30008) thallo olivaceo-glaescente, apotheciis zeorinis, margine thallino magis distincto, et *Lecanora diducta* f. *albicans* Nyl., Prodr. Nov.-Granat. Addit. (1867) p. 541, apotheciis zeorinis, disco et margine proprio fusco, amphithecio thallino infra apothecia conspicuo, thallo laevigato, rimoso-areolato, glaucescenti-albido secund. specim. orig. instructa. *L. camptidia* Tuck. diversa est species, corticola, margine simplice, pallido, disco rufo, thallo tenui dignota, quamquam cum *Pl. diplacio* commixta. *Callophisma camptidium* Müll. Arg., Lich.

Parag. (1888) p. 11, ad *Pl. diplacium* v. *phaeam* secund. specim. orig. n. 2680 in herb. Nyl. pertinet.

Ad rupes, saxa et lapides in Crown (411: C. Raunkiaer), in Magensbay-Estate et alibi (F. Boergesen) in insula S. Thomas, in Susannaberg in insula S. Jan (F. Boergesen), in Crequis, Caledonia-Dal, Hams-Bluff et alibi in insula S. Croix (F. Boergesen). Fert.

Var. **verrucosa** Wain.

Thallus areolatus, areolis contiguis, partim demum convexis. Apothecia disco nigro, margine proprio plus minusve evoluto, disco subconcolore, margine thalode distincto, thallo concolore. — Thallus sat crassus aut mediocris, albidus aut glaucescenti-vel cinerascens-albidus, saepe leviter nitidus, sorediis et isidiis destitutus, KHO superne leviter lutescens, hypothallo nigricante limitatus. Apothecia saepe sat crebra, adpressa, basi bene constricta, latit. 1.2—0.6 millim., crassitudine mediocria, zeorina, disco plano, nigro aut purpureo-nigricante, nudo, opaco, margine proprio plus minusve evoluto, nigro, integro, leviter aut haud prominente, margine thalode vulgo sat tenui aut tenui, marginem proprium aequante aut tantum infra apothecia conspicuo, integro. Parathecium bene evolutum, extus tenuiter aeruginoso-fuligineum, intus albidum. Amphithecium gonidia continens, extus albidum aut tenuiter nigricans. Hypothecium albidum aut pallidum. Epithecium nigricans vel olivaceo-vel aeruginoso-nigricans aut fuscescens, KHO non reagens. Sporae 8-nae, polari-dyblastae, septo crasso, orculaeformes, long. circ. 0.010, crass. 0.005 millim.

In saxis littoralibus ad Cruz-Bay in insula S. Jan abundanter et ad saxa in Magensbay-Estate in insula S. Thomas (F. Boergesen). Fert.

Var. **lecideoides** Wain.

Thallus continuus rimosusque aut areolatus, areolis vulgo planis. Apothecia habitu lecideina, disco nigro, margine proprio bene evoluto, disco subconcolore, margine thalode indistincto, at amphithecio thalino infra apothecia conspicuo. — Thallus crassitudine mediocris aut sat tenuis, sat laevigatus aut leviter inaequalis, conti-

nus aut supra hypothallum caeruleo-nigricantem dispersus, albidus aut glaucescenti-vel cinerascenti-albidus, sorediis et isidiis destitutus, KHO superne lutescens. Apothecia saepe sat crebra, late adnata aut adpressa, basi bene aut sat bene constricta, latit. 1—0.5 millim., crassitudine vulgo mediocria (circ. 0.210 millim.), habitu lecideina, at revera zeorina, disco plano, nigro, nudo, opaco, margine lecideino, nigro, integro, haud aut rarius bene prominente. Parathecium bene evolutum, extus tenuiter fuscescens aut sordide violaceum, intus pallescens. Amphithecium infra apothecia evolutum, gonidia continens, thallo concolor. Hypothecium albidum aut pallidum. Epithecium sordide fuscescens aut sordide violascens aut superne fuscescens et inferne aeruginosum, KHO non reagens. Paraphyses apice leviter clavatae. Sporae 8-nae, orculaeformes, polari-dyblastae, septo crasso, long. 0.010—0.012, crass. 0.006—0.008 millim. Pycnoconidangia numerosa, verruculas nigras formantia. — *Placodium Kurzii* (Krempelh.) Wain. (Nyl., Lich. Ins. Andaman, 1874, p. 6), secund. specim. orig. in herb. Nyl. thallo laevigato, apotheciis nigris, margine proprio crasso, nigro, amphithecio infra apothecia visibili (sporis long. 0.011—0.016, crass. 0.006—0.008 millim., observante Nyl.) instructa, thallo et pycnoconidangiis omnino simile est *Pl. diplacio*, at margine constanter crassiore ab eo differt.

In rupibus et saxis ad Cane-Bay (427: C. Raunkiaer) et Viam Oxholmiam et alibi in insula S. Croix (F. Boergesen) et in Magensbay-Estate, 800 p. a. m. (F. Boergesen), in insula S. Thomas et in Buck-Island prope portum oppidi S:ti Thomae. — In var. *verrucosam* saepe transit. Forma, apotheciis partim fusciscentibus, partim nigris et thallo supra hypothallum nigricantem disperso instructa, in var. *phaeam* transiens, lecta est in rupibus littoralibus ad Prosperity et in summo monte Eagles in insula S. Croix (F. Boergesen).

Var. *deminuta* Wain.

Thallus sat laevigatus. Apothecia minora, habitu biatorina, fusca, margine thalode indistincto. — Thallus sat tenuis, continuus rimosusque aut partim subdispersus, sat laevigatus, glance-

centi- vel cinerascenti-albidus, sorediis et isidiis destitutus, KHO Intescens, hypothallo caeruleo-nigricante. Apothecia saepe sat crebra, late adnata, basi bene aut sat bene constricta, latit. 0.4—0.3 millim., sat tenuia (crassit. circ. 0.120—0.140 millim.), habitu biatorina, at revera zeorina, disco plano aut leviter convexo, fusco, nudo, opaco, margine biatorino (lecideino), tenuissimo, persistente aut demum excluso, disco concolore, haud prominente. Parathecium bene evolutum, pseudoparenchymaticum, cellulis parvis, membranis tenuibus, extus fuscescens, intus albidum, impellucidum. Amphithecium in parte inferiore apothecii plus minusve evolutum, gonidia continens, extus fuscescens aut albidum, strato corticali plus minusve distincto, tenui, pseudoparenchymatico, cellulis parvis. Hypothecium albidum, ex hyphis tenuibus, irregulariter contextis, partim conglutinatis formatum. Hymenium jodo persistenter caerulescens. Epithecium rufescens, KHO non reagens. Paraphyses apice clavato-incrassatae. Sporae 8-nae, distichae, decolores, orculaeformes, septo crasso, poro tenui, long. 0.009—0.012, crass. 0.006—0.007 millim. Pycnoconidangia numerosa, verruculas hemisphaericas, nigricantes, 0.100—0.140 millim. latas formantia. Pycnoconidia oblonga aut rarius alterum apicem versus leviter incrassata, recta, apicibus rotundatis, long. 0.002 aut raro 0.003, crass. 0.0006 millim. — *Pl. diplacii* infima proles, habitu **Lecideam crustulatam* (Ach.) in memoriam revocans. *L. subsequestra* Nyl., Fl. 1880 p. 127, secund. specim. orig. n. 30023 ex insula S. Thomas vix differt a var. *deminuta* nisi thallo magis inaequali, quod autem in hac specie parvi momenti est.

Ad saxa in Magsenbay-Estate, 800 p. s. m., in insula S. Thomas (F. Boergesen). Fert.

Trib. 6. Buellieae.

1. Anaptychia.

1. *A. leucomelaena* (L.) Wain.

Var. *vulgaris* Wain., Étud. Lich. Brés. I p. 128.

In arboribus (F. Boergesen) et supra Parmelias et Stictas

in rupibus (3529, ad New-Castle: H. F. A. Eggers) in Jamaica. In v. *multifidam* accedens et similis n:o 223 in Wain. Lich. Bras. Exs. Fert.

Var. *multifida* (Mey. et Flot.) Wain., l. c. p. 129.

Supra muscos et varias plantas in rupibus in Jamaica (F. Boergesen). Fert.

2. *A. podocarpa* (Bél.) Trev., Fl. 1861 p. 52; Wain., l. c. p. 130.

Ad corticem arborum (*Hediosmum nutans*: 456) prope Bains-Jaunes, 850 m. s. m., (*Myroxyton Martinicense*: 1633) in Morne-Rouge, 570 m. s. m., (*Toromela Plumieri*: 1638) in Morne-Vert, 550 m. s. m., (*Erythroxyton squamatum*: 1641) in Calebasse in Guadalupa (P. Duss). Ad fruticem in summo monte Conliabon in Dominica (1539: W. R. Elliott). Fert.

Var. *conferta* Wain.

Thallus laciniis crebre confertis, ciliis parcissimis, subsimpli-cibus, lateralibus, sorediis destitutus. Apothecia apicibus laciniarum adscendentium affixa, ciliis destituta.

Ad corticem *Callandrae* petiolaris prope Bains-Jaunes, 900 m. s. m., in Guadalupa (1163: P. Duss). Fert.

3. *A. comosa* (Eschw.) Trev.

Ad corticem *Marliereae* *Dussii* in summo monte Calebasse in Guadalupa (1636: P. Duss).

4. *A. hypoleuca* (Mühlénb.) Wain., l. c. p. 133.

Var. *Schaereri* (Hepp) Wain. *Physcia Schaereri* Hepp in Zolling. Syst. Verzeichn. (1854) p. 6 et 8, fig. XIV 2 (conf. Hue, Lich. Extra-Eur. p. 112, et Müll. Arg., Lich. Beitr. n. 76, Fl. 1878 p. 454).

Thallus sorediis destitutus. Apothecia sorediis destituta, disco fusciscente, nudo, margine lacinulato, lacinulis fere tantum in serie simplice dispositis.

Huc pertinent: Wain., Lich. Bras. Exs. (1891) n. 791, 969, 1141.

Var. **Rottbollii** (Isert) Wain. *Lichen Rotbollii* Isert in Mus. Dan. (ined.).

Sicut var. *Schaereri*, at disco apotheciorum livido-pruinoso.

Ad corticem arboris in Martinica leg. Isert a. 1787.

Var. **sorediifera** (Müll. Arg.) Wain. *Physcia speciosa* var. *sorediifera* Müll. Arg., Lich. Socot. (Trans. Roy. Soc. Edinb. XXXI, 1888) p. 355. *Pseudophyscia speciosa* v. *hypoleuca* f. *sorediifera* Müll. Arg., Lich. Usamb. (Engl. Bot. Jahrb. XX, 1894) p. 259.

Thallus sorediis lateralibus et apicalibus instructus, KHO superne et intus lutescens. Apothecia disco nudo, lacinulis marginalibus fere tantum in serie simplice dispositis.

Ad corticem arboris in Morne Conliabon, alt. 3700 p. s. m. (1558 pr. p.: V. R. Elliott). Fert.

5. ***A. dendritica** (Pers.) Wain., l. c. p. 134.

Var. **lamelligera** (Tayl.) Wain. *Physcia lamelligera* Tayl. in Hook. Journ. Bot. (1847) p. 169 (secund. specim. orig. in herb. Nyl.).

Thallus sorediis destitutus, KHO superne leviter lutescens, intus bene lutescens, rhizinis subsimplicibus. Apothecia disco livido-pruinoso, margine lacinulato, lacinulis demum in seriebus duabus aut pluribus, irregularibus.

Ad corticem arborum in Calbasse, alt. 500 m. s. m. (n. 1645), et ad Sloaneam Massoni in Camp Jacob (n. 464) in Guadalupa (P. Duss). Fert.

Var. **propagullifera** Wain.

Thallus laciniis apice margineque sorediosis, rhizinis subsimplicibus. Apothecia incognita.

Huc pertinent: Wain., Lich. Bras. Exs. n. 723 et 1410.

6. **A. granulifera** (Ach.) Wain., Catal. Welw. Afr. Pl. II P. II (1901) p. 409. *Parmelia* Ach., Syn. Lich. (1814) p. 112.

Physcia Tuck., Syn. North Am. Lich. (1882) p. 69. *Ph. speciosa* v. *granulifera* Müll. Arg., Lich. Beitr. (1881) n. 316 (incerta).

Var. *denudata* Wain.

Thallus granulis isidioideis aut subglobosis instructus, KHO superne lutescens, intus lutescens et demum rubescens, laciniis pruina destitutis. — Apothecia cupuliformia, elevata, haud pedicellata, margine demum lacinulato-crenato, lacinulis minutis parum distinctis, incurvis, excipulo saepe demum leviter isidioideo-verruculoso, disco concavo, fuscescente, nudo, opaco. — *P. granulifera* Ach. secund. specim. orig. ad v. *pruinosa* Wain., l. c., laciniis superne tenuiter pruinosis a v. *denudata* differentem, pertinet.

Ad corticem arborum (*Inga laurifolia*: 459 pr. p.; *Miconia Guyanensis*: 461 pr. p.) in Camp Jacob, alt. circ. 500 m. s. m., et in Palmistes (1213) in Guadalupa (P. Duss). Etiam fert.

Var. *Antillarum* Wain.

Thallus margine isidiosus, isidiis circ. 0.5—0.2 millim. longis, tenuibus, subcylindricis aut leviter compressis, sorediis destitutus, laciniis pruina destitutis aut raro ad apices tenuissime pruinosis, KHO superne lutescens, intus lutescens et demum rubescens. Apothecia sicut in var. *denudata*, at excipulo demum plus minusve isidioso. — Ab *A. corallophora* (Tayl.) Wain., Lich. Bras. Exs. n. 851, differt thallo minore et arctius adpresso (sicut in *Ph. speciosa*) et isidiis magis lateralibus et reactione. In var. *denudatam* transit.

Ad corticem arborum (*Inga laurifolia*: 459 pr. p.; *Bixa orellana*: 462) in Camp Jacob, alt. circ. 500 m. s. m., in Guadalupa (P. Duss). Fert.

Var. *farinulenta* Wain.

Thallus praesertim margine sorediosus, granulis sorediorum farinaceis subtilibusque, KHO superne lutescens, intus lutescens et demum rubescens, laciniis ad apices tenuissime pruinosis aut partim pruina destitutis. Apothecia sicut in var. *denudata*, at excipulo demum plus minusve soredioso granulosoque.

Ad corticem arboris in Roseau-Valley in Dominica (1319 pr. p.: W. R. Elliott). Ad corticem *Miconiae Guyanensis* in Camp

Jacob, alt. circ. 500 m. s. m., in Guadalupa (461 pr. p.: P. Duss).
Supra muscos in rupe in Signal-Hill, alt. circ. 1400 p. s. m., in insula S. Thomas (H. F. A. Eggers). Etiam fert. — Forsan autonoma est species.

2. *Physcia*.

1. *Ph. alba* (Fée) Müll. Arg.

Ad corticem Lagerstroemiae Indicae in Palmistes in Guadalupa (1172: P. Duss). Ad ramulos fruticis in peninsula Yucatan (4: J. W. Eckfeldt). Huc etiam pertinet Wright, Lich. Cub. ser. II n. 6. Fert.

Var. *trichocarpa* Wain., Lich. Antill. (1896) p. 8.

Apothecia inferne rhizinis albidis instructa, disco pruinoso.

Ad corticem arboris in La Cumbra in S. Domingo (491: C. Raunkiaer). Fert. — *Parmelia leucothrix* Tayl. in Hook. Journ. Bot. (1847) p. 17 secundum specim. orig. n. 32568 in herb. Nyl. est variatio hujus speciei, fere tantum disco apotheciorum nudo a var. *trichocarpa* differens (thallo sorediis destituto et, secundum annotationem Nylanderii, „KHO superne et intus lutescente, sporis long. 0.016—0.023, crass. 0.007—0.010 millim.“). Conf. Nyl., Syn. Lich. p. 430.

2. *Ph. callosa* Nyl., Fl. 1869 p. 119 et 389.

Var. *macra* Wain.

Thallus laciniis circ. 0.4—0.2 millim. latis, caesio-albidis, albo-maculatis (fere sicut in *Ph. aipolia*), maculis saepe demum plus minusve distincte in verruculas valde depressas elevatis, opacus, sorediis et isidiis destitutus, subtus albidus, rhizinis sordide albidis, KHO superne et intus lutescens (haud fulvescens), haud pruinosis, axillis bene patentibus aut patentissimis. — *Ph. callosa* Nyl. secund. specim. orig. n. 32163 in herb. Nyl. thallo majore, superne distinctius verrucoso aut areolato-rimoso a v. *macra* differt, at ad eandem speciem pertinere videtur. *Ph. Leana* Tuck. thallo nec macu-

lato, nec verrucoso a *Ph. callosa* differt, at ceterum ei sat similis est.

In saxis ad Cruz-Bay in insula S. Jan. Ster.

3. *Ph. integrata* Nyl (Syn. Lich. p. 424); Wain., Étud. Lich. Bres. I p. 141.

Var. *obsessa* (Mont.) Wain., l. c.

F. *subalba* Wain.

Thallus sorediis et pruina destitutus, subtus obscuratus. Huc pertinet specimen v. *obsessae* Wain., l. c., ad Septiba lectum, et *Parm. obsessa* Mont. in Cayenne (n. 32175 in herb. Nyl.) et Guyana (32174) a Leprieur lecta.

F. *phaeocarpoides* Wain.

Thallus sorediis et pruina destitutus, subtus late pallidus. Apothecia minus intense fuscescentia. Wain., Lich. Bras. Exs. (1891) n. 1543.

F. *psathyra* (Tuck.) Wain.

Thallus superne ambitum versus pruinosis, sorediis destitutus, subtus obscuratus aut ad ambitum pallidus. Apothecia fusco-nigricantia.

In rupibus littoralibus ad Cruz-Bay in insula S. Jan. Fert. — **Ph. integrata* Nyl., l. c., secund. specim. orig. n. 32211 ex Orizaba in Mexicana ad hanc formam pertinet, laciniis thalli haud sorediosis, inaequaliter dilatatis, superne ad ambitum tenuiter pruinosis, subtus obscuratis, disco apotheciorum fusco-nigricante, nudo, margine integro instructa. In specimine orig. *Ph. psathyrae* (Tuck.) Nyl., l. c. p. 422, thallus sorediis destitutus, ambitum versus pruinosis, subtus nigricans, laciniis sat linearibus, disco apotheciorum fusco-nigricante, nudo, margine integro aut latere interiore leviter crenulato. Ab hac forma tantum disco apotheciorum fusco differt. — **Ph. phaeocarpa* Nyl., Syn. Lich. p. 424, secund. specim. orig. thallo sorediis destituto, superne ad ambitum pruinosis, laciniis inaequaliter dilatatis, disco apotheciorum fusco, nudo, margine integro instructa. Ad eandem f. *phaeocarpam* (Nyl.) Wain. etiam pertinet

Lich. Bras. Exs. n. 812. Hae formae omnes ad var. *obsessam* Wain., Étud. Lich. Brés. I p. 141, pertinent.

Var. **sorediosa** Wain., l. c. p. 142.

Thallus sorediosus.

F. **tristis** Wain. (Lich. Bras. Exs. n. 155).

Thallus subtus obscuratus, superne haud aut parum pruinosis.

Ad corticem arboris in Crown (402: C. Raunkiaer) et supra saxa in Magensbay-Estate (F. Boergesen) in insula S. Thomas. In saxis ad cataractam prope Reef-Bay (F. Boergesen) et ad corticem arboris prope Coral-Bay (453: C. Raunkiaer) in insula S. Jan. Ad saxa in Crequis in insula S. Croix (F. Boergesen). Ad corticem arboris in Morne Conliabon, alt. 3700 p. s. m., in Dominica (1564: W. R. Elliott). Etiam fert. — Huc forsitan pertinet *Ph. erosula* Nyl., Fl. 1880 p. 127, cujus thallus subtus obscurus et soredia detrita, at ob specimen orig. nimis malum vix certe determinabilis.

F. **pallescens** Wain. (Lich. Bras. Exs. n. 1024 b).

Thallus subtus late aut totus pallescens, superne haud distincte pruinosis.

Ad corticem arboris in Fair Plane in insula S. Croix (F. Boergesen). Ad corticem *Ingae laurifoliae* in Camp Jacob in Guadalupe (rarissima, observante P. Duss: 1033). Etiam fert.

4. **Ph. crispa** (Pers.) Nyl.

Var. **mollescens** (Nyl.) Wain., Étud. Lich. Brés. I p. 144, Schmidt Fl. Koh Chang IX (Bot. Tidsskr. 1909) p. 343.

Thallus superne ambitum versus pruinosis, subtus albidus. Apothecia disco rufescente aut fusconigricante, margine subintegro aut crenulato, sorediis destituto aut soredioso.

Ad corticem arborum et in rupibus in La Cumbra in S. Domingo (489: C. Raunkiaer), in Loevenlund (410, 431: C. Raunkiaer) et Magensbay-Estate, 800 p. s. m. (F. Boergesen), et in Signal-Hill, alt. 1400 p. s. m. (H. F. A. Eggers), in insula S. Thomas, ad Cruz-Bay (554, 556: C. Raunkiaer) et prope cataractam ad Reef-Bay et in Macumbo (F. Boergesen) in insula S. Jan, prope

Cane-Bay in insula S. Croix (F. Boergesen), in Morne Conliabon in Dominica (f. *scopulorum* Zahlbr., Flecht. Sam. p. 55, margine apotheciorum soledioso: 1558, W. R. Elliott), in Basse-Terre in Guadalupa (489: P. Duss), in Trinidad (H. Lassen). Saepe etiam fert.

F. melanophthalma Wain.

Apothecia disco nigro, nudo, margine bene crenulato. — Thallus superne ambitum versus tenuiter pruinosis, margine solediosus, subtus albidus, rhizinis albidis.

Ad saxa in Loevenlund in insula S. Thomas (541: C. Raunkiaer). Fert.

Var. **hypomela** Tuck., Syn. North Am. Lich. (1882) p. 74; Wain., l. c. p. 143. *Ph. crispa* v. *hypomelaena* Hue, Lich. Extra-Eur. (1898—1901) n. 338.

Thallus superne pruinosis aut pruina destitutus, subtus obscuratus.

Supra corticem Collandreae petiolaris in Bains-Jaunes, circ. 900 m. s. m., in Guadalupa (1158: P. Duss). Ad corticem arboris in Roseau-Valley (1319) et in Prince Caput (1309) in Dominica (W. R. Elliott). Fert.

5. **Ph. minor** (Fée) Wain., l. c. p. 149.

Thallus subtus nigricans, hypothallo plus minusve distincto.

Ad corticem arborum (*Anona muricata*: 1506) in Basse-Terre et (*Spondias purpurea*: 1566) in Camp Jacob in Guadalupa (P. Duss) et in parte septentrionali insulae S. Croix (*Hippomane mancinella*: F. Boergesen).

6. **Ph. adglutinata** (Floerk.) Nyl., Fl. 1862 p. 355; Th. Fr., Lich. Scand. (1871) p. 144; Tuck., Syn. North Am. Lich. (1882) p. 77; Hue, Lich. Extra-Eur. (1898—1901) n. 351. *Lecanora* Floerk., Deutsch. Lich. IV (1819) p. 7 („raro solediosa“ describitur). *L. lepraiformis* Floerk., l. c. n. 68, p. 7.

Thallus superne solediosus, KHO non reagens, inferne albidus.

Ad corticem arboris prope Cane-Bay in insula S. Croix (406 pr. p.: C. Raunkiaer). Ster. et parcissime cum *Pyxin. connectente* lecta.

7. **Ph. picta** (Sw.) Nyl., Syn. Lich. p. 430 (pr. p.); Wain., Étud. Lich. Brés. I p. 150.

In saxis littoralibus ad Cruz-Bay in insula S. Jan (F. Boergesen). Ad cortices arborum in parte septentrionali (F. Boergesen) et alibi (Ove Paulsen) in insula S. Croix. Etiam fert.

8. **Ph. aegialita** (Ach.) Nyl., Exp. Lich. Nov. Cal. (1862) p. 43; Wain., l. c. p. 151, Lich. Bras. Exs. n. 148.

Thallus pruina et sorediis destitutus, haud reticulato-rugulosus, KHO superne lutescens, intus non reagens, subtus obscuratus, rhizinis destitutus. Apothecia nigra aut cinereo-nigricantia, margine simplice, lecanorino. Parathecium evanescens fuscumque aut nullum distinctum. Hypothecium fusco-nigrum, KHO non reagens. Epithecium sordide pallidum aut dilute fuscescens, indistincte granulosum, KHO solutionem pallido-lutescentem effundens. Sporae fusciscentes, 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore.

Ad corticem arboris in Horto botanico in insula Trinidad (H. F. A. Eggers). Fert.

9. **Ph. purpurascens** Wain. (n. sp.).

Thallus superne albidus aut albido-glaucescens, tenuissime pruinosis aut partim nudus, sorediis et isidiis destitutus, haud reticulato-rugulosus, KHO superne lutescens, intus non reagens, medulla alba, subtus obscuratus, irregulariter crebre laciniatus, laciniis adpressis, confluentibus, ad ambitum planis et circ. 0.7—0.2 millim. latis, sat tenuibus, rhizinis nullis distinctis. Apothecia vulgo sat crebra, circ. 1(—0.5) millim. lata, disco vulgo plano, purpureo-pruinoso aut partim (in eodem specimine) denudata nigraque, opaca, margine sat tenui, vulgo integro, thalode, margine proprio nullo distincto. Parathecium tenuissimum fuscumque passim evolutum, ex hyphis erectis, tenuibus formatum, KHO non reagens. Hypothecium fusco-nigricans, sat tenue, KHO non reagens. Hymenium circ. 0.080 millim. crassum. Epithecium sordide vel pallide rube-scens, granulosum, KHO solutionem luteam effundens. Sporae

8:nae, distichae, fuscrescentes, 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore, long. 0.015—0.018, crass. 0.006—0.007 millim. — Habitu omnino similis *Ph. aegialitae*, at disco purpureo-pruinoso et colore epithecii ab ea differt, et forsan in eam transit.

Ad corticem arboris prope Krausses-Lagoon (542: C. Raunkiaer) et in Fair Plane (F. Boergesen) in insula S. Croix. Fert.

3. Pyxine.

1. *P. Melssneri* Tuck., Obs. Lich. I (1860) p. 400; Wain., l. c. p. 153; Malme, Gatt. Pyx. (1897) p. 34 (excl. var.). *Circinaria Berteriana* Fée, Ess. Crypt. Écorc. (1824) p. 128 (secund. Müll. Arg., Rev. Lich. Fée, 1887, p. 13). *P. sorediata* v. *endochrysa* Mont. et v. d. Bosch in Mont., Syll. (1856) p. 345, teste Müll. Arg., Lich. Beitr. (1882) n. 416.

Var. *genulina* Malme, l. c. p. 36.

Apothecia zeorina, demum habitu lecideina et margine proprio gonidiis destituto, intus stramineo-lutescente, extus nigricante instructa, margine thallino, thallo concolore, excluso. Thallus sorediis et isidiis destitutus, intus flavescens, superne laevigatus aut indistincte rugulosus, plus minusve distincte pruinosis, KHO non reagens. Epithecium aeruginoso-fuliginosum, KHO violascens. Perithecium proprium extus aeruginoso-nigricans aut inferne fuscrescens, KHO violascens. Hypothecium superne fusco-nigricans, KHO non reagens. Sporae 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore, long. circ. 0.015—0.016, crass. 0.006 millim.

Ad corticem arborum in Fair Plane (548 pr. p.) et Jolly Hill (436 pr. p.) et prope Krausses-Lagoon (546 pr. p.: C. Raunkiaer), in Hams-Bluff et ad Cane-Bay (F. Boergesen) in insula S. Croix. Fert.

Var. *rinodinoides* Wain.

Apothecia persistenter zeorina, margine thalode bene evoluto, persistente, transversim rugoso, thallo concolore, gonidia per-

sistenter continente et margine proprio intus stramineo-lutescente, extus nigricante instructa. Thallus sorediis et isidiis destitutus, intus flavescens, superne laevigatus aut indistincte rugulosus, partim leviter pruinosis, KHO non reagens. Parathecium strato corticali pseudoparenchymatico, extus aeruginoso-fuligineo, KHO violascēte, intus albido pallidove, strato medullari ex hyphis haud conglutinatis formato, flavido, gonidiis destituto, KHO non reagente. Amphithecium thallinum strato corticali pseudoparenchymatico, albido, zona gonidiali bene evoluto, gonidia abundanter continente. Hypothecium tenue, fuscum, KHO non reagens, strato medullari flavo, gonidiis destituto, impositum. Hymenium circ. 0.070—0.075 millim. crassum. Epithecium aeruginoso-fuligineum, KHO violascens. Sporae 8-nae, distichae, fusciscentes, 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore, apicibus obtusis aut rotundatis, long. 0.013—0.015, crass. 0.005—0.006 millim. — Margine thallode magis evoluto persistenteque a var. *genuina* distinguitur. Var. *rinodinoidi* proxima est *Pyxine hypotrachyna* (Wain., Catal. Welw. Afr. Pl. II P. 2 p. 412, Lich. Bras. Exs. n. 163), thallo superne reticulato-ruguloso ab ea differens, at reactionibus ceterisque notis ei congruens. *Pyxine devertens* (*Physcia* Nyl., Lich. Annob. p. 3) medulla thalli alba et apotheciis zeorinis, margine proprio tenuiore, at distincto, secundum specim. orig. in herb. Nyl. a *P. Meissneri* differt. His forsā est affinis *Pyxine reticulata* (*Physcia* Wain., l. c.), at tantum sterilis cognita.

Ad corticem arboris prope Coral-Bay (Caroline) in insula S. Jan (443: C. Raunkiaer). Fert.

2. **P. connectens** Wain. (Étud. Lich. Brés. I p. 154).

Ad corticem arboris prope Cane-Bay (406: C. Raunkiaer). Fert.

3. **P. dissecta** (Fée) Wain. *Circinaria dissecta* Fée, Ess. Crypt. Écorc. (1824) p. 127, t. XXX f. 2, Suppl. (1837) p. 124, t. XLII f. 2 (conf. p. 71). *P. cocoës* Nyl., Lich. Exot. (1859) p. 255 (conf. p. 71).

Apotheciis lecideinis et sorediis abundantius supra laminam thalli evolutis a *P. connectente* (Wain., Étud. Lich. Brés. p. 154) differt, in eam forsan transiens. Transitum harum tamen adhuc non observavi. — Utrum *Lecidea Acaciae* Spreng., Kongl. Vet. Ac. Handl. 1820 p. 46, et *Lecidea Arecae* Spreng., l. c. p. 147, huc pertineant, non est cognitum.

Ad corticem arborum prope Puerto Caballos in Honduras (H. Lassen), in parte septentrionali (ad Hippomanem mancinellam: F. Boergesen) insulae S. Croix, prope Baillif (ad Piscidiam erythrinam: 1091) in Guadalupa (P. Duss). Fert. — *Lichen cocoës* Sw. secundum specimen orig. in herb. Ach. spectat ad *Pyzinem* sterilem, thallo parce soredioso, pruinoso, KHO non reagente, medulla alba instructam, indeterminabilem, et *Buelliam modestam* (Krempelh.) corticolam, thallo crustaceo, verrucoso-inaequali, KHO lutescente et demum rubescente, apotheciis lecideinis instructam. Hoc nomen, postea in sensu diverso adhibitum, igitur melius oblivioni tradendum. *Circinaria dissecta* Fée, Ess. Crypt. Écorc. (1824) p. 127, ex opinione Mülleri (Rev. Lich. Féean. p. 13) est „normalis *P. cocoës* Nyl.“ (in Lich. Exot. III, Lich. Ins. Borb. p. 255), quae secundum specimen orig. n. 31759 in herb. Nyl. (e Borbonia) thallo pruinoso, KHO non reagente, lamina sorediosa, granulis sorediorum subtilibus, farinaceis, medulla alba, apotheciis lecideinis, strato corticali excipuli extus aeruginoso-fuligineo, KHO sordide violascente, intus albido, hypothecio crasso, fulvo-fuscescente, KHO persistenter intense purpureo, epithecio aeruginoso-fuligineo, KHO violascente, sporis 1-septatis, membrana ad apices et septa crassiore, long. 0.014—0.017, crass. 0.006—0.007 millim. instructa est, descriptionibus a Malme, l. c. p. 38, et Hue, Lich. Extra-Eur. n. 356, datis, haud congruens.

4. *P. chrysanthoides* Wain. (n. sp.).

Thallus superne albido- aut cinereo-glauescens, laevigatus, sorediis vulgo rotundatis, stramineis aut flavidis aut raro albidis, marginalibus aut supra laminam sparsis instructus, granulis sore-

diorum sat tenuibus, farinaceis, isidiis destitutus, pruinosus aut pruina destitutus, medulla flavida, subtus obscuratus et rhizinis brevissimis, concoloribus instructus, tenuis (crassit. 0.070—0.100 millim.), nec KHO, nec CaCl_2O_2 reagens, laciniatus, laciniis circ. 1.2—0.5 millim. latis, partim sat linearibus, radiantibus, continuis, sat contiguus, arcte adpressis. Apothecia sparsa aut sat approximata, 1.2—0.5 millim. lata, disco plano aut demum convexo, nigro, nudo, opaco, margine excipuloque jam primitus nigro aut primum thallo concolore. Perithecium strato corticali pseudoparenchymatico, extus aeruginoso-fuligineo aut partim caeruleo-fuscescente, KHO violascente, intus albido, strato medullari ex hyphis haud conglutinatis formato, flavido, gonidiis destituto, KHO non reagente, basi in stratum thallinum (amphithecium) evanescens et gonidia parcissime continens passim continuatum. Hypothecium fuscum, inferne fulvescens, etiam parte fulvescente KHO sordide purpureo (hoc colore antem haud diu persistente). Hymenium circ. 0.070 millim. crassum. Epithecium aeruginoso-fuligineum, KHO violascens. Paraphyses arcte cohaerentes. Sporae 8-nae, distichae, fuscescentes, 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore, poro mediocri instructae, long. 0.012—0.020, crass. 0.005—0.006 millim. — Thallo soredioso differt a *P. Meissneri*. Huc forsitan pertinet *P. Meissneri* v. *sorediosa* Müll. Arg., Lich. Beitr. (Fl. 1879) n. 118, at nomen subsimile (*P. sorediata*) jam alii speciei adhibitum est. Diversa est *P. endochrysin* Nyl., Lich. Jap. p. 34, cujus thallus est crassior, verruculis marginalibus caesiis, partim parce sorediosis instructus, apothecia lecideina, strato corticali extus aeruginoso-fuligineo, KHO obscure violascente, strato medullari fulvo, hypothecium fulvo-fuscescens aut partim dilute fusco-rubescens, KHO paullo intensius eodem modo coloratum, epithecium aeruginoso-fuligineum, KHO violascens (secundum specim. orig. n. 31781 e Nagasaki in herb. Nyl.).

F. opaca Wain.

Thallus superne plus minusve late pruinosus.

Ad corticem arborum (*Eugenia Gregii*: 1637) in Morne-Rouge,

circ. 500 m. s. m., (Inga laurina: 1580) in Montéran prope Camp Jacob, (Inga laurina: 1383) in monte S. Rose in Guadalupa (P. Duss), fert. In Kingstown in insula S. Vincent ster. (nomine *P. sorediatae* in Wain., Lich. Antill. p. 8).

F. nitidula Wain.

Thallus superne pruina destitutus, leviter nitidus.

Ad corticem arborum (Citrus aurantium: 496, Cordia Sebestena: 1508, Spondias purpurea: 161) in Basse-Terre in Guadalupa (P. Duss).

5. P. heterospora Wain. (n. sp.).

Thallus superne albido- aut cinereo-glaucescens, laevigatus aut raro leviter reticulato-rugulosus (f. *rugulosa*), granulis soredialibus isidioideis, subglobosis aut irregularibus, partim sat crassis, flavescens aut thallo concoloribus, marginalibus aut parce etiam supra laminam sparsis, vulgo plus minusve confertis, late aut ambitum versus leviter pruinosis, medulla alba, subtus obscuratus et rhizinis brevissimis, concoloribus instructus, tenuis, KHO superne lutescens, intus non reagens, laciniatus, laciniis circ. 1.5—0.7 millim. latis, sat irregularibus et latere crenatis, plus minus distincte radiantibus, continuis et contiguis et passim confluentibus, sat arcte adpressis. Apothecia sparsa aut sat approximata, 1.2—0.7 millim. lata, disco plano, nigro, nudo, opaco, margine tenui aut sat crasso, jam primitus nigro (maculis thallinis obducentibus interdum in statu valde juvenili distinctis). Perithecium strato corticali ex hyphis verticalibus, conglutinatis, crebre septatis formato (pseudoparenchymatico), extus aeruginoso-fuligineo aut inferne partim fuscescente et decolorato in parte infima, intus albido, partibus coloratis KHO violascentibus, strato medullari albido, ex hyphis haud conglutinatis formato, KHO leviter lutescente, gonidiis destituto (stramineo-albido partim in limite hypothecii). Amphithecium haud evolutum. Hypothecium fuscescens aut purpureo-fuscescens, medio incrassatum, KHO non reagens. Hymenium circ. 0.09 millim. crassum. Epithecium aeruginoso-fuligineum, KHO violascens. Paraphyses sat

laxe aut sat arcte cohaerentes, tenues, apice leviter incrassatae, simplices aut apice furcatae. Sporae 8-nae, distichae, fuscescentes, fusiformi-ellipsoideae aut fusiformi-oblongae, apicibus obtusis, vulgo 1-septatae, at plures etiam 3-septatae, membranis sat aequaliter incrassatis, septis medio tenuioribus, poro mediocri instructis, long. 0.014—0.020, crass. 0.006—0.008 millim. — Reactione thalli a *P. Eschweileri* (Tuck.) et *P. chrysantha* Wain. differt. In specimine orig. *L. sorediatae* Ach. in herb. suo thallus KHO superne lutescens, intus non reagens, ambitum versus pruinosis, sorediis elevatis, granulis sorediorum mediocribus, medulla alba et passim parce flava, apothecia habitu lecideina, margine nigro, epithecium aeruginoso-fuliginium, KHO violascens, hypothecium in lamina termini fulvo-fuscescens, KHO violascens, strato medullari flavido-fulvescenti, KHO dilute violascenti, impositum (reactiones hypothecii et strati medullaris haud diu persistentes), perithecium extus aeruginoso-fuliginium, KHO violascens, sporae apicibus obtusis aut rotundatis, 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore, long. 0.014—0.018 (—0.012), crass. 0.006—0.007 (0.005—0.008) millim. (conf. etiam Malme, l. c. p. 40). Ad *P. sorediatam* (Ach.) igitur plantae, hoc nomine a cel. Hue (Lich. Extra-Eur. n. 357) et aliis auctoribus indicatae, non pertinent.

Ad corticem arborum in Loevenlund (f. *rugulosa* Wain.: 409, C. Raunkiaer) et in monte Crown (420: C. Raunkiaer) in insula S. Thomas, ad Cruz-Bay et cataractam prope Reef-Bay in insula S. Jan (F. Boergesen). Fert.

6. ***P. obscurascens*** Malme, l. c. p. 42.

Thallus sorediis instructus, medulla flavida aut fulvescente, KHO superne haud reagens, intus rubescens. Sporae 8-nae, fuscescentes, 1-septatae, membrana inaequaliter incrassata, ad apices crassiore, long. 0.012—0.017, crass. 0.005—0.007 millim.

Ad saxa in summo monte S. Peter in insula S. Thomas (F. Boergesen). Apothecia parca.

4. Rinodina.

1. *R. pyxinoides* Wain. (n. sp.).

Thallus crustaceus, squamuloso-areolatus, areolis vulgo difformibus et saepe leviter crenatis, fere squamaeformibus, at substrato arcte adnatis, latit. 1—0.4 millim., parcius etiam — 0.2 millim., crassit. mediocribus, leviter convexis aut fere planis, pallido-glauciscentibus aut pallido-olivaceis, sat laevigatis, parum nitidis, KHO superne lutescentibus, intus non reagentibus, nec CaCl_2O_2 , nec his solutionibus mixtis reagentibus, pruina et sorediis et isidiis destitutis, partim contiguus, partim supra hypothallum nigrum dispersis. Apothecia demum adnata, basi sat bene constricta, latit. 1—0.5 millim., sparsa aut nonnulla conferta, demum saepe irregularia, interdum etiam prolifera aut gyrosa, zeorina, margine proprio crasso, prominente, nigro aut sordide nigricante, integro aut flexuoso, parum nitido aut opaco, margine thallode primum distincto tenuique, thallo concolore, dein mox evanescente aut tantum in basi apothecii conspicuo, disco nigro, nudo, opaco, plano aut concavo, vulgo demum mamillato aut interdum etiam gyroso. Hypothecium albidum, ex hyphis irregulariter contextis, conglutinatis, formatum. Parathecium bene evolutum, ex hyphis radiantibus, conglutinatis, crebre septatis, leptodermaticis formatum, extus crasse fuscescens, intus dilute fuscescens, KHO non reagens, gonidiis destitutum. Amphithecium gonidia continens, extus demum partim fuscescens. Epithecium fuscum, KHO non reagens. Hymenium jodo persistenter caerulescens, circ. 0.060 millim. crassum. Paraphyses laxae cohaerentes, crassit. 0.0015 millim., apice leviter incrassatae, vulgo simplices. Sporae 8-nae, distichae, fusciscentes, 1-septatae, membrana inaequaliter incrassata, ad apices et septa crassiore, poro mediocri, apicibus obtusis aut altero apice rotundato, long. 0.016—0.021, crass. 0.008—0.009 millim. Pycnoconidangia thallo immersa, macula fusca, punctiformi indicata. Sterigmata long. circ. 0.020—0.030 millim., partim etiam breviora, crassit. 0.002 millim., dichotome aut irregulariter ramosa, inaequaliter septata, cellulis

ellipsoides et partim subglobosis et oblongis, partim constrictè articulata, partim haud constricta, apicibus breviter attenuatis et ramis lateralibus, brevibus tenuibusque pycnoconidia efferentibus. Pycnoconidia oblonga, recta, apicibus rotundatis, lateribus cylindricis, long. 0.004—0.003, crass. 0.001 millim. — Haec species, apotheciis zeorinis et saepe mamillatis jam facie externa facile dignota, proxime affinis et *R. conspersae* Müll. Arg. (Malme, l. c. p. 40).

In saxis littoralibus ad Cruz-Bay in insula S. Jan (F. Boergesen) una cum *Pertusaria praetervis* Wain., *Physcia callosa* var. *macra*, *Placodio diplacio* (Ach.), *Parmelia Lusitana*.

2. *R. Boergeseni* Wain. (n. sp.).

Thallus crustaceus, squamuloso-areolatus, areolis vulgo difformibus et saepe leviter crenatis, fere squamaeformibus, substrato arcte aut sat laxè adnatis, latit. 1—0.5 (—0.3) millim., crassit. mediocribus aut sat tenuibus, planis, olivaceo- aut cinereo- aut albido-glauciscentibus, laevigatis, opacis aut parum nitidis, KHO superne et intus lutescentibus, pruina et sorèdiis et isidiis destitutis, partim contiguis, partim dispersis, subtus nigricantibus, ceterum hypothallo nigricante parum conspicuo. Apothecia demum adnata, basi sat bene aut leviter constricta, latit. 1—0.5 millim., sat tenuia, sparsa, disco plano aut rarius demum leviter convexo, nigro, nudo, sat opaco, laevigato, margine proprio tenui, parum prominente, integro, disco concolore, margine thallode inconspicuo. Hypothecium albidum, ex hyphis irregulariter contextis, conglutinatis formatum. Parathecium bene evolutum, ex hyphis radiantibus, conglutinatis, crebre septatis, leptodermaticis formatum, extus fusco-fuligineum, intus dilute fuscescens, KHO non reagens, gonidiis destitutum. Amphithecium gonidia continens, extus totum fuscescens, intus albidum, strato medullari leviter evoluto, saepe uni lateri apothecii deficiens. Hymenium circ. 0.070 millim. crassum, jodo persistenter caerulescens. Epithecium fuscum, KHO non reagens. Paraphyses sat arcte cohaerentes, sat tenues, apice leviter incrassatae, simplicae. Sporae 8-nae, distichae, fumoso-fusciscentes, 1-septatae, mem-

brana inaequaliter incrassata, ad apices crassiore, septis medio tenuibus, poro mediocri, medio haud constrictae, apicibus rotundatis, raro obtusis, long. 0.013—0.017, crass. 0.007—0.009 millim. — Affinis est speciei praecedenti, praesertim apotheciis tenuiter marginatis, haud mamillatis ab ea differens.

In saxo ad Hams-Bluff in insula S. Croix (F. Boergesen). Fert.

3. *R. Antillarum* Wain. (n. sp.).

Thallus crustaceus, areolatus, areolis 1—0.3 millim. latis, saepe rotundatis et verrucaeformibus, interdum ambitu leviter crenatis et fere squamaeformibus, vulgo bene aut leviter convexis, substrato sat arcte aut sat laxe adnatis, saepe sat crassis, albido- aut cinereo-glauciscentibus, sat laevigatis, opacis, KHO superne lutescentibus et intus leviter lutescentibus, pruina et soreidiis et isidiis destitutis, dispersis aut partim contiguis, hypothallo nigricante leviter evoluto aut parum conspicuo. Apothecia latit. 0.8—0.5 millim., demum adnata, basi leviter aut sat bene constricta, crassitudine fere mediocria aut sat tenuia, sparsa, disco plano aut rarius demum leviter convexo, fusco aut fusco-nigro, nudo, opaco, laevigato, margine primum thallose, thallo concolore, demum zeorino aut rarius demum lecideino, margine proprio tenui, nigricante, integro, margine thallose sat tenui, integro aut raro leviter crenulato aut uni lateri deficiente. Parathecium demum bene evolutum, ex hyphis radiantibus, leptodermaticis, crebre septatis, conglomeratis formatum, gonidiis destitutum, intus albidum, extus fusco-fuligineum, KHO non reagens. Amphithecium gonidia continens, thallo concolor aut interdum demum extus fuscescens. Hypothecium albidum, ex hyphis erectis formatum, ab hymenio haud distincte limitatum. Epithecium fuscescens aut rufescens, KHO non reagens. Paraphyses sat arcte cohaerentes, sat tenues, apice leviter incrassatae, vulgo simplices. Sporae 8-nae, distichae, fumoso-fusciscentes, 1-septatae, medio haud constrictae, apicibus vulgo rotundatis, membrana inaequaliter incrassata, ad apices et vulgo etiam in septis crassiore, poro mediocri, long. 0.012—0.016 (—0.010), crass. 0.005—0.008

millim. Pycnoconidangia verruculas demum leviter elevatas, fuscas (rufas sub microscopio) formantia. Sterigmata ramosa, septata, cellulis saepe ellipsoideis, apicibus breviter attenuatis et ramulis lateralibus, brevibus, tenuibus pycnoconidia efferentibus. Pycnoconidia oblonga, recta, apicibus rotundatis, lateribus cylindricis, long. 0.003, crass. 0.007 millim. — Habitu *R. confragosam* in memoriam revocans.

Ad saxa in Magensbay-Estate in insula S. Thomas (F. Boergeresen). Una cum *Placodio diplacio* (Ach.), *Melanaspicilia contiguella* Wain. et *Thelenella Brasiliensi* Wain. crescit.

4. **R. intrusa** (Krempelh.) Malme, l. c. p. 32. *Lecanora intrusa* (Krempelh.) Nyl., Fl. 1867 p. 4.

Var. **leioplaca** (Müll. Arg.) Malme, l. c. p. 33. *R. metabolica* f. *leioplaca* Müll. Arg., Lich. Parag. (1888) p. 11.

Thallus crustaceus, effusus, tenuis aut tenuissimus, laevigatus, sorediis et isidiis et pruina destitutus, glaucescenti-fuscescens aut rarius partim cinereo-glaucescens, continuus aut partim supra hypothallum nigricantem tenuissimum dispersus. Apothecia parva, latit. 0.4—0.3 millim., demum adnata, basi leviter constricta, sparsa aut sat approximata, disco vulgo convexo, fusco aut rarius rufo vel fusconigricante, nudo, opaco, margine thallose tenuissimo, integro, thallo vulgo subconcolore, demum excluso. Parathecium pallidum, pseudoparenchymaticum, tenue vel evanescens. Hypothecium pallidum, pseudoparenchymaticum, ex hyphis irregulariter contextis, conglutinatis formatum, KHO non reagens. Excipulum lecanorinum, gonidia continens, strato corticali evanescente, jodo non reagente. Hymenium circ. 0.080 millim. crassum, totum pallidum, epithecio intensius colorato aut fuscescente, KHO non reagente, jodo persistenter caerulescens. Paraphyses sat laxae cohaerentes, simplices, tenues, apice clavato-incrassatae, clava pileolo fuscescente, parvulo, appanato, instructa. Sporae 8-nae, distichae, fuscescentes, ellipsoideae, apicibus vulgo rotundatis, medio haud constrictae, 1-septatae, membrana sat aequaliter incrassata, poro lato, long. 0.013—

0.018, crass. 0.008—0.011 millim. — Habitu subsimilis est *R. polysporae* Th. Fr. *Rinodina intrusa* Krempelh. in sched. secundum specimen orig. n. 28505, e Calcutta, in herb. Nyl. apotheciis tenuibus, planis a v. *leioplaca* differt.

Ad corticem arboris prope cataractam ad Reef-Bay in insula S. Jan (F. Boergesen). Fert.

5. Melanaspicilia.

1. *M. contiguella* Wain., Lich. Pitlekai (Ark. Bot. Utg. K. Sv. Vet.-ak. Stockh. 1909) p. 81. *Rinodina* Wain., Étud. Lich. Brés. I (1890) p. 164.

Var. *vegetior* Wain.

Apotheciis majoribus differt a var. *Brasiliana* Wain. (Lich. Bras. Exs. n. 59). Apothecia thallo immersa, raro demum leviter emergentia, disco nigricante, nudo, opaco, circ. 0.5 (0.7—0.3) millim. lato, immarginata aut margine plus minusve distincto, extus cinerascenti-obscurato, intus albido. Parathecium haud evolutum. Paraphyses arcte cohaerentes, apice leviter incrassatae. Hymenium circ. 0.080 millim. crassum, jodo persistenter caerulescens. Epithecium fuscescens aut fuscorubescenti-fuliginium. Hypothecium fusco-nigrum aut partim dilute fuscescens. Sporae 8-nae, ellipsoideae, 1-septatae, membrana aequaliter incrassata, long. 0.010—0.013, crass. 0.005—0.007 millim. Thallus crassitudine mediocris, crebre rimulosus, laevigatus, albidus, KHO intense lutescens. Medulla jodo intense caerulescens.

In rupibus in Magensbay-Estate in insula S. Thomas (F. Boergesen). Fert.

6. Buellia.

1. *B. dejungens* Nyl., Prodr. Fl. Nov.-Gran. ed. 2 (1863) p. 355 (secund. specim. orig.: Wright, Lich. Cub. n. 17 b in herb. Nyl).

Thallus laevigatus. Apothecia sat parva, late adnata. Perithecium basi aut intus fulvo-rubescens, KHO violascens. Hypothecium superne albidum, inferne fulvo-rubescens et KHO violascens. Sporae 8-nae, 1-septatae, cavitatibus vulgo rotundatis, parvis, membrana vulgo aequaliter bene incrassata.

Var. *chrysophaea* Wain.

Thallus cinereo-fuscescens, opacus. Apothecia disco nigricante, margine mediocri.

Thallus crustaceus, uniformis, sat tenuis aut crassitudine fere mediocris, subcontinuus, vulgo crebre reticulato-rimulosus, laevigatus, soreidiis et isidiis destitutus, cinereo-fuscescens, opacus, intus albidus, KHO nec extus, nec intus reagens, jodo non reagens, hypothallo nigricante, KHO violascente, limitatus. Apothecia sat parva, latit. 0.6—0.3 millim., late adnata, basi leviter constricta, disco plano, nigricante, nudo, opaco, margine crassitudine mediocri, leviter prominente, integro, nigro, gonidiis destituta. Perithecium extus rubricosofuligineum, intus fulvo-rubescens. Hypothecium albidum, ex hyphis irregulariter contextis formatum, strato aurantiaco-rubescenti impositum. Hymenium circ. 0.070—0.060 millim. crassum, jodo intense persistenter caerulescens. Epithecium fusco-fuligineum. Partes aurantiacae apotheciorum KHO violascentes, ceterae partes coloratae KHO non reagentes (aut interdum solutionem violaceam e materia aurantiaca parce immixta parce effundentes). Paraphyses crass. 0.001—0.0015 millim., apice modice incrassatae, simplices aut parce apice furcatae, sat laxae cohaerentes. Asci clavati. Sporae 8-nae, distichae, fumoso-fuscescentes, 1-septatae, cavitatibus vulgo rotundatis aut raro primum angulosis, membrana aequaliter bene incrassata aut rarius ad apices crassiore, septo sat tenui, poro saepe distincto (nonnullae abnorme divisae), long. 0.015—0.018, crass. 0.007—0.009 millim., apicibus vulgo rotundatis, medio hand constrictae, ellipsoideae, halone nullo indutae. Pycnocondangia verruculas hemisphaericas, circ. 0.130 millim. latas, nigras formantia, conceptaculis extus fusco-fuligineis, intus aurantiaco-rubescens. Pycnoconidia oblonga, recta, lateribus cylindricis,

apicibus rotundatis aut obtusis, long. 0,003, crass. 0.0007 millim. Gonidia cystococcacea. — Huic varietati etiam habitu subsimilis est *L. exsoluta* Nyl., Lich. Nov. Zel. (1888) p. 112, at membranibus sporarum aequaliter modice incrassatis et cavitatibus cellularum bene dilatatis ab ea differt. Secund. specim. orig. n. 10545 in herb. Nyl. thallus olivaceo-cinereus, intus albidus aut partim aurantiacus, KHO nec extus, nec intus reagens, continuus rimulosusque aut partim verruculosus aut evanescens, apothecia margine mediocri, perithecium extus fuscescens, intus fulvescenti-aurantiacum, KHO violascens.

In rupibus in Magensbay-Estate in insula S. Thomas et ad Hams-Bluff et in summo monte Eagles in insula S. Croix (F. Boergeren).

Var. *chrysochlora* Wain.

Thallus cinereo-glaucescens aut pallide cinereo-glaucescens, nitidulus. Apothecia disco fuscescente, margine tenuiore.

Thallus crustaceus, uniformis, tenuis, continuus aut rimulosus aut dispersus, laevigatus, sorediis et isidiis destitutus, cinereo-glaucescens aut pallide cinereo-glaucescens, vulgo leviter nitidus, intus albidus, KHO nec extus, nec intus reagens, jodo non reagens, hypothallo nigricante vel cinereo-nigricante, KHO violascente, limitatus et saepe crebre variegatus. Apothecia sat parva, latit. 0.7—0.3 millim., late adnata, basi leviter constricta, gonidiis destituta, disco plano, fusco aut fusco-nigricante, nudo, opaco, margine sat tenui aut mediocri, leviter prominente, integro, nigro. Perithecium superne extus et inferne medio rubricoso-fulvescenti-fuligineum, intus et inferne etiam extus aurantiaco-rubescens. Hypothecium ex hyphis irregulariter contextis, conglutinatis, formatum, superne tenuiter albidum, inferne aurantiaco-rubescens. Hymenium circ. 0.070 millim. crassum, jodo intense persistenter caerulescens. Epithecium fusco-fuligineum. Partes aurantiacae apotheciorum KHO violascentes, ceterae partes coloratae KHO haud reagentes. Paraphyses apice modice incrassatae. Sporae 8-nae, distichae, fumoso-fusciscentes, 1-septatae, ellipsoideae aut oblongae,

loculis parvis, vulgo rotundatis, membrana sat aequaliter bene incrassata aut ad apices crassiore, septo sat tenui, poro saepe distincto, long. 0.012—0.017, crass. 0.006—0.007 millim., apicibus vulgo rotundatis.

Ad rupes in Caledonia-Dal in insula S. Croix et in Macombo et Esperance in insula S. Jan (F. Boergesen). Fert.

Var. **chrysochroa** Wain.

Thallus cinereo-glaucescens, nitidulus. Apothecia disco ferrugineo-rufescente aut demum rufescente. Epithecium dilutius coloratum.

Thallus tenuis, continuus aut rimulosus, laevigatus, sorediis et isidiis destitutus, neque KHO, neque jodo reagens, hypothallo nigricante vel cinereo-nigricante, KHO violascente, limitatus et partim crebre variegatus. Apothecia sat parva, latit. 0.6—0.3 millim., late adnata, basi leviter constricta, gonidiis destituta, disco plano, ferrugineo-rufescente aut demum rufescente, nudo, demum nitidulo, margine sat tenui, leviter prominente, integro, nigro, sat opaco. Perithecium superne extus et inferne medio rubricoso-fuscescenti-fulgineum, intus et inferne etiam extus aurantiaco-rubescens et KHO violascens. Hypothecium ex hyphis irregulariter contextis, conglutinatis, formatum, superne tenuiter albidum aut pallidum, inferne aurantiaco-rubescens et KHO violascens. Hymenium circ. 0.07 millim. crassum, jodo persistenter caeruleascens. Epithecium pallidum aut dilute aurantiaco-rubescens aut partim rufescens, KHO partim leviter violascens, partim non reagens. Paraphyses tubulis 0.001—0.0015 millim. crassis, apice modice incrassatae, simplices aut partim apice furcatae, sat arcte cohaerentes, membrana gelatinosa, in KHO turgescens. Sporae 8-nae, distichae, fumoso-fuscescentes, 1-septatae, ellipsoideae aut oblongae, loculis parvis, vulgo rotundatis, membrana sat aequaliter bene incrassata aut ad apices crassiore, septo sat tenui, poro saepe distincto, long. 0.015—0.018, crass. 0.006—0.008 millim., apicibus vulgo rotundatis.

Ad rupem in praedio Loevenlund in insula S. Thomas (C.

Raunkiaer) una cum *Placodio diplacio*, in Rustenburg in insula S. Jan (F. Boergesen) cum *Buellia gyrosa*, cet., in summo monte Eagles in insula S. Croix (F. Boergesen).

2. **B. endochrysea** Wain. (n. sp.).

Thallus crustaceus, subsquamuloso-areolatus, areolis difformibus, saepe crenulatis, contiguus aut partim dispersis, sat tenuibus aut crassitudine mediocribus, saepe leviter inaequalibus, laxe adnatis aut partim adpressis, cinereo-olivaceis aut fusco-glauciscentibus, intus albis et plus minusve fulvescentibus aut aurantiacis, partibus fulvescentibus KHO violascentibus (ceterum areolis KHO non reagentibus), jodo non reagentibus, subtus strato hypothallino, nigricante, KHO violascente, obductis, sorediis et isidiis destitutus. Apothecia sat parva, latit. 0.5—0.3 millim., late adnata, basi leviter constricta, strato gonidioso thalli imposita, gonidiis parvis in apothecia penetrantibus, disco vulgo plano, fusco-nigricante, nudo, opaco, margine tenui, leviter aut demum haud prominente, integro, fusco-nigricante, opaco. Perithecium fuscum aut fusco-rubescens, intus aurantiaco-rubescens et KHO violascens. Hypothecium superne albidum, inferne aurantiaco-rubescens aut fulvo-aurantiacum et KHO violascens. Hymenium circ. 0.080 millim. crassum, jodo persistenter caerulescens. Epithecium fuscum et partim inferne tenuiter fulvescens, partibus fulvescentibus KHO violascentibus. Paraphyses sat laxe cohaerentes, apice leviter incrassatae et saepe furcatae. Sporae 8-nae, distichae, fumoso-fuscescentes, 1-septatae, vulgo ellipsoideae, haud constrictae, oculis parvis, vulgo rotundatis, membrana sat aequaliter bene incrassata aut ad apices crassiore, septo sat tenui, poro saepe sat lato, apicibus rotundatis aut raro obtusis, lateribus convexis, long. 0.013—0.019. crass. 0.007—0.009 millim. — Speciei praecedenti proxime est affinis et forsitan ejus varietas, thallo ab ea differens.

Ad rupem in Magensbay-Estate in insula S. Thomas, 800 p. s. m. (F. Boergesen), una cum *Placodio diplacio*. Fert.

3. *B. trachyspora* Wain. (n. sp.).

Thallus crustaceus, uniformis, sat tenuis aut crassitudine mediocri, continuus aut vulgo crebre rimulosus, laevigatus, stramineo-albidus aut glaucescenti-stramineus, sat opacus, KHO superne et intus lutescens, addito CaCl_2O_2 tantum dilutius coloratum, CaCl_2O_2 non reagens, jodo non reagens, sorediis et isidiis destitutus, hypothallo albedo ad ambitum interdum conspicuo. Apothecia mediocria, latit. 1—0.7 millim., partim increbra, adpressa, basi bene constricta, regularia, disco plano, nigro, nudo, opaco, margine nigro, nudo, opaco, vulgo parum prominente, crassitudine mediocri, integro. Excipulum extus fusco-nigrum, intus dilute cinereo-fuscescens, KHO non reagens. Hypothecium fusco-nigrum, ex hyphis irregulariter contextis, conglutinatis, formatum. Hymenium crassit. circ. 0.080—0.095 millim., jodo persistenter caerulescens. Paraphyses sat arcte cohaerentes, crassit. 0.001—0.0015 millim., apice modice clavato-incrassatae, clava apice fusco-nigra, simplices. Asci clavati. Epithecium fusco-nigrum, KHO non reagens. Sporae 8-nae, distichae, 1-septatae, ellipsoideae, medio non constrictae, apicibus rotundatis, lateribus convexis, long. 0.015—0.019, crass. 0.008—0.010 millim., membrana et septo parum incrassatis, exosporio bene ruguloso, rugis saepe verruculaeformibus, minutis, fusco-nigricantes, halone nullo indutae. Pycnoconidangia thallo immersa, puncto nigro, 0.08—0.09 millim. lato, rotundato, indicata, conceptaculis apice fusco-nigris, ceterum albidis. Sterigmata longit. circ. 0.02—0.03 millim., pauciarticulata, basi 0.0015—0.002 millim. crassa, dichotome aut irregulariter ramosa, articulo summo elongato, sensim attenuato, apice filiformi pycnoconidia efferente. Pycnoconidia cylindrica, recta, long. 0.008—0.012, crass. 0.0008 millim. — Haec species, exosporio ruguloso insignis, habitu subsimilis est *B. Glazouanae* (Krempelh.), quae autem sporis laevibus, minoribus, apotheciis late adnatis et anguste constrictis, crebris, thallo distincte flavescente ab ea differt.

In rupe ad cataractam prope Reef-Bay in insula S. Jan (F. Boergesen). Fert.

4. **B. gyrosa** Wain. (n. sp.).

Thallus crustaceus, uniformis, sat tenuis, continuus, parum rimulosus, laevigatus, substramineo-albidus, parum nitidulus, KHO lutescens, addito CaCl_2O_2 dilutius coloratum, CaCl_2O_2 non reagens, jodo non reagens, soreidiis et isidiis destitutus, hypothallo indistincto. Apothecia rotundata aut demum irregularia, mediocria, latit. 1.2—0.7 millim., partim increbra, adpressa, basi bene constricta, margine nigro, nudo, opaco, prominente, sat crasso, in gyros nonnullos difformes in medium apothecii continuato, disco nigro, nudo, opaco, inter gyros marginales angustato. Excipulum extus fusco-nigrum, intus dilutius fuscescens, KHO non reagens. Hypothecium fusco-nigrum, ex hyphis irregulariter contextis formatum. Hymenium crassit. circ. 0.080 millim., jodo persistenter caeruleascens. Epithecium fusco-nigrum, KHO non reagens. Paraphyses sat arcte cohaerentes, simplices, tenues, crassit. 0.001 millim., apice clavatae, clava 0.002—0.003 millim. crassa. Asci clavati. Sporae 8-nae, distichae, 1-septatae, ellipsoideae, medio non aut raro leviter constrictae, apicibus rotundatis, lateribus convexis, long. 0.014—0.019, crass. 0.007—0.009 millim., membrana et septo parum incrassatis, exosporio bene verruculoso-ruguloso, fumoso- aut fusco-nigricantes. Gonidia cystococcacea. — Apotheciis gyrosis et margine crassiore differt a *B. trachyspora*, cujus subspecies forsan est, sporis cum ea congruens. *Lecidea subplicata* Nyl. in Cromb., Lich. Terr. Kerguel. (1877) p. 190, secund. specim. orig. in herb. Nyl. diversa est species, jam apotheciis minoribus et magis regularibus ab hac planta recedens.

Ad rupem in Rustenburg in insula S. Jan (F. Boergesen).

5. **B. pollochella** Wain. (n. sp.).

Thallus crustaceus, uniformis, crassitudine mediocris aut sat tenuis, continuus, demum saepe rimulosus, leviter verruculoso-inaequalis aut partim sat laevigatus, sordide albicans, sat opacus, KHO superne et intus lutescens, addito CaCl_2O_2 eodem modo reagens, CaCl_2O_2 non reagens, subtus anguste jodo caeruleascens, soreidiis et

isidiis destitutus, hypothallo cinerascente partim limitatus. Apothecia sat parva, latit. 0.3—0.4 millim., crebra aut sat crebra, adnata aut semiimmersa, primum immersa, basi haud aut parum constricta, disco plano, nigro, nudo, opaco, laevi, margine sat tenui aut mediocri, prominente, cinereo-nigricante aut nigro, nudo, opaco, integro. Perithecium extus tenuiter fuscescens aut fusco-nigrum, KHO non reagens, intus albidum, KHO lutescens, hyphis subconglutinatis, gonidiis destitutum. Hypothecium fuscescens, ex hyphis erectis formatum, sat tenue. Hymenium crassit. circ. 0.070—0.080 millim. crassum, jodo persistenter caerulescens. Epithecium fuscescens aut fusco-nigrum, KHO non reagens. Paraphyses sat arcte cohaerentes, simplices, tenues, crassit. 0.001—0.0015 millim., apice fusco-clavatae. Asci clavati. Sporae 8-nae, distichae, 1-septatae, ellipsoideae aut raro oblongae, medio non aut raro leviter constrictae, apicibus rotundatis, membrana aequaliter modice incrassata, fuscae, laeves, halonc nullo indutae, long. 0.012—0.015, crass. 0.005—0.007 millim. — Habitu vix differt a *B. parachroa* Wain., Lich. Bras. Exs. n. 104, at notis internis ab ea longe distat. Perithecio et thallo a *B. spuria* (Schaer.) Arn. differt.

Ad rupes et lapides in Ma Folie (Biese) et prope Magensbay in insula S. Thomas et in saxis littoralibus ad Cruz-Bay in insula S. Jan (F. Boergesen). Fert., at pycnoconidangia male evoluta.

6. ***B. parachroa*** Wain., Étud. Lich. Brés. I (1890) p. 175, Lich. Bras. Exs. (1891) n. 104.

Var. ***interrupta*** Wain.

Hypothallo nigricante, magis evoluto, ad ambitum et partim inter aerolas thalli conspicuo a var. *primaria*, in Lich. Bras. Exs. n. 104 distributa, differt. Thallus tenuis, partim subcontinuus rimulosusque, partim dispersus, sordide albicans aut cinereo-albidus, KHO lutescens, jodo non reagens. Apothecia crebra, latit. 0.3—0.4 (—0.5) millim., usque ad marginem adnata aut primum semiimmersa, basi haud aut vix distincte constricta, disco plano, nigro, nudo, opaco, laevi, margine tenui aut sat tenui, saepe prominente,

nigro, nudo, opaco, integro aut subintegro, in latere interiore linea albida raro conspicua. Perithecium latere fusco-fuligineum, basi albidum, gonidiis destitutum. Hypothecium albidum aut dilute pallidum, KHO leviter lutescens, ex hyphis sat irregulariter contextis formatum. Hymenium circ. 0.090—0.100 millim. crassum, jodo persistenter caerulescens. Epithecium fuscescens, KHO non reagens. Paraphyses sat arcte cohaerentes, membrana gelatinosa, apicibus clavatis, simplices. Asci clavati. Sporae 8-nae, distichae, 1-septatae (nonnullae 2-septatae), vulgo ellipsoideae, apicibus vulgo rotundatis, haud constrictae, fumoso-fuscescentes, membrana semper inaequaliter incrassata, ad apices et septa crassiore, poro sat lato aut mediocri, long. 0.019—0.021, crass. 0.009—0.012 millim., haud gelatinosae. Pycnoconidangia hemisphaerica, latit. 0.040—0.050 millim., nigra. Pycnoconidia cylindrica, recta, long. 0.002, crass. 0.0005 millim.

In saxis ad Magensbay, 800 p. s. m., in insula S. Thomas (F. Boergesen), una cum *Placodio diplacio* var. *deminuta* et *Physcia crispa* var. *mollescente*.

7. **B. pachydermatica** Wain. (n. sp.).

Thallus tenuis, areolatus aut rimoso-areolatus, areolis contiguus aut partim subdispersis, circ. 0.2—0.15 millim. latis, vulgo angulosis, planis, laevigatis, albidis aut cinereo-albicantibus, KHO haud reagens, sorediis et isidiis destitutus, jodo non reagens, hypothallo caeruleo-nigricante tenuissimo passim inter areolas conspicuo. Apothecia crebra aut sat crebra, latit. 0.3—0.2 millim., adnata aut semiimmersa, basi haud aut parum constricta, disco plano, nigro, nudo, opaco, margine tenui, leviter aut haud prominente, nigro, nudo, vulgo opaco, integro. Perithecium fusco-fuligineum, KHO non reagens, gonidiis destitutum. Hypothecium albidum, KHO non reagens, ex hyphis irregulariter contextis formatum, jodo caerulescens. Hymenium circ. 0.08—0.09 millim. crassum, jodo persistenter caerulescens. Epithecium fusco-fuligineum, KHO non reagens. Paraphyses arcte cohaerentes, membrana gelatinosa, simpli-

ces, apicibus clavatis. Sporae 8-nae, distichae, 1-septatae, ellipsoideae, apicibus rotundatis aut obtusis, haud constrictae, fuscescentes, membrana inaequaliter bene incrassata, ad apices et ad latera septorum crassiore, poro mediocri, medio clauso, cavitatibus subinfundibuliformibus aut transversim ellipsoideis aut ovoideis, laeves, long. 0.016—0.018, crass. 0.010—0.011 millim. — A *B. parachroa* apotheciis et areolis thalli minoribus et reactionibus differt.

In rupe prope Ma Folie in insula S. Thomas (Biese).

8. **B. disciformis** (Fr.) Deichm. Branth et Rostr.

Var. **insignis** (Naeg.) Wain.

Thallus albidus, KHO extus et intus lutescens. Apothecia KHO haud reagentia, disco et margine nigro. Excipulum fusco-fuligineum aut basi partim purpureo-fuligineum. Hymenium oleosum. Epitecium dilute aut intense fuscescens, haud granulosum. Sporae 8-nae, distichae, laeves, fuscescentes, 1-septatae, septo vulgo sat crasso, poro vulgo sat lato (medio clauso), membrana ceterum aequaliter modice incrassata, long. 0.031—0.039, crass. 0.015—0.017 millim.

Ad corticem *Phoenixis dactyliferae* in Basse-Terre in Guadalupe (510: P. Duss).

9. **B. conspirans** Nyl., Fl. 1868 p. 345 (secund. specim. orig. n. 10547 in herb. Nyl.). *Lecidea subdisciformis* Light., Lich. Great. Brit. (1871) p. 308. *Buellia subdisciformis* Steiner, Über Buell. sax. (1907) p. 361.

Thallus crassus aut mediocris, areolatus aut rimoso-diffractus, areolis contiguis aut partim dispersis, convexis aut applanatis, 1—0.15 millim. latis, albidis, saepe leviter nitidis, KHO extus et intus lutescens, intus demum rubescens (crystalla acicularia rubra haud formans), $\text{Ca Cl}_2 \text{O}_2$ non reagens, sorediis et isidiis destitutus, jodo non reagens, hypothallo nullo distincto. Apothecia crebra aut sparsa, latit. 0.7—0.3 millim., adpressa, basi constricta, disco vulgo plano, fusco- aut livido-nigricante aut nigro, nudo aut cinereo-pruinoso,

opaco, margine mediocri aut sat tenui, prominente, nigro, nudo, opaco, integro aut interdum flexuoso, basim versus (perithecium et hypothecium) KHO solutionem luteam effundentia, dein rubescentia (crystalla acicularia rubescentia haud formantia). Perithecium fusco-fulgineum. Hypothecium fuscescens, ex hyphis irregulariter contextis formatum. Hymenium circ. 0.060—0.070 millim. crassum, jodo persistenter caerulescens, haud oleosum. Epithecium fusconigricans, KHO non reagens. Paraphyses arcte cohaerentes, haud gelatinosae, simplices, apicibus clavato-incrassatis. Sporae 8-nae, distichae, 1-septatae, ellipsoideae aut oblongae, apicibus obtusis aut rotundatis, haud constrictae, fusciscentes, laeves, membrana aequaliter modice incrassata, septo tenui aut modice incrassato, poro sat tenui, medio clauso, long. 0.014—0.017, crass. 0.006—0.008 millim.

In saxis littoralibus ad Cruz-Bay in insula S. Jan (F. Boer-
gesen). — Teste Steiner, Über Buell. sax. (Verh. k.-k. zool.-bot.
Ges. Wien, 1907) p. 361, in hac specie pycnoconidia long. 0.007
—0.011 (0.012), crass. 0.0008—0.0012 millim.

10. **B. modesta** (Krempelh.) Müll. Arg., Lich. Beitr. (1881)
n. 362. *Lecidea* Krempelh. in Warm. Lich. Bras. (1873) p. 23,
Lich. Süds. (1873) p. 103. *B. erubescens* Arn., Lich. Ausfl. Tirol
XIV (1875) p. 493.

Thallus crassitudine mediocris aut rarius sat crassus aut sat
tenuis, subcontinuus aut demum rimuloso-diffractus aut partim areo-
latus, vulgo verruculoso- aut verrucoso-inaequalis aut partim verru-
coso-areolatus, albidus, sat opacus aut leviter nitidus, KHO extus
lutescens, demum maculis rubescentibus, intus primum lutescens et
demum rubescens, praecipitatum rubrum granulosum aut crystallis
rubris acicularibus immixtum (in n. 1416) formans, sorediis et isi-
diis destitutus, jodo non reagens, hypothallo nigricante partim an-
guste limitatus. Apothecia crebra aut partim sparsa, latit. 1.2—0.5
millim., adpressa, basi constricta, disco plano aut demum convexo,
nigro (aut raro fusco-nigricante: in n. 1416), nudo. opaco, margine

mediocri aut tenui, saepe prominente, nigro, nudo, opaco aut nitido, integro, basim versus (perithecium et hypothecium) solutionem luteam effundentia, demum praecipitatum rubrum, granulosum et crystallis rubris acicularibus immixtum, formantia. Perithecium extus fusco-fuligineum, intus dilutius coloratum. Hypothecium inferne fuscescens, superne dilute fuscescens aut pallidum, ex hyphis irregulariter contextis formatum. Hymenium circ. 0.060—0.080 millim. crassum, haud oleosum aut basi leviter oleosum, jodo persistenter caerulescens. Epithecium fuscescens aut partim fusco-fuligineum aut partim dilute fuscescens, KHO non reagens. Paraphyses arcte cohaerentes, tenues, apice capitatae clavatae. Sporae 8-nae, distichae, 1-septatae, oblongae aut ellipsoideae, apicibus obtusis aut rotundatis, vulgo haud constrictae, fusciscentes, laeves, membrana aequaliter modice aut parum incrassata aut raro (in n. 419) ad apices crassiore, septo tenui aut rarius modice incrassato et poro sat tenui, long. 0.017—0.012, crass. 0.008—0.005 millim. (in n. 542 long. 0.013—0.010, crass. 0.0045—0.004 millim.). Pycnoconidangia leviter prominula, superne fusco-fuliginea. Pycnoconidia long. 0.004—0.006, crass. 0.0007 millim., recta, subcylindrica, apicibus obtusis aut altero apice subcuspidato-obtuso et altero obtuso aut rotundato.

Ad corticem arborum in monte Crown in insula S. Thomas (419: C. Raunkiaer), in Fair Plane (F. Boergesen) et prope Krauses Lagoon (542: C. Raunkiaer) in insula S. Croix. Ad corticem Mangiferae Indicae in Ravine-Chaude in Guadalupa (1416: P. Duss).

11. **B. lauricassiae** (Fée) Wain. *Lecidea* Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 48. *L. triphragmia* Auct. pr. p.

Thallus albidus, KHO superne lutescens, dein partim rubescens aut punctis rubris, intus lutescens et demum rubescens, praecipitatum rubrum granulosum et infra apothecia etiam crystallia rubra acicularia formans, sorediis et isidiis destitutus, jodo non reagens. Apothecia disco plano aut demum convexo, nigro, nudo, opaco, margine mediocri aut tenui, haud aut distincte prominente, nigro,

nudo, vulgo opaco, integro, persistente aut demum excluso, basim versus (perithecium et hypothecium) solutionem luteam effundentia, demum praecipitatum granulosum et crystallia rubra acicularia formantia. Perithecium fusco-fuliginum. Hypothecium fuscum. Hymenium circ. 0.070—0.080 millim. crassum, oleosum aut (in n. 436) haud oleosum, jodo persistenter caeruleum. Sporae 8-nae, distichae, oblongae aut ellipsoideae, apicibus obtusis aut rotundatis, fuscis, laeves, 3-septatae, pr. p. 1-septatae, loculis apicalibus parum aut paulo minoribus, long. 0.019—0.014, crass. 0.007—0.006 millim., membranis aequaliter incrassatis. — *B. triphragmia* (Nyl., Prodr. Lich. Gall. et Alg., 1857, p. 141) secund. annot. Nylander in herb. suo thallo KHO lutescente instructa est, quare planta analogae, thallo KHO rubescente instructa, nominari potest *B. lauricassiae*.

Ad corticem arborum in Jolly Hill in insula S. Croix (436 pr. p.: C. Raunkiaer) et in insula S. Thomas (F. Boergesen).

12. *B. didyma* Wain. (n. sp.).

Thallus sat tenuis, sat continuus, partim verruculoso-inaequalis, partim laevigatus, glaucescenti-albidus, leviter nitidus, KHO extus non aut parum reagens, intus lutescens, jodo non reagens, sorediis et isidiis destitutus, hypothallo nigricante partim anguste limitatus. Apothecia sat crebra, latit. 1.3—0.8 millim., adpressa, basi constricta, disco plano aut demum convexo, nigro, nudo, opaco, margine mediocri aut tenui, primum saepe prominente, nigro, nudo, sat opaco, integro, basi KHO haud reagentem. Perithecium fusco-fuliginum. Hypothecium fusco-nigrum. Hymenium oleosum, circ. 0.17 millim. crassum. Epithecium fuscis aut pallidum, haud granulosum, KHO non reagens. Paraphyses arcte cohaerentes, tenues, apice haud incrassato, membranis epithecium gelatinosum formantibus. Sporae 8-nae, distichae, oblongae aut ellipsoideae, apicibus obtusis aut rotundato-obtusis, haud constrictae, fuscis, laeves, 4-loculares, loculis apicalibus minutissimis, saepe poriformibus (multoties minores, quam loculi mediani), membranis saepe

sat inaequaliter incrassatis, septis latere incrassatis, poris saepe latis, long. 0.034—0.029, crass. 0.016—0.014 millim. — Affinis est *B. disciformi* (var. *insigni*).

Ad corticem arboris in Basse-Terre in Guadalupa (161 pr. p.: P. Duss).

13. **B. endocccodes** Wain. (n. sp.).

Thallus crustaceus, uniformis, crassitudine mediocris, verruculoso-inaequalis, verruculis circ. 0.25—0.1 millim. latis, saepe globosis, basi abruptis aut constrictis, crebris aut contiguis, extus albidus, sat opacus, intus albidus et passim rubescens, KHO extus et intus lutescens, partibus rubris KHO violascentibus, jodo non reagens, soreidiis et isidiis destitutus, hypothallo indistincto. Apothecia crebra, sat parva, latit. 0.3—0.6 millim., late adnata, disco plano, nigro, nudo, opaco, margine tenuissimo, nigro, nudo, aut demum excluso. Perithecium fusco-nigricans, KHO non reagens. Hypothecium fusco-nigricans, KHO non reagens. Hymenium circ. 0.08—0.07 millim. crassum, jodo persistenter caerulescens. Epithecium fuscescens. KHO non reagens. Paraphyses arcte cohaerentes, tenues, apice clavato-incrassatae, haud gelatinosae. Sporae 8-nae, distichae, oblongae, apicibus vulgo obtusis (aut rotundato-obtusis), haud constrictae, fuscescentes, laeves, 1-septatae, membrana aequaliter leviterque incrassata, long. 0.008—0.013, crass. 0.0035—0.0045 millim. — Statione et sporis angustioribus oblongisque a *B. endococcinea* Wain. differt. *B. sanguinariella* (Nyl., Lich. Nov.-Gran. Addit. p. 328) item corticola, secund. specim. orig. n. 10642 thallo increbre verruculis insperso et hypothallo nigro, bene evoluto, limitato a *B. endococcode* differens, forsitan diversa est species.

Ad corticem Byrsonimae prope Sofaga in Guadalupa (1413: P. Duss).

14. **B. punctiformis** (Hoffm.) Mass., Ric. Lich. Crost. (1852)
p. 82. *Patellaria myriocarpa* D. C., Fl. Fr. ed. 3 II p. 346.
F. punctata (Koerb.) Wain., Lich. Pitlekai (1909) p. 87.

Thallus tenuis, albidus. Hypothecium fuscum. Sporae 8-nae, 1-septatae, membrana aequaliter modice incrassata, long. 0.013—0.015, crass. 0.0055—0.006 millim. Pycnoconidia filiformia, curvata, long. 0.020—0.016, crass. 0.0005 millim. Conceptacula superne fusco-fuliginea.

Ad lignum Coccolobae uviferae prope Basse-Terre in Guadalupe (1502: P. Duss).

15. **B. polyspora** (Wiley) Wain., Étud. Lich. Brés. I p. 171.
Var. *diminutiva* Wain.

Thallus tenuis, sat continuus aut dispersus, sat crebre verruculoso-inaequalis, cinereo-glaucescens, sorediis et isidiis destitutus, nec KHO, nec jodo reagens. Apothecia sat crebra, latit. 0.3—0.2 millim., late adnata, basi constricta, nigra, nuda, disco plano, margine tenuissimo, persistente aut demum excluso. Perithecium rubescenti- aut fuscescenti-fuligineum, KHO non reagens. Hypothecium dilute rubescenti-fuscescens, KHO non reagens. Epithecium fusco-fuligineum, KHO non reagens. Hymenium circ. 0.060—0.050 millim. crassum, haud oleosum, jodo persistenter caerule-scens. Asci clavati, latit. 0.016—0.010 millim., membrana apice crassiore. Paraphyses tenues, apice fusco-capitatae, sat arcte cohaerentes, haud gelatinosae. Sporae in eodem asco numerosae (32-nae), polystichae, fuscae, ellipsoideae aut oblongae, apicibus rotundatis aut obtusis, rectae aut rarius obliquae, haud constrictae, 1-septatae, membrana aequaliter modice incrassata, septo tenui, long. 0.007—0.006, crass. 0.003 millim. — Apotheciis et sporis minoribus et ascis 32-sporis a *B. polyspora* differt, at forsan in eam transit.

Ad corticem arboris prope Cane-Bay in insula S. Croix (467 pr. p.: C. Raunkiaer).

16. **B. pachyphragma** Wain. (n. sp.).

Thallus tenuis aut sat tenuis, dispersus aut partim subcontinuus, vulgo leviter verruculoso-inaequalis, sorediis et isidiis destitutus, substramineo- aut glaucescenti-albidus, leviter nitidus, KHO

Intescens, CaCl_2O_2 non reagens, at his solutionibus mixtis intus rubescens, extus non reagens, jodo non reagens, hypothallo nullo distincto aut interdum dilute cinerascete angustissime limitatus. Apothecia crebra aut sat crebra, latit. 0.4—0.3 millim., late adnata, basi leviter constricta, disco plano aut demum convexo, nigro, nudo, opaco, laevi, margine tenui, saepe prominente aut demum rarius excluso, nigro, nudo, opaco, integro. Perithecium fusco-fuligineum aut fuscescens, KHO non reagens, gonidiis destitutum. Hypothecium fuscum, KHO non reagens, ex hyphis irregulariter contextis formatum. Hymenium circ. 0.050—0.055 millim. crassum, jodo persistenter caerulescens. Epithecium fusco-fuligineum, KHO non reagens. Paraphyses sat arcte aut sat laxe cohaerentes, crassit. 0.001—0.0015 millim., apice capitato-clavatae, clava fusco-fuliginea, interdum furcatae, ceterum simplices. Sporae 8-nae, distichae, 1-septatae, orculaeformes aut ellipsoideae, apicibus saepe obtusis aut rotundatis, medio raro leviter constrictae, laeves, fuscescens, septo crasso (0.008—0.006 millim.), membrana ceterum (ad apices) parum incrassata, poro modice dilatato (in dissepimento), strato gelatinoso nullo indutae, long. 0.010—0.014, crass. 0.006—0.007 millim. Pycnoconidangia numerosa, verruculas leviter elevatas, hemisphaericas formantia, latit. circ. 0.060 millim., superne fusco-nigricantia (sub microscopio). Sterigmata pauciarticulata, articulo apicali sensim attenuato, superne filiformi. Pycnoconidia filiformia, bene curvata, long. circ. 0.016—0.020, crass. 0.0007—0.0005 millim.

In saxis prope cataractam ad Reef-Bay in insula S. Jan (F. Boergesen) cum *Placodio cupulifero*.

17. **B. orcularia** Wain. (n. sp.).

Thallus tenuis aut sat tenuis, dispersus aut subcontinuus et crebre rimulosus, leviter inaequalis aut sat laevigatus, sorediis et isidiis destitutus, albus aut sordide albidus, opacus, nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens, jodo non reagens, hypothallo nullo distincto. Apothecia crebra aut sat crebra, latit. 0.5—0.2 millim., late adnata, basi leviter constricta, KHO non

reagentia, disco plano, atro aut nigricante aut livido-nigricante, nudo aut subnudo, laevi, margine tenui, saepe prominente, nigro, nudo, opaco, integro aut flexuoso. Perithecium fusco-fuliginium. Hypothecium fuscum, ex hyphis irregulariter contextis formatum. Hymenium circ. 0.060—0.055 millim. crassum, haud oleosum, jodo persistenter caerulescens. Epithecium fusco-fuliginium, haud granulatum, KHO non reagens. Paraphyses sat arcte aut sat laxe cohaerentes, tenues, apice clavato-incrassatae, haud gelatinosae. Sporae 8-nae, distichae, orculaeformes aut oblongae, apicibus obtusis aut rotundatis, haud constrictae, fuscescentes, laeves, 1-septatae, septo incrassato (crassit. circ. 0.004—0.003 millim.), membrana ceterum (ad apices) parum incrassata, poro tenui aut sat tenui, long. 0.009—0.013, crass. 0.005—0.006 millim. Pycnoconidangia parum elevata, latit. circ. 0.090 millim., superne fusco-fuliginea (sub microscopio). Sterigmata long. circ. 0.020 millim., pauciariculata, articulo apicali sensim attenuato, superne filiformi. Pycnoconidia filiformia, bene curvata, long. circ. 0.020—0.016 (—0.014), crass. 0.001—0.0007 millim. — Habitu subsimilis *B. pachyphragmati*, at colore et reactionibus thalli et sporis angustioribus ab ea differens.

In saxis littoralibus ad Cruz-Bay in insula S. Jan una cum *B. conspirante* et ad Nordsidebugt in insula S. Thomas cum *Psorotichia Boergesenii* (F. Boergesen). Fert.

Trib. 7. Peltigereae.

1. Peltigera.

1. *P. polydactylon* (Neck.) Hoffm. f. *melanocoma* (Mont. et v. d. Bosch) Wain., Étud. Lich. Brés. I p. 180. *P. polydactyla* f. *dolichorhiza* Nyl., Lich. Nov.-Gran. (1863) p. 435, secund. herb. Nyl.; haud *P. dolichorhiza* (Nyl., Syn. Lich. p. 327) primaria, quae automoma est species, analogae *P. praetextatae* (Floerk.) Wain., margine thalli lacerato subsidiosoque a f. *melanocomate* diversa.

Thallus rhizinis increbris, subsimplicibus aut tantum raro transversim fibrillosis, circ. 10—15 millim. longis.

Supra muscos et plantas destructas in rupibus in insula Jamaica (F. Boergesen).

2. **P. tomentosa** Wain. (n. sp.).

Thallus foliaceus, long. circ. 50—40 millim., adpressus, dichotome lobatus, lobis circ. 11—4 millim. latis, margine subintegro aut leviter crenulato, laevigatus, superne totus creberrime tomentosus, soreddis et isidiis destitutus, albido-pallescens, opacus, subtus late albido-pallescens, medium versus nigricans, reticulato-nervosus, nervis elevatis, angustis, laminae concoloribus aut obscurioribus, creberrime rhizinas brevissimas (0.3—1 millim. longas), penicillatas et varie fibrillosas et medium versus alias elongatas, 5—12 millim. longas, subsimplices efferentibus. Apothecia lobulis adscendentibus adnata, convoluta, disco fuscescente, opaco. Hypothecium dilute rufescens. Hymenium circ. 0.10—0.12 millim. crassum. Epithecium rubescenti-rufescens. Paraphyses sat laxe cohaerentes, crass. 0.0015—fere 0.002 millim., apicibus clavato-incrassatis et arcte cohaerentibus. Massa sporalis demum dilute fuscescens aut pallida (sporaes solitariae subdecolores videntur). Sporaes polystichae, bacillari-aciculares aut anguste fusiformes, apicibus obtusis aut altero apice rotundato, rectae, 3-septatae, long. 0.070—0.052, crass. 0.004—0.003 millim. Pycnides margini thalli affixae, verruculas, demum fusco-nigricantes formantes. Stylosporaes oblongae aut ovoideo-oblongae, simplices, decolores, apicibus rotundatis aut altero apice obtuso, long. 0.009—0.008, crass. 0.003 millim.

Supra plantas destructas in rupibus in insula Jamaica (F. Boergesen). Parce fert.

Trib. 8. Sticteae.

1. Pseudocyphellaria.

1. *Ps. aurata* (Ach.) Wain., Étud. Lich. Brés. I p. 183.

Ad corticem arborum prope La Cumbra in S. Domingo (498: C: Raunkiaer) et in Jamaica boreali (O. Hansen).

2. Sticta.

1. *St. L'Herminieri* Fée. *St. tomentosa* var. *L'Herminieri* Nyl., Fl. 1874 p. 71; Stizenb., Die Grübchenflecht. (Fl. 1895, Ergänzungsb.) p. 133.

A *St. tomentosa* (Sw.) Ach. apotheciis gonidia nostocacea continentibus differt, ad sect. *Lecanostictinam* pertinens, et forsan est variatio *St. ambacillariae* (Bor.) Del., thallo superne laevigato, cyphellis lutescentibus et sporis vulgo attenuatis ab ea differens. Thallus margine increbre ciliato, subtus tomento rhizineo brevissimo sat crebro aut partim increbro (aut plus minusve crebro in medio thalli), superne laevigatus, plumbeus, subtus pallidus aut partim lutescenti-pallidus, medulla albida aut pallescente, cyphellis circ. 0.2—1.5 millim. latis, lutescentibus. Apothecia supra thallum praesertimque ambitum versus sparsa. Excipulum extus increbre breviterque pilosum, infra stratum corticale gonidia nostocacea continens. Hypothecium pallido-rufescens, strato medullari, gonidiis destituto impositum. Hymenium circ. 0.160—0.130 millim. crassum. Epithecium rufescens. Paraphyses arcte cohaerentes, tubulo tenui, membrana subgelatinosa, apicem versus leviter incrassatae. Sporae 8-nae, polystichae, fusiformes, apicibus vulgo acutis aut sat acutis, decolores aut massa sporali demum lutescenti-pallida, long. 0.045—0.040, crass. 0.006—0.007 millim.

Supra corticem Theobromae cacao in Camp Jacob, alt. 400—660 m. s. m., in Guadalupa (446: P. Duss). Fert.

2. **St. tomentosa** (Sw.) Ach., Meth. Lich. p. 279; Hue, Lich. Extra-Eur. n. 433 pr. p.

Ad sect. *Eustictinam* pertinet. Apothecia gonidiis destituta. Sporae decolores, fusiformes, apicibus vulgo acutis, 3-septatae, long. 0.037—0.025, crass. 0.006—0.009 millim.

Ad rupem in Jamaica (F. Boergesen). Fert.

3. **St. Antillarum** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 254.

Ad sect. *Eustictinam* pertinet. Apothecia gonidiis destituta. Sporae semper 1-septatae, qua nota a *St. tomentosa*, cui habitu subsimilis est, differt.

Ad corticem Byrsonimae glabrae locis ventosis, 600—900 m. s. m., prope Bouillante (443) et ad corticem Ingae laurifoliae et Calophylli calabae, 450—900 m. s. m. (445: P. Duss), in Guadalupe. Fert.

4. **St. Weigellii** (Isert) Wain., Étud. Lich. Brés. I p. 189.

Thallus KHO superne non reagens, intus levissime flavescens et, addito CaCl_2O_2 , intus distincte flavescens.

Ad corticem arborum et ad saxa locis numerosis in Jamaica (F. Boergesen, O. Hansen, H. F. A. Eggers: 3708) et ad La Cumbra (481) et Barrabas (485: C. Raunkiaer) in S. Domingo et in Shawford-Estate (1591), in Diablotin, 4000 p. s. m. (1076), in Picard-Valley (975: f. *panniformis* Wain.) et prope Roseau-Lake, 2500 p. s. m. (1211: W. R. Elliott), in insula Dominica et ad Ingam laurifoliam in Gourbeyre, 400—900 m. s. m. (436, 444: P. Duss), in Guadalupe. Interdum etiam fert.

5. **St. damaecornis** (Sw.) Ach.

In insula Jamaica legit F. Boergesen. Fert.

6. **St. dichotoma** Del., Hist. Stict. (1822) p. 107.

Ad truncum arboris in Blue Mountains in Jamaica (O. Hansen). Fert.

7. *St. laciniata* (Sw.) Ach., Meth. Lich. (1803) p. 279 (hand Del., Hist. Stict. p. 116); Malme, Beitr. Stict. (1899) p. 9. *Lichen laciniatus* Sw., Nov. Gen. (1788) p. 147 (secund. specim. orig. in herb. Ach. medulla thalli KHO rubescens). Hand *Lobaria laciniata* (Huds.) Wain., Lich. Caucas. p. 307.

Thallus superne pallescens, laevigatus, glaber, breviter lobatus, subtus fuscescens aut partim pallidus, tomento rhizineo brevi, increbro, passim evanescente, KHO superne haud reagens, intus rubescens. Apothecia latit. circ. 4.5—2 millim., pr. p. marginalia, pr. p. supra thallum sparsa, disco fusco-nigro aut rufo, gonidiis destituta. Sporae decolores aut pallidae, fusiformes, apicibus obtusiusculis, 3-septatae, long. circ. 0.032, crass. 0.008 millim. Gonidia pleurococcacea, tantum simplicia visa. Thallo sat irregulariter et sat crebre iteratim laciniato lobatoque habitu subsimilis **St. sinuosae* (Pers.), at reactione thalli ab ea differens.

In arboribus in Blue Mountains in Jamaica (O. Hansen). Fert.

8. *St. Seemanni* Bab. in Seem. Bot. of Voy. Herald (1852) p. 248; Müll. Arg., Prim. Fl. Cost. II (1894) p. 127; Stizenb., Die Grünbchenflecht. (1895) p. 125.

Thallus long. circ. 80 millim., dichotome sat crebre aut sat increbre repetito-laciniatus, laciniis circ. 6—2 millim. latis, apicibus obtusis aut subtruncatis, axillis vulgo obtusis, superne modice impresso-rugosus, glaber, flavus aut glaucescenti-flavidus, sat opacus, subtus flavidus aut basim versus flavido-pallescens rufescensve, brevissime tomentosus et ambitum versus late denudatus, cyphellis crebris, minutis (ostiolo 0.3—0.2 millim. lato), sorediis et isidiis destitutus, medulla alba, nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens, basi stipitatus, stipite subterete, long. circ. 10, crass. circ. 2 millim. Apothecia marginalia, 2.5—2 millim. lata, disco rufo, margine pallido, excipulo margineque glabro, leviter verruculoso-inaequali aut sat laevigato. Excipulum gonidiis destitutum, strato myelohyphico bene evoluto. Hypothecium testaceo-aut rufescenti-pallidum. Hymenium circ. 0.130—0.140 millim. cras-

sum. *Epithecium rufescenti-testaceum*. Paraphyses arcte cohaerentes, crass. vulgo 0.002 millim., apice modice incrassata, membrana tenui, haud gelatinosa. Sporae 8-nae, distichae, fusiformes, apicibus obtusis aut sat acutis, rectae, 3-septatae, diu decolores, demum pallidae, long. 0.030—0.026, crass. 0.010—0.008 millim. Gonidia pleurococceae, flavescencia, simplicia aut pr. p. 4-cellulosa.

Ad truncum arboris in summo monte Blue Mountains in Jamaica (O. Hansen). Fert.

3. *Lobaria*.

1. *L. dissecta* (Sw.) Wain. *Lichen dissectus* Sw., Nov. Gen. (1788) p. 147. *Platism dissectum* Hoffm., Pl. Lichenos. II (1794) tab. XLVII. *Sticta dissecta* Ach., Meth. Lich. (1803) p. 279 (secund. specim. orig.), haud *Ricasolia dissecta* Nyl. (Syn. Lich. p. 370), quae secund. herb. Nyl. maxima parte ad *Lobariam peltigeram* (Del.) pertinet. *Sticta dissecta* a. *S. corrosa* Ach., Lich. Univ. (1810) p. 451 (secund. herb. Ach.). *Ricasolia corrosa* Nyl., l. c. p. 371.

F. albida Wain.

Thallus superne glaucescenti-albidus, margine isidioideo-lacinulato, KHO superne lutescens, intus non reagens, at, addito hypochlorite calcico, rubescens.

In rupe in insula Jamaica (F. Boergesen). Ster.

Trib. 9. *Pannariaeae*.

1. *Erioderma*.

1. *E. physcioides* Wain., Lich. Antill. (1896) p. 970

Var. *hypotrachyna* Wain.

Excipulo extus subverruculoso, nec arachnoideo-tomentoso a var. *primaria* hujus speciei differt. Thallus adpressus, apicibus loborum adscendentibus, superne cinereo-glauescens, tenuiter arachnoideo-tomentosus, ceterum laevigatus, subtus nudus glaberque, ner-

vis destitutus, stramineus vel albido-stramineus, in margine rhizinis crebris, penicillatis, 1.5—0.3 millim. longis, caeruleonigricantibus instructus, sorediis destitutus. Stratum corticale superius tenue, crass. circ. 0.020 millim., ex hyphis irregulariter contextis, conglutinatis, sat pachydermaticis, cavitate cellularum circ. 0.2 millim. lata instructis, superne in tomentum continuatis, formatum. Apothecia marginalia, ciliis destituta, disco rufo, nudo, excipulo extus subverruculoso, verruculis ex pilis fasciculatis et partim conglutinatis formatis.

Ad corticem *Miconiae triandrae* prope Bains-Jaunes, 930 m. s. m., in Guadalupa (458: P. Duss).

2. *E. Wrightii* Tuck., Suppl. North Am. Lich. (Am. Journ. Sc. II, XXV, 1858) p. 423, Syn. North Am. Lich. II (1888) p. 144; Nyl., Syn. Lich. II (1888) p. 48.

Thallus superne arachnoideo-tomentosus, subtus partim pilis rhizineis crebris, fuscescentibus obductus, nervis destitutus. Stratum corticale circ. 0.020—0.015 millim. crassum, ex hyphis irregulariter contextis, conglutinatis, sat pachydermaticis formatum, cavitate cellularum 0.006—0.004 millim. lata. Apothecia disco nigricante, excipulo pilis cinereis, squarrosis instructo.

Ad Clusiam venosam in Savane-aux-ananas (1564), ad Charianthum in Calebasse (1635: f. *pallida*, thallo superne pallido instructa) et ad Rosam in Gourbeyre (1206) in Guadalupa (P. Duss). Fert.

2. *Pannaria*.

1. *P. Marlana* (Fr.) Müll. Arg., Lich. Beitr. (Fl. 1887) n. 1159; Wain., Étud. Lich. Brés. I p. 205. *P. pannosa* Nyl., Syn. Lich. II (1888) p. 29; haud *L. pannosus* Sw., qui secund. specim. orig. in herb. Ach. pr. p. ad *Parmeliellam pannosam* fertilem, apotheciis lecideinis instructam, et pr. p. ad *P. Marianam* sterilem spectat.

F. radiata (Nyl.) Wain. *P. rubiginosa* v. *radiata* Nyl., Lich. Exot. (1859) p. 256 (secund. specim. orig. in herb. Nyl.).

Thallus laciniis ambitum versus discretis, haud aut parum confluentibus, isidiis destitutus, rhizinis marginalibus laxè confertis liberisque, caeruleo-nigricantibus, partim ex hyphis conglutinatis formatis.

Ad truncos arborum in Bois du Nez-Cassé, 840 m. s. m. (1425). et ad corticem Symploci Martinicaui in Bains-Jaunes, 700 m. s. m. (467), et ad corticem Azaleae Indicae in Camp Jacob (1214) in Guadalupa (P. Duss), ad truncos arborum in summo monte Conliabon, 3700 p. s. m. (1543), et ad Prince Rupert (1311 pr. p.) in Dominica (W. R. Elliott) et in Martinica (Isert). Fert.

2. *P. stylophora* Wain. (n. sp.).

Thallus laciniatus, cinereus aut cinereo-pallescens, isidiosus, isidiis cylindricis, margini et laminae laciniarum affixis, soreddiis destitutus, subtus nigricans, rhizinis laxè confertis liberisque, nigricantibus aut rarius fusconigris, partim ex hyphis conglutinatis formatis. Apothecia margine thalloe crenulato. — Haec species, isidiis cylindricis a *P. Mariana* dignota, analogà est *P. dispartitae* (Nyl.) Wain., quae hypothallo crebro ab ea differt et affinis est *P. rubiginosae*. *P. isidioidea* (Müll. Arg.) Wain. laciniis thalli margine isidiosis aut isidioideo-lacinulatis et isidiis applanatis a *P. stylophora* differt.

Ad corticem Sapii aucuparii in Sofaga in Guadalupa (1387: P. Duss). Ster. In Insulis Philippinis locis numerosis fertilis lecta

3. *P. rubiginosa* (Thunb.) Del.

F. *caeslocinerea* Wain. *P. rubiginosa* f. *cinerascens* Wain., Lich. Antill. p. 10.

Thallus cinerascens, isidiis destitutus, hypothallo adnato, tomentoso. — F. *cinerascens* Nyl. (in Cromb. Lich. Rodrigu. p. 436) cum hac forma non est omnino identica, thallo cinereo-pallescens (isidiis destituto), hypothallo evanescente et statione natali (saxicola) ab ea differens.

Ad Calophyllum calaba in Morne Gommier (1156), ad Mangi-

feram Indicam, 570 m. s. m. (1391), in Camp Jacob, ad Ingam Swartzii in Calebasse (1644) et ad arborem vetustam in Savaneaux-ananas (1578) in Guadalupa (P. Duss). Fert.

3. *Coccocarpia*.

1. *C. pellita* (Ach.) Wain.

Thallus isidiis destitutus, subtus obscuratus aut albidus. Apothecia atra aut fusca aut rufa aut fulva.

Var. *parmelloides* (Hook.) Müll. Arg., Lich. Beitr. (Fl. 1882) n. 421.

Ad saxa et lapides prope Esperance et in Kratskov prope Cruz-Bay in insula S. Jan (F. Boergesen). Ad ramos arborum in summo monte Conliabon, 3700 m. s. m., in Dominica (1555: W. R. Elliott). Ad Calophyllum calaba in Camp Jacob (1160: P. Duss) in Guadalupa. Etiam fert.

2. *C. cronla* (Tuck.) Wain.

Thallus isidiosus.

Var. *primaria* Wain.

Thallus lobis latis, subtus aeruginoso-nigricans. Apothecia nigricantia.

Ad corticem arboris prope Barrabas in S. Domingo (486: C. Raunkiaer).

Var. *isidlophylla* (Müll. Arg.) Wain.

Thallus lobis latis aut sat latis, subtus plus minusve late obscuratus. Apothecia fuscescentia aut rufa, haud ciliata.

Ad corticem arboris in insula S. Jan (7: Ove Paulsen). Fert.

Var. *furfuracea* (Müll. Arg.) Wain. *C. aurantiaca* v. *furfuracea* Müll. Arg., Lich. Beitr. (Fl. 1882) n. 422.

Thallus lobus latis aut sat latis, subtus saepe partim obscuratus. Apothecia fulvescentia, haud ciliata.

Ad corticem arboris in summo monte Conliabon, 3700 p. s. m., in Dominica (1554: W. R. Elliott).

Var. **isidiosa** (Müll. Arg.) Wain. *C. pellita* v. *semiincisa* f. *isidiosa* Müll. Arg., Lich. Usamb. (1894) p. 264.

Thallus parce isidiosus, laciniis vulgo circ. 1.5—0.8 millim. latis, subtus aeruginoso-nigricans. [Apothecia nigricantia.]

Ad saxa et supra muscos in saxis in summo monte S. Peter in insula S. Thomas et in Susannaberg in insula S. Jan (F. Boergeresen). Ster.

Var. **granulosa** (Müll. Arg.) Wain. *C. pellita* v. *granulosa* Müll. Arg., Lich. Beitr. (Fl. 1882) n. 421. *Pannaria parmelioides* f. *granulosa* Hue, Lich. Morph. (1912) p. 217.

Thallus sat parce isidiosus, laciniis angustis, vulgo circ. 0.5—0.3 millim. latis, passim etiam latioribus, brevibus aut crebre abruptis, squamaeformibus, contiguis aut subimbricatis, adnatis, superne plumbeo-cinereus, inferne aeruginoso-nigricans, lobis inferioribus emorientibus, rhizinis evanescentibus. Apothecia atra. — Etiam in coll. Lindig. n. 2538, a Müll. Arg. citato, thallus est parce isidiosus.

Ad truncum vetustum Pruni Dussii in Camp Jacob in Guadalupe (1388: P. Duss). Fert.

3. **C. Domingensis** Wain. (n. sp.).

Thallus iteratim dichotome aut irregulariter laciniatus, laciniis 0.080—0.160 millim. latis, substrato adnatis, superne plumbeo-cinereus, isidiosus, subtus albidus, rhizinis albidis, partim ex hyphis conglutinatis formatis. Stratum corticale superius ex hyphis longitudinalibus conglutinatis formatum. Apothecia incognita. — Thallo isidioso a *C. stellata* Tuck. et *C. asterella* (Nyl.) Wain., Lich. Bras. Exs. n. 1534, differt.

Ad corticem arboris prope Barrabas (cum n. 484) et La Cumbra (cum n. 483) in S. Domingo parce lecta (C. Raunkiaer).

Trib. 10. **Heppieae.**1. **Heppia.**

1. **H. Bolanderi** (Tuck.) Wain., Étud. Lich. Brés. p. 215; Hue, Hepp. (Mém. Soc. Sc. Nat. Cherb. XXXVI, 1907) p. 25.

In saxis littoralibus ad Cruz-Bay in insula S. Jan (F. Boergesen). Ster.

Trib. 11. **Collemeae.**1. **Leptodendriscum.**

1. **L. delicatulum** Wain., Étud. Lich. Brés. I p. 219; Reinke, Abh. Flecht. IV (1895) p. 229; Zahlbr. in Engl. Nat. Pflanzenf. 225 (1906) p. 156.

Ad ramum arboris in summo monte Conliabon in Dominica parçe fortuitoque lectum (cum n. 1539: W. R. Elliott). Fert.

2. **Leptogium.**

1. **L. callithamnium** (Tayl.) Wain. *Sticta callithamnium* Tayl. in Hook. Journ. of Bot. 1847 p. 183. *Stictina* Müll. Arg., Lich. Beitr. (Fl. 1888) n. 1290. *Leptogium callithamnion* Nyl., Enum. Gén. Lich. (1857) p. 90, Syn. Lich. p. 126.

Thallus tenuis (crassit. circ. 0.080—0.070 millim.), irregulariter lobatus, lobis circ. 11—2 millim. latis, vulgo confertis, apice et saepe etiam margine lacunculatis et irregulariter laceratis, lacunulis vulgo 0.2—0.4 millim. latis, sat inaequaliter dilatatis aut fere linearibus, saepe longitudine circ. 1—0.5 millim., superne et inferne arachnoideo-tomentosus, at ambitum versus denudatus, isidiis destitutus, laevigatus, plumbeo-cinerascens aut cinereo-fuscescens vel cinereo-pallescens, tomento cinerascente, superne et inferne strato corticali parenchymatico, e serie simplice cellularum 0.020—0.014 millim. latarum formato, obductus, rhizinis veris destitutus, at hy-

phis tomenti in basi thalli in filamenta hypothallina elongatis, 0.006—0.008 millim. crassis, sat pachydermaticis, vulgo sat increbre septatis, liberis (neque conglutinatis), haud stipitatus. Stratum medullare haud distincte mucosum, homoeomericum, gonidia et hyphas crassas (crassit. 0.007—0.010 millim.), leptodermaticas, crebre dispositas, continens, partim plectenparenchymaticum et homodioideum, jodo non reagens. Gonidia nostocacea, tegumento mucilaginoso nullo distincto, filamenta interrupta, brevia contortaque formantia, caeruleo-glauescentia, in parte inferiore strati medullaris parce evoluta et ibi demum evanescentia. Apothecia supra thallum sparsa, parmelioida, elevata aut basi demum brevissime stipitata, circ. 1.8—1 millim. lata, disco rufo, nudo, concavo, margine bene elevato, involuto, integro aut parce fisso, pallido-fuscescente, simplice. Excipulum extus parum rugulosum aut sat laevigatum, subtus vulgo arachnoideo-tomentosum, strato corticali grosse parenchymatico, e seriebus numerosis cellularum formato, gonidia nostocacea in interstitiis cellularum parenchymaticarum et hypharum plus minusve crebre septatarum infra hypothecium et in basi apothecii continens, hypothecio pallido aut testaceo, parathecio tenui, parenchymatico, a strato corticali et hypothecio haud distincte limitato. Hymenium circ. 0.180 millim. crassum, jodo persistenter caerulescens. Epithecium pallidum. Paraphyses arcte cohaerentes, haud ramoso-connexae, crassit. mediocres, apice leviter clavatae. Sporae 4-nae et in eodem apothecio rarius 8-nae, distichae, decolores aut massa sporali demum pallescente, fusiformes, apicibus acutis aut obtusis, haud gelatinosae, murales, cellulis numerosissimis, long. circ. 0.060—0.058, crass. 0.024—0.022 millim., seriebus transversalibus cellularum saepe circ. 10. — Species est intermedia inter *Lobariam* et *Leptogium*, at sporis muralibus et strato medullari homoeomericum et stratis corticalibus thalli e serie simplice cellularum formatis cum posteriore congruens, habitu et textura apotheciorum et hyphis cellulisque latioribus thalli versus *Lobariam* accedens et in sect. *Leptolobariam* pertinens. Gonidia sicut in *Leptogio crenatulo* (Nyl.) et in speciebus ei affinibus, in cavernis thalli filamenta con-

torta interruptaque formantia. — In specimine orig. Tayloriano (n. 41336 in herb. Nyl.) thallus superne glabrior, passim parce arachnoideo-tomentosus, inferne arachnoideo-tomentosus, lacinulis angustioribus, 0.1—0.2 millim. latis.

Supra muscos destructos in summis montibus Blue Mountains, 2470 m. s. m. (O. Hansen). Fert.

2. *L. Moluccanum* (Pers.) Wain., Étud. Lich. Brés. I p. 223. *L. diaphanum* Nyl., Syn. Lich. p. 125.

Thallus crassit. circ. 0.040—0.060 aut rarius —0.080 millim., strato medullari indistincte aut rarius parce mucoso, jodo lutescente.

Ad corticem arborum in Jamaica (F. Boergesen), prope Macumbo in insula S. Jan (428, 441: C. Raunkiaer), in Morne Diablotin, 4000 p. s. m. (1075), et alibi (1135, 1243: W. R. Elliott) in Dominica, prope Camp de l'Alma, 660 m. s. m., in insula Martinica (1710: P. Duss). Ad corticem Collandreae petiolaris in Bains-Jaunes, 900 m. s. m., in Guadalupa (1157: P. Duss). Saepe fert.

3. *L. tremelloides* (Linn. fil.) Wain., l. c. p. 224; neque *Lichen tremelloides* Huds., Fl. Angl. ed. 2 (1778) p. 537, neque Lightf., Fl. Scot. II (1877) p. 842 (ad *L. laccerum* spectans, teste Cromb., Mon. Lich. Brit. p. 70, at forsan specim. orig. Lightfootianum ab eo non est visum).

Thallus crassit. circ. 0.090—0.200 (raro —0.084) millim., bene mucosus, isidiis destitutus.

Ad truncos arborum in Jamaica (F. Boergesen), prope La Cumbra in S. Domingo (469: C. Raunkiaer), in Hampstead-Valley in Dominica (2327: W. R. Elliott), in Martinica (Isert), ad Soufrière (1386: P. Duss) et supra corticem Ingae laurifoliae in Gourbeyre (437) et ad radices Hecastophylli Brownii prope Morne-à-l'eau (439: P. Duss) in Guadalupa. Etiam fert.

4. *L. caeslum* (Ach.) Wain., l. c. p. 225. *L. tremelloides* f. *isidiosa* Müll. Arg., Lich. Beitr. (1882) n. 374.

Ad rupem prope Esperance in insula S. Jan (F. Boergesen).
 Ad truncos arborum prope La Cumbra in S. Domingo (475: C. Raunkiaer),
 in Hampstead-Valley in Dominica (2328: W. R. Elliott),
 prope Gourbeyre, 480 m. s. m. (ad corticem *Arecae oleraceae*), in
 insula Guadalupa (440: P. Duss), et in insula Trinidad (H. Lassen). Ster.

5. **L. marginellum** (Sw.) Mont.

Ad corticem arborum et rarius in rupe in Jamaica (F. Boergesen),
 prope La Cumbra in S. Domingo (479: C. Raunkiaer), in
 summo monte S. Peter in insula S. Thomas (F. Boergesen), in
 Morne Diablotin, 3000 p. s. m. (1078 pr. p.), et in Shawford-Estate
 (1858) in Dominica (W. R. Elliott). Ad corticem *Hedyosmi nu-*
tantis prope Bains-Jaunes, 900 m. s. m. (457, 1207; ad alium trun-
 cum: 1376), ad *Myroxylon Martinicense* in Calebasse (1634), ad
Cyrrillam Antillensem in Savanne-à-mulets (690) in Guadalupa (P.
 Duss). Ad corticem arboris prope Camp de l'Alma in Martinica
 (1705: P. Duss). Fert.

6. **L. stiptatum** Wain., Lich. Nov. Rar. III (Hedwigia 1899)
 p. 255.

Ad *Theobromam cacao* prope Gourbeyre (434), ad *Myrsinem*
laetam in Savane-aux-ananas (1562), ad *Cyatheam asperam* in
 Calebasse (1642) in Guadalupa (P. Duss). In Jamaica (F. Boer-
 gesen). — *L. bullatum* v. *ductyloideum* Nyl. rugis excipuli magis
 elevatis ab hac specie differt (secund. n. 41250 in herb. Nyl.).

7. **L. sessile** Wain. (n. sp.).

Thallus sat crassus (crassit. circ. 0.260—0.300 millim.), pla-
 gas — 60 millim. latas formans, irregulariter inciso-lobatus, lobis
 circ. 10—3 millim. latis, subintegris, superne et inferne glaber,
 isidiis destitutus, superne rugulis elevatis, acutis, haud aut parum
 undulatis, praecipue longitudinaliter dispositis, increbris, et aliis
 parum elevatis minutissimisque crebris (inferne rugulis elevatis,
 crebris), plumbeus, adpressus, lobis adscendentibus, superne et in-

ferne strato corticali, e serie simplice cellularum formato, instructus, strato medullari bene mucoso. Apothecia supra thallum sparsa, late adnata, demum modice constricta, sessilia, 2—1 millim. lata, disco rufo, planiusculo, margine demum vulgo duplice, integro, sat tenui, haud lacinulato. Amphithecium thallinum strato corticali parenchymatico, e serie simplice cellularum formato. Perithecium circ. 0.120 millim. crassum, grosse parenchymaticum, membranis tenuibus, albidum, in margine parathecium formans. Hypothecium pallidum, intricatim plectenparenchymaticum, cellulis minutis. Hyemenium circ. 0.170 millim. crassum. Epithecium pallidum aut testaceum. Paraphyses sat arcte cohaerentes, sat tenues. Sporae 8-nae, distichae, fusiformes, apicibus acutis aut obtusis, membrana sporalis sat crassa, murales, seriebus transversalibus cellularum 8—6, long. 0.028—0.038, crass. 0.014—0.016 millim. — Apotheciis sessilibus et thallo inaequaliter ruguloso a *L. stipitato* et nota posteriore a *L. chloromelo* differt.

Ad corticem arboris in Shawford-Estate in Dominica (W. R. Elliott). Fert.

8. *L. simplicius* Wain. (n. sp.).

Thallus crassus aut sat crassus, plagas — 30 millim. latas formans, irregulariter inciso-lobatus, lobis circ. 7—5 millim. latis, subintegris, superne et inferne glaber, isidiis destitutus, superne rugulis elevatis, acutis, haud aut parum undulatis, praecipue longitudinaliter dispositis, valde increbris, ceterum laevigatus (inferne rugulis elevatis, crebris instructus), plumbeus, adpressus, superne et inferne strato corticali, e serie simplice cellularum formato, obductus, strato medullari bene mucoso. Apothecia supra thallum sparsa, late adnata, demum modice constricta, sessilia, 2.2—1.5 millim. lata, disco rufo, planiusculo, margine vulgo simplice, raro duplice, integro, sat tenui, haud lacinulato. Amphithecium thallinum in margine strato corticali, e serie simplice cellularum parvarum formato, et in parte inferiore strato grosse parenchymatico, e seriebus horizontalibus numerosis cellularum leptodermaticarum for-

mato obductum. Perithecium infra hypothecium bene evolutum crassumque, grosse parenchymaticum, leptodermaticum aut sat leptodermaticum, vulgo in margine apothecii deficiens, raro in parathecium continuatum. Hypothecium pallidum, cellulis minutis, intricatim plectenparenchymaticum. Hymenium circ. 0.150 millim. crassum. Epithecium testaceo-pallidum aut testaceo-rufescens. Paraphyses arcte cohaerentes, sat tenues, apice leviter incrassatae. Sporae 8-nae, distichae aut monostichae aut imbricatae, fusiformes, apicibus obtusis aut sat acutis, membrana sporalis sat tenui, haud mucosa, murales, seriebus transversalibus cellularum 6, long. 0.022—0.030, crass. 0.011—0.013 millim. — Affine *L. chloromelo*.

Ad corticem arboris prope La Cumbra in S. Domingo (C. Raunkiaer).

9. ***L. phyllocarpum*** (Pers.) Nyl.

Var. ***daedalea*** (Flot.) Nyl. (Syn. Lich. p. 130). *Stephanophorus daedaleus* Flot. in Schimp. It. Abyss. n. 432 (Linn. 1843 p. 16) secund. specim. in herb. Nyl.

Thallus isidiis destitutus. Apothecia margine et stipite creberrime elevato-ruguloso, haud isidioso.

Ad truncum Cyathea asperae in Calebasse in Guadalupa (1643) legit P. Duss. Fert.

Var. ***macrocarpa*** Nyl. *L. phyllocarpum* var. 3. *macrocarpum* Nyl., Syn. Lich. p. 130 (secund. herb. Nyl.).

Thallus isidiis destitutus. Apothecia margine thallino foliaceo-lobulato, haud isidioso.

Ad truncos Bixae in Matouba (477), ad truncos Ingae laurifoliae in Camp Jacob (1161) et ad corticem Theobrom. cacao prope Gourbeyre (435) in Guadalupa (P. Duss). Fert.

10. ***L. coralloideum*** (Mey. et Flot.) Wain. *L. diaphanum* f. *coralloidea* Mey. et Flot. in Act. Ac. Leop. Nat. Cur. XIX Suppl. 1 (1843) p. 226. *L. anastomosans* (Del.) Nyl., Fl. 1855 p. 613 (secund. specim. orig. e Peruvia in herb. Nyl.: 41273). *L. phyllocarpum* v. *isidiosum* Nyl., Syn. Lich. p. 130.

Thallus et excipulum isidiosa.

Ad truncos arborum prope Barrabas in S. Domingo (484: C. Rannkiaer), prope Macombo in insula S. Jan (F. Boergesen). Ad truncos Clidemiae Guadalupensis prope Bains-Jaunes, 950 m. s. m., in Guadalupa (1392: P. Duss). Fert.

11. *L. punctulatum* Nyl., Lich. Mex. (1872) p. 1; Wain., Étud. Lich. Brés. p. 222.

Ad rupes in Jamaica (F. Boergesen) et in Sage Mountain, 1500 p. s. m., in insula Tortola (H. F. A. Eggers, Fl. Ind. Occ. Exs. n. 3192). Fert.

3. Physma.

1. *Ph. byrsinum* (Ach.) Müll. Arg., Lich. Beitr. (Fl. 1885) n. 987; Hue, Physm. (Bull. Soc. Linn. Norm. 5 sér. 9 vol., 1905) p. 14; Wain. in Schm. Fl. Koh Chang. Lich. (1909) p. 349. *Stephanophoron devertens* Nyl., Lich. Ceyl. (1900) p. 4 (secund. herb. Nyl.). Huc etiam *Lept. cyanescens* Nyl., Syn. Lich. p. 131, pertinet, quoad apothecia, l. c. descripta; thallus (apotheciis juvenilibus instructus) ad *L. phyllocarpum* v. *coralloideam* pertinet (secund. herb. Nyl.).

Thallus subtus albidus aut cinerascens aut pallidus, rhizinis concoloribus aut fusciscentibus rufescentibusve. Sporae 8-nae, distichae, simplices, ellipsoideae, long. 0.016—0.018, crass. 0.006—0.010 millim.

Ad corticem arboris prope Gourbeyre (441), ad corticem Ingae laurifoliae in Camp Jacob (460), ad truncos Bixae orellanae prope Palmistes (475) et Honelmont (476) in Guadalupa (P. Duss). Fert.

1. *Ph. Boryanum* (Pers.) Mass., Neagen. Lich. (1854) p. 7; Hue, l. c. p. 9.

F. hypomelaena (Nyl.). *Collema byrsinum* var. *hypomelaenum* Nyl., Prodr. Exp. Lich. Nov. Cal. (1859) p. 281 (Hue, l. c. p. 19). Ad corticem Ingae laurifoliae (438) et Arecae oleraceae (440)

prope Gourbeyre et ad corticem Bixae orellanae in Parnasse (474) in Guadalupa (P. Duss). Fert.

3. **Ph. pruinosisum** Wain. (n. sp.).

Thallus crassus aut sat crassus, irregulariter laciniatus, laciniis circ. 0.8—2.5 millim. latis, demum plus minusve confertis, adpressis et centro demum adscendentibus, superne vulgo convexis, sat laevigatis, partim creberrime areolato-rimulosis, cinereo-fuscescentibus aut olivaceo-cinereis, maxima parte tenuiter albido- aut cinereo-pruinosis, subtus partim canaliculatis, pallidis aut partim demum nigricantibus, rhizinis concoloribus, brevissimis, crebris instructus, passim rhizinis destitutus. Apothecia supra thallum sparsa, saepe demum crebre disposita, 5—2 millim. lata, disco rufo aut testaceo-rufescente, nudo, leviter nitido, planiusculo aut leviter concavo, margine thalode pustulato- aut lobulato-crenato, thallo consimili, discum superante, margine proprio (paratheciali) passim distincto tenuique. Perithecium albidum, crassum, in parte basali lumine cellularum radiantium 0.003—0.004 millim. lato, saepe oblongo aut elongato aut (praesertim ad limitem hypothecii) ellipsoideo, membranis sat crassis, in parte paratheciali membranis et luminibus duplo tenuioribus. Hypothecium pallidum. Hymenium circ. 0.120—0.130 millim. crassum, jodo persistenter caerulescens. Epithecium rufescens aut testaceum. Paraphyses arcte cohaerentes, sat tenues, apice leviter incrassatae, haud anastomosantes. Asci cylindrico-clavati, in apice membrana parum incrassata. Sporae 8-nae, monostichae aut subdistichae, decolores, simplices, ellipsoideae, apicibus obtusis aut rotundatis, lateribus rotundatis, membrana 0.002—0.0015 (in apicibus —0.003) millim. crassa, exosporio incrassato gelatinosoque, long. 0.018—0.013, crass. 0.010—0.007 millim. Pycnoconidia verruculas convexas, leviter elevatas aut hemisphaericas, extus fuscescentes formantia, conceptaculo ceterum decolorato, circ. 0.280 millim. lato. Sterigmata saepe leviter ramosa, crass. 0.004 millim., crebre septata, articulis numerosissimis. Pycnoconidia oblonga aut ovoideo-oblonga, recta, apicibus rotundatis, long. 0.003—0.004,

crass. 0.001 millim. Thallus in superficie hyphis crebre reticulatim ramoso-connexis, 0.002 millim. crassis. — Thallo pruinoso ab aliis speciebus hujus generis facile dignotum.

Ad truncum arboris prope Barrabas in S. Domingo (477: C. Raunkiaer). Fert.

4. Collema.

1. *C. (sect. Blennothallia) acarosporoides* Wain. (n. sp.).

Thallus monophyllus aut polyphyllus, circ. 8—2.5 millim. latus, irregulariter lobatus, lobis circ. 3—1 millim. latis, subintegrus aut crenulatis, sat crassus, sat laevigatus, isidiis destitutus, superne et inferne olivaceus aut olivaceo-nigricans, superne et inferne strato corticali destitutus. Apothecia thallo immersa, partim sat crebra, disco impresso, punctiformi, circ. 0.2—0.15 millim. lato, margine thalode thallum parum superante, basi sensim dilatato. Perithecium modice evolutum, albidum aut pallidum, cellulis parenchymaticis, parvis, membranis modice incrassatis, in parathecium continuatum, extus (in margine) tantum in statu humido conspicuum. Hypothecium tenue, albidum. Hymenium circ. 0.080—0.090 millim. crassum, jodo persistenter caerulescens. Paraphyses sat laxe cohaerentes, modice gelatinosae, haud ramosae, crass. 0.0015 millim., apice haud incrassatae. Epithecium pallidum aut testaceo-rufescens aut decoloratum. Sporae 8-nae, distichae, decolores, ellipsoideae, apicibus rotundatis aut obtusis, murales, septis transversalibus 3—4, irregularibus, cellulis sat paucis, haud gelatinosae, membrana tenui, long. 0.021—0.028, crass. 0.011—0.015 millim. Gonidia nostocacea, abundanter gelatinosa, cellulis in filamenta concatenatis, heterocystis decoloribus, intercalaribus. — Habitu *Heppii* et *Acarosporis* subsimile.

In rupibus littoralibus in Buck-Island prope insulam S. Croix (F. Boergesen). Fert.

2. *C. (sect. Synechoblastus) microptychium* Tuck., Syn. North Am. p. 147; Wain., Étud. Lich. Brés. I p. 237.

Ad corticem *Myrciae* (1574) et *Tupae flavescens* (1575) in *Savane-aux-ananas* in *Guadalupa* (P. Duss). Fert.

3. **C.** (sect. **Lemhospora**) **Dussli** Wain. (n. sp.).

Thallus irregulariter crebre lobatus laciniatusque, laciniis circ. 1—2 millim. latis, sat crassis, complicatis, passim confluentibus, margine papillato-denticulatis, sat inaequalis, aeruginoso-nigricans, haud perforatus, rhizinis et strato corticali destitutus, circ. 25 millim. latus. Apothecia primum immersa, demum emergentia, basi haud aut parum constricta, latit. 1—0.7 millim., demum crebra numerosaque, disco plano, nigricante, nudo, opaco, margine sat tenui, subintegro, duplici aut extus tantum thalode. Excipulum parte exteriore thallinum gonidiaque continens, strato corticali destitutum, perithecio 0.040—0.060 millim. crasso, dilute pallido, ex hyphis radiantibus, conglutinatis, gelatinoso-pachydermaticis, cavitate cellularum angusta cylindricaque aut lat. mediocri ellipsoideaque instructis, formato, in parathecium consimile continuato. Hypothecium pallidofuscens, ex hyphis irregulariter contextis formatum. Hymenium circ. 0.100 millim. crassum, jodo non reagens. Epithecium pallidum. Paraphyses sat arcte conglutinatae, haud ramosae, mediocres, apice leviter incrassatae, membrana modice gelatinoso-incrassata. Asci subcylindrici aut clavati, membrana tenui, apice leviter incrassata. Sporae 8-nae, distichae aut monostichae, decolores, simplices, globosae aut subgloboso-ellipsoideae, guttulas oleosas continentes, strato gelatinoso, increbre verrucoso, optime pellucido (et eam ob causam parum conspicuo) obductae, long. 0.009—0.014, crass. 0.008—0.010 millim. (strato gelatinoso excluso). Gonidia nostocacea, in filamenta elongata moniliformi-concatenata, abundanter gelatinosa, jodo non reagentia. — Thallo subsimile est *C. microptychio* Tuck. (Wain., Lich. Bras. Exs. n. 30). Sect. *Lemhospora* Wain. ex sporio gelatinoso-incrassato a sect. *Lempholemmate* (Koerb.) differt.

Ad corticem *Besleriae* in *Savane-aux-ananas* in *Guadalupa* (1572: P. Duss). Fert.

5. *Synalissa*.

1. *S. lichnella* Wain. (n. sp.).

Thallus fruticosus, alt. circ. 1.5—1 millim., irregulariter ramosus ramulosusque, ramis teretibus, vulgo subcylindricis, fusco-rubescens, sub microscopio rubris, apicibus rotundatis aut conico-obtusis, ramis primariis crassit. usque ad 0.4 millim., ramulis circ. 0.080—0.230 millim. crassis, saepe verrucaeformibus, homoeomericus, strato corticali destitutus, gonidiis totus impletus, hyphis tenuibus, leptodermaticis, increbris, ramulos in membranas gelatinosas gonidiorum emittentibus. Gonidia gloeocapsioidea, cavitate cellularum globosa (diam. 0.005—0.007 millim.) aut rarius subglobosa (long. 0.010 millim.), membrana gelatinosa, crassa, decolorata (in parte interiore thalli) aut rubra et KHO violascente (in parte exteriori thalli). — *Lichinellam stipatulam* Nyl. et *Pyrenops. confertam* et *P. micrococcam* in memoriam revocans, at thallo majore a duabus posterioribus differens.

In rupibus littoralibus ad Cruz-Bay in insula S. Jan (F. Boergeren). Ster.

6. *Pyrenopsis*.

1. *P. Antillarum* Wain. (n. sp.).

Thallus tenuis, effusus, areolatus aut rimoso-areolatus, areolis minutis (circ. 0.4—0.2 millim. latis), difformibus, angulosis, contiguis aut dispersis, planis, sat laevigatus (hand distincte granulatus), fusco-rubescens (sub microscopio rubescens), opacus. Apothecia lecanorina, elevata, basi abrupta, circ. 0.3—0.35 millim. lata, disco plano aut primum concavo, nigricante, opaco, margine tenui, integro, hand elevato aut primum leviter prominente, thallo concolore. Hypothecium pallidum. Hymenium circ. 0.070 millim. crassum, jodo persistenter caerulescens. Epithecium rufescenti-fuscescens, partim pallidum. Paraphyses arcte cohaerentes, sat tenues (crass. 0.001 millim.), apice fusco-clavato, clava 0.006—0.003 millim.

crassa, haud constrictae. Asci ventricosi-clavati, membrana tenui. Sporae 8-nae, distichae, decolores, simplices, ellipsoideo-subglobosae aut globosae, apicibus rotundatis, long. 0.011—0.009, crass. 0.009—0.006 millim., membrana tenui. Pycnoconidangia verrucas hemisphaericas, thallo concolores formantia, conceptaculo albido. Sterigmata long. 0.016—0.014, crass. 0.001 millim., simplicia, parce increbreque septata, apicibus pycnoconidia efferentibus. Pycnoconidia oblonga aut ellipsoidea, recta, apicibus obtusis, long. 0.003—0.002, crass. 0.001 millim. Gonidia gloeocapsioidea, cavitatibus globosis aut ellipsoideis, parvis, membrana rubescente.

Ad rupem in Magensbay-Estate, 800 p. s. m., in insula S. Thomas (F. Boergesen). In rupe littorali ad Cruz-Bay in insula S. Jan (F. Boergesen). Fert.

2. **P. negans** Wain. (n. sp.).

Thallus minutissime granulosus, granulis circ. 0.050—0.020 millim. crassis, brevibus aut partim elongatis subfruticulosive, in areolas minutas (circ. 1—0.3 millim. latas), angulosas, difformes, contiguas, tennes aut crassitudine mediocres connatis aut partim dispersis, fusco-fuliginosus (sub microscopio rubescens), opacus. Apothecia facie gyalectoidea aut fere pyrenodea, circ. 0.250 millim. lata, sparsa, disco impresso, urceolato, 0.2—0.15 millim. lato, margine lecanorino, elevato, tenui, integro. Hymenium circ. 0.050—0.060 millim. crassum, jodo non reagens. Asci ventricosi, membrana tenui. Paraphyses tubulis tenuibus, vix 0.001 millim. crassis, membranis gelatinosis, arcte conglutinatis, apicibus parum incrassatis. Epithecium pallidum. Sporae 8-nae, distichae, simplices, ellipsoideae aut ovoideo-ellipsoideae, apicibus rotundatis aut altero apice obtuso, membrana tenui, long. 0.009—0.014, crass. 0.004—0.007 millim. Gonidia gloeocapsioidea, cavitate cellularum vulgo globosa, diam. circ. 0.003—0.005 millim., membrana gelatinosa, rubescente.

. In rupe littorali ad Cruz-Bay in insula S. Jan (F. Boergesen). Fert.

7. *Psorotichia*.1. *Ps. aspicilloides* Wain. (n. sp.).

Thallus tenuis, effusus (habitu continuus laevigatusque: conf. infra), nigricans aut olivaceo-nigricans, in lamina tenui (sub microscopio) olivaceo-aureus. Apothecia semiimmersa, aspicilioidea, verrucas subtiles, basim versus leviter dilatatas formantia, disco aperto, circ. 0.230 millim. lato, leviter impresso, fuscescēte, margine tenui, integro, thallo concolore. Hypothecium pallidum aut partim rubescenti-pallidum. Hymenium circ. 0.090 millim. crassum, jodo non reagens. Epithecium pallidum aut partim dilute rubescenti-pallidum. Paraphyses tubulis tenuibus, membranis gelatinosis, sat tenuibus, arcte conglutinatis, haud ramosae, apicibus parum incrassatis. Asci ventricoso-clavati, membrana tenui. Sporae 8-nae, distichae, simplices, decolores, globosae aut subglobosae, diam. 0.005—0.006 millim. Perithecium infra hypothecium tenuissimum, ex hyphis tenuibus, leptodermaticis, horizontalibus formatum, in margine apothecii haud evolutum. Gonidia cellulis subglobosis (aut ellipsoideis), diam. 0.003—0.004 millim., intense glauco-virescentibus, saepe binis, tegumento gelatinoso sat tenui, olivaceo-aureo aut (in partibus interioribus) decolorato. Thallus, in sectione transversali microscopio visus, revera verruculoso-areolatus inaequalisque, at totus strato, hyphas increbras et Gloeocapsas globosas, tegumento gelatinoso, crasso, decolore instructas, continente, obductus, quare laevigatus nitidusque videtur.

In saxis ad Crequis in insula S. Croix (432: C. Raunkiaer). Fert

2. *Ps. Americana* Wain., Lich. Antill. (1896) p. 11.

Var. *pallescens* Wain.

Disco pallescente et hymenio tenuiore a *Ps. Americana* Wain., l. c. descripta, differt, at ceterum ei satis est similis. Thallus tenuis, effusus, subcontinuus aut rimoso-areolatus, areolis minutis, difformibus, angulosis, contiguis, planis laevigatisque, nigricans aut olivaceo-nigricans, in lamina tenui (sub microscopio) olivaceo-au-

reus. Apothecia latit. 0.3 millim., verrucas hemisphaericas formantia aut basi demum leviter constricta, disco concavo, leviter impresso, pallido aut rarius testaceo-rufescente, margine tenuissimo, integro. Hymenium circ. 0.065 millim. crassum, jodo non reagens. Epithecium decoloratum. Paraphyses tenues, arcte cohaerentes, apice haud incrassatae. Asci ventricosi-clavati, membrana tenui. Sporae 8-nae, distichae, simplices, decolores, ellipsoideae aut ellipsoideo-ovoideae, long. 0.010—0.012, crass. 0.005 millim.

Ad lapidem muri in America-Hill in insula S. Jan (F. Boergesen). Fert.

3. *Ps. Boergesenii* Wain. (n. sp.).

Thallus tenuis, effusus, areolato-diffractus, areolis minutis, difformibus, angulosis, contiguis, vulgo planis, subtilissime furfuraceo-granulosis, fusco-nigricans, in lamina tenui (sub microscopio) olivaceo-aureus. Apothecia circ. 0.2 millim. lata, verrucas hemisphaericas formantia, facie pyrenodea, disco rimaiformi aut punctiformi, leviter impresso, fuscescente aut rarius pallidiore, margine tenuissimo, integro, lecanorino. Hypothecium dilute pallidum, jodo caerulescens. Hymenium circ. 0.070—0.080 millim. crassum, jodo caerulescens, saepe demum partim lutescens aut glaucescens. Asci ventricosi-clavati aut ventricosi, membrana tenui. Paraphyses tenues, crass. 0.001—0.0015 millim., apice haud aut leviter incrassatae, haud ramosae, membranibus haud gelatinosis, sat laxe aut sat arcte cohaerentibus. Epithecium fere decoloratum. Sporae 8-nae, distichae, simplices, decolores, ellipsoideae aut oblongae aut ovoideae, apicibus rotundatis aut altero apice obtuso, long. 0.013—0.010, crass. 0.007—0.005 millim. Gonidia xanthocapsoides, cavitatibus cellularum globosis aut ellipsoideis, long. 0.005—0.010 millim., membrana olivaceo-aurea. — A *Ps. Americana* superficie thalli granulosa et reactione hymenii differt.

In saxis littoralibus ad Nordsidebugt (Magensbay) in insula S. Thomas (F. Boergesen). Fert.

Trib. 12. **Lecideae.**1. **Cladonia.**1. **Cl. rangiferina** (L.) Web.

Var. **crispatula** Nyl. (Wain., Mon. Clad. Univ., III, 1898, p. 222).

Locis siccis ad Flamstead, 3000 p. s. m. (H. F. A. Eggers, Fl. Ind. Occ. Exs. n. 3781), et alibi (F. Boergesen) in Jamaica. Fert.

2. **Cl. Floerkeana** (Fr.) Sommerf. ***Cl. bacillaris** Nyl. **F. clavata** (Ach.) Wain., l. c. p. 226.

Ad lignum putridum in Roseau-Valley in Dominica (W. R. Elliott).

3. **Cl. aggregata** (Sw.) Ach.

Ad plantas destructas et detritum in rupe in Jamaica (F. Boergesen).

4. **Cl. rangiformis** Hoffm.

F. pungens (Ach.) Wain.

In montibus humidis in Jamaica boreali abundanter lecta (O. Hansen).

5. **Cl. mitrula** Tuck.

Ad detritum rapis in Jamaica (F. Boergesen). Fert.

6. ***Cl. stenophyllodes** Wain., Mon. Clad. Univ. II p. 17, III p. 247.

Ad terram arenosam in rupe in Jamaica (F. Boergesen). Fert.

7. **Cl. cartilaginea** Müll. Arg., Lich. Beitr. n. 169 (Fl. 1880 p. 260); Wain., l. c. II p. 19, III p. 248.

Ad terram arenosam in monte prope Kingstown in Jamaica (O. Hansen). Fert.

8. **Cl. fimbriata** (L.) Fr.

F. subulata (L.) Wain., l. c. III p. 253.

Ad terram arenosam in Mount Eagles in insula S. Croix et in Jamaica (F. Boergesen).

F. radiata (Schreb.) Coem. Wain., l. c.

Parce cum praecedente.

9. *Cl. pityrea* (Floerk.) Fr.

F. soresiosa Wain., l. c. III p. 255.

Ad truncos vetustos in Mount Steward in S. Croix (430: C. Raunkiaer), ad tectum putridum in Gourbeyre in Guadalupa (1790: P. Duss), in Roseau-Valley in Dominica (1334: W. R. Elliott), in Trinidad (H. Lassen). Ad subformas mixtas pertinent.

2. *Baeomyces*.

1. *B. erythrellus* (Mont.) Nyl., Syn. Lich. p. 181; Wain., Étud. Lich. Brés. II p. 3.

Ad terram arenosam in Savane-à-mulets in pede montis Soufrière in Guadalupa (1203, 1798: P. Duss) et in monte Laudat, 2000 p. s. m., in Dominica (1372: W. R. Elliott). Fert.

3. *Lecidea*.

1. *L. (Bacidia) atosanguinea* (Schaer.) Wain., Adj. Lich. Lapp. II p. 16, Lich. Pitlekai (1909) p. 102.

F. Antillarum Wain.

Hypothecium parte superiore violascens, partim pallescens, inferne pallidum. Epithecium aeruginosum. — Thallus verruculosus aut verruculoso-areolatus, verruculis contiguis, albidocinereo-glauciscentibus, sat tenuis, partim hypothallo nigricante angustissime limitatus. Apothecia atra, latit. 1—0.7 millim., disco plano aut demum convexo. Excipulum in margine aeruginosum, basim versus pallidum. Hymenium circ. 0.065—0.070 millim. crassum, jodo persistenter caerulescens. Sporae 8:nae, aciculares, altero apice obtuso, altero sensim attenuato, rectae, long. 0.036—0.040, crass. 0.003—0.004 millim.

Ad corticem *Myricae microcarpae* in Savane-aux-ananas in Guadalupa (1586: P. Duss).

2. *L. medialis* Tuck. Wain., Lich. Bras. Exs. n. 452.

Ad cortices arborum in Macombo in insula S. Jan et prope Cane-Bay in insula S. Croix (F. Boergesen) et in insula Dominica (1359: W. R. Elliott).

3. *L. (Lopadium) leucoxantha* (Spreng.) Nyl.; Wain., Étud. Lich. Brés. II p. 25. Nomen antiquius hujus subgeneris est *Sporopodium* Mont.

Thallus albidus. Apothecia ochraceo-fulvescentia. Sporae solitariae, murales.

Ad corticem arboris prope La Cumbra in S. Domingo (472: C. Raunkiaer).

4. *L. vulpina* Tuck., Obs. Lich. 3, 1864, p. 281; ap. Nyl., Prodr. Fl. Nov.-Gran. ed. 2 (1863) p. 69, Syn. Lich. Nov. Cal. (1868) p. 50. *Lecanora* Nyl., Not. Lich. Port-Nat. (1868) p. 6. *Heterothecium* Tuck., Syn. North Am. Lich. II (1888) p. 57; Müll. Arg., Lich. Beitr. (Fl. 1881) n. 261.

Thallus glaucescenti-fulvescens. Apothecia disco ferrugineo-fuscescente, tenuiter ferrugineo-pruinoso, margine integro, fulvo-ferrugineo. Excipulum gonidiis destitutum, parte exteriori fulvo-rubricoso-fuscescente, intus electrino-lutescens, KHO violascens (intus dilute). Hypothecium albidum. Hymenium circ. 0.110 millim. crassum. Epithecium rubro-fuscescens aut fulvo-fuscescens, KHO violascens. Sporae binae (raro subsolitariae et altera spora abortive diminuta), decolores aut demum pallidae, ellipsoideae, apicibus rotundatis, murales, septis transversalibus 5—7, long. 0.033—0.027, crass. 0.017—0.016 millim. Habitu a *L. Domingensi* non differt.

Ad corticem arboris prope Barrabas in S. Domingo (471: C. Raunkiaer).

5. *L. phyllogena* (Müll. Arg.) Wain. *Heterothecium phyllogenum* Müll. Arg., Lich. Beitr. (1881) n. 266. *Lopadium olivaceum*

Müll. Arg., Lich. Beitr. (1881) n. 271, Lich. Epiphyll. (1890) p. 15.
Lecidea olivacea Wain., Catal. Welw. Afr. Pl. II P. 2 Lich. (1891)
 p. 421.

Var. **Lassenii** Wain.

Thallus effusus, tenuissimus, subcontinuus aut subdispersus, sat laevigatus, cinereo- aut subalbido-glaucescens, leviter nitidus. Apothecia adpressa aut fere adnata, basi leviter constricta, latit. circ. 0.5--0.2 millim., saepe irregularia, disco planiusculo aut convexo, fuscescente aut nigricante, nudo, opaco, margine indistincto aut tenuissimo, fere concolore aut pallescente. Perithecium extus grosse parenchymaticum, dilute olivaceum, in margine intus anguste fuscescens (KHO rufescenti-fuscescens), saepe strato hypothallino aeruginoso-nigricanti (KHO non reagenti) impositum. Hypothecium tenue, dilute sordide olivaceum (KHO dilute fuscescenti-pallidum). Hymenium totum dilute sordide olivaceo-virescens (KHO dilutissime fuscescens), circ. 0.090—0.080 millim. crassum, jodo intense persistenter caerulescens. Paraphyses parce ramoso-connexae, tubulo tenuissimo, membrana gelatinosa, in KHO turgescente. Sporae solitariae, decolores aut pallidae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.057—0.036, crass. 0.017—0.015 millim., membrana gelatinoso-incrassata. Gonidia cystococcaeae. — Colore perithecii a *Lopadio olivaceo* Müll. Arg. differt et facie externa omnino similis est *Heterothecio phyllogeno* Müll. Arg., Lich. Beitr. (1881) n. 266, quae autem ad eandem speciem pertinent. Ad folium Palmae in insula Trinidad (H. Lassen).

6. **L. subvelutina** Wain. (n. sp.).

Thallus effusus, tenuis, continuus, maculas 10—1 millim. laticas, rotundatas aut difformes formans, laevigatus, albido-stramineus aut stramineo-glaucescens, opacus, crebre contextus, nec KHO, nec CaCl_2O_2 , nec jodo reagens, hyphis 0.0025—0.004 millim. crassis, membranis modice incrassatis, granulis luteis incrustatis, goniidiis cystococcaeis, globosis, diam. vulgo 0.008—0.006 millim. (tantum simplicia visa), hypothallo indistincto. Apothecia adpressa,

basi constricta, latit. 0.5—0.3 millim., rotunda, disco plano, livido, pruinoso, opaco, margine crassitudine mediocri, prominente, albido, opaco, pilis fere tantum microscopio visis instructo. Perithecium albidum, impellucidum, gonidiis destitutum, ex hyphis formatum irregulariter radiantibus, subconglutinatis, 0.005—0.006 millim. crassis, cavitatibus cellularum rotundatis, mediocribus, membrana modice aut sat bene incrassata instructis, sat parce in pilos irregulares flexuososque continuatis. Hypothecium fusco-nigrum, KHO non reagens. Hymenium circ. 0.070—0.080 millim. crassum, jodo intense persistenter caerulescens. Epithecium sordide pallidum, inaequale, KHO non reagens. Paraphyses numerosae, irregulares, tubulis tenuissimis, flexuosis, ramosis et ramoso-connexis, apicem versus crassioribus, membranis gelatinoso-incrassatis, arcte cohaerentibus. Sporae solitariae, decolores, oblongae, medio constrictae, murales, cellulis numerosissimis, long. 0.050—0.060, crass. 0.013—0.016 millim., jodo caerulescentes, membrana mediocri, haud gelatinosa. — *L. subpilosae* Wain., Lich. Antill. p. 16, affinis, at habitu omnino similis *L. perbyssizae* Nyl. (Lich. Guin. p. 20), quae hypothecio decolorato ab ea distinguitur.

Ad folia coriacea arborum prope Debt in insula S. Jan (558, 559: C. Raunkiaer).

7. *L. Leprleurii* (Mont.) Wain., Lich. Antill. (Journ. of Bot. 1896) p. 15.

Thallus tenuissimus, arachnoideo-tomentosus, cinerascens, gonidiis parvis protococcaceis, cellulis globosis, diam. 0.008—0.006 millim., membrana sat tenui. Apothecia disco fusco-nigricante, nudo, opaco, margine albido-cinerascente, piloso. Perithecium plectenparenchymaticum, extus pallidum, in margine intus fuscescens aut partim dilute rubescens. Hymenium totum pallidum aut fere decoloratum. Hypothecium intense aeruginosum. Paraphyses haud numerosae, tubulis tenuissimis, ramoso-connexis, membranis gelatinoso-incrassatis, arcte cohaerentibus.

Ad folia annua arboris supra et inter thallos *Ectolechia* in

monte Diablotin, circ. 2500 p. s. m., in insula Dominica (2227: W. R. Elliott).

8. **L. (Bombyllospora) tuberculosa** Fée; Wain., l. c. p. 31.

Ad corticem arboris prope La Cumbra in S. Domingo (474: C. Raunkiaer). Fert.

9. **L. Domingensis** (Pers.) Nyl.; Wain., l. c. p. 33.

F. glaucotropa Nyl. in herb. suo.

Thallus glaucescens.

Ad corticem Artocarpi incisae in Basse-Terre in Guadalupa (473: P. Duss). Fert.

10. **L. (Psorothecium) versicolor** Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 104; Wain., l. c. p. 36.

Var. **argyroides** Wain.

Apothecia disco atro, margine crasso, albido aut superne anguste aut sat anguste nigricante. — Thallus crassitudine mediocris, albidus, rimoso-diffractus, verruculoso-inaequalis. Apothecia circ. 1 millim. lata. Excipulum strato corticali ex hyphis formato radiantibus, 0.005—0.006 millim. crassis, superficiem versus excipuli conglutinatis, materia granulosa, subimpellucida incrustatis, strato medullari subpallido, ex hyphis haud conglutinatis, materia granulosa, pallida incrustatis formato. Hypothecium albidum, sat tenue (circ. 0.040 millim. crassum), subcartilagineum, hyphis irregulariter contextis, tenuibus, lumine cellularum angusto, membranis sat tenuibus. Hymenium circ. 0.100—0.130 millim. crassum. Paraphyses laxae cohaerentes, sat tenues, apice leviter clavato-incrassatae, haud connexae. Epithecium aeruginoso-fuligineum. Sporae binae, decolores, oblongae aut ellipsoideae, apicibus rotundatis aut obtusis, 1-septatae, haud constrictae, rectae, membrana crass. mediocri, haud gelatinosa, long. 0.035—0.040, crass. 0.013—0.019 millim. (raro anormaliterque solitariae, biseptatae, long. 0.056, crass. 0.016 millim.). — Habitu similis est *L. argyromelae* Nyl.

Ad corticem arboris prope La Cumbra in S. Domingo (483: C. Raunkiaer).

11. *L. (Blatorina) trifer* Wain. (n. sp.).

Thallus crustaceus, tenuis aut crassitudine mediocris, leviter inaequalis, subcontinuus aut rimoso-diffractus, cinerascens aut cinereo-glaucescens, opacus. Apothecia 0.5—0.2 millim. lata, adnata, disco primum plano, demum convexo, fusciscente aut testaceo-pallido, nudo, sat opaco, margine tenui, integro, haud prominente, nigricante, demum saepe excluso. Perithecium purpureo-fuligineum, KHO non reagens, ex hyphis irregulariter contextis, crassitudine mediocribus, sat leptodermaticis, conglutinatis formatum. Hypothecium irregulariter contextum, violaceo-purpureum aut (in aliis apotheciis) dilutissime violascenti-pallidum, KHO non reagens. Hymenium circ. 0.050—0.055 millim. crassum, jodo persistenter caeruleescens. Epithecium decoloratum aut partim cyanescenti-fuligineum aut aeruginoso-nigricans, KHO non reagens. Paraphyses arcte cohaerentes, simplices aut apice furcatae, haud connexae, mediocres (crassit. 0.0015 millim.), apice leviter clavato-incrassatae. Asci clavati, in apice membrana modice incrassata. Sporae 8-nae, oblongae aut bacillari-elongatae, apicibus obtusis aut altero apice rotundato, rectae aut pr. p. obliquae, vulgo 1-septatae, parce etiam 3-septatae, decolores, long. 0.012—0.017 (—0.009), crass. 0.002—0.003 millim. Conceptacula stylosporarum verruculas hemisphaericas, circ. 0.120 millim. latas, atras, sub microscopio purpureo-fuligineas formantia. Basidia simplicia, long. 0.014—0.016 millim. Stylosporae oblongae aut fusiformi-oblongae aut ovoideae, apicibus obtusis aut altero apice rotundato, 1-septatae, decolores, long. 0.007—0.010, crass. 0.002—0.003 millim. Sterigmata simplicia, long. 0.012—0.014, crass. 0.001 millim. Pycnoconidia ellipsoidea aut parcius ovoidea, apicibus rotundatis aut altero apice obtuso, long. 0.002—0.0025, crass. 0.001 millim. In uno conceptaculo, pycnoconidia abundantissime continente, etiam stylosporas numerosas observavi. In alio conceptaculo tantum stylosporae numerosae adfuerunt. Gonidia cystococcacea, globosa, diam. vulgo 0.005—0.010 millim., tantum simplicia visa, membrana sat tenui. — Habitu sub-

similis *L. inundatae*. Sporis medium tenet inter *Bacidias* et *Catillarias*.

Ad lapidem muri vetusti in Jolly Hill in insula S. Croix (440: C. Raunkiaer).

12. **L. prasina** (Fr.) Schaer., Lich. Helv. Spic. (1833) p. 164, pr. p. *Micarea prasina* Fr., Syst. Orb. Veg. (1825) p. 257. *Catillaria prasina a. laeta* Th. Fr., Lich. Scand. II (1874) p. 573; *Micarea* Hedl., Krit. Bem. Lecid. Micar. (1892) p. 77, 87. Wain., Lich. Bras. Exs. (1891) n. 165.

Var. **laevior** Wain.

Apothecia 1.1—0.5 millim. lata, adpressa et basi bene constricta aut rarius late adnata basique leviter constricta, bene elevata crassaque, disco vulgo convexo, laevigato neque tuberculato, pallido. — Thallus tenuis aut sat tenuis, granuloso-inaequalis, olivaceo- aut cinereo-glaucescens. Hypothecium decoloratum aut pallidum, hyphis irregulariter contextis. Hymenium circ. 0.080 millim. crassum, jodo persistenter caerulescens. Epithecium decoloratum, KHO non reagens. Excipulum chondroideum, fere decoloratum, ex hyphis radiantibus formatum, cavitatibus cellularum angustis, membranis incrassatis conglutinatisque. Paraphyses ramoso-connexae, cavitatibus angustis aut apice leviter dilatatis, membranis incrassatis et arcte conglutinatis. Sporae 8-nae, monostichae, decolores, 1-septatae, oblongae aut fusiformes, apicibus obtusis aut rotundatis aut sat acutis, long. 0.009—0.011, crass. 0.003—0.004 millim. Gonidia micareana, virescentia, cellulis numerosis, in familias primum globosas consociatis, cavitatibus cellularum ellipsoideis aut globosis, in pariete communi gelatinoso, crasso inclusa.

Ad lignum putridum in monte Trois-Pitons in insula Dominica (2284: W. R. Elliott).

13. **L. (Psora) breviscula** Nyl., Lich. Nov.-Gran. ed. 2 (1863) p. 339; Wain., Lich. Bras. Exs. n. 337, 338, 795 [var. *subbreviscula* (Nyl.) Wain.].

Var. **phaeobyscina** Wain. *L. breviuscula* Nyl., l. c. (secund. herb. Nyl.).

Hypothallus byssomorphus, fuscescens. — Thallus squamosus, squamis laciniatis, glauco-virescentibus aut pallido-glauciscentibus (hypothallo minus evoluto, qua nota in *L. parvifoliam* accedens). Apothecia KHO non reagentia. Excipulum pallidum aut albidum. Hypothecium pallidum. Hymenium pallidum aut pallido-rufescens. Sporae oblongae aut fusiformi-oblongae, long. 0.008—0.007, crass. 0.002—0.003 millim., simplices.

Ad corticem Coffeae Arabicae in Houelmont in Guadalupa (481: P. Duss). Fert.

14. *L. furfuracea* Pers. in Gaudich. Voy. Uran. (1826) p. 192; Wain., l. c. p. 47.

Var. **biatorina** Wain.

Thallus haud distincte squamulosus, e granulis oblongis, tenuissimis, partim plus minusve connatis formatis, hypothallo infra apothecia conspicuo, ceterum indistincto. Apothecia circ. 1—0.5 millim. lata, disco plano aut demum convexo, rufo aut rufo-fuscescente, margine tenui aut tenuissimo, saepe nigricante. — Thallo potius ad *Biatoras*, quam *Psoras* pertinet, at apotheciis *Psoris* similis iisque affinis. Excipulum vinose rubens, KHO purpureum, ex hyphis radiantibus, conglutinatis, pachydermaticis formatum, cavitate cellularum tenui, inferne aut latere quoque filamentis hypothallinis 0.003 millim. crassis, fusciscentibus aut rubricoso-nigricantibus, laxo contextis, instructum. Hypothecium vinose aut aurantiaco-rubescens, KHO violaceo-purpureum, crassum, ex hyphis erectis, pachydermaticis, conglutinatis, cavitate cellularum angusta instructis, formatum. Hymenium circ. 0.035—0.030 millim. crassum, decoloratum aut pallidum, jodo leviter caerulescens. Paraphyses arcte cohaerentes, tubulis tenuibus, apice haud incrassatae, membrana modice gelatinoso-incrassata. Sporae fusiformes aut ovoideae, apicibus acutis aut obtusis, simplices, decolores, long. 0.006—0.005, crass. 0.0015 millim.

Ad corticem *Eugenii Poiretii* in Camp Jacob in Guadalupa (1498: P. Duss). Fert.

15. **L. (Biatora) Janina** Wain. (n. sp.).

Habitu subsimilis *L. albohyalinae* (Nyl.) Th. Fr., Lich. Scand. II p. 431, Hedl., Krit. Bem. Micar. (1892) p. 68 (*L. luteola* var. *albohyalina* Nyl., Herb. Mus. Fenn., 1859, p. 89, pr. p., *L. anomala* f. *albohyalina* Nyl., Lich. Scand., 1860, p. 203), at tubulis paraphysum multo tenuioribus et cavitatibus cellularum perithecii longioribus ab ea differens. Thallus verruculosus, cinerascens, evanescentes, gonidiis cystococcaceis, globosis, diam. 0.007—0.005 millim. (tantum simplicia visa). Apothecia adnata, latit. 0.4—0.2 (raro—1) millim., convexa, albido-carnea, nuda, sat opaca, margine excluso. Perithecium decoloratum, jodo non reagens, ex hyphis radiantibus formatum, cavitatibus cellularum oblongis, 0.002—0.0015 millim. latis, membranis modice incrassatis. Hypothecium decoloratum. Hymenium circ. 0.045—0.050 millim. crassum, decoloratum aut totum dilutissime pallidum, jodo persistenter caeruleascens. Paraphyses arcte cohaerentes, simplices aut paucissime connexae, tubulis tenuissimis (0.0005 millim. crassis), apice haud incrassatis, membranis gelatinoso-incrassatis, in KHO turgescentibus. Asci clavati, apice membrana leviter incrassata. Sporae 8-nae, distichae, decolores, oblongae aut fusiformes, apicibus obtusis aut sat acutis, simplices aut parcius 1-septatae, long. 0.010—0.008, crass. 0.002—0.0025 millim. — In *L. albohyalina* typica paraphyses tubulis crassit. 0.001 millim., apice 0.0015 millim., perithecium cavitatibus cellularum vulgo ellipsoideis. E speciminibus duobus originalibus tantum planta, in Sotkamo a Chydenio lecta, ad *L. albohyalinam* pertinet.

Ad corticem prope Macombo in insula S. Jan (F. Boergesen).

16. **L. arthoniopsis** Wain., Lich. Antill. (1896) p. 11.

Thallus crustaceus, continuus aut areolato-diffractus, areolis minutis, tenuis, sat laevigatus aut verruculoso-inaequalis, albidus, opacus, nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis rea-

gens, interdum linea hypothallina nigricante limitatus. Apothecia latit. 0.4—0.2 millim., tennia, adnata, basi primum leviter immersa, disco plano, nigricante aut fuscescente, nudo aut tenuiter pruinoso, margine nigricante aut pallido, tenui aut tenuissimo, integro. Excipulum pallidum aut extus tenuiter rufescens aut raro intus dilute fuscescens, KHO non reagens, ex hyphis radiantibus, conglutinatis formatum, cavitatibus cellularum tenuibus. Paraphyses sat laxae aut sat arcte cohaerentes, tenues, apice vulgo fusco-clavatae. Asci clavati, apice membrana leviter incrassata. Epithecium fuscescens aut livido-fuscescens, KHO non reagens. Sporae 8-nae, distichae, simplices, decolores, ellipsoideae aut breviter ellipsoideae, long. 0.007—0.011, crass. 0.005—0.007 millim. Hypothecium parte superiore pallidum albidumve, parte inferiore saepe partim dilute fuscescens aut rubescens vel aurantiacum, KHO non reagens. Hyemenium circ. 0.050—0.080 millim. crassum, jodo persistenter caeruleum aut demum vinose rubens.

Ad Paritium tiliaceum prope Gourbeyre (497: P. Duss) et ad Salicem Humboldti in Camp Jacob (1567: P. Duss) in Guadalupa. Ad corticem arboris in Shawford-Estate in Dominica (1432 a pr. p.: W. R. Elliott).

17. *L. piperis* (Spreng.) Nyl., Fl. 1869 p. 121.

F. erythroplaca (Fée) Krempelh., Fl. 1876 p. 266; Wain., Étud. Lich. Brés. II p. 53.

Ad corticem arborum et arbustorum prope Makombo in insula S. Jan (F. Boergesen) et prope Lidroment in Dominica (1358: W. R. Elliott), ad Spondiam purpuream (1166), Citrum aurantium (1175) et Ingam laurinam (1183) prope Les Palmistes in Guadalupa (P. Duss), ad lusum in f. *umbrinellam* Pers. transeuntem pertinens.

F. circumtincta Nyl.

Ad corticem prope Debt in insula S. Jan (454 pr. p.: C. Raunkiaer).

F. canorufescens Wain., Lich. Antill. (1896) p. 17.

Ad corticem arboris in Shawford-Estate in Dominica (1531: W. R. Elliott).

18. **L. hypomelaena** Nyl. *L. hypomela* Nyl., Enum. Gen. Lich. (1857) p. 121, Lich. Exot. (1859) p. 223, Lich. Nov.-Gran. ed. 2 (1863) p. 341, Fl. 1869 p. 122; Krempelh., Lich. Arg. (1878) p. 19 (conf. Müll. Arg., Lich. Parag. p. 9).

F. **atillis** Wain.

Thallus crustaceus, tenuis, continuus (in specimine nostro sat laevigatus), griseus aut olivaceo-cinerascens, KHO non reagens, hypothallo indistincto. Apothecia 1.7—0.8 millim. lata, elevata, gonidiis destituta, disco fuscescente aut rufescente, nudo (plano in hoc specimine), margine crasso, nigricante aut lurido-cinerascente. Excipulum intus fusco-nigrum, extus decoloratum et ex hyphis irregulariter radiantibus formatum, membranis sat crassis, cavitatibus cellularum saepe ellipsoideis latisque. Hypothecium fusco-nigrum. Hymenium circ. 0.140 millim. crassum, jodo persistenter caerule-scens. Epithecium decoloratum aut pallidum aut partim rufescens. Paraphyses arcte cohaerentes, tubulis tenuibus, apice haud incrassatis, membranis tenuiter gelatinoso-incrassatis, increbre ramoso-connexae. Asci clavati, apice membrana modice incrassata. Sporae 8-nae, distichae, decolores, simplices, ellipsoideae, apicibus obtusis aut rarius pr. p. rotundatis, lateribus rotundatis, membrana mediocri (KHO tractatae, exosporio et endosporio saepe distincto), long. 0.018—0.027, crass. 0.011—0.013 millim. — Specimen orig. n. 20704 e Bolivia margine tenuiore a planta nostra differt, at ad eandem speciem pertinent.

Ad corticem Ingae laurinae in Camp Jacob in Guadalupa (146: P. Duss).

19. **L. (Eulecidea) goniophila** Floerk., Berl. Magaz. 1809 p. 311; Wain., Lich. Pittekai (1909) p. 133.

F. **arecae** Wain.

Thallus crassit. mediocris aut sat crassus, areolatus, areolis verruculoso-inaequalibus aut partim sat laevigatis, albidus, KHO

superne et intus lutescens. Perithecium extus violascens aut partim aeruginosum, intus albidum. Hypothecium albidum aut partim pallidum. Hymenium jodo persistenter caerulescens. Epithecium aeruginoso-fuligineum. Paraphyses laxe cohaerentes, simplices, apice leviter incrassatae. Sporae 8-nae, distichae, ellipsoideae, apicibus rotundatis, simplices, decolores, long. 0.011—0.008, crass. 0.006—0.005 millim.

Ad corticem *Arecae oleracae* in Baillif (141) et in Basse-Terre (1278, 1281) in Guadalupa (P. Duss).

Trib. 13. Coenogoniae.

1. Coenogonium.

1. *C. interplexum* Nyl., Obs. Coenog. (1861) p. 92.

Thallus pannose expansus, adnatus. Gonidia cellulis vulgo 0.014, rarius 0.020, raro 0.024 millim. crassis, 0.028—0.040 millim. longis. Sporae fusiformes, altero apice obtuso, altero vulgo acuto, 1-septatae, long. 0.005—0.008, crass. 0.0025 millim. Asci cylindrici. Hypothecium dilute pallidum. Hymenium circ. 0.050 millim. crassum. Epithecium dilutissime pallidum.

Ad truncum *Ingae laurinae* in silva prope Bains-Jaunes in Guadalupa (1786: P. Duss). Fert.

2. *C. subvirescens* Nyl., Fl. 1874 p. 72; Wain., Étud. Lich. Brés. II p. 66, Catal. Welw. Afr. Pl. V. II. P. 2 Lich. p. 426.

Ad Sloaneam caribaeam (1159) in silva prope Bains-Jaunes in Guadalupa (P. Duss) et ad arborem prope Castle Bruce-River in Dominica (1678: W. R. Elliott). Fert.

Trib. 14. Gyalecteae.

1. Gyalecta.

1. *G. lutea* (Dick.) Tuck., Syn. North Am. p. 218; Wain., Étud. Lich. Brés. II p. 71, Lich. Antill. p. 19.

Ad corticem arboris prope oppidum Carolinae in insula S. Jan (464: C. Raunkiaer); ad corticem Pruni in Savane-aux-ananas (1561 P. Duss) et ad corticem trunci putridi in silva montis Nez-Cassé, 820 m. s. m. (1424: P. Duss), ad *Alsophilam asperam* desiccata in Morne Gommier (1787: P. Duss) in Guadalupa; supra muscos destructos in monte Conliabon, 3700 p. s. m., in Dominica (1561: W. R. Elliott). Fert.

Trib. 15. *Ectolechieae*.

1. *Ectolechia*.

1. ***E. filicina*** (Müll. Arg.) Wain., Lich. Antill. (1896) p. 20. *Gyalectidium filicinum* Müll. Arg., Lich. Beitr. (Fl. 1881) n. 253, Lich. Epiphyll. Spruce (1892) p. 323. *Sporopodium* Zahlbr. apud Engl.-Prantl, Natürl. Pflanzenf. 221 (1905) p. 123 (haud Mont., Ann. Sc. Nat. sér. 3 XVI p. 54, ad subg. *Lopadium* spectans).

Ad folia annua arboris in monte Diablotin, 2500—3000 p. s. m., in Dominica (2227 pr. p.: W. R. Elliott). Fert.

Trib. 16. *Diploschisteeae*.

1. *Diploschistes*.

1. ***D. actinostoma*** (Pers.) Zahlbr., Hedwigia 1892 p. 34; Wain., Lich. Antill. (1896) p. 21.

Thallus nec KHO, nec CaCl_2O_2 reagens, at his solutionibus mixtis leviter rubescens.

Ad rupes in summo monte Eagles in insula S. Croix et in Magensbay-Estate, 800 p. s. m., in insula S. Thomas et in saxis littoralibus ad Cruz-Bay in insula S. Jan (F. Boergesen). Fert.

Trib. 17. Thelotremeae.

1. Thelotrema.

1. **Th. (Leptotrema) spondalcum** Nyl., Lich. Nov.-Gran. ed. 2 (1863) p. 330.

Thallus tenuis, verruculis inspersus, albido-cinereus, parum nitidus, KHO non reagens, hypothallo nigricante partim limitatus. Apothecia sat increbra, disco nigricante, urceolato-immerso, irregulari, ostiolo diam. circ. 0.5 millim. aut long. — 1 millim., margine ostiolari inaequali aut increbre lobato-crenato, sat crasso. Excipulum verrucam depressam, basi demum constrictam, rotundatam aut interdum ellipsoideam, circ. 1 millim. latam aut interdum 1.3 millim. longam, interdum 2 discos diversos aut plus minusve confluentes continentem, formans. Perithecium tenue, fulvescens in latere et basi. Paraphyses simplices. Hymenium jodo levissime subviolaceo-fulvescens. Epithecium fulvescens. Sporae binae, nigricantes, primum decolores, murales, long. 0.100—0.115, crass. 0.030—0.036 millim., cellulis numerosissimis. — Specim. orig. in herb. Nyl. thallo partim pallido-glaescente et excipulo minus elevato a planta Dussiana differt.

Ad corticem Psidii guavae in Camp Jacob, circ. 500 m. s. m., in Guadalupa (466 pr. p.: P. Duss).

2. **Th. rhodothecium** Wain. (n. sp.).

Thallus tenuis, sat laevigatus, albidus, opacus, KHO parum reagens (dilute roseo-flavescentis). Apothecia partim sat crebra, disco livido-pruinoso, saepe ruguloso, leviter impresso. Excipulum verruculam parum prominentem, sat inconspicuum, basim versus sensim dilatatum, formans, ostiolo 0.5—0.2 millim. lato, rotundato aut difformi angulosoque, margine ostiolari sat tenui aut sat crasso, integro aut irregulariter fissis aut raro crenulato. Perithecium superne sanguineo-rubescens, partim fere usque ad basim et partim etiam basi rubescens (KHO partim olivaceum, partim omnino de-

coloratum), crassitudine mediocris, columella nulla. Hymenium circ. 0.200 millim. crassum. Epithecium sanguineo-rubescens, KHO decoloratum. Paraphyses simplices, membrana gelatinosa. Sporae 8:nae, 6:nae, 4:nae et 2:nae, diu decolores, demum nigricantes aut umbrino-fuscescentes, fusiformes, apicibus obtusis, murales, cellulis numerosissimis, septis transversalibus circ. 13—18, haud gelatinosae, jodo non reagentes, long. 0.086—0.060, crass. 0.026—0.016 millim. — Habitu *Th. leucomelanum* Nyl. in memoriam revocans. Species analogae *Th. porphyrodiscum* Zahlbr. et *Th. croceum* (Krempelh.) ab hac planta longe distant.

Ad corticem arboris prope Debt in insula S. Jan (403: C. Raunkiaer).

3. **Th. punctum** (Sm.) Nyl., Lich. Nov.-Gran. p. 453.

Var. **Antillarum** Wain.

Thallus sat tenuis, sat laevigatus, albidus, parum nitidus, superne et intus KHO lutescens deindeque rubescens. Apothecia crebra, disco nigricante, punctiformi, urceolato-impresso. Excipulum verruculam parum prominentem, 0.2—0.3 millim. latam, basin versus sensim dilatatam, aut evanescentem, formans, ostiolo 0.1—0.15 millim. lato, rotundato, margine ostiolari tenui, integro, haud prominente. Perithecium tenue, integrum, fuscescens aut pallidofuscescens aut raro basi pallidum vel totum pallidum, columella nulla. Hymenium circ. 0.130 millim. crassum. Epithecium decoloratum. Asci clavati. Sporae 8:nae, subdistichae, ellipsoideo- aut oblongo-fusiformes aut ellipsoideae oblongaeve, apicibus obtusis aut altero apice rotundato, primum decolores, demum fumoso-fuscescentes, murales, septis transversalibus 7—5, strato gelatinoso tenui interdum obduta, long. 0.026—0.018, crass. 0.013—0.008 millim. — In specim. orig. Smithiano (n. 22447 in herb. Nyl.) thallus KHO demum rubescens et secund. annot. Nylanderii sporae paullo majores, quam in v. *Antillarum*, quae habitu ei similis est.

Ad corticem arborum prope Cruz-Bay in insula S. Jan (553: C. Raunkiaer) et in insula S. Croix (Ove Paulsen).

4. *Th. Bahianum* Ach., Syn. Lich. (1814) p. 114; Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 453. *Th. lepadinum* γ. *T. bahianum* Ach., Meth. Lich. (1803) p. 132. *Leptotrema bahianum* Müll. Arg., Graph. Fécan. (1887) p. 12.

Thallus crassitudine mediocris, sat laevigatus, glaucescens aut albido-pallescens, leviter nitidus, KHO fulvo-rubescens. Apothecia partim confluentia crebrave, disco nigricante, bene urceolato-impresso. Excipulum verrucam hemisphaericam, 1—0.8 millim. latam, laevigatam, basi demum abruptam formans, ostiolo 0.25—0.4 millim. lato, vulgo rotundato, margine ostiolari integro, sat tenui, haud prominente. Perithecium pallidum, parum conspicuum, columella centrali evanescente, medio albida aut obscurata, at fuscescente in basi et saepe etiam in epithecio, et verruculam extus albidam in disco formante. Sporae 8-nae, monostichae, fuscescentes, murales, cellulis haud numerosis, septis transversalibus 5, long. 0.022—0.026, crass. 0.011—0.013 millim., haud gelatinosae. Epithecium decoloratum aut partim pallidum.

Ad corticem arboris (Spondias) prope Gourbeyre in Guadalupe (1029: P. Duss).

5. *Th. rudlus* Wain. (n. sp.).

Thallus crassitudine mediocris, leviter inaequalis et verruculis parum conspicuis inspersus, albido-pallescens, leviter nitidus, KHO fulvo-rubescens. Apothecia partim confluentia crebrave, partim sat increbra, disco nigricante, bene urceolato-impresso. Excipulum verrucam subglobo-depressam, 1—0.5 (raro 1.5) millim. latam, saepe leviter verruculoso-inaequalem, basi abruptam aut demum leviter constrictam, formans, ostiolo 0.2—0.4 millim. lato, vulgo rotundato, margine ostiolari integro, sat tenui, haud prominente aut leviter impresso. Perithecium pallidum, parum conspicuum, columella centrali nulla aut evanescente (albida, superne fusca). Epithecium decoloratum aut pallidum. Hymenium jodo non reagens. Sporae 8-nae, monostichae aut subdistichae, fuscescentes, ellipsoideae aut oblongae, apicibus rotundatis, murales, cellulis paucis, septis trans-

versalibus 5 (—3), long. 0.018—0.025, crass. 0.009—0.012 millim., haud gelatinosae. — Thallo inaequali et excipulis verrucosis a *Th. Bahiano* differt.

Ad corticem *Ingae laurinae* prope Goubeyre in Guadalupa (152: P. Duss).

Var. **Dominicana** Wain.

Thallus pallido-glaucescens, verrucoso-rugosus, leviter nitidus, KHO dilute olivaceo-fuscescens. Perithecium pallidum, tenue, columella nulla. Hymenium circ. 0.150 millim. crassum. Epithecium decoloratum. Excipulum verrucam hemisphaericam aut subgloboso-depressam, 1—0.5 millim. latam, ambitu saepe leviter verrucoso-inaequalem, basi abruptam aut rarius demum leviter constrictam, apice saepe anguste leviterque impresso instructam, formans, ostiolo 0.15—0.2 millim. lato, rotundato aut subellipsoideo, margine ostiolarum integro, sat tenui, haud prominente aut leviter impresso. Sporae 8-nae, subdistichae, fuscescentes, ellipsoideae, apicibus rotundatis, murales, cellulis paucis, septis transversalibus 5—3, long. 0.016—0.027, crass. 0.008—0.014 millim., haud gelatinosae. Apothecia crebra, partim confluentia, disco nigricante, bene urceolato-impresso. — Verrucis thalli majoribus et excipulis apice laevigatis a forma supra descripta *Th. rudioris* differt.

Ad corticem arboris prope Prince Rupert in Dominica (1303: W. R. Elliott).

6. ***Th. (Brassia) tuberculiferum*** Wain. (n. sp.).

Thallus tenuis, leviter inaequalis, verruculis minutis inspersus, albidus, leviter nitidus, nec KHO, nec jodo reagens. Apothecia partim sat increbra, disco nigricante, punctiformi, urceolato-impresso. Excipulum verrucam globosam aut subglobosam, circ. 1 (1.2—0.9) millim. latam, vulgo verruculoso-inaequalem, basi bene constrictam, apice convexam formans, ostiolo 0.2—0.1 millim. lato, rotundato, margine ostiolarum tenui, integro, haud prominente, interdum obscurato, ceterum amphithecium thallinum extus albidum, KHO maculatim dilute rubescens, intus pallidum aut roseo-pallidum et KHO

rufescenti-rubescens. Perithecium tenue, albidum. Hymenium circ. 0.150 millim. crassum, jodo non reagens. Epithecium decoloratum. Sporae solitariae, oblongae, apicibus rotundatis, decolores, murales, cellulis numerosissimis, jodo violascentes, long. 0.110—0.140, crass. 0.028—0.042 millim., haud gelatinosae.

Ad corticem *Eugeniae montanae* in Savane-aux-ananas, circ. 900 m. s. m., in Guadalupa (1497: P. Duss).

7. *Th. aquillinum* Wain. (n. sp.).

Thallus tenuis aut sat tenuis, leviter inaequalis, albidus aut olivaceo-pallescenti-variegatus, leviter nitidus, KHO dilute olivaceum, jodo non reagens. Apothecia partim sat increbra, disco livido-caesio, urceolato-impresso. Excipulum verrucam hemisphaericam aut truncato-conicam, circ. 1 millim. latam, sat laevigatam, basim versus sensim dilatatam, formans, ostiolo 0.35—0.25 millim. lato, rotundato, margine ostiolari tenui, integro, vulgo prominente, albedo. Perithecium albidum, tenue, columella centrali fusciscente. Hymenium circ. 0.200 millim. crassum, jodo haud reagens. Epithecium decoloratum aut pallidum, leviter granulosum. Sporae 8-nae, distichae, fusiformes, apicibus obtusis aut altero apice sat acuto, decolores (morbosae et mala evolutae nigricantes), submurales, septis transversalibus 12—18, interstitiis mediis 2-cellulosis, jodo non reagentes, haud gelatinosae, long. 0.033—0.056, crass. 0.012—0.016 millim. — Habitu *Th. cavatum* Ach. et *Th. patulum* (Nyl.) in memoriam revocans.

Ad corticem arboris in summo monte Eagles in insula S. Croix (F. Boergesen).

8. *Th. leucomelanum* Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 452 (excl. var.); Wain., Étud. Lich. Brés. II p. 80.

Var. *elevata* Wain.

Excipulum verrucam truncato-conoideam aut fere hemisphaericam formans. Thallus jodo partim violaceo-caerulescens, KHO parum reagens. — Excipulis magis elevatis a *Th. leucomelano* Nyl. (Wain., Lich. Bras. Exs. n. 1360) differt, ceterum ei congruens.

Ad corticem arboris in monte Conliabon, 3700 p. s. m., in Dominica (1534: W. R. Elliott).

9. **Th. glaucopallens** Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 451; Leight., Lich. Ceyl. (1870) p. 168.

Var. **homopastoides** Wain. (Lich. Antill., 1896, p. 22).

Seriebus cellularum in sporis magis numerosis a *Th. glaucopallente* Nyl. differt. Thallus jodo non reagens. Perithecium tenue, dilute fuscescenti-pallidum, basi deficiens, columella nulla. Hymenium circ. 0.110—0.130 millim. crassum, jodo non reagens. Epithecium decoloratum. Sporae 8:nae, decolores, murales, septis transversalibus 5—8, cellulis sat paucis, jodo levissime reagentes, long. 0.021—0.026, crass. 0.009—0.012 millim.

Ad corticem Ingae laurinae in Camp Jacob in Guadalupa (1105: P. Duss).

10. **Th. (Phaeotrema) rhodostroma** (Mont.) Wain., Lich. Antill. (1896) p. 22. *Ascidium* Mont., Ann. Sc. Nat. 3 sér. Bot. XVI p. 75 (secund. specim. orig. in herb. Nyl.).

Excipulum verrucam depresso-subglobosam, laevigatam, basi leviter constrictam, apice convexam aut impressam, formans. Amphithecium materiam intense roseam continens, KHO solutionem dilutissime smaragdulam effundens, demum praecipitatum smaragdulum floccosum formans, ceterum colorem KHO non nutans. Perithecium fusco-fuliginium, basi apothecii deficiens, columella nulla. Epithecium decoloratum. Sporae solitariae, fusiformes, apicibus sat obtusis, septis 31—37, loculis mediis maximis, apicalibus brevissimis, diu decolores, demum fuscescenti-obscuratae, jodo violascentes, long. 0.230—0.310, crass. 0.040—0.042 millim., haud gelatinosae. Thallus tenuis, leviter inaequalis.

Ad corticem arboris prope Prince Rupert in Dominica (1305: W. R. Elliott), ad Ingam laurifoliam in silvis inferioribus prope Bains-Jaunes in Guadalupa (1031: P. Duss).

11. **Th. platycarpoides** Tuck., Obs. Lich. (1864) p. 270; Nyl., Fl. 1867 p. 195, Syn. Lich. Nov. Cal. (1870) p. 35. *Phaeotrema* Müll. Arg., Lich. Beitr. (1886) n. 1039.

Thallus sat tenuis, leviter inaequalis, glaucescenti-pallidus, leviter nitidus, KHO fuscescenti-rubescens. Apothecia sat crebra, saepe 2—5 confluentia, disco caesio-pruinoso, immerso aut leviter impresso, anguloso-diformi, 0.5—0.2 millim. lato, margine albido, duplice, fissura in 2 strata diviso, margine proprio interioreque tenui, undulato, integro, discum leviter superante, e perithecio formato, margine thalode exterioreque sat crasso aut modice incrassato, inaequali, discum et thallum superante prominenteque, latere exteriore thallo concolore. Perithecium albidum, basi tenue aut evanescens, columella nulla. Hymenium circ. 0.050—0.060 millim. crassum. Epithecium pallidum aut decoloratum, leviter granulosum. Sporae 8-nae, distichae, fusiformes aut ovoideo-fusiformes, apicibus vulgo obtusis, 5-septatae, loculis lenticularibus, fuscescens, long. 0.016—0.020, crass. 0.006—0.007 millim., haud gelatinosae. — Habitu subsimile *Th. phlyctideum* Nyl. thallo albido et sporis aliis ab eo differt.

Ad corticem arboris in insula Trinidad (H. Lassen).

12. **Th. (Ocellularia) dodecamerum** (Nyl.) Wain.

Thallus sat tenuis, verruculoso-inaequalis, continuus, albidoglauescens, intus albus, leviter nitidus, KHO lutescens, dein dilute rubescens, jodo non reagens, hypothallo subindistincto. Apothecia increbra aut partim crebra, parce 2—3 confluentia, disco urceolato-impresso, rotundato, caesio-pruinoso. Excipulum verrucam depresso-subglobosam, 2.5—1.5 (—1.2) millim. latam, demum vacuam accrescentemque, 3.5 millim. latam, laevigatam, basi constrictam formans, thallo concolor aut substramineo-glauescens, ostiolo rotundato, 0.3—0.8 millim. lato, margine ostiolarum subintegro, acuto. Amphithecium intus stramineum, KHO intense sanguineo-rubescens, solidum. Perithecium dimidiatum, fuligineum, columella nulla. Hymenium circ. 0.280 millim. crassum. Sporae saepe 4-nae, elongatae

ant fusiformes, apicibus obtusis, decolores, jodo violascentes, septis numerosis, loculis lenticularibus, long. circ. 0.090—0.160, crass. 0.014—0.016 millim., haud gelatinosae. — Habitu subsimile est *Thelotrema cinchonarum* (Fée), at apotheciis partim majoribus, columella deficiente, reactione amphithecii solidi ab eo distinguitur. *Th. discolor* (Ach.) ostiolo obturato ab hac specie differt.

Ad truncum *Coccolobae diversifoliae* in Morne Pavillon in Guadalupe (1791: P. Duss).

13. *Th. Isertii* Wain. (n. sp.).

Thallus tenuis, leviter verruculoso-inaequalis, albidus, leviter nitidus, KHO non reagens. Apothecia partim confluentia crebraque, amphithecio intus albo, KHO non reagente, disco urceolato-impresso. Excipulum verrucam hemisphaericam, 1—1.5 millim. latam, basi abruptam aut leviter constrictam aut sensim dilatam, formans, ostiolo rotundato, amphithecio et perithecio in margine ostiolari fissura concentrica separatis. Perithecium pallidum, columella nulla. Sporae 8-nae, decolores, fusiformes, apicibus obtusis, septis numerosis (circ. 24), cellulis lenticularibus, sat aequalibus, pariete communi gelatinoso, bene incrassato, long. 0.086—0.044, crass. 0.016—0.011 millim. (pariete incluso), jodo violascentes. Epithecium decoloratum.

Ad corticem arboris in insula Guadalupe (87: Isert).

2. *Gyrostomum*.

1. *G. scyphuliferum* (Ach.) Fr.

Ad corticem arborum in monte Crown (412) in insula S. Thomas et ad Reef-Bay, Coral-Bay (449, 451) et Borcks-Creek (544 pr. p.: C. Raunkiaer) in insula S. Jan. Ad corticem *Anacardii occidentalis* (in Basse-Terre: 451), *Dacryodis balsamiferae* (in Sofaga: 1378) et *Azaleae Indicae* (in S. Rose: 1380) in Guadalupe (P. Duss).

Trib. 18. **Chrysothriceae.**1. **Byssocaulon.**

1. **B. tenue** (Hue) Wain. *Crocynia tenuis* Hue, Lich. Gen. Crocyn. (Mém. Soc. Sc. Nat. Cherb. XXXVII, 1909) p. 245.

In insula Martinica corticolam collegit P. Duss (a. 1888) teste Hue, l. c.

Trib. 19. **Lecanactideae.**1. **Lecanactis.**

1. **L. (Bacidiactis) denticulata** Wain. (n. sp.)

Thallus tenuissimus, laevigatus, continuus, albidus, linea hypothallina fusconigricante, tenui partim limitatus, gonidia continens parca, chroolepidea, cellulis concatenatis, ellipsoideis aut anguloso-rotundatis, circ. 0.006—0.005 millim. crassis. Apothecia sat crebra, adpressa aut late adnata, stellato-orbicularia, basi bene aut modice constricta, latit. 0.8—0.5 millim., margine crasso aut sat crasso, saepe leviter prominente, atro, vulgo opaco, denticulato, dentibus circ. 5 (rarius 4) radiantibus, apice vulgo obtusis, disco plano, atro nudoque aut tenuiter cinereo-pruinoso, opaco. Perithecium integrum, rubricosum-rufescenti-fuliginosum, KHO non reagens. Hypothecium tenue, albidum aut pallidum. Hymenium circ. 0.130—0.160 millim. crassum, jodo non reagens. Epithecium rufescenti-rubricosum, KHO non reagens. Paraphyses laxae cohaerentes, haud gelatinosae, crass. 0.0015 millim., apice haud incrassatae, at bene ramosae et parcius ramoso-connexae. Asci cylindrici, membrana sat tenui. Sporae, 8-nae, polystichae, decolores, aciculares, rectae, altero apice rotundato aut obtuso, altero attenuato, long. 0.090—0.120, crass. 0.002—0.003 millim., septis numerosis. — Sect. *Bacidiactis* sporis longioribus et pluriseptatis, vulgo acicularibus ab *Eulecanactide* et *Arthoniactide* differt.

Ad corticem arboris prope Krausses-Lagoon in insula S. Croix (546 pr. p.: C. Raunkiaer), et in insula S. Thomas (F. Boergesen).

2. **L. dryina** (Ach.) Wain. *Lichen dryinus* Ach., Lich. Svec. Prodr. (1798) p. 16. *Lecidea dryina* Ach., Meth. Lich. (1803) p. 34 (Nyl., Lich. Scand. p. 211). *Rhaphiospora Doriæ* Bagl., Erb. Crittog. Ital. (1858) n. 123, Comment. Soc. Crittog. Ital. (1861) p. 20 (secund. n. 17012 in herb. Nyl.); Rabenh., Lich. Eur. Exs. (1862) n. 656 (mus. Fenn.); Stizenb., Krit. Bem. Lec. Nadelf. (1864) p. 10; Th. Fr., Lich. Scand. II (1874) p. 343.

Thallus tenuissimus, sat laevigatus, continuus, albidus, hypothallo nullo distincto, gonidia continens parca, chroolepidea, cellulis partim concatenatis, globosis aut ellipsoideis, saepe angulosis, circ. 0.008—0.007 millim. crassis, membranis sat tenuibus. Apothecia sat crebra, late adnata, orbicularia, basi modice constricta, diam. 0.5—0.3 millim., margine tenui, haud aut leviter prominente, atro, opaco, integro (raro minute parceque subdenticulato), disco plano, nigro, nudo, opaco. Perithecium integrum, rubricosum-rufescenti-fuligineum, KHO sordide purpureo-violascens. Hypothecium tenue, pallidum aut dilute rubescenti-pallidum. Hymenium circ. 0.090—0.110 millim. crassum, jodo non reagens, metaplasmate ascorum rubescente. Epithecium rufescenti-rubricosum, KHO sordide purpureo-violascens. Paraphyses laxae cohaerentes, haud gelatinosae, crass. 0.0015 millim., apicibus leviter aut haud incrassatis et saepe leviter flexuosis, parte superiore iteratim dichotome ramosae et parce ramoso-connexae. Asci cylindrici aut clavato-cylindrici, long. circ. 0.080, crass. 0.010 millim., membrana tota sat tenui. Sporae 8-nae, polystichae, decolores, aciculares, rectae, altero apice rotundato aut obtuso, long. circ. 0.050—0.058, crass. 0.0017—0.002 millim. — In specimine orig. *L. dryinae* Ach. in herb. suo perithecium integrum, rubricosum-fuligineum, KHO sordide purpureo-violascens, hypothecium tenue, pallidum, epithecium rubricosum-fuligineum, KHO sordide purpureo-violascens, sporae 8-nae, aciculares, pluriseptatae, apothecia tenuiter marginata. — *Bactrospora dryina* Mass., Ric.

(1853) p. 133, fig. 261 (Floerk., Deutsch. Lich. n. 141), diversa est, ad fungos pertinens (ex auct. plur.). *Lecanactis patellarioides* (Nyl.) Wain., secundum specim. orig. n. 17011 in herb. Nyl. (ex Algeria) gonidiis chroolepideis, cellulis concatenatis, circ. 0.008 millim. crassis instructa, margine crassiore apotheciorum a *L. dryina*. (Ach.) differt. His speciebus affinis est *Lecanactis pleistophragmoides* (Nyl.), secund. specim. orig. n. 17015 in herb. Nyl. gonidiis chroolepideis, circ. 0.007—0.008 millim. crassis instructa.

Ad corticem arboris in Fair Plane (F. Boergesen) et prope Krausses-Lagoon (546 pr. p.: C. Raunkiaer) in insula S. Croix.

B. *Hysterieae*.

Trib. 1. *Graphideae*.

1. *Graphis*.

Subg. I. *Phaeographina*.

1. *Gr.* (sect. *Leucogramma*) *Elliottii* Wain. (n. sp.).

Thallus tenuis, epiphloeodes, albidus, sat laevigatus, leviter nitidus, KHO parum reagens (dilutissime subfulvescens). Apothecia aggregata, elevata, simplicia aut parce ramosa (ramis 1—2), saepe curvata, pr. p. recta, raro flexuosa, long. 1.5—0.6, lat. 0.3—0.2 millim., basi abrupta. Perithecium tenue, dilute fuscescens aut subpallidum, labiis conniventibus, clausis, amphithecio thalino obductis aut anguste denudatis, sulca una, longitudinali, fuscescente, tenuissima, saepe obsolete striatulis, ceterum thallo concoloribus. Discus rimaeformis, fuscescens, angustissimus. Hymenium jodo caerulescens. Epithecium fusco-rubescenti-fuliginium, KHO non reagens. Sporae binae — 8:nae (2:nae, 3:nae et 7:nae vidi), fusciscentes, murales, cellulis sat numerosis, ellipsoideae, apicibus obtusis, long. 0.044—0.054, crass. 0.022—0.028 millim., strato gela-

tinoso nullo indutae. — Apotheciis duplo angustioribus aggregatis-
que a *Gr. chlorocarpoide* Nyl. et *Gr. chrysenderode* Nyl. differt.

Ad corticem arboris in Roseau-Valley in Dominica (1338:
W. R. Elliott).

2. **Gr. chrysenderodes** Nyl., Lich. Ceyl. (1900) p. 22; Wain.,
Fl. Koh Chang Lich. (1909) p. 356.

Thallus crassitudine mediocris, laevigatus, cinereo-glauescens,
leviter nitidus, KHO non reagens, jodo partim leviter caerulescens.
Apothecia increbra aut sat increbra, elevata, simplicia aut raro
furcata, curvata aut leviter flexuosa aut partim subrecta, long. circ.
12—2, lat. 0.5—0.2 millim., basi abrupta. Perithecium laterale,
sat tenue, pallidum, labiis conniventibus, clausis, amphithecio thal-
lino, thallo concolore obductis aut demum angustissime denudatis,
haud distincte sulcatis. Discus rimaeformis, inconspicuus. Hyme-
nium jodo non reagens. Epithecium pallidum. Sporae 8-nae, di-
stichae, fuscescentes, murales, cellulis sat numerosis, septis trans-
versalibus 12—14, oblongae, apicibus rotundatis, rectae aut leviter
curvatae, long. 0.034—0.040, crass. 0.011—0.013 millim., haud
gelatinosae, jodo violascentes. — Ab hac specie *Gr. chrysendera*
Mont. thallo tenuiore, subpallido et apotheciis brevioribus, crebri-
oribus, leviter striatis differt.

Ad corticem Fici crassinerviae in Morne Hirondelle in Gua-
dalupa (1800: P. Duss).

3. **Gr. (sect. Eleutheroloma) scalpturata** Ach.

Ad corticem arboris (Spondias purpurea) in Palmistes in Gua-
dalupa (1197: P. Duss).

4. ***Gr. caeslopruinosa** (Fée) Wain., Étud. Lich. Brés. II
p. 100.

Ad corticem arborum (Citrus aurantium) in Matouba (529) et
ad Sterculiam Caribaeam prope Bains-Jaunes (536: P. Duss) in
Guadalupa.

Subg. II. *Graphina*.

5. *Gr.* (sect. *Hololoma*) *subvestita* Wain. (Étud. Lich. Brés. II p. 103).

Ad corticem *Bixae orellanae* in Parnasse in insula Guadalupe (534: P. Duss).

6. *Gr.* *pseudoanalogae* Wain. (n. sp.).

Thallus tenuis, sat laevigatus aut leviter inaequalis, albidus, leviter nitidus, KHO non reagens. Apothecia sat approximata, simplicia aut raro parce ramosa, elongata, subrecta aut curvata aut flexuosa, long. 4—1, lat. 0.3—0.15 millim., parum aut leviter prominentia, apicibus rotundatis aut obtusis. Perithecium latit. circ. 0.2 millim., fuliginium, integrum, parte superiore denudatum, vulgo parte inferiore amphithecio thallino anguste obductum, labiis conniventibus, laevigatis, nudis. Discus rimaeformis, inconspicuus. Hymenium circ. 0.100—0.090 millim. crassum, oleoso-granulosum, jodo non reagens. Epithecium fuscum aut fusco-fuliginium. Sporae 8-nae, decolores, murales, cellulis haud numerosis, septis transversalibus 9 aut 8, oblongae, altero apice rotundato, altero vulgo obtuso, long. 0.022—0.038, crass. 0.009—0.012 millim., jodo violascentes. — Habitu similis est *Gr. analogae* Nyl., Lich. Exot. p. 244, quae autem secund. specim. orig. n. 7432 in herb. Nyl. perithecio dimidiato ab ea differt (conf. etiam Zahlbr., Ergeb. Südbras. Lich., 1909, p. 107).

Ad *Sciadophyllum capitatum* in silva prope Bains-Jaunes in Guadalupe (1590: P. Duss).

7. *Gr.* (sect. *Hemiloma*) *platycarpoides* Wain. (n. sp.).

Thallus tenuis, leviter verruculoso-inaequalis aut sat laevigatus, albidus, leviter nitidus, KHO lutescens deindeque rubescens, jodo non reagens, hypothallo nullo distincto. Apothecia approximata, simplicia aut parce ramosa, vulgo elongata, long. circ. 6—1 millim. (nonnulla etiam breviora), saepe flexuosa, primum submersa, demum emergentia elevatave, apicibus vulgo obtusis. Peri-

thecium lat. 0.2—0.380 millim., fuligineum, dimidiatum, basi apothecii deficiens, labiis conniventibus, tenuissime striatis, denudatis aut primum strato thallino tenuissimo subpruinosis, at amphithecio distincto haud obductis. Discus rimaeformis, inconspicuus. Epithecium fuscescens. Hymenium circ. 0.100—0.075 millim. crassum, jodo non reagens. Paraphyses tubulis mediocribus, apice leviter incrassatae. Sporae 2:nae, 3:nae, 4:nae aut 8:nae, decolores, murales, cellulis numerosis, long. 0.040—0.048, crass. 0.022—0.024 millim., jodo violascentes, haud gelatinosae. — Intermedia est inter *Gr. platycarpam* Eschw. et *Gr. substriatulam* Nyl., a priore apotheciis magis elevatis et reactione thalli et a posteriore apotheciis minus elevatis differens et habitu subsimilis *Gr. striatulae* (Ach.).

Ad corticem arboris (Spondias purpurea) in Morne Scheffer (Gourbeyre) in Guadalupa (1198: P. Duss).

8. *Gr. platycarpa* Eschw. in Mart. Fl. Bras. (1833) p. 74 (Müll. Arg., Rev. Lich. Eschw., 1888, p. 509). *Graphina* Zahlbr., Stud. Bras. Flecht. (1902) p. 385. *Graphis sophistica* Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 465, pr. min. p. (coll. Lindig. n. 2726 in herb. Nyl.).

Thallus sat tenuis, leviter verruculoso-inaequalis, albidus aut glaucescenti-albidus, KHO non reagens. Apothecia approximata, simplicia aut parce ramosa, elongata, bene flexuosa aut curvata, long. 4—1 millim., immersa, apicibus attenuatis aut sat obtusis. Perithecium lat. 0.2—0.15 millim., fuligineum, dimidiatum, basi apothecii deficiens, labiis conniventibus, tenuissime striatis, thallum aequantibus, superne amphithecio haud obductis, at strato thallino tenuissimo subpruinosis. Discus rimaeformis, inconspicuus. Epithecium fuscescens. Sporae 8:nae, decolores, murales, cellulis sat numerosis, septis transversalibus 10, long. 0.036—0.050, crass. 0.016—0.020 millim., jodo violascentes. — Specimina perithecio laevigato instructa ab hac specie excludenda sunt. *Gr. subtectae* (Nyl.) Wain., habitu subsimilis, apotheciis crebrioribus et perithecio integro secund. specim. orig. n. 7431 ab ea differt.

Ad corticem Melicoccae bijugae in Basse-Terre in Guadalupa (544: P. Duss).

9. *Gr. Antillarum* Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 255. *Gr. sophistica* Nyl., l. c., pr. p.

Apothecia apicibus obtusis aut acutatis, labiis laevigatis.

Ad corticem Adenantherae pavoninae in Basse-Terre in Guadalupa (523: P. Duss).

10. *Gr. acuminata* Wain. (n. sp.).

Thallus tenuis aut sat tenuis, leviter verruculoso-inaequalis, albidus, KHO flavescens et demum bene rubescens. Apothecia sat approximata, vulgo ramosa, ramis brevibus aut nonnullis elongatis. flexuosa, elongata, long. circ. 3—1, lat. 0.25—0.15 millim., immersa aut raro levissime prominentia, apicibus sensim attenuatis. Perithecium fuliginium, dimidiatum, basi apothecii deficiens, thallo immersum, labiis conniventibus, tenuiter sulcatis, nudis aut denudatis. thallum aequantibus aut raro levissime prominentibus. Discus rimaeformis, inconspicuus. Hymenium circ. 0.110—0.120 millim crassum. Epithecium fuscescens. Sporae 4:nae aut 8:nae, raro etiam 2:nae, decolores, murales, cellulis sat numerosis, septis transversalibus 7, ellipsoideae, apicibus rotundatis, long. 0.022—0.040, crass. 0.013—0.020 millim., jodo violascentes. — Reactione thalli et apothecii apice sensim attenuatis a *Gr. disserpente* Nyl. et *Gr. Antillarum* Wain. differt.

Ad corticem arboris prope Espérance in insula S. Jan (437: C. Raunkiaer).

11. *Gr. disserpens* Nyl., Fl. 1864 p. 618, Lich. Ins. Andam. (1874) p. 16; Wain. in Schmidt Fl. Koh Chang (1909) p. 364. *Gr. elongata* Wain., Étud. Lich. Brés. II p. 107.

Var. *confusior* Wain. *Gr. elongata* var. *confusior* Wain., Lich. Antill. (1896) p. 24.

Apotheciis brevioribus, circ. 5—1 millim. longis, simplicioribus et parcius dendritico-ramosis a forma typica hujus speciei differt.

— *Thallus* tenuis, sat laevigatus, albidus, nec KHO, nec jodo reagens. Apothecia sat approximata, simplicia aut parce vel dendritice ramosa, elongata, leviter flexuosa aut curvata, thallo immersa aut demum prominentia, lat. 0.2—0.15 millim., apicibus acutis aut obtusis rotundatisve. Perithecium fuliginium, dimidiatum, basi apothecii deficiens, labiis conniventibus, vulgo laevigatis, raro demum parce sulcatis. Hymenium circ. 0.080 millim. crassum. Epithecium fusco-fuliginium. Paraphyses apice fusco-clavatae. Sporae 4-nae, decolores, murales, cellulis sat numerosis, septis transversalibus 7, ellipsoideo-oblongae, apicibus rotundatis, long. 0.026—0.036, crass. 0.012—0.014 millim., jodo violascentes. Discus rimaeformis, inconspicuus.

Ad corticem arboris prope Barrabas in insula S. Domingo (482: C. Raunkiaer).

12. *Gr.* (sect. *Chlorographina*) *vermicularis* Wain. (n. sp.).

Thallus tenuis, leviter verruculoso-inaequalis, glaucescenti-albidus, KHO leviter flavescens, intus jodo caerulescens. Apothecia approximata, simplicia aut parce ramosa, elongata, bene curvata flexuosaque, prominentia, long. 7—1 millim., lat. 0.3—0.2 millim., apicibus sensim attenuatis. Perithecium fuscum, dimidiatum, basi apothecii deficiens, labiis conniventibus, margine angustissime denudatis nigricantibusque aut subdenudatis et pallido-fuscescentibus; ceterum strato thallino tenui obductis, laevigatis. Discus rimaeformis, inconspicuus. Hymenium circ. 0.100—0.090 millim. crassum, jodo non reagens. Epithecium decoloratum. Sporae 8-nae—2-nae, decolores, murales, cellulis numerosissimis, septis transversalibus circ. 11, oblongae, apicibus rotundatis aut rotundato-obtusis, long. 0.036—0.044, crass. 0.015—0.018 millim., jodo violascentes, strato gelatinoso tenui indutae. Habitu omnino similis est *Gr. subradiatae* (Nyl.) Wain., quae secund. specim. orig. n. 7434 perithecio integro et thallo jodo haud reagente ab ea differt. *Gr. atrofusca* et *Gr. polycarpa* Müll. Arg., omnino erronee a Nyl. ad *Gr. subradiatam*

ductae (Sert. Lich. Lab. p. 42), jam facie externa ab ea facillime distinguuntur.

Ad corticem arboris in Shawford-Estate in insula Dominica (1852: W. R. Elliott).

13. *Gr. rufopallida* Wain. (n. sp.).

Var. *normalis* Wain.

Thallus crassitudine mediocris aut sat tenuis, leviter inaequalis aut sat laevigatus, glaucescenti-albidus, KHO parum reagens. intus jodo violascens aut caerulescens. Apothecia approximata, simplicia aut raro ramos parce gerentia, elongata, bene curvata aut flexuosa, thallo immersa aut demum leviter prominentia, long. circ. 5—1, lat. 0.4—0.2 millim., apicibus vulgo acutis. Perithecium fusco-fulvescens aut rubescenti-pallidum, basi vulgo pallidius, labiis conniventibus, strato thallino, thallo concolore obductis, aut ad marginem tenuius obductis pallidisque, laevigatis aut passim stria evanescente instructis. Discus rufescens nudusque, angustissimus vel fere rimaeformis. Hymenium circ. 0.100—0.120 millim. crassum, jodo non caerulescens. Sporae 2:nae aut 3:nae aut singulae, decolores, murales, cellulis numerosissimis, septis transversalibus 9—13, oblongae aut ellipsoideae, apicibus rotundatis, long. 0.045—0.080, crass. 0.020—0.030 millim., jodo violascentes, haud gelatinosae. — Subsimilis *Gr. rubiginosae* Fée et *chlorocarpae* Fée (ad quam sporis destit. n. 546, ad Montéran in Guadalupa lect., forsan pertinet), at apotheciis magis immersis ab iis differens.

Ad corticem Calophylli calabae in Parnasse, 700 m. s. m. (513), et ad corticem Homalii racemosi in Camp Jacob (527) in Guadalupa (P. Duss).

Var. *fici* Wain.

Sporis minoribus a var. *normali* Wain. differt. — Perithecium laterale superne sat crassum rufescensque, basi tenue pallidumque. Sporae 2—4:nae, murales, decolores aut demum pallidae, septis transversalibus 12—14, haud aut sat tenuiter gelatinosae, jodo

violascentes, long. 0.023—0.038, crass. 0.011—0.022 millim. Habitu omnino similis var. *normali*.

Ad corticem Fici pallidae in Morne Hironnelle in Guadalupa (1794: P. Duss).

14. **Gr. Babingtonii** (Mont.) Nyl., Lich. Nov.-Gran. ed. 2 (1863) p. 87. *Fissurina* Mont., Crypt. Guyan. (Ann. Sc. Nat. sér. 3 XVI, 1851) n. 166, Syll. Crypt. (1856) p. 354. *Graphina* Zahlbr.. Südbras. Lich. (1909) p. 111.

Thallus ad ambitum tenuis, centrum versus demum sat crassus et partim substrato laxe adhaerens, verruculoso- et pustulato-inaequalis, cinereo-glaucescens, bene nitidus, subtus albidus, KHO leviter diluteque reagens (roseus), jodo non reagens. Apothecia vulgo sparsa, simplicia aut rarius furcata, elongata aut ellipsoidea aut raro rotundata, saepe flexuosa, prominentia, long. 3—0.5, lat. 1—0.5 millim., apicibus rotundatis aut obtusis. Perithecium pallidum, circ. 0.300 millim. latum, integrum, crassit. circ. 0.030 millim., KHO lateritio-rubescens, labiis conniventibus, amphithecio thalino crasso (thallo concolore) obductis, laevigatis. Hymenium circ. 0.100—0.090 millim. crassum, jodo non reagens. Epithecium decoloratum. Sporae 8-nae, monostichae aut subdistichae, decolores, murales, cellulis paucis, primum 1-septatae, globosae, diam. 0.014—0.016 millim., jodo violascentes, haud gelatinosae. — In specimine orig. *Fiss. Babingtonii* Mont., quod habitu omnino simile est plantae nostrae, sporae ellipsoideae et subglobosae variant („long. 0.016—0.021, crass. 0.014 millim., septis transversalibus 3“ ex annot. Nyl. in n. 6830). *Gr. instabilis* Nyl., l. c. p. 311, secund. specim. orig. labiis paullo tenuioribus et teste Nyl. sporis subglobosis a *Gr. Babingtonii* differens, variatio est ejus. Etiam *Gr. maligna* Nyl., Fl. 1886 p. 103, secund. annot. Nylanderis sporis globosis, diam. 0.008—0.010 millim., jodo caerulescentibus instructa, forsan item est variatio hujus speciei (2831 in herb. Nyl.).

Ad corticem putridum arboris in monte S. Rose in Guadalupa (1384: P. Duss).

15. *Gr. (sect. Thallolooma) allosporella* Nyl., Fl. 1869 p. 124; Wain., Étud. Lich. Brés. II p. 112, Lich. Bras. Exs. (1892) n. 246. *Gr. dimorphiza* Nyl., Fl. 1886 p. 103 (secund. specim. orig. n. 7471 in herb. Nyl.).

Ad corticem arboris (*Crescentia cujete*) in Basse-Terre in Guadalupa (569: P. Duss).

16. *Gr. nitidescens* Nyl., Fl. 1886 p. 103; Tuck., Syn. North Am. Lich. II (1888) p. 123. *Fissurina* Nyl., Lich. Guin. (1889) p. 50, Lich. Jap. (1890) p. 108.

Thallus macula olivacea indicata. Apothecia vulgo approximata, vulgo oblonga, long. 2—1, lat. 0.5 millim., vulgo prominentia, basim versus sensim dilatata, apicibus rotundatis aut obtusis, recta aut leviter curvata, simplicia, labiis albidis aut thallo concoloribus, cellulas substrati continentibus, contiguus (1035) aut demum late hiantibus (548), laevigatis, margine tenui acutoque. Discus rimaeformis inconspicuusque aut demum dilatatus (latit. 0.2 millim.) et caesio-pruinosis. Perithecium albidum, parum distinctum. Epithecium decoloratum. Sporae 8-nae, distichae, decolores, murales, cellulis paucis, septis transversalibus 5, ellipsoideae aut oblongae aut ovoideae, long. 0.014—0.020, crass. 0.007—0.009 millim., jodo non aut parum reagentes.

Ad corticem arborum (*Myrsine coriacea*: 1035) prope Bains-Jaunes, 680 m. s. m., et in Gommu (*Byrsonima spicata*: 548), 450 m. s. m., in Guadalupa (P. Duss).

17. *Gr. homographa* Nyl., Énum. Gén. Lich. (1857) p. 129, Syn. Lich. Nov. Cal. (1868) p. 76. *Gr. virginea* **Gr. homographa* Nyl. apud Hue, Lich. Exot. (1892) p. 244 (Nyl., Lich. Antill. p. 21).

Thallus modice incrassatus aut sat tenuis, glaucescens aut albido-glaucescens, opacus, laevigatus aut leviter inaequalis, KHO lutescens aut demum fulvescens, jodo non reagens, substrato arcte adnatus, hypothallo indistincto. Apothecia approximata aut aggregata, long. vulgo 3—0.7, lat. circ. 0.2 millim., simplicia aut parce

ramosa, apicibus vulgo rotundatis aut obtusis, flexuosa aut curvata aut recta, irregulariter aut substellatim disposita, thallo immersa aut vulgo labiis demum leviter prominentibus. Perithecium pallidum, labiis conniventibus aut demum partim apertis, sat tenuibus, extus (partim vertice quoque) strato thallino obductis, thallo concoloribus aut albidis. Discus rimaeformis aut anguste apertus, albidus. Sporae 8-nae, decolores, oblongae, apicibus rotundatis, murales, jodo violascentes, long. 0.032—0.054, crass. 0.011—0.016 millim., septis transversalibus 13 vel 14. (in n. 484) aut 8 vel 9 (in n. 537), haud gelatinosae. Hymenium jodo non reagens (in n. 484) aut caerulescens (in n. 537). — Secund. annot. Nylander in herb. suo (6971), in specim. orig., a Jardin in Guadalupa lecto, thallus et apothecia KHO flavescens, sporae long. 0.040—0.062, crass. 0.014—0.015 millim. Facie externa omnino similis est *Gr. virgineae* Eschw.

Ad corticem Cordiae albae in Basse-Terre (484) et ad corticem Aconisti arborescentis in Camp Jacob (537) in Guadalupa (P. Duss).

28. *Gr. virginea* (Eschw.) Nyl., Enum. Lich. Antill. (1869) p. 21, Müll. Arg., Graph. Féean. (1887) p. 46 pr. p.; Nyl., Lich. Guin. (1889) p. 49; Zahlbr., Stud. Bras. Flecht. (1892) p. 386 (excl. syn.). *Leiogramma virgineum* Eschw. in Mart. Fl. Bras. (1833) p. 98.

Thallus modice incrassatus aut sat tenuis, albido-glauescens aut caesio-albidus, opacus, laevigatus aut leviter inaequalis, KHO extus et intus lutescens et demum dilute rubescens, jodo non reagens, substrato arcte adnatus, hypothallo indistincto. Apothecia sparsa aut approximata, irregulariter aut substellatim disposita, long. circ. 3—0.3, lat. vulgo 0.2—0.3 millim., simplicia aut parce ramosa, apicibus vulgo rotundatis aut obtusis, flexuosa aut curvata aut recta, thallo immersa aut labiis demum leviter prominentibus. Perithecium albidum aut pallidum, labiis conniventibus aut demum partim inaequaliter apertis, sat tenuibus, extus (partim etiam ver-

tice) strato thallino obductis, thallo concoloribus aut albidis. Discus rimaeformis aut anguste apertus (sat latus in v. *fulvescente* Nyl.), caesio- aut livido-caesio-pruinosis. Epithecium sordide albidum, granulosum. Hymenium jodo partim dilute caerulescens aut (in n. 1407) haud reagens. Sporae decolores, murales, cellulis numerosissimis, septis transversalibus 13--15, haud gelatinosae, jodo violascentes, in n. 1178 et 1407 8:nae et long. 0.038--0.056, crass. 0.013--0.016, in n. 456 et 1154 8:nae--4:nae et long. 0.080--0.100, crass. 0.016--0.022 millim. -- In specimine orig. Eschweileriano (6957 in herb. Nyl.) thallus KHO flavescens et demum sat bene rubescens (in uno latere tantum flavescens, nec rubescens). discus apotheciorum apertus, angustus, caesio-lividus, et observante Nyl. „perithecium albidum“, „sporae long. 0.035--0.070, crass. 0.011--0.016 millim.“.

Ad corticem arborum in Palmistes (Pimenta acris: 1178), S. Rose (Hymenaea courbaril: 1407), Basse-Terre (Artocarpus incisa: 1154) in Guadalupa (P. Duss), et prope Bordeaux in insula S. Jan (456: C. Raunkiaer).

19. *Gr. collospora* Wain. (n. sp.).

Thallus sat tenuis, laevigatus, albido-glaucescens, sat opacus, KHO lutescens, jodo non reagens, substrato arcte adnatus, linea hypothallina nigricante limitatus. Apothecia sparsa, irregulariter aut substellatim disposita, long. circ. 2.5--0.3, lat. 0.4--0.1 millim., sublinearia aut inaequaliter dilatata, simplicia aut parce ramosa, apicibus rotundatis aut rarius attenuatis, flexuosa, thallo immersa. Perithecium dimidiatum, latere fuscum et circ. 0.030 millim. crassum, aut superne fuscum (KHO rufescens) et inferne basi que albidum tenuiusque, labiis distantibus, strato thallino obductis, haud aut leviter prominentibus, tenuibus, saepe fissura cinctis. Discus apertus, planus, haud aut parum impressus, livido-fuscescens, tenuissime livido-pruinosis, lat. 0.4--0.1 millim. Hymenium crass. circ. 0.100 millim., haud oleosum, jodo dilute caerulescens. Epithecium dilute fuscescens, granulosum. Paraphyses tubulis tenuissimis, 0.001

millim. crassis, membranis conglutinatis, gelatinosis, in KHO turgescentibus, partim apice ramulosae, ceterum simplices. Sporae singulae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, decolores, jodo violascentes, strato gelatinoso 0.008—0.004 millim. crasso, jodo non reagente indutae, long. 0.080—0.108, crass. 0.024—0.037 millim. — Ad *Arthothelium* proxime accedit, sed revera ad *Graphidem* pertinet, *Gr. concolorem* Nyl., quae sporis haud gelatinosis ab ea differt, in memoriam revocans. Secund. specim. orig. *Gr. monophora* Nyl. thallo leviter inaequali, labiis leviter prominentibus, sat crassis, inaequalibus (secund. annot. Nylanderii „thallo et apotheciis KHO flavescensibus“) et *Gr. Columbiana* Nyl. sporis haud gelatinosis et labiis crassioribus, magis prominentibus (et secund. annot. Nyl. „thallo KHO non reagente et apotheciis KHO flavescensibus, demum aureo-ferruginascentibus“) ceterisque notis ab ea distinguuntur.

Ad corticem arboris in monte Eagles in insula S. Croix (F. Boergesen).

Subg. III. *Phaeographis*.

20. *Gr.* (sect. *Anisothecium*) *Dussii* Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 255.

Supra corticem Coffeae Arabicae ad Parnassum in Guadalupa (515: P. Duss).

21. *Gr.* (sect. *Platygramma*) *lobata* (Eschw.) Wain., Étud. Lich. Brés. II p. 114.

Ad corticem Amygdali Persicae (1167 pr. p.) et Paritii tiliacei (497 pr. p.) in Gourbeyre in Guadalupa (P. Duss). Ad corticem arboris in Dominica (1365: W. R. Elliott).

22. *Gr. punctiformis* (Eschw.) Nyl., Énum. Gén. Lich. (1857) p. 129 (haud Lich. Antill. p. 20). *Leiogramma punctiforme* Eschw. in Mart. Fl. Bras. (1833) p. 101 (Müll. Arg., Fl. 1888 p. 523), secund. specim. orig. in herb. Nyl.

Thallus sat tenuis, sat laevigatus, albidus, parum nitidus, KHO

lutescens, dein maculis dilute rubentibus, linea hypothallina nigricante tenuissima partim limitatus. Apothecia numerosissima, bene approximata, rotundata, diam. 8.3--0.2 millim., aut raro ellipsoidea, long. 0.6, lat. 0.3--0.15 millim., thallo immersa, margine tenui, integro, fissura circumscisso, albido aut cinerascens, disco plano aut raro leviter concavo, haud aut raro leviter impresso, nigro, nudo, opaco. Perithecium ad superficiem apothecii fusco-fuligineum, ceterum evanescens. Hymenium circ. 0.100 millim., crassum, guttulas oleosas continens. Epithecium fuscum. Sporae 8:nae, distichae, fuscescentes, cylindrico-oblongae, apicibus obtusis aut altero apice rotundato, 5-septatae, long. 0.021--0.022, lat. 0.007 millim.

Ad corticem Mangiferae prope Crown in insula S. Thomas (417: C. Raunkiaer).

23. *Gr. arthonioides* Wain. (n. sp.).

Thallus tenuis aut tenuissimus, glaucescens aut cinereo-pallescens aut cinereo-glauescens, verruculis minutissimis inspersus, sat opacus, KHO non reagens, hypothallo nigricante partim limitatus. Apothecia crebre approximata, long. 2--0.5 millim., ramosa aut simplicia, flexuosa aut curvata, thallo immersa aut rarius leviter prominentia, disco fusco-nigro, nudo, angustissimo, lat. 0.1--0.15 (—0.2) millim., margine discum haud superante, thallino. Perithecium fusco-fuligineum, tenue, dimidiatum, thallo immersum aut raro prominens et amphithecio thallino prominente tenuiter obductum. Hypothecium albidum. Hymenium circ. 0.075--0.080 millim., crassum, guttulosum. Epithecium fuscescens. Paraphyses simplices, mediocres, crass. 0.0015--0.0017 millim., apice leviter clavatae, laxe cohaerentes, gelatina haud abundante. Asci ventricosos-clavati, membrana tenui. Sporae 8:nae, distichae, fumoso-nigricantes, oblongae, saepe altero apice rotundato et altero obtuso, septis 5--7, loculis lenticularibus, long. 0.019--0.023, crass. 0.007--0.010 millim., strato gelatinoso nullo indutae. — *Gr. subfulguratam* (*Fissurina* Nyl., Lich. Guin. p. 48) habitu in memoriam revocans, at sporis et perithecio ab ea differens.

Ad corticem arboris prope Krausses-Lagoon (546 pr. p.) et in Fair Plane (548: C. Raunkiaer) in insula S. Croix.

24. **Gr. tricola** Ach., Lich. Univ. (1810) p. 674; Wain. Étud. Lich. Brés. II p. 116.

Ad corticem arboris prope Debt in insula S. Jan (455: C. Raunkiaer).

25. **Gr. subtigrina** Wain. in Schmidt Fl. Koh Chang Lich. (1909) p. 363.

Ad corticem Lagerstroemiae Indicae in Morne Scheffer (1195: P. Duss) et ad corticem Cecropiae peltatae in S. Rose (1412: P. Duss) in Guadalupa.

26. **Gr. diversa** Nyl., Lich. Exot. (1859) p. 227 pr. p.; Wain. in Schmidt Fl. Koh Chang Lich. (1909) p. 361.

Thallus nec KHO, nec jodo reagens. Apothecia demum elevata et basi constricta. Parathecium rubricoso-fuligineum, KHO distinctius rubescens. Perithecium fuligineum, crassum, integrum. Hymenium circ. 0.150 millim. crassum, guttulas oleosas abundanter continens, jodo non reagens. Epithecium sordide rubescenti- aut fusco-fuligineum, KHO distinctius rubescens. Paraphyses simplices, apice rubricoso-clavato. Sporae 8-nae, distichae, fumoso-fuscescentes, oblongae, apicibus obtusis, septis 8—6, long. 0.031—0.046, crass. 0.008—0.015 millim., membrana bene incrassata.

Ad corticem arboris in Prince Rupert in Dominica (1307: W. R. Elliott).

27. **Gr. labyrinthica** (Ach.) Wain., Catal. Welw. Afr. Pl. II P. II (1901) p. 439, in Schmidt Fl. Koh Chang Lich. (1909) p. 363. *Sarcographa* Müll. Arg., Graph. Féean. (1887) p. 62.

Ad corticem arborum (Lagerstroemia Indica: 1393, Guazuma ulmifolia: 1400, Hymenaea courbaril: 1406) in monte S. Rose in Guadalupa (P. Duss).

Subg. IV. *Scolaecospora*.

28. *Gr. (sect. Solenographa) adressa* Wain., Étud. Lich. Brés. II p. 119.

Apothecia elevata, basi leviter constricta, apicibus obtusis. Perithecium fuligineum, integrum, basi sat crassum, labiis laevigatis, conniventibus. Sporae 8-nae, septis 14—16. long. 0.060—0.068, crass. 0.011—0.012 millim., decolores.

Ad corticem arboris junioris in monte Grande Soufrière in Dominica (1514: W. R. Elliott).

29. *Gr. anguilliformis* Tayl. in Hook. Lond. Journ. Bot. VI (1847) p. 152; Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 466. Wright. Lich. Cub. n. 18 d, f. (in herb. Nyl.). *Gr. illinita* Eschw. in Mart. Fl. Bras. (1833) p. 82 ex Müll. Arg., Rev. Lich. Eschw. II, Fl. 1888, p. 511 (at descriptio haud congruens).

Thallus sat tenuis, leviter verruculoso-inaequalis, albidus aut glaucescenti-albidus, sat nitidus, KHO levissime flavescens, dein sat bene rubescens, linea hypothallina nigricante, tenuissima partim limitatus. Apothecia approximata, vulgo elongata, long. circ. 9—1.5, lat. 0.7—0.5 (—0.3) millim., curvata aut flexuosa, simplicia aut parce ramosa, apicibus obtusis aut rotundatis, elevata et subcylindrica, basi bene constricta. Perithecium fuligineum, integrum, labiis conniventibus, strato thallino, basini versus crassiore, superne tenui obductis, striatis (striis partim strato thallino obductis eamque ob causam partim inconspicuis), superne interdum morbose anguste denudatis. Discus rimaeformis, nigricans. Hymenium circ. 0.160 millim. crassum, jodo non reagens. Epithecium decoloratum. Paraphyses simplices, apice haud incrassatae. Sporae 8-nae, polystichae, decolores, vermiculari-fusiformes, apicibus obtusis, septis 16—19, loculis lenticularibus, jodo violascentes, long. 0.064—0.080, crass. 0.010—0.012 millim.

Ad corticem *Lagerstroemiae Indicae* ad Gourbeyre in Guadalupe (1192: P. Duss).

30. **Gr. lumbricina** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 256.

Ad corticem arborum prope Grande Citerne (1036) et Camp Jacob (543) in Guadalupa (P. Duss).

31. **Gr. angustata** Eschw. in Mart. Fl. Bras. (1833) p. 73; Wain., Étud. Lich. Brés. II p. 119; Zahlbr., Südbras. Lich. (1909) p. 108.

Var. **denudata** Wain.

Apothecia haud aut parum emergentia, labiis anguste denudatis, tenuiter striatis. — Perithecium integrum. Sporae long. 0.050—0.054, crass. 0.009 millim., septis transversalibus 13—14. Thallus KHO non reagens.

Ad corticem Calophylli calabae in Parnasse in Guadalupa (530: P. Duss).

Var. **albostrata** Wain.

Apothecia leviter emergentia, labiis albedo-striatis, striis parvis, minus tenuibus. — Perithecium basi tenuiter obscuratum. Sporae long. circ. 0.035—0.030, crass. 0.009—0.010 millim., septis 9—10, haud gelatinosae, jodo violascentes.

Ad corticem Ingae in Parnasse in Guadalupa (517: P. Duss).

Var. **ingarum** Wain.

Apotheciis increbre sparsis, pruinoso-obvelatis, magis emergentibus.

Thallus tenuis, leviter inaequalis aut sat laevigatus, albidus, nec jodo, nec KHO reagens. Apothecia sparsa, elongata, long. 7—1.5 millim., lat. 0.2—0.3 millim., flexuosa aut curvata, simplicia aut parce ramosa, apicibus saepe acutis aut sensim attenuatis, semiimmersa aut primum immersa et demum emergentia, basi abrupta. Perithecium fuligineum, integrum, labiis conniventibus, striatis, pruinoso-obvelatis. Discus rimaeformis, inconspicuus. Hymenium jodo non reagens. Paraphyses simplices, apice haud incrassatae. Sporae 8:nac, decolores, apicibus obtusis, septis 8 aut pluribus, oculis lenticularibus, haud gelatinosae, jodo violascentes,

long. circ. 0.038—0.048, crass. 0.010 millim. Epithecium fuscens aut pallidum. — Habitu sicut *Gr. striatula* (Ach.), at apotheciis pruinosis et minus elevatis et paullo angustioribus et perithecio integro ab ea differens.

Ad corticem *Ingae laurinae* prope Gourbeyre in Guadalupa (1190: P. Duss).

32. *Gr. albissima* Wain. (n. sp.).

Thallus sat tenuis, epiphlaeodes, sat laevigatus, albus, KHO lutescens, jodo non reagens, opacus, crystallos oxalati calcici abundanter continens, hypothallo indistincto. Apothecia crebre approximata, partim confluentia vel dichotome ramosa, partim simplicia, long. 1.5—6 millim., lat. 0.3—0.6 millim. Perithecium elevatum, basi demum constrictum, integrum, fuliginereum, labiis conniventibus, laevigatis, strato thallino tenui albo opaco omnino obductis. Epithecium albidum. Sporae 8-nae, distichae, decolores, fusiformes, apicibus sat acutis, 3—4—5-septatae, loculis lenticularibus, jodo non reagentes, long. 0.012—0.014, crass. 0.005—0.006 millim., haud gelatinosae. — *Graphidem Afzelii* Ach. in memoriam revocans.

Ad truncum *Cordiaae panicularis* in Morne Hironnelle in Guadalupa (1795: P. Duss).

33. *Gr. (Eugraphis) duplicata* Ach., Syn. Lich. (1814) p. 81 pr. p. (specimen superius in herb. Ach., thallo KHO non reagente, labiis nudis); Wain., Lich. Antill. (1896) p. 26. *Gr. striatula* var. *sublaevis* Nyl., Fl. 1858 p. 381 (secund. specim. orig., perithecio dimidiato instructum).

Ad corticem arboris in Roseau-Valley (125) et in Shawford-Estate (1854 pr. p.: W. R. Elliott) in Dominica.

Var. *subduplicata* Wain.

Apothecia emergentia, labiis nigra, nudis, striis paucis. Perithecium integrum, basi tenue. — Habitu omnino similis *Gr. duplicatae*, at nota sectionis deficiente ab ea differens. Thallus KHO non reagens. Apothecia emergentia, perithecio late nudo. Sporae

long. 0.065—0.022, crass. 0.007—0.013 millim., septis 8—14, jodo violascentes. Epithecium fusco-fuligineum.

Ad corticem arboris prope La Cumbra in S. Domingo (487: C. Raunkiaer) et in Grande Soufrière (1509: W. R. Elliott) in Dominica. Ad ramos Calophylli calabae abundanter in Parnasse in Guadalupa (525: P. Duss).

34. **Gr. tenella** Ach., Syn. Lich. (1814) p. 81.

Var. **ephiphaea** Wain. in Schmidt Fl. Koh Chang Lich. (1909) p. 365.

Ad corticem arborum prope La Cumbra in insula S. Domingo (490 pr. p.: C. Raunkiaer), ad Cane-Bay (408: C. Raunkiaer) et Hams-Bluff (F. Boergesen) in insula S. Croix, ad Coral-Bay (452) et Cruz-Bay (557) in insula S. Jan (C. Raunkiaer), in Shawford-Estate in Dominica (1834 pr. p.: W. R. Elliott), in Parnasse (Citrus aurantium: 514), ad Pointe-Noire (Acacia nudiflora: 1155), ad Hon-tuan (Anacardium occidentale: 1573), in Camp Jacob (Spondias purpurea: 1585) et in Savane-aux-ananas (Prunus Dussii: 1588) in Guadalupa (P. Duss).

35. **Gr. lineola** Ach., Lich. Univ. (1810) p. 264; Müll. Arg., Graph. Féean. (1887) p. 32; Wain. in Schmidt Fl. Koh Chang Lich. (1909) p. 366.

Ad corticem arborum in Morne Conliabon, 3700 p. s. m., in Dominica (1535: W. R. Elliott), in Basse-Terre (Spondias monbin: 520) et in Parnasse (Coffea Liberica: 521) in Guadalupa (P. Duss).

36. **Gr. tenellula** Wain. (n. sp.).

Thallus tenuis, laevigatus aut leviter inaequalis, albidus, sat opacus, KHO lutescens, dein rubescens. Apothecia sat approximata, simplicia, subrecta aut leviter flexuosa, long. 1.2—0.5 (—0.2), lat. 0.15—0.1 millim., elevata. Perithecium fuligineum, dimidiatum, labiis laevigatis, conniventibus aut demum leviter hiantibus, latere aut inferne amphithecio thallino tenui obductis, superne denudatis, haud pruinosis. Discus rimaeformis aut demum angustus, impres-

sus, niger aut subpruinosis. Hymenium oleosum. Epithecium fuscens. Sporae 8:nae, decolores, oblongo-fusiformes, apicibus obtusis aut altero apice rotundato, septis circ. 9, jodo violascentes, long. 0.029—0.035, crass. 0.008 millim., haud gelatinosae. — Reactione thalli et apotheciis minoribus a *Gr. tenella* Ach. et *Gr. leptocarpa* Fée differt.

Ad corticem arboris prope La Cumbra in insula S. Domingo (490 pr. p.: C. Raunkiaer).

37. *Gr. crebra* Wain., Lich. Nov. Bar. III (Hedwigia 1899) p. 256.

Thallus KHO leviter flavescens, dein rubescens. Apothecia thallo immersa aut parum emergentia, labiis laevigatis, conniventibus, demum anguste hiantibus, nigricantibus, nudis. Discus tenuiter caesio-pruinosis. Sporae 8:nae, decolores, septis 5—7, jodo violascentes, long. 0.020—0.026, crass. 0.005—0.008 millim., haud gelatinosae.

Ad corticem Spondiae monbin (541) et Lagerstroemiae Indicae (1186) prope Gourbeyre in Guadalupa (P. Duss).

38. *Gr. plumierae* Wain. (n. sp.).

Thallus tenuis, laevigatus aut leviter inaequalis, albidus, parum nitidus, KHO leviter flavescens, dein intense rubescens, hypothallo indistincto. Apothecia approximata, simplicia aut nonnullis ramis instructa, long. 6—1 millim., thallo immersa aut demum leviter prominentia, vulgo flexuosa aut curvata. Perithecium fuliginum, dimidiatum aut primum integrum, latit. 0.2—0.1 millim., thallo immersum aut interdum demum prominens et latere amphithecio thallino sat tenui obductum, labiis conniventibus, laevigatis, superne tenuiter pruinosis aut parce denudatis. Discus rimaeformis, inconspicuus. Epithecium fuscens aut pallidum (in eodem specimine). Sporae 8:nae, decolores, oblongo-fusiformes, apicibus obtusis, septis 5—8, jodo violascentes, long. 0.018—0.028, crass. 0.007—0.008 millim., strato gelatinoso tenui aut vix ullo indutae. —

Affinis *Gr. crebrae* et *Gr. tenellulae* et habitu subsimilis *Gr. intricatae* Fée (*Gr. assimili* Nyl.), quae perithecio integro ab ea differt.

Ad corticem Plumierae roseae prope Gourbeyre in Guadalupa (1189: P. Duss).

39. **Gr. Afzelli** Ach., Syn. Lich. (1814) p. 85; Wain., Catal. Welw. Afr. Pl. II P. 2 Lich. (1901) p. 441, Schmidt Fl. Koh Chang Lich. (1909) p. 367.

Ad corticem arboris prope Debt in insula S. Jan (466: C. Raunkiaer). Ad corticem Byrsonimae spicatae in Morne Gommier (168) et in Houelmont (547) et ad corticem Anacardii occidentalis (1402) et Conostegiae subhirsutae (1403) prope S. Rose in Guadalupa (P. Duss).

40. **Gr. atroalba** Krempelh., Lich. Born. (Nuov. Giorn. Bot. Ital., 1875) p. 38; Wain., Étud. Lich. Brés. II (1891) p. 123.

Thallus olivaceo-fuscescens aut olivaceo-glaucescens. Apothecia extus atra nudaque, margine intus albo. Sporae 8-nae, decolores, 3-septatae, jodo non reagentes, long. 0.020—0.021, crass. 0.007—0.009 millim.

Ad corticem vetustum arboris prope Debt in insula S. Jan (458: C. Raunkiaer).

41. **Gr.** (sect. **Fissurina**) **lactea** (Fée) Nyl., Énum. Gén. Lich. (1857) p. 130; Müll. Arg., Graph. Féean. (1887) p. 37.

Var. **Dominicana** Wain., Lich. Antill. (1896) p. 27.

Discus apotheciorum apertus, obscuratus, nudus. Sporae 8-nae, decolores, 3-septatae, long. 0.014—0.018, crass. 0.006—0.007 millim., jodo vinose rubentes (caeruleo-violascentes in n. 535 e Morne Trois-Pitons), strato gelatinoso tenui aut nullo indutae. Epithecium decoloratum. Parathecium laterale sat tenue, superne fusco-fuligineum, ceterum pallidum.

Ad corticem arboris in monte Soufrière in Dominica (1515: W. R. Elliott).

Var. clausa Wain.

Apothecia prominentia, basim versus sensim dilatata, labiis conniventibus, clausis. Discus rimaeformis, linea obscurata aut pallida indicatus. — Parathecium laterale superne crassius pallidumque, ceterum tenue, pallido-albidum, strato thallino obductum. Hymenium circ. 0.070 millim. crassum, jodo dilute caerulescens. Sporae 8-nae, distichae, decolores, ellipsoideae aut ovoideo-ellipsoideae, 3-septatae, long. 0.016—0.018, crass. 0.008—0.011 millim., jodo dilute violascentes, strato gelatinoso parum distincto. Apothecia long. 2.5—0.5, lat. 0.5—0.4 millim., amphithecio stramineo-albido. Thallus tenuis, laevigatus, leviter nitidus, stramineo-glauescens, KHO leviter flavescens.

Ad corticem arboris in monte Soufrière in Dominica (1511: W. R. Elliott).

42. Gr. (sect. Anomographa) coriacea Wain. (n. sp.).

Thallus sat crassus aut partim demum crassus, crass. 0.2—0.6 (raro 1.5) millim., albidus, opacus, KHO superne et intus dilute fulvo-aurantiacum aut parum distincte reagens, nec CaCl_2O_2 , nec jodo reagens, substrato laxo affixus, laevigatus, at demum pustulato-rugosus, inferne strato hypothallino tenui, nigro, crebre contexto, totus obductus. Apothecia crebre approximata, elongata, long. 2—0.5 millim., ramosa aut simplicia, curvata et flexuosa, thallo immersa, disco rufescente aut fusciscente, aperto angustissimoque, impresso, aut rimaeformi, margine thallino haud aut raro leviter prominente, sat tenui, thallo concolore. Perithecium albidum, evanescens. Hypothecium albidum. Hymenium circ. 0.040—0.050 millim. crassum. Epithecium dilute fusciscentis aut sordide pallescens. Paraphyses simplices aut furcatae, tubulis crassitudine mediocribus, apice saepe leviter incrassatis, membranis in gelatinam dissolutis. Asci clavati, membrana tota tenui. Sporae 8-nae, distichae, decolores, fusiformi-oblongae, apicibus obtusis, majore parte 1-septatae, parcius 2-septatae, loculo medio lenticulari, septis medio tenuioribus, long. 0.007—0.008, crass. 0.003 millim., jodo leviter

violascentes, haud gelatinosae. — Thallo similis *Gr. fissurinoideae* (Nyl.) Wain. in Schmidt Fl. Koh Chang. Lich. p. 360. *Gr. turbulenta* Nyl., Lich. Guin. p. 50, thallo arcte adnato, nitido ceterisque notis ab ea distinguitur (secund. specim. orig.). *Gr. heterospora* Nyl. (n. 7815) thallo subtus pallido, sporis globosis, submuralibus ab hac specie differt, at habitu ei subsimilis est.

In Caledonia-Dal in insula S. Croix (in latere rupis, ut videtur) collecta a F. Boergesen.

43. *Gr.* (sect. *Glyphis*) *cicatricosa* (Ach.) Wain.

Var. *simplicior* Wain., Étud. Lich. Brés. II p. 127.

Ad corticem arborum prope Crown in insula S. Thomas (416: C. Raunkiaer), prope Coral-Bay in insula S. Jan (447 pr. p.: C. Raunkiaer), in Shawford-Estate in Dominica (1848: W. R. Elliott). Ad corticem Plumierae albae in Basse-Terre (499) et ad *Erythroxylon ovatum* in Petit-Canal (1152) in Guadalupa (P. Duss).

Var. *confluens* (Zenk.) Wain., l. c. p. 128.

Ad corticem arboris prope Coral-Bay in insula S. Jan (447 pr. p.: C. Raunkiaer). Ad *Anonam muricatam* in Basse-Terre (920) et ad *Citrum aurantium* in Palmistes (1180) in Guadalupa (P. Duss).

2. Spirographa.

1. *Sp. Antillarum* Wain. (n. sp.).

Thallus tenuissimus, hypophloeodes, macula albida indicatus, linea hypothallina nigricante limitatus. Apothecia approximata, saepe long. 2—0.5, lat. circ. 0.2—0.25 millim., vulgo simplicia, saepe sat recta. Perithecium fuligineum (rubricoso-fuligineum in lamina tenui sub microscopio), KHO non reagens, integrum, demum semi-immersum, labiis conniventibus, laevigatis, nudis. Hypothecium subhymeniale albidum, jodo caerulescens. Hymenium jodo non reagens. Epithecium decoloratum. Paraphyses simplices, tubulis tenuibus (vix 0.1 millim. crassis), gelatinam, e membranis formatam, abundantem percurrentibus, apice haud incrassatae. Asci

clavati aut ventricosi, membrana tota tenui, metaplasmate jodo dilute vinose rubente. Sporae in eodem asco numerosissimae, fusi-formi-aciculares, apicibus sensim attenuatis acutisque, spiraliter contortae, decolores, pauci-septatae, long. circ. 0.036—0.040, crass. 0.002—0.0025 millim., haud gelatinosae, jodo non reagentes. Gonidia chroolepidea, cellulis concatenatis, circ. 0.006 millim. crassis. — Colore epithecii et hypothecii et sporis saepe biseptatis a *Sp. spirali* (Müll. Arg.) Zahlbr. in Engl. et Prantl. Nat. Pflanzenfam. Lich. (1903) p. 96 (*Opegrapha* Müll. Arg., Lich. Beitr., 1880, n. 161) differt. Sporis et paraphysibus hoc genus ab *Opegrapha* facile distinguitur. *Gr. fusisporella* Nyl., Fl. 1886 p. 292, secund. annot. Nylander in schedula speciminis originalis est parasita, ad fungos pertinens.

Ad corticem Pruni Persicae prope Gourbeyre in Guadalupa (1200 pr. min. p.: P. Duss).

3. *Opegrapha*.

1. *O.* (subg. *Euopegrapha*) *cylindrica* Raddi; Wain., Étud. Lich. Brés. II p. 132, Lich. Antill. (1896) p. 31.

Ad corticem arborum (Cocos nucifera: 538, Cardia Sebestina: 545) in Basse-Terre in Guadalupa (P. Duss), prope Mesgin-Estate in insula S. Thomas (F. Boergesen).

2. *O. obvelata* Wain. (n. sp.).

Thallus tenuis, albidus, sat laevigatus, leviter nitidus, KHO non reagens, crebre contextus, hypothallo nullo distincto. Apothecia crebra, irregulariter aut partim substellatim disposita, primum thallo immersa, demum leviter prominentia, vulgo elongata, long. 2—0.5 millim. (raro breviora), simplicia aut parce ramosa, saepe curvata aut subflexuosa, apicibus vulgo sensim attenuatis. Perithecium fusco-fuligineum, circ. 0.15—0.1 millim. latum, labiis conniventibus aut demum anguste hiantibus, tenuibus, superne sat anguste denudatis, latere amphithecio thallino tenui, basim versus sensim dilatato, ob-

ductis. Hypothecium fuscum. Epithecium fuscescens. Paraphyses ramoso-connexae, jodo fulvescenti-vinose rubentes. Asci clavati, membrana fere tota leviter incrassata. Sporae 8-nae, polystichae, decolores, fusiformes, apicibus obtusis, septis 7, loculis cylindricis, aequalibus, long. 0.024—0.026, crass. 0.004—0.005 millim., cum strato gelatinoso crassit. 0.008 millim., jodo non reagentes. Discus nigricans, nudus, haud aut parum impressus, anguste apertus aut fere rimaeformis. — Habitu *Graphidem tenellam* in memoriam revocat. et apotheciis strato thallino obductis analoga est *O. Loandensi* Nyl., *O. graphidizae* Nyl. et *O. autographae* (Nyl.) Wain. (*Stigmatidium* Nyl., Fl. 1886 p. 104), quarum posterior thallo pallido, „perithecio fusco-fuligineo, dimidiato (multo crassiore, quam in *Enterographa*) et sporis suboblongis, 6-septatis, decoloribus, 0.034—0.042 millim. longis et 0.008—0.009 millim. crassis“ secund. annot. Nylander in herb. suo ab hac specie differt.

Ad corticem arboris prope Little-Princess in insula S. Croix (Ove Paulsen).

3. **O. interalbata** Nyl., Prodr. Nov.-Granat. Addit. (1867) p. 569, Not. Lich. Port-Natal (1868) p. 12.

Apothecia labiis nigris, hiantibus, disco aperto, pruinoso. Perithecium olivaceo-fuscescenti-fuligineum, integrum. Hymenium jodo leviter vinose rubens. Sporae 8-nae, decolores, fusiformes, apicibus sat acutis aut sat obtusis, 5-septatae, cellulis aequalibus, strato gelatinoso sat tenui obductae, long. 0.017—0.022, crass. 0.004—0.006 millim. Thallus hypophloeodes, macula albida indicatus.

Ad corticem arboris prope Cruz-Bay in insula S. Jan (555: C. Raunkiaer).

4. **O. brachycarpoides** Wain., Lich. Antill. (1896) p. 27.

Thallus vulgo glaucescens aut glaucescenti-albidus aut rarius rufescens, tenuis aut tenuissimus, sat laevigatus aut leviter inaequalis, hypothallo indistincto. Apothecia irregulariter aut substellatim disposita aut subsolitaria, long. circ. 1—0.3 (—1.8) millim.,

lat. 0.15—0.25 millim., simplicia aut parce ramosa, recta aut raro curvata flexuosa. Perithecium fuliginum, integrum, labiis laevigatis, conniventibus aut demum hiantibus. Discus rimaeformis aut demum apertus, nigricans, nudus. Hymenium circ. 0.060—0.070 millim. crassum, jodo vinose rubens. Epithecium fuscens, KHO olivaceo-fuscens. Sporae 8-nae, decolores, fusiformes, apicibus obtusis aut altero apice acuto, septis 3—5, cellula mediana reliquis vulgo duplo longiore, long. 0.014—0.026, crass. 0.004—0.007 millim., strato gelatinoso tenui vulgo indutae. Conceptacula pycnoconidiorum diam. circ. 0.140 millim., fusca. Pycnoconidia cylindrico- aut ovoideo-oblonga, recta, apicibus rotundatis, long. 0.007—0.009, crass. 0.0015—0.002 millim.

Ad corticem arborum in Kingshill et prope Little-Princess in insula S. Croix (F. Boergesen). Ad corticem Acaciae macranthae prope Basse-Terre in Guadalupa (518: P. Duss).

5. *O. subrimulosa* Nyl., Fl. 1866 p. 293; Wain., Catal. Welw. Afr. Pl. II P. 2 (1901) p. 443.

Var. *microphleoides* (Nyl.) Wain. *O. microphleoides* Nyl. Fl. 1887 p. 104. Wright, Graph. Cub. n. 101 a.

Thallus tenuis, albus aut albidus. Apothecia labiis clausis aut saepe demum apertis. — Perithecium fuliginum, integrum, nudum. Discus rimaeformis aut demum apertus, nigricans, nudus. Hymenium circ. 0.050 millim. crassum, jodo dilute vinose rubens. Epithecium fuscum. Sporae 8-nae, decolores, apicibus sat obtusis aut sat acutis, 3-septatae, cellulis aequalibus, haud gelatinosae, long. 0.014—0.020, crass. 0.003—0.004 millim. — Colore thalli ab *O. subrimulosa* Nyl. differt, at in eam transire videtur (conidia incognita).

Ad corticem Mangiferae Indicae in Basse-Terre in Guadalupa (1162: P. Duss).

4. **Chiodecton.**1. **Ch. (Enterographa) substellatum** Wain. (n. sp.).

Thallus tenuis, substramineo- aut cinereo-glaucescens, sat laevigatus aut verruculoso-inaequalis, crebre contextus, leviter nitidus, nec KHO, nec jodo reagens, hypothallo nigricante, tenui, crebre contexto, partim limitatus. Apothecia thallo immersa, saepe sat approximata, elongata, long. 1.2—0.5 millim., irregulariter aut substellatim ramosa, saepe flexuosa aut curvata, thallo circa apothecia leviter substromoideo-incrassato (colore haud differente). Discus latit. circ. 0.160 millim. aut angustior, haud aut parum impressus, fusco-nigricans (madefactus fuscescens), nudus. Hypothecium albidum, KHO non reagens. Parathecium albidum, parum distinctum, jodo passim subpersistenter dilute caerulescens. Hymenium circ. 0.080 millim. crassum, jodo dilutissime caerulescens, dein mox rubescenti-fulvescens. Epithecium (hymenium superius) pallidum aut rubricoso-pallidum, KHO non reagens. Paraphyses abundanter ramoso-connexae, tubulis tenuissimis, gelatina in KHO bene turgescente. Asci clavati aut ventricosos-clavati, membrana sat aequaliter leviter incrassata. Sporae 8-nae, decolores, aciculari-fusiformes, apicibus sat acutis aut obtusis, rectae aut sat rectae, 7-septatae, cellulis aequae longis, haud gelatinosae, long. 0.021—0.028, crass. 0.0025—0.003 millim. — Proximum est *Ch. stellato* (Fée) Müll. Arg. (Graph. Féean. p. 70), quod disco nigro et parathecio fuscescente ab eo differt.

Ad corticem arbusti in monte Eagles in insula S. Croix (F. Boergesen).

♂. **Ch. endorhodum** Wain. (n. sp.).

Thallus tenuis, stramineo-glaucescens, laevigatus, crebre contextus, opacus, partim jodo plus minusve distincte caerulescens, hypothallo nigricante aut fuscescente, tenui, crebre contexto, partim limitatus. Apothecia thallo substromoideo-incrassato immersa, saepe crebre aggregata, vulgo elongata, long. 2—0.5 millim., aut breviora,

irregulariter aut fere dendroideo-ramosa, ramis saepe numerosis. Discus latit. circ. 0.080—0.070 millim., haud impressus, nigricans, nudus. Pseudostromata sat distincta, leviter prominentia, subplana aut depresso-convexa, albida, elongata aut difformia, apothecia numerosa aut pauca continentia. Hypothecium intense coccineum, KHO sordide violascens. Parathecium indistinctum. Hymenium circ. 0.110—0.100 millim. crassum, jodo caerulescens, dein obscure caerulescens, parte superiore passim rubescens et KHO sordide violascens. Paraphyses crebre ramoso-connexae, tubulis tenuissimis. Asci clavati, in apice membrana incrassata. Sporae 8-nae, ut videtur (6 in eodem asco visae), distichae, decolores, ovoideo-elongatae, apicibus obtusis, 3-septatae, cellulis apicalibus reliquis (duplo aut fere duplo) longioribus, long. 0.015—0.018, crass. 0.005 millim. Habitu apotheciorum pseudostromatumque *Enterographis* simile, at ascis, sporis et parathecio cum *Arthoniis* congruens. *Ch. elegantulum* (*Stigmatidium* Nyl., Fl. 1886 p. 104) hypothecio albido ex annot. Nylander (thallo glauco, disco pallido-fuscescente) ab ea differt.

Ad corticem arboris prope Debt in insula S. Jan (403 pr. p.: C. Raunkiaer).

3. *Ch. (Byssophorum) Antillarum* Wain. (n. sp.).

Thallus sat tenuis, sat crebre contextus, glaucescens aut pallido-vel albido-glaucescens, isidiis cylindricis, simplicibus aut furcatis, erectis, sparsis aut crebris, circ. 0.3—1.5 millim. longis, 0.15 millim. crassis medium versus instructus, opacus, membranaceus, sat fragilis, substrato laxo affixus, subtus nigricans, superne et intus KHO lutescens, dein rubescens, $\text{CaCl}_2 \cdot \text{O}_2$ non reagens, hypothallo sat crebre aut raro sat laxo (in n. 488) contexto, albo aut raro roseo (in n. 488), laevigato, limitatus. Gonidia chroolepidea, cellulis concatenatis, circ. 0.004—0.006 millim. crassis. Apothecia incognita. — *Ch. sanguineum* f. *roseocincta* huic speciei interdum subsimilis est, at isidiis verruculaeformibus et thallo subtus albido aut roseo ab ea distinguitur.

Ad truncos arborum in Roseau-Valley (1317, 1336), supra

muscos vetustos et plantas destructas in rupibus in monte Laudat, 1700 p. s. m. (1802, 1803: W. R. Elliott) in insula Dominica. Ad corticem *Artocarp*i incisae in Houelmont (487) et Citri in Basse-Terre (488: P. Duss) in Guadalupa.

4. **Ch. cineritium** (Ach.) Wain., Lich. Antill. (1896) p. 28.

*Ch. diplospor*um Nyl., Fl. 1886 p. 104.

Var. **denudatum** Wain., l. c.

Thallus isidiis destitutus, nec KHO, nec CaCl_2O_2 , nec his solutionibus mixtis reagens.

Ad corticem *Acnist*i arborescentis in Camp Jacob in Guadalupa (668: P. Duss).

5. **Ch. sanguineum** (Sw.) Wain., Étud. Lich. Brés. II p. 143.

In rupe in Guava-Ridge, 2000 ped. s. m., in Jamaica (3700: H. F. A. Eggers). Ad corticem arboris prope La Cumbra in S. Domingo (476: C. Raunkiaer), prope Cruz-Bay in insula S. Jan (553: C. Raunkiaer), prope Camp Balata in Martinica (1706: hb. Dussii). Ster.

6. **Ch. (Mazosia) granulare** (Müll. Arg.) Wain. *Ch. strigulinum* f. *granularis* Wain., Lich. Antill. (1896) p. 29. *Rotula vulgaris* β . *granularis* Müll. Arg., Lich. Beitr. (1890) n. 1533. **Pl. striguloides* Nyl., Enum. Gén. Lich. (1857) p. 131 pr. p. (specim. e Bras.: n. 4861). *Pl. striguloides* Krempelh., Lich. Born. (1875) p. 41.

Thallus glaucescens aut cinereo-glaucescens, verruculis increbris instructus, ambitu integro, hypothallo indistincto. Discus saepe anguloso-rotundatus, diam. 0.3—0.2 millim., livido-nigricans, planus. Parathecium fusco-fuligineum, conniventi-obliquum, strato thallino, gonidia continente, basim versus sensim in thallum abeunte, obductum. Hypothecium dilute fuscescens aut pallidum. Hymenium jodo vinose rubens. Epithecium fuscescens aut dilute fuscescens aut pallidum. Paraphyses ramoso-connexae. Asci clavati, long. circ. 0.040—0.050 millim., membrana leviter (aequaliter) incrassata. Sporae 8-nae, decolores, fusiformes, apicibus obtusis, 3-septatae, cellulis fere aequae longis, haud gelatinosae, long. 0.018—0.024,

crass. 0.002—0.0045 millim. Pycnides depresso-hemisphaericae, lateribus saepe sat abruptis, latit. 0.240—0.360 millim., conceptaculo fusco-fuligineo, hemisphaerico, integro, strato thallino, saepe leviter ruguloso obducto, apice anguste denudato, ostiolo rotundato, circ. 0.1 millim. lato. Stylosporae decolores, oblongae, apicibus rotundatis, lateribus cylindricis, long. 0.005, crass. 0.002 millim. Gonidia phycopeltidea.

Ad folia perennia arborum prope Debt in insula S. Jan (559 cum pycnidibus, 560 pr. p.: C. Raunkiaer) et in Bonhomme-Woods in insula S. Vincent (351 pr. p.: W. R. Elliott).

7. **Ch. strigulinum** (Nyl.) Wain., Étud. Lich. Brés. H (1890) p. 147 pr. p. *Platygrapha strigulina* Nyl., Lich. Andam. (1874) p. 13, secund. specim. orig. in herb. Nyl. **Pl. striguloides* Nyl., Énum. Gén. Lich. (1857) p. 131 pr. p. (specim. e Madagascaria). *Ch. strigulinum* f. *laevis* Wain., Lich. Antill. (1896) p. 29. *Rotula vulgaris* γ. *laevis* Müll. Arg., Lich. Beitr. (1890) n. 1533.

Thallus laevigatus. Parathecium fusco-fuligineum. Sporae 3-septatae, long. circ. 0.017 millim.

Ad folia arboris in Bonhomme-Woods in insula S. Vincent (W. R. Elliott).

5. *Arthonia*.

1. **A. (Allarthothellum) endococcinea** Wain. (n. sp.).

Thallus tenuis aut sat tenuis, albus, opacus, cretaceo-farinosus, sat laevigatus aut leviter inaequalis, KHO non reagens, jodo caerulescens, hypothallo indistincto. Apothecia rotundata aut difformia, diam. circ. 0.2—1.3 millim., vulgo aggregata aut confluentia, haud aut leviter prominentia, disco plano, albido- aut rarius livido-pruinoso. Hypothecium albidum, jodo intense caerulescens. Hymenium jodo caerulescens, ascis et metaplasmate rubescentibus. Epithecium coccineum, granulosum, KHO sordide violascens. Paraphyses arthonioideae. Asci pyriformi-clavati, long. 0.080—0.100, lat. 0.030—0.040 millim., in apice membrana incrassata. Sporae

8:nae, polystichae, decolores, oblongae aut ovoideo-oblongae, apicibus obtusis aut rotundatis, murales, seriebus transvers. cell. 9—10, cellulis numerosis, aequalibus, long. 0.030—0.036, crass. 0.011—0.016 millim., strato gelatinoso tenui aut nullo indutae, jodo non reagentes. Hyphae thalli crassit. 0.0015 millim. Gonidia cystococcacea, globosa, simplicia, diam. 0.012—0.007 millim., membrana sat tenui (hyphis affixa visa). -- *A. albata* Nyl., habitu huic speciei subsimilis, gonidiis chroolepideis secund. specim. orig. ab ea differt. In *A. gregarina* Willey apothecia extus demum coccinea, primum tenuiter pruinosa.

Ad corticem arboris putrescentis in Camp Jacob in Guadalupe (1215: P. Duss).

2. *A. fuscoglauca* Wain. (n. sp.).

Thallus sat tenuis, glaucescens, leviter nitidus, continuus, verruculoso-inaequalis, nec KHO, nec I reagens, Apothecia rotundata aut ellipsoidea aut difformia, haud dentata, long. 2.3—0.7, latit. 1.5—0.6 millim., sat increbra, prominentia, demum adnata, disco vulgo depresso-convexo, laevigato, fusco-nigro, nudo, sat opaco. Hypothecium pallidum (aut morbose dilute fuscescens). Parathecium intus tenuiter fuscescens, extus sordide pallidum. Hymenium totum dilute fuscescens, jodo intense persistenterque caerulescens, ascis haud reagentibus. Asci ellipsoidei aut late pyriformes, long. 0.080—0.100, lat. 0.055—0.070 millim., apicem versus membrana incrassata. Sporae 8:nae, demum fusciscentes, murales, oblongae, leviter curvatae, apicibus rotundatis, cellulis numerosis, aequalibus, seriebus transvers. cell. circ. 9—11, long. 0.056—0.069, crass. 0.020—0.026 millim., haud aut parum gelatinosae. Gonidia cystococcacea, simplicia, cellulis vulgo globosis, diam. 0.006—0.010 millim. — Habitu subsimilis est *A. distendenti* Nyl. (Wright, Graph. Cub. n. 213), quae autem gonidiis chroolepideis instructa est.

Ad corticem Ingae laurinae prope Baillif in Guadalupe (1103: P. Duss).

3. **A. (Arthothellum) diplotypa** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 256.

Ad corticem Calliandrae in Baillif in Guadalupa (566: P. Duss).

4. **A. nebulosa** (Müll. Arg.) Willey, A Syn. Arth. (1890) p. 56. *Arthothellium nebulosum* Müll. Arg., Lich. Beitr. (Fl. 1880) n. 221. Haud *Platygrapha nebulosu* Stirt., Lich. Leav. (1878) p. 6 (*Arthonia nebulosa* Müll. Arg., l. c. n. 691), quae secund. descr. ad *Chiodecton* pertinet.

Ad corticem arboris prope Borcks-Creek in insula S. Jan (544: C. Raunkiaer), ad corticem Coffeae Arabicae in Parnasse in Guadalupa (516: P. Duss).

5. **A. cordiae** Wain. (n. sp.).

Thallus tenuis, sat laevigatus, continuus, albedo-glauescens, leviter nitidus, nec KHO, nec jodo reagens, hypothallo parum evoluto. Apothecia difformia, saepe subdentata, long. 1.5—0.3, lat. 0.7—0.3 millim., thallum haud superantia, sat crebra, disco plano, laevigato, fusco-nigro, sat opaco, saepe diu pelliculis sparsis thalldice obvelato, saepe demum denudato. Hypothecium albidum. Epithecium fuscenscens. Hymenium jodo persistenter caerulescens. Asci subglobosi aut ellipsoidei, diametro circ. 0.120—0.080 millim. Sporae 8:nae, diu decolores, demum fuscescentes, ellipsoideae aut ovoideo-oblongae, apicibus rotundatis, murales, cellulis numerosis, seriebus cellularum transversalibus 7—10, long. 0.040—0.049, crass. 0.020—0.025 millim., haud gelatinosae. Gonidia chroolepidea, cellulis concatenatis, 0.006—0.008 millim. crassis. — Habitu subsimilis *A. substellatae* (Nyl.).

Ad truncum Cordiae panicularis in Morne Hironnelle in Guadalupa (1796: P. Duss).

6. **A. lignicola** Wain. (n. sp.).

Thallus albidus, sat tenuis, laevigatus, leviter nitidus, jodo non reagens. Apothecia oblonga aut ellipsoidea, long. circ. 2—1, lat. 1—0.3 millim., prominentia, sparsa, disco depresso-convexo,

fusco-nigricante, nudo, opaco (thallo dice obvelato in apotheciis junioribus). Hypothecium intense rufescens, crassum. Hymenium totum rufescens, jodo caerulescens, dein vinose rubens, ascis tantum vinose rubentibus. Paraphyses ramoso-connexae. Asci globosi aut ellipsoidei aut pyriformi-subglobosi, long. 0.075—0.080, crass. 0.070—0.075 millim. Sporae 8-nae, fumoso-subdecolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, seriebus transvers. cell. circ. 10, long. 0.057—0.064, crass. 0.022—0.024 millim. Gonidia chroolepidea, inter fibras putridas substrati sita, numerosa, cellulis concatenatis, 0.005—0.007 millim. latis, membranibus modice incrassatis.

Ad lignum vetustum in Bordeaux in insula S. Jan (459: C. Raunkiaer).

7. **A. interveniens** Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 482 (secund. specim. orig. n. 5470 in herb. Nyl., n. 235 a et b in herb. Tuck.).

Thallus glaucescenti-albidus, tenuis, laevigatus, opacus, jodo violascens: Apothecia rotundata aut ellipsoidea aut raro difformia, long. 0.4—1.2, latit. 0.4—0.7 millim., disco plano aut leviter depresso-convexo, parum prominente, nigricante aut fusco-nigricante, nudo, laevigato, sat opaco. Parathecium tenuissimum, fuscescens. Hypothecium tenue, fusco-rubricosum. Hymenium 0.090—0.110 millim. crassum, jodo vinose rubens. Epithecium olivaceo-fuscescens aut sordide caerulescenti-fuscescens, KHO distinctius violascens. Asci subglobosi, long. 0.034—0.044, crass. 0.030—0.033 millim., membrana apicem versus crassiore. Sporae 8-nae, decolores, ovoideo-oblongae, submurales, septis transversalibus 7—8, loculis paucis (1—2) mediis septo longitudinali divisus, long. circ. 0.027—0.028, crass. 0.007—0.011 millim., strato gelatinoso nullo.

Ad corticem arboris in insula Trinidad (H. Lassen).

8. **A. Americana** Wain. (n. sp.).

Thallus sat tenuis aut modice incrassatus, albidus, parum nitidus, sat laevigatus, KHO lutescens, CaCl_2O_2 non reagens, jodo

caerulescens. Apothecia sat crebra, rotundato-diformia aut oblonga, long. 2.7—0.8, latit. circ. 1.2—0.4 millim., haud aut rarius leviter dentata, leviter prominentia, disco convexo aut saepius depresso-convexo, fusco- aut livido-rufescente, opaco, vulgo sat laevigato, nudo aut raro leviter thalodice obvelato. Hymenium totum et hypothecium intense rufescens, jodo caerulescens, ascis vinose rubentibus (haud caerulescentibus), KHO vinose rubens et solutionem rubescentem deindeque praecipitatum granulosum formans. Asci subglobosi aut pyriformi-subglobosi, long. 0.055—0.065, latit. 0.050—0.055 millim., apicem versus membrana saepe sat bene incrassata. Sporae 8:nae, decolores, murales, oblongae aut ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, septis transversalibus 8, cellulis sat numerosis, aequalibus, long. 0.032—0.034, crass. 0.014—0.016 millim. Gonidia chroolepidea, cellulis concatenatis, vulgo 0.005—0.006 millim. crassis. — *A. Scandinavicam* Th. Fr. et *A. ephelodem* Nyl. in memoriam revocans.

Ad corticem arboris prope Bordeaux in insula S. Jan (438: C. Raunkiaer).

9. **A. (Eurathonia) platygraphidea** Nyl., Lich. Nov.-Gran. ed. 2 (1863) p. 235; Wain., Étud. Lich. Brés. II p. 151, Cat. Welw. Afr. Pl. II P. 2 Lich. (1901) p. 447.

Thallus leviter inaequalis, albido-glauescens, jodo violascens. Epithecium et hypothecium fuscescens, KHO olivaceum. Hymenium jodo intense caerulescens, ascis violascentibus. Asci subellipsoidei, long. 0.090—0.120, crass. 0.070—0.072 millim. Sporae 8:nae, oblongae, apicibus rotundatis, obliquae aut curvatae, decolores, septis 12—13, cellulis sat aequalibus aut 2 mediis et ambabus apicalibus paullo longioribus, long. 0.070—0.082, crass. 0.020—0.022 millim., strato gelatinoso nullo. Apothecia difformia aut subellipsoidea aut rotundata, long. 2—0.7, latit. 1.2—0.7 millim., parum aut leviter prominentia, disco nigricante aut fusco-nigro, plano aut leviter convexo, nudo, laevigato.

Ad corticem Anonae palustris in Basse-Terre in Guadalupa (504: P. Duss).

10. **A. collospora** Wain. (n. sp.).

Thallus sat tenuis, leviter inaequalis, albido-glaucescens, parum nitidus, nec KHO, nec jodo reagens, hypothallo nigricante parce limitatus. Apothecia rotundata aut parcius subellipsoidea, long. 1.5—0.6, lat. 1.2—0.6 millim., prominentia, increbra, disco nigricante aut fusco-nigro, vulgo depresso-convexo, nudo, laevigato. Hymenium totum et hypothecium fuscescentia aut purpureo-fuscescentia, jodo persistenter caerulescentia, membrana ascorum haud reagente, metaplasmate vinose rubente. Hymenium circ. 0.250 millim. crassum. Hypothecium crassit. circ. 0.050 millim. Asci pyriformes, long. circ. 0.110, latit. 0.060 millim., membrana fere tota incrassata. Sporae 8-nae, demum fuscescentes, primum diuve decolores, oblongae aut fusiformi-oblongae, saepe leviter curvatae, apicibus rotundatis aut rarius obtusis, septis 10—12, loculis mediis et saepe etiam apicalibus reliquis duplo crassioribus, strato gelatinoso circ. 0.004 millim. crasso indutae, long. 0.060—0.070, crass. 0.016—0.019 millim. — Sporis bene gelatinosis et reactione thalli ab *A. platygraphidea* differt.

Ad corticem arboris (Drypetes) prope Houelmont in Guadalupa (914: P. Duss).

11. **A. substellata** (Ach.) Nyl., Lich. Nov.-Gran. Prodr. (1863) p. 484; Wain., Lich. Antill. (1896) p. 30. *A. conferta* (Fée) Nyl., Énum. Gén. Lich. (1857) p. 132.

Ad corticem Coccolobae et aliorum arborum prope Little-Princess (Ove Paulsen, F. Boergesen) et ad corticem Mancinellae prope Sandy Point (551: C. Raunkiaer) in insula S. Croix. Ad corticem Murrayae exoticae in Basse-Terre (479) et ad corticem Salicis Humboldti in Camp Jacob (1567 pr. p.) in Guadalupa (P. Duss) et ad Ingam laurinam in Parnasse in Martinica (1649: hb. Dussii).

12. **A. complanata** Fée, Ess. Crypt. Écorc. (1824) p. 54; Wain., Étud. Lich. Brés. II p. 154, Schmidt Fl. Koh Chang. Lich. (1909) p. 371.

Ad corticem arboris prope La Cumbra in insula S. Domingo (493: C. Raunkiaer).

13. **A. dichotoma** Wain. (n. sp.).

Thallus tenuis, albidus, opacus, sat laevigatus, nec KHO, nec jodo reagens, hypothallo cinereo-nigricante, dilute colorato, partim limitatus. Apothecia sat crebra, elongata, long. circ. 5—1.5, latit. 0.2—0.15 millim., apicibus sensim attenuatis, flexuosa aut curvata, vulgo iteratim dichotome ramosa, parce etiam simplicia, thallo immersa aut rarius demum leviter prominentia et lateribus thallogice obductis, disco plano, livido-fuscescente aut rufescente, subpruinoso, opaco. Parathecium fusco-rubricosum, sat bene evolutum, KHO non reagens. Hypothecium rubricosum-fuscescens aut dilute fuscescens, KHO non reagens. Hymenium circ. 0.040—0.045 millim. crassum, jodo dilute vinose rubescens (haud caerulescens). Epithecium fusco-rubricosum, granulosum, KHO non reagens. Paraphyses ramoso-connexae. Asci pyriformi-clavati, long. circ. 0.024—0.030, crass. 0.012—0.014 millim., membrana sat aequaliter modice incrassata. Sporae 8-nae, decolores, ovoideo-oblongae aut ovoideo-fusiformes, apicibus obtusis aut altero apice rotundato, septis 5 (—4), cellulis aequae longis, long. 0.016—0.023, crass. 0.004—0.005 millim. Gonidia chroolepidea, cellulis concatenatis, circ. 0.010—0.005 millim. latis. — Habitu *Graphidem dendriticam* Ach. in memoriam revocans et ab *Enterographa pseudostromatibus* haud evolutis differens.

Ad corticem Melioccae bijugae prope Baillif in Guadalupa (1405: P. Duss).

14. **A. polygrammodes** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 257.

Thallus jodo non reagens. Hypothecium pallidum.

Ad corticem arborum prope Gourbeyre (539) et in Parnasse (512) in Guadalupa (P. Duss).

F. microsticta Wain., l. c.

Ad ramos *Ingae laurifoliae* in Guadalupa (519: P. Duss).

Var. **nigricans** Wain.

Thallus jodo non reagens. Apothecia crebra, vulgo elongata, long. 1.2—0.3, latit. 0.1—0.2 millim., flexuosa aut curvata, saepe irregulariter aut substellatum ramosa, primum thallo immersa et saepe margine vel amphithecio thallino angustissimo, e substrato et thallo formato, cincta, disco plano, fusco-nigro, tenuiter pruinoso aut partim denudato, opaco. Hymenium jodo caerulescens, dein vinose rubens. Epithecium subfuscescens, KHO olivaceum. Hypothecium superne dilute fuscescens, inferne intense fuscescens. Asci obovoidei, long. circ. 0.036, crass. 0.020 millim. Sporae 8:nae, decolores et demum dilute nigricantes, ovoideo-oblongae, septis 4—3, cellula apicis crassioris reliquis multo (duplo et ultra) longiore, long. 0.015—0.020, crass. 0.005—0.006 millim. — Ab *A. quatuorseptata* Wain., Étud. Lich. Brés. II p. 156, colore hypothecii et apothecii partim pruinosis differt et forsitan est autonoma species.

Ad corticem *Dracaenae fragrantis* in Basse-Terre in Guadalupa (508: P. Duss).

15. **A. minuta** Wain. (n. sp.).

Thallus tenuissimus, albidus, sat opacus, laevigatus, circa apothecia jodo vinose rubens, hypothallo indistincto. Apothecia crebra, ellipsoidea aut oblonga aut punctiformia aut commatiformia, long. 0.5—0.1, latit. 0.25—0.1 millim., apicibus obtusis aut rotundatis aut rarius acutis, recta, simplicia aut raro dentata vel substellato-ramosa, haud aut parum prominentia, saepe subparallela, disco plano aut leviter convexo, nigricante aut livido-nigricante, nudo, subnitido. Parathecium fuscescenti-aeruginosum. Hypothecium albidum. Hymenium jodo dilute caerulescens, dein dilute vinose rubens, metaplasmate ascorum rubescente. Epithecium fuscescenti-aeruginosum. Asci pyriformes aut ellipsoideo-pyriformes, long. 0.018—0.024, crass. 0.011—0.014 millim., ad apicem membrana incrasata. Sporae 8:nae, decolores, ovoideo-fusiformes aut ovoideo-oblon-

gae, apicibus obtusis aut altero apice rotundato, 3-septatae, cellulis aque longis, haud gelatinosae, jodo leviter vinose rubentes, long. 0.009—0.011, crass. 0.003—0.0035 millim. — Gonidia chroolepidea, cellulis concatenatis, circ. 0.006—0.005 millim. latis. — Cum *A. xylographica* Nyl., *A. albofuscescente* Tuck. et *Naevia parallela* Wain. analoga.

Ad corticem arboris (Cocos) prope Little-Princess in insula S. Croix (Ove Paulsen).

16. *A. aquilina* Wain. (n. sp.).

Thallus evanescens aut macula albido-cinerascente indicatus. Gonidia chroolepidea, cellulis concatenatis, 0.005—0.007 millim. crassis, membrana tenui. Apothecia sparsa, oblonga aut difformia, long. 0.7—0.2, latit. 0.2—0.1 millim., recta aut curvata, simplicia aut parce stellato-ramosa, apicibus obtusis aut rotundatis aut acutis, haud aut parum prominentia, disco plano aut rarius subconcano, nigro, nudo. Parathecium fusco-fuligineum, sat bene evolutum, KHO non reagens. Hypothecium olivaceo-fuscescenti-fuligineum, KHO parum reagens. Hymenium crassit. circ. 0.040 millim. (latit. circ. 0.080 millim.), jodo haud reagens (fulvescens). Epithecium olivaceo-fuscescens, KHO parum reagens. Paraphyses parce evolutae, ramoso-connexae, tubulis tenuissimis indicatae. Asci primum clavati, demum subellipsoidei, long. circ. 0.026, crass. 0.016 millim., ad apicem membrana incrassata. Sporae 8-nae, decolores, ovoideae, 1-septatae, apice superiore rotundato aut obtuso, apice inferiore sat acuto aut obtuso, loculo superiore crassiore longioreque aut septo fere in medio sporae, haud gelatinosae, long. 0.011—0.013, crass. 0.004—0.0045 millim. — Affinis est *A. dispersae* (Schrad.) Nyl.

Ad corticem arboris in monte Eagles in insula S. Croix (F. Boergesen).

17. *A. Dussii* Wain., Lich. Nov. Bar. III (Hedwigia 1899) p. 256.

Thallus jodo intense caerulescens. Sporae septis 7—12, vulgo 11, decolores, loculis extremitates versus sporae sensim brevioribus,

long. 0.044—0.052, crass. 0.013—0.016 millim. Apothecia disco subpruinoso.

Ad corticem arboris in Camp Jacob (526: P. Duss).

18. **A. platyspilea** Nyl., Lich. Nov.-Gran. ed. 2 (1863) p. 230; Willey, A Syn. Arth. (1890) p. 16; Wain., Catal. Welw. Afr. Pl. II P. 2 Lich. (1901) p. 447.

Thallus albidus, jodo caerulescens. Hypothecium albidum. Sporae 8:nae, oblongae aut fusiformi-ovoideae, vulgo leviter curvatae, apicibus rotundatis aut obtusis, septis 5—7, raro etiam 8 (in eodem apothecio), cellulis 1—2 mediis reliquis longioribus, jodo pulchre rubentes, strato gelatinoso tenui saepe indutae, long. 0.018—0.030, crass. 0.007—0.010 millim.

Ad corticem arborum (Chimarrhis cymosa) in Camp Jacob in Guadalupa (1421: P. Duss), ad Cane-Bay in insula S. Croix et in insula S. Thomas (F. Boergesen).

19. **A. perpallens** Nyl., Lich. Nov.-Gran. ed. 2 (1863) p. 100, Fl. 1867 p. 7, Lich. Jap. (1890) p. 85; Willey, A Syn. Arth. (1890) p. 4; Wain., Schmidt Fl. Koh Chang Lich. (1909) p. 373.

Thallus albidus, opacus, jodo non reagens, KHO leviter lutescens, CaCl_2O_2 non reagens. Apothecia pallida, tenuiter pruinosa, KHO leviter lutescentia. Hypothecium pallidum aut albidum. Hymenium jodo dilute caerulescens (persistenter: 1193, aut demum rubescenti-fulvescens). Sporae 8:nae, decolores, 3-septatae, cellulis aequae longis, haud aut parum gelatinosae, long. 0.014—0.016, crass. 0.005 millim.

Ad corticem arboris in monte Eagles in insula S. Croix (F. Boergesen), ad corticem Plumierae roseae prope Gourbeyre in Guadalupa (1193: P. Duss).

20. **A. subrubella** Nyl., Lich. Nov.-Gran. (1863) p. 479, Fl. 1880 p. 128; Müll. Arg., Graph. Féean. (1887) p. 56; Willey, A Syn. Arth. (1890) p. 11. *A. varia* var. *subrubella* Nyl., Enum. Gén. Lich. (1857) p. 132 (n. 5431 in herb. Nyl.).

Thallus tenuissimus, albidus, laevigatus, jodo caerulescens, hypothallo nullo distincto. Apothecia crebra, oblonga aut partim difformia, long. 1.3—0.3, latit. 0.3—0.2 millim., flexuosa aut curvata, irregulariter parce ramosa aut partim simplicia, apicibus rotundatis aut obtusis aut truncatis, thallo immersa, haud prominentia, disco plano, fusco aut rufescente, nudo. Parathecium evanescentes. Hypothecium albidum, jodo caerulescens. Epithecium fusco-rufescens, KHO non reagens. Hymenium jodo persistenter caerulescens, ascis haud reagentibus. Asci subglobosi, membrana incrassata. Sporae 8-nae, decolores, oblongae, leviter curvatae, apicibus rotundatis, 5-septatae, cellulis 2 mediis et praesertim ambabus apicalibus reliquis longioribus, haud gelatinosae, long. 0.044—0.046, crass. 0.016—0.019 millim., jodo haud reagentes (in n. 1707). — In n. 100 sporae long. 0.054, crass. 0.022 millim., 8-septatae, cellulis 2 medianis et ambabus apicalibus reliquis longioribus (var. **pluriseptata** Wain.).

Ad corticem arboris prope Camp Balata in Guadalupa (1707: P. Duss). In insulis Danicis Indiae Occidentalis F. Boergesen (a. 1905—1906) v. *pluriseptatam* collegit.

21. **A. rubella** (Fée) Nyl., Syn. Arth. (1856) p. 89; Müll. Arg., Graph. Féean. (1887) p. 56, Arth. Wright. Cub. (1894) p. 733; Willey, A Syn. Arth. (1890) p. 11; Wain., Catal. Welw. Afr. Pl. II P. 2 Lich. (1901) p. 449.

Thallus jodo caerulescens. Asci subglobosi, long. circ. 0.054, latit. 0.045 millim., raro obovoidei (in. n. 418), apicem versus membrana incrassata.

Ad corticem arborum prope Nordsidebugt (F. Boergesen) et in monte Crown (418: C. Raunkiaer) in insula S. Thomas.

22. **A. gregaria** (Weig.) Koerb., Syst. Germ. (1855) p. 291.

Var. **tumidula** Almqu., Mon. Arth. Scand. (1880) p. 21; Wain., Étud. Lich. Brés. II p. 163, Catal. Welw. Afr. Pl. II P. 2 Lich. (1901) p. 448.

Ad lignum putridum prope Bordeaux in insula S. Jan (459 pr. p.: C. Raunkiaer). Ad corticem Dracaenae fragrantis in Basse-Terre in Guadalupa (508 pr. p.: P. Duss).

Var. *adpersa* (Mont.) Wain., l. c.

Ad corticem arborum in Palmistes (*Citrus aurantium*, cet.: 1181, 1169), in Gourbeyre (*Plumiera alba*: 1191), in Basse-Terre (*Dracaena fragrans*: 508) in Guadalupa (P. Duss).

6. *Naevia*.

1. *N. subvelutinae* Wain. (n. sp.).

Mycelium in thallum *Lecideae* (*Lopadii*) *subvelutinae* Wain. penetrans, stroma (thallum lichenum) haud formaus, evanescens. Apothecia crebra aut ereberrima, rotundata, diam. circ. 0.060, rarius 0.100 millim., prominentia, disco planiusculo aut depresso-convexo, nigricante aut rarius rufescente, nudo. Hypothecium albidum. Epithecium olivaceum. Hymenium jodo violascens. Asci pyriformes, long. circ. 0.016, latit. 0.008 millim. Sporae 8-nae (ut videtur), decolores, oblongo-ovoideae, altero apice rotundato, altero obtuso, 1-septatae, jodo violascentes, long. 0.006—0.007, crass. 0.002—0.0025 millim. — Thallus *Lecideae subvelutinae* parasita nullo modo mutatur neque morbosus evadit et gonidia cystococcacea sola continet.

Parasita in thallo *Lecideae subvelutinae* supra folia perennia arboris prope Debt in insula S. Jan (559 pr. p.: C. Raunkiaer).

C. *Coniocarpeae*.

Trib. 1. *Sphaerophoreae*.

1. *Sphaerophorus*.

1. *Sph. compressus* (Ach.) Koerb., Syst. Lich. Germ. (1855) p. 52; Wain., Étud. Lich. Brés. II p. 169.

Ad truncos putridos in Blue Mountains, 2470 m. s. m., in Jamaica (O. Hansen).

II. PYRENOLICHENES.

1. Normandina.

1. *N. pulchella* (Borr.) Leight.

Cum *Placodio aphanotripto* (Nyl.) ad corticem arboris in Morne Conliabon (alt. 3700 p. s. m.) in insula Dominica (1538 pr. p., 1564 pr. p.: W. R. Elliott). Ster.

2. Verrucaria.

1. *V. aethloboliza* Nyl., Fl. 1886 p. 322; Wain., Lich. Antill. (1896) p. 30.

Thallus tenuis, continuus aut rimulosus, cinerascens, opacus, laevigatus, hypothallo indistincto. Gonidia pleurococcacea, vulgo simplicia, raro bicellulosa, globosa, diam. 0.006—0.010 millim. Apothecia verrucas hemisphaericas, nigricantes, 0.3—0.2 millim. latas formantia. Perithecium fusco-fuligineum, globosum, integrum, basi tenue. Nucleus globosus, albidus, jodo dilutissime caeruleus, dein dilute violascens. Paraphyses evanescentes. Periphyses constipatae, simplices, long. 0.016—0.018, crass. 0.0015 millim. Asci ventricosoclavati, long. circ. 0.045, crass. 0.018 millim., membrana gelatinosa mollique. Sporae 8-nae, distichae, simplices, decolores, ellipsoideae aut oblongae aut ovoideae, long. 0.013—0.018, crass. 0.005—0.007 millim., membrana tenui.

Ad saxa prope Crequis in insula S. Croix (F. Boergesen).

3. Parmentaria.

1. *P. astroldea* Fée, Ess. Lich. Écorc. (1824) p. 70; Müll. Arg., Pyr. Cub. (1885) p. 385, Pyr. Féean. (1888) p. 7. *Pyrenastrum Americanum* Spreng., Syst. Veg. IV (1827) p. 248.

Thallus endophloeodes, laevigatus, leviter nitidus, macula pallida aut glauco-pallida indicatus. Apothecia simplicia aut saepe

2—6 aggregata et partim peritheciis collisve confluentia, pseudostromata haud formantia, thallo substratoque immersa aut demum apice nigricante convexoque emergentia. Perithecia fusco-fuliginea, integra, basi tenuia, subglobose obliqua, latit. circ. 0.400—0.350 millim., collo laterali, brevi. Nuclei albidii. Margines ostiolarum verruculas formant 0.2—0.4 millim. latas, parum elevatas, thallo subconcolores, ostiola plura aut solitaria continentes. Paraphyses ramoso-connexae. Asci ventricosi, membrana tenui. Sporae 8-nae, distichae, olivaceo-fuscescentes, oblongae, apicibus rotundatis aut rarius obtusis, murales, seriebus transversalibus cellularum 8, long. 0.025—0.036, crass. 0.009—0.013 millim.

Ad corticem arboris in monte Eagles in insula S. Croix (F. Boergesen).

4. *Pyrenastrum*.

1. *P. bicolor* Wain. (n. sp.).

Thallus epiphloeodes, sat tenuis, laevigatus, olivaceo-fuscescens, nitidus. Apothecia irregulariter aggregata, partim peritheciis confluentia, pseudostromata parum distincta formantia, thallo substratoque semiimmersa, nigricantia, macula ostiolarum pallida, 0.3—0.2 millim. lata, haud impressa. Perithecia fusco-fuliginea, hemisphaerica, in basi apothecii tenuia aut deficientia, latit. 0.5—1 millim., bene aut leviter obliqua aut partim subrecta, ostiolis vulgo solitariis aut raro confluentibus, obliquis aut lateralibus aut saepe etiam suberectis, minutissimis, rufis, in macula ostiolarum pallida sitis. Paraphyses tenues, simplices. Sporae 8-nae, monostichae, olivaceo-fuscescentes, oblongae, apicibus obtusis, 3-septatae, loculis sat aequalibus, lenticularibus, long. 0.016—0.022, crass. 0.006—0.007 millim., strato gelatinoso haud indutae. Asci cylindrici. — *Melanothecam Acharianam* in memoriam revocans et intermedia inter *Melanothecam*, *Parathelium* et *Pyrenastrum*.

Ad corticem Cocolobae uviferae in Baillif in Guadalupa (505: P. Duss).

5. Parathelium.

1. *P. Martinicanum* Wain. (n. sp.).

Thallus epiphloeodes aut partim endophloeodes, tenuis, sat laevigatus, impure albidus, KHO non reagens, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, pyriformia, prostrata, thallo immersa aut ventriculo nigricante saepe demum leviter emergente, collo immerso persistente, cum collo elongato 0.7—0.8 millim. longa, 0.4—0.3 millim. lata, ostiolo fusco, punctiformi. Ventriculus perithecii subglobosus, fuscofuliginosus, integer. Nucleus globosus, albidus. Paraphyses increbre ramoso-connexae, tubulis tenuibus gelatinam sat abundantem percurrentibus. Asci clavati. Sporae 8-nae, distichae, olivaceo-fuscescentes, oblongae, apicibus rotundatis aut obtusis, 3-septatae, loculis rotundatis aut lenticularibus (loculi medii duplo majores, quam apicales). poris angustis anastomosantibus, strato gelatinoso decolore indutae. long. 0.036—0.043, crass. 0.015—0.017 millim.

Ad corticem arboris prope Camp Balata in Martinica (1711: hb. P. Dussii).

6. Thelenella.

1. *Th. (Meristosporum) chrysoglypha* Wain., Lich. Nov. Rar. III (Hedw. 1899) p. 258.

Ad corticem Calophylli Calabae in Parnasse in Guadalupa (564: P. Duss).

2. *Th. (Clathroporina) irregularis* Wain. (n. sp.).

Thallus sat tenuis, leviter inaequalis, glaucescens vel glaucovirescens, nitidus, demum pro parte substrato laxè affixus, subtus fuscescens, linea hypothallina nigricante limitatus, KHO rubescens. Apothecia sparsa, thallo immersa, infra thallum verrucas subglobosas, 1—0.6 millim. latas, pallidas formantia, in superficie thalli tantum poro minuto et interdum labio ostiolari pallido indicata. Perithecium globosum, pallidum. Nucleus globosus, albidus, jodo

non reagens. Asci ventricosi. Paraphyses tubulis 0.001 millim. crassis, gelatinam abundantem percurrentibus, maxima parte simplices, partim ramoso-connexae. Sporae 8-nae, distichae, decolores, fusiformi-oblongae, apicibus obtusis aut rotundato-obtusis, primum 5-septatae, demum murales, cellulis numerosissimis, in seriebus valde irregularibus, pariete gelatinoso-incrassato, 0.002—0.005 millim. crasso, jodo non reagentes, long. 0.086—0.120, crass. 0.025—0.032 millim. Gonidia chroolepidea.

Ad corticem arboris in S. Aroment in Dominica (1369: W. R. Elliott).

3. **Th. (Microglæna) Brasiliensis** (Müll. Arg.) Wain., Lich. Antill. (1896) p. 33. *Microglæna* Müll. Arg., Lich. Beitr. (Fl. 1888) n. 1456.

Thallus sat tenuis aut crassitudine mediocris, continuus aut demum rimulosus, laevigatus aut leviter inaequalis, glauco-cinereus, nitidus, jodo non reagens. Gonidia protococcacea, globosa, tantum simplicia visa. Apothecia verrucas 0.4—0.5 millim. latas, parum elevatas, basi sensim in thallum abeuntes, strato thallino obductas, vertice vel majore parte nigricantes (fuscas aut cyanescentes sub microscopio, KHO non reagentes) formantia. Perithecium ceterum albidum. Nucleus jodo non reagens. Paraphyses sat numerosae, pr. p. simplices, pr. p. ramoso-connexae, pr. p. parce ramosae, etiam parti superiori nuclei affixae. Periphyses desunt. Sporae 8—6-nae, decolores, oblongae aut fusiformi-oblongae, murales, distichae aut monostichae, long. 0.022—0.035, crass. 0.009—0.014 millim., jodo non reagentes, membrana haud gelatinosa, septis transversalibus 9—6, apicibus obtusis aut rotundatis.

In saxis ad Magensbay, 800 p. s. m., in insula S. Thomas (cum *Placodio diplacio*) et ad cataractam prope Reef-Bay in insula S. Jan (F. Boergesen).

7. *Bottaria*.

1. *B. (Anthracothecium) variolosa* (Pers.) Wain., Étud. Lich. Brés. II p. 197.

Perithecium fusco-fuliginum, integrum, hemisphaericum aut depresso-subglobosum. Paraphyses simplices. Sporae solitariae, oblongae, olivaceo-fuscescentes, murales, cellulis numerosissimis, long. 0.120—0.143, crass. 0.036—0.048 millim., hand gelatinosae.

Ad corticem *Ingae laurinae* prope Gourbeyre in Guadalupe (1217: P. Duss).

2. *B. impressa* Wain. (n. sp.).

Thallus crassitudine mediocris, sat laevigatus, leviter nitidus, pallidus, intus substramineus, KHO non reagens. Apothecia simplicia, thallo substratoque immersa et demum macula nigricante indicata aut demum apice nigricante, circa ostiolum leviter impresso, impressione circ. 0.3—0.4 millim. lata, emergentia. Perithecium fuliginum, integrum, globosum, latit. circ. 1—1.5 millim., pariete sat crasso. Nucleus globosus, albidus, ad ambitum jodo dilutissime violascens. Paraphyses gelatinam abundantem percurrentes, ad ambitum nuclei parce ramoso-connexae, ceterum simplices. Asci ventricosi. Sporae 4-nae aut binae, umbrino-fuscescentes, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, seriebus transversalibus cellularum circ. 30, strato gelatinoso saepe indutae, long. 0.090—0.110, crass. 0.030—0.040 millim.

Ad corticem arboris in Morne Conliabon, 3700 p. s. m., in Dominica (1589: W. R. Elliott).

3. *B. mucosa* Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 257.

Ad corticem *Ingae laurifoliae* in Mouteran in Guadalupe (501: P. Duss).

4. *B. ochraceoflava* (Nyl.) Wain. *Verrucaria* Nyl., Exp. Pyr. (1858) p. 50, Lich. Nov.-Gran. (1863) p. 491, ed. 2 p. 120. *Anthracothecium ochraceoflavum* Müll. Arg., Lich. Afr. (1880) p. 43,

Pyr. Cub. (1885) p. 415. *V. ochraceoflava* f. *nudior* Nyl. in Nyl. et Cromb., Lich. East As. (1882) p. 60, secund. specim. orig. n. 1100 in herb. Nyl. est autonoma species, thallo KHO haud purpurascente (fulvescente ant non reagente) differens.

***B. ochraceoflavens** (Nyl.) Wain. *Verr. ochraceoflavens* Nyl., Lich. Nov.-Gran. (1863) p. 491, ed. 2 p. 120. **V. ochraceoflavens* Nyl. in Hue, Lich. Exot. (1892) p. 293.

Thallus fulvescens, KHO purpurascens. Perithecium fuscofuliginosum, integrum. Asci ventricosi. Paraphyses gelatinam abundantem percurrentes, maxima parte simplices, partim ramoso-connexae. Sporae 8-nae, distichae, fuscescentes, ellipsoideae aut oblongae, apicibus rotundatis aut obtusis, murales, seriebus transversalibus cellularum 8—6, irregularibus, long. 0.017—0.032, crass. 0.008—0.014 millim. Nucleus jodo non reagens.

Ad corticem Mancinellae prope Fair Plane (F. Boergesen) in insula S. Croix et prope Coral-Bay in insula S. Jan ((448 et 450: C. Raunkiaer).

5. **B. libricola** (Fée) Wain., Lich. Antill. (1896) p. 31, Fl. Koh Chang Lich. (1909) p. 374.

Perithecium subglobosum, lat. 0.3—0.2 (—0.4) millim. Sporae 8-nae, murales, septis transversalibus vulgo 7, rarius 6, long. 0.028—0.044 millim., crass. 0.012—0.017 millim. Pycnoconidia filiformia, leviter curvata, long. 0.022—0.026, crass. 0.0005 millim. Conceptaculum semiimmersum, globosum. basi albidum, ceterum fuscofuliginosum. Sterigmata long. 0.010—0.020 millim., basi 0.0015 millim. crassa, apicem versus sensim attenuata, simplicia, apicibus conidia efferentibus.

Ad corticem arborum in Portorico (D. Hornbeck), prope Krauses-Lagoon in insula S. Croix (543 pr. p.: C. Raunkiaer), in Soufrière, 2000 p. s. m., in Dominica, ad Spondiam purpuream in Palmistes (1194), ad Erythroxyton ovatum prope Petit-Canal (418), ad Citrum decumanam in Basse-Terre (490) et ad Myrciam splendentem in Gourbeyre (509) in Guadalupa (P. Duss).

8. *Pyrenula*.

1. *P. (Melanotheca) anomala* (Ach.) Wain. *Trypethelium anomalum* Ach., Syn. Lich. (1814) p. 105 pr. p. (specim. in Indiis lectum, ostiolo apotheciorum haud distincte impresso).

Pseudostromata irregularia, extus fusco-nigricantia, intus nigricantia (rubricoso-fuscescentia sub microscopio), latere sat abrupte elevato, circa ostiola concolora, haud impressa. Perithecium fuliginereum, integrum. Sporae 8-nae, oblongae, apicibus obtusis aut rotundatis, fumoso-nigricantes, 3-septatae, loculis lenticularibus, haud gelatinosae, long. 0.017—0.021, crass. 0.007—0.008 millim. Thallus tenuis, laevigatus, pallidus.

Ad corticem arboris in insula Trinidad (H. Lassen).

2. *P. (Melanotheca) fusca* (Krempelh.) Wain. *Trypethelium fuscum* Krempelh. in Warm. Lich. Bras. (1873) p. 34. *Melanotheca fusca* Müll. Arg., Pyr. Fécan. (1888) p. 18.

Thallus tenuis, laevigatus, glaucescenti-albidus, linea hypothallina nigricante partim limitatus. Pseudostromata irregularia, tenuia, maculaeformia, nigricantia. Perithecium hemisphaericum, latere in pseudostroma late membranaceo-dilatatum, basi deficiens, fuliginereum, apice fuscescente aut pallidiore, modice prominente, haud aut parum impresso. Nucleus hemisphaericus, albidus. Paraphyses simplices. Sporae 8-nae, distichae, nigricantes, 3-septatae, loculis lenticularibus, long. 0.016—0.020, crass. 0.009—0.007 millim.

Ad corticem *Byrsonimae spicatae* prope Bains-Jaunes, 860 m. s. m., in insula Guadalupa (P. Duss: 506).

3. *P. (Melanotheca) subsimplex* Wain. (n. sp.).

Thallus tenuis, laevigatus, albedo-glaucescens aut fulvo-glaucescenti-variegatus, KHO non reagens, hypothallo indistincto. Apothecia verrucas 0.5—0.7 millim. latas, hemisphaericae, nigrae, nudae, vertice convexas aut conoideas aut minute umbilicatas, foveola et ostiolo vulgo albedo instructas formantia, simplicia aut parce

etiam 2—4 connata. Peritheciium hemisphaericum, fuligineum, integrum, basi tenui, latere sat abrupto. Sporae 8-nae, monostichae, obscuratae, ellipsoideae, apicibus rotundatis, 3-septatae, loculis apicalibus minutis, reliquis multo minoribus, long. 0.015—0.018, crass. 0.009—0.010 millim., haud gelatinosae. Asci cylindrici. Paraphyses gelatinosae, tubulis tenuibus. Nucleus albidus. — Apotheciis rotundatis nudisque a *P. foveolata* (Müll. Arg.) differt.

Ad truncum Arecae oleraceae in Basse-Terre in Guadalupa (507: P. Duss).

4. ***P. (Melanotheca) griseola*** Wain. (n. sp.).

Thallus tenuis, laevigatus, pallidus, KHO non reagens, hypothallo indistincto. Apothecia verrucas 0.5—0.8 millim. latas, hemisphaericas, strato thallino tenuissimo obductas, impure nigras aut cinereo-nigricantes, vertice convexas aut minute umbilicatas aut tantum ostiolo 0.1—0.15 millim. lato cinerascenteque leviter impresso instructas formantia, simplicia aut parce etiam 2—3 connata. Peritheciium hemisphaericum, fuligineum, integrum, latere angulato, basi plana, tenui, at columella centrali saepe instructa. Nucleus albidus, jodo non reagens. Paraphyses simplices. Asci cylindrici. Sporae 8-nae, monostichae, nigricantes, ellipsoideae, apicibus rotundatis, 3-septatae, loculis apicalibus reliquis multo minoribus, long. 0.013—0.017, crass. 0.009—0.011 millim. — Apotheciis rotundatis differt a *P. foveolata*.

Ad Citrum medicam in Basse-Terre in Guadalupa (491: P. Duss).

5. ***P. (Eupyrenula) marginata*** (Hook.) Trev., Caratt. (1853) p. 13; Wain., Étud. Lich. Brés. (1890) p. 200.

Ad corticem arborum (*Plumiera rosea*) in Basse-Terre (511) et (*Spondias purpurea*) in monte S. Rose (1379) in Guadalupa (P. Duss), in Prince Rupert (1300) et Soufrière (1519) in Dominica (W. R. Elliott).

6. *P. glabrescens* Wain. (n. sp.).

Thallus tennis, epiphloeodes, laevigatus, pallido-glauescens, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia sat approximata aut sparsa, vulgo simplicia, verrucas 0.8—0.6 millim. latas, depresso-hemisphaericas, strato thallino tenuissimo obvelatas, impure nigricantes, apice convexo, haud impresso, saepe glaucescente instructas, formantia. Perithecium hemisphaericum, fusco-fuliginium, dimidiatum, basi apothecii deficiens, latere acute anguloso, haud producto. Nucleus albidus. Sporae 8:nae, olivaceo-fuscescentes, ellipsoideae, apicibus rotundatis aut loculis apicalibus mamillato-prominentibus, long. 0.014—0.018, crass. 0.009—0.015 millim., 3-septatae, loculi apicales medianis multo minores.

Ad corticem arboris in monte Eagles in insula S. Croix (F. Boergesen).

7. *P. laevigata* Pers., Ann. Wett. II (1810) p. 11; Arn., Lich. Fränk. Jur. (Fl. 1884) p. 269; Wain., Fl. Koh Chang Lich. (1909) p. 379. *V. glabrata* Ach., Syn. Lich. (1814) p. 269.

Var. *microspora* Wain.

Perithecium subhemisphaericum aut subgloboso-hemisphaericum, fuliginium, subintegrum, basi tenuius aut tenuissimum, latere haud dilatatum. Sporae 8:nae, monostichae aut distichae, cinereo-fuscescentes, ellipsoideae, apicibus rotundatis aut obtusis, long. 0.010—0.017, crass. 0.006—0.011 millim., 3-septatae, loculi apicales medianis multo aut leviter minores.

Ad corticem arborum prope Little-Princess in insula S. Croix (Ove Paulsen) et ad Makombo in insula S. Jan (F. Boergesen) et in Grande Soufrière in Dominica (1513: W. R. Elliott). Ad corticem Lagerstroemiae Indicae in Les Palmistes in Guadalupa (1171: P. Duss).

Var. *melzospora* Wain.

Perithecium subhemisphaericum, subintegrum, fusco-fuliginium, latit. 0.3—0.35 millim. Sporae 8:nae, subdistichae, olivaceo-vel cinereo-fuscescentes, ellipsoideae aut fusiformes, apicibus rotundatis

aut obtusis, haud gelatinosae, long. 0.020—0.025, crass. 0.010—0.012 millim., loculi apicales medianis paullo aut multo minores. Apothecia verrucas hemisphaericas, nudas, nigras formantia, partim sat crebra, apice convexo, ostiolo albido. Thallus tenuis, albus, opacus. — A *P. albida* Müll. Arg. apotheciis minoribus, haud foveolatis differt et habitu similis est *P. laevigatae* Pers.

Ad corticem arboris in summo monte Conliabon, 3700 p. s. m., in insula S. Dominica (1537: W. R. Elliott).

8. ***P. quadruplans*** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 257.

Sporae 4-nae, long. 0.042—0.060, crass. 0.016—0.020 millim., haud aut raro tenuiter (in n. 1210) gelatinosae, 3-septatae, loculi apicales medianis multo minores. Asci cylindrici, membrana tenui, sporis polystichis. Apothecia simplicia aut parcissime 2 connata. — Apotheciis simplicibus differt a *Pyrenula (Melanotheca) melanothalma* (Mont.), cui habitu subsimilis est et in quam forsitan transit. Sporis 4-nis gelatinosisque differt a *P. subducta* (Nyl.).

Ad Ingam laurinam in Camp Jacob (1208, 1210), ad Spondiam cytheream in Basse-Terre (495) et ad Spondiam monbin prope Gourbeyre (494) in Guadalupa (P. Duss).

9. ***P. subducta*** (Nyl.) Wain., Étud. Lich. Brés. II p. 202.

Thallus olivaceo-cinereus, increbre minutissime gibbosus, hypothallo nigricante passim conspicuo. Apothecia emergentia, demum denudata, verrucas elevato-hemisphaericas, convexas, 0.5—0.4 millim. latas formantia. Perithecium globosum, integrum, fuliginium. Sporae 8-nae, 3-septatae, long. 0.029—0.042, crass. 0.014—0.018 millim., haud gelatinosae, loculi medii apicalibus duplo majores.

Ad corticem Myrciae leptocladae in Morne Pavillon in Guadalupa (1793: P. Duss). Etiam in Pointe-à-pitre in eadem insula teste Nyl., Én. Lich. Husnot (1869) p. 23.

10. *P. Martinicana* Wain. (n. sp.).

Thallus tenuis, leviter verruculoso-inaequalis, albus, sat opacus, KHO parum reagens. Apothecia sat approximata, simplicia, verrucas 0.6—0.3 millim. latas, hemisphaericas, nigricantes aut impure nigricantes, nudas aut rarius tenuissime obvelatas, apice convexo, haud impresso instructas, formantia. Perithecium globosum, fusco-fuligineum, integrum. Nuclens albidus. Paraphyses simplices. Asci subcylindrici, membrana tenui. Sporae 8:nae, monostichae, olivaceo-fuscescentes, ellipsoideae aut oblongae, apicibus obtusis aut rotundatis, strato gelatinoso decolore indutae, 3-septatae, loculis lenticularibus, long. 0.032—0.041, crass. 0.017—0.018 millim., loculi apicales medianis multo minores. — Habitu subsimilis *P. laevigatae* Pers., sed perithecio magis globoso et sporis majoribus gelatinosisque ab ea differens.

Supra corticem Burserae gummiiferae prope Carbet in Martinica (1630: *P. Duss* misit).

11. *P. uberina* Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 84, tab. XLI Pyr. fig. 37. *Porina* Fée, Ess. Crypt. Écorc. (1824) p. 83, tab. XX fig. 3. *Trypethelium uberinum* Nyl., Syn. Lich. tab. I fig. 20, Exp. Pyr. (1858) p. 72; Müll. Arg., Lich. Beitr. (Fl. 1883) n. 602, (1885) n. 821, 877, 883, Pyr. Féean. (1888) p. 9, 20.

Thallus verrucoso-inaequalis, sat crassus, glaucescens, leviter nitidus. Apothecia sat approximata, simplicia aut raro 2 connata, verrucas depresso-subglobosas, 1.5—1 (—2) millim. latas, basi saepe leviter constrictas, verrucoso-inaequales, thallo concolores aut apice fusco-nigricantes, apice convexo, haud impresso instructas, formantia. Perithecium verrucae thallinae immersum, globosum aut ampullaceum, superne extus anguste fuligineum et intus albidum, inferne totum albidum. Paraphyses tenues, crassitudine 0.001 millim., ramoso-connexae, gelatinam abundantem percurrentes. Asci ventricosi, membrana tenui. Sporae 8:nae, olivaceo-fuscescentes, fusi-formi-oblongae, apicibus rotundato-obtusis aut rotundatis, strato gelatinoso, decolore, 0.003—0.002 millim. crasso indutae, long. 0.138

—0.142 millim., crass. 0.050—0.053 millim., 3-septatae, loculis anguloso-lenticularibus, loculi apicales medianis paullo minores. — Ad species inter *Melanothecas* et *Eupyrenulas* intermedias pertinet, ad *Pseudopyrenulas* paraphysibus accedens. Incertum est, anne *P. arctecincta* Fée ab ea differat.

Ad corticem arboris (*Citrus aurantium*) prope Les Palmistes in Guadalupa (1176: P. Duss).

12. *P. cerina* (Eschw.) Müll. Arg., Rev. Lich. Eschw. (Fl. 1884) p. 7, Pyr. Féean. (1888) p. 33. *Verrucariu* Eschw. in Mart. Fl. Bras. (1833) p. 211 (Nyl., Lich. Nov.-Gran. Prodr., 1863, p. 490). *Pyrenula aurantiaca* Fée, Ess. Crypt. Écorc. Suppl. (1837) p. 82, tab. XXXVII fig. 1, tab. XLI Pyr. fig. 30; Müll. Arg., Pyr. Cub. (1885) p. 414. *Verrucaria* Nyl., Ess. Lich. Mendana (1857) p. 302, Exp. Pyrenoc. (1858) p. 48, Lich. Exot. (1859) p. 247.

Thallus sat tenuis, laevigatus aut minutissime gibbosus, aurantiacus, sat opacus, KHO violascens, lineis hypothallinis nigris peragratus aut limitatus aut interdum hypothallo indistincto. Apothecia sat crebre approximata, simplicia, thallo immersa. Perithecium fusco-fuligineum, subglobosum, leviter depressum, latitudine 0.270—0.220 millim., integrum, thallo immersum, tenue. Nucleus depresso-subglobosus, albidus. Paraphyses simplices, tenues, gelatinam hymenialelem percurrentes. Asci ventricosi aut subcylindrici, membrana tenui. Sporae 8-nae, distichae, cinereo-fuscescentes, fusi-formes, apicibus obtusis, haud gelatinosae, long. 0.017—0.025, crass. 0.008—0.012 millim., 3-septatae, loculi apicales medianis saepe paullo longiores. — Thallus KHO violascens etiam in specim. orig. Eschw. in herb. Nyl. (n. 1252).

Ad corticem arborum prope Krausses-Lagoon (543 pr. p.: C. Raunkiaer), ad corticem Hippomanis mancinellae prope Sandy-Point (549: C. Raunkiaer), in cortice Rhizophorae ad Salt-River (F. Boergesen) in insula S. Croix, ubi etiam ab Ove Paulsen collecta est.

13. *P. nitidella* (Floerk.) Müll. Arg., Pyr. Cub. (1885) p. 414, Pyr. Féan. (1888) p. 33. *Verrucaria nitida* β . *nitidella* Floerk., Deutsch. Lich. (1815) p. 9.

Var. *exstantior* Wain.

Thallus tenuis, laevigatus, pallido- aut substramineo-glaucescens, leviter aut parum nitidus, KHO non reagens, hypothallo indistincto. Apothecia sat approximata aut sparsa, simplicia, verrucas 1.2—0.5 millim. latas, subhemisphaericas, basim versus sensim dilatatas, maxima parte inferiore thalodice obductas, apice convexo, 0.5—0.2 millim. lato denudatas nigricantesque, formantia. Perithecium fusco-fuliginum, depresso-subglobosum, basi concava tenuiore, integrum. Nucleus albidus, haud oleosus, lateribus rotundato-obtusis. Paraphyses tenues, simplices, gelatinam hymeniam percurrentes. Asci ventricosoclavati, membrana tenui. Sporae 8-nae, distichae aut subdistichae, fumoso- aut olivaceo-fuscescentes, fusiformes, apicibus obtusis, 3-septatae, loculis fere aequalibus, aut apicalibus paulo minoribus, haud gelatinosae, long. 0.019—0.022, crass. 0.007—0.009 millim. — Habitu subsimilis *P. exstanti* (*V. punctella* v. *exstans* Nyl., Lich. Nov.-Gran. Prodr. p. 490), quae sporis majoribus et thallo albido-pallescente ab ea differt. — Amphithecio thallino distinctiore a *P. nitidella* typica distinguitur.

Ad corticem arbusti in monte Grande-Soufrière in insula Dominica (1622: W. R. Elliott).

14. *P. circumfinitens* Wain. (n. sp.).

Thallus crassitudine mediocris aut tenuis, continuus, leviter minuteque verruculoso-inaequalis, glaucescens, leviter nitidus aut sat opacus, KHO non reagens, hypothallo nigricante partim limitatus. Apothecia partim sat approximata, simplicia, demum verrucas 0.300—0.380 millim. latas, hemisphaericas, nigras, nudas formantia. Perithecium fusco-fuliginum, globosum, integrum. Nucleus albidus. Paraphyses tenues, simplices. Asci ventricosi aut clavati, membrana tenui. Sporae 8-nae, distichae aut monostichae, olivaceo-fuscescentes, fusiformes, apicibus obtusis, 3-septatae, loculis apica-

libus paullo minoribus, long. 0.013—0.022, crass. 0.006—0.009 millim. — Huic speciei subsimilis est *P. micromma* Mont., quae thallo albedo et apotheciis inferne thalodice obductis ab ea differt.

Ad corticem Fici populneae prope Crown in insula S. Thomas (401 pr. p.: C. Raunkiaer).

9. *Pseudopyrenula*.

1. **Ps. (*Trypethellum*) *eluteriae*** (Spreng.) Wain., Étud. Lich. Brés. II p. 204. *Tr. Sprengelii* Ach., Lich. Univ. p. 306.

Ad corticem Rondeletiae stereocarpae in silva in Gommier in Guadalupa (1414: P. Düss).

2. ***Ps. subsulphurea** Wain., l. c. p. 205.

Ad corticem Spondiae purpureae in Basse-Terre in Guadalupa (454: P. Duss).

3. **Ps. (*Trypethellum*) *annularis*** (Fée) Müll. Arg., Lich. Beitr. (Fl. 1885) n. 882. *Pyrenula* Fée, Ess. Crypt. Écorc. (1824) p. 73, tab. XXI fig. 4. *Trypethelium annulare* Nyl., Exp. Pyrenoc. (1858) p. 76 pr. p.; Müll. Arg., Pyr. Féean. (1888) p. 15.

Var. **tuberculosa** Wain.

Pseudostromata crebra, saepe subcontigua, difformia, apothecia 2—23 continentia, raro simplicia, convexa, strato thallino, thallo concolore obducta, intus alba. Thallus glaucescens aut pallidoglauescens, partim sat laevigatus, leviter nitidus, crassitudine mediocris, intus albus. Ostiola haud aut leviter impressa, saepe margine ostiolarum albedo aut pallido cincta. Perithecium immersum, globosum aut ovoideum, fusco-fuligineum, tenue aut sat tenue. Nucleus globosus, albidus, parum guttulosus, jodo non reagens. Paraphyses ramoso-connexae, crassitudine 0.001 millim. Asci ventricosi. Sporae 8-nae, distichae, oblongae aut fusiformes, apicibus rotundatis aut obtusis, decolores, 3-septatae, loculis anguloso-lenticularibus, apicalibus minoribus, long. 0.050—0.060, crass. 0.018—0.025 millim. Pycnoconidia oblonga aut elongata aut medio levissime angustata,

subrecta, long. 0.007—0.003, crass. 0.0015—0.001 millim., apicibus rotundatis.

Ad corticem Calophylli calabae in Parnasse, 600 m. s. m. (422), et ad corticem Ingae laurinae in Sofaga (1415) in Guadalupa (P. Duss).

4. **Ps. (Trypethellum) ochroleuca** (Eschw.) Wain., Étud. Lich. Brés. II p. 209.

Var. **pallescens** (Fée) Müll. Arg., Pyr. Cub. (1885) p. 392.

Ad corticem Caesalpiniae pulcherrimae in monte S. Rose in Guadalupa (1396: P. Duss).

5. **Ps. (Trypethellum) infuscatula** (Nyl.) Wain. *Trypethellium infuscatulum* Nyl., Fl. 1876 p. 365; Müll. Arg., Pyr. Cub. (1885) p. 389.

Var. **tecomae** Wain.

Thallus crassitudine mediocris, glaucescens, continuus, verrucoso- et rugoso-inaequalis, leviter nitidus. Pseudostromata fusconigra, opaca, difformia aut elongata, angulosa, anastomosantia, leviter vel non emersa, plana, superficie inaequali, polycarpica, intus obscura, KHO non reagentia, apotheciis immersis aut demum hemisphaerico-emergentibus, annulo pallido, angusto cinctis. Perithecium globosum, purpureo-fuligineum, integrum, latitudine circ. 0.3 millim. Nucleus albidus, haud guttulosus. Paraphyses ramoso-connexae, crassitudine 0.001 millim. Asci cylindrico-fusifformes. Sporae 8:nac, distichae, decolores, oblongae, apicibus obtusis, 3-septatae, loculis lenticularibus, strato gelatinoso tenui indutae, long. 0.036—0.039, crass. 0.011—0.012 millim., loculi apicales medianis duplo minoribus. — Affinis est *Ps. degeneranti* Wain., Lich. Antill. p. 32, at thallo glauco, inaequali, sporis majoribus et apotheciis annulatis ab ea differens. Thallo inaequali, sporis majoribus et annulo ostiolarum minus distincto a forma primaria *Ps. infuscatulae* differt.

Ad corticem Tecomae pentaphyllae prope Camp Jacob in Guadalupa (1501: P. Duss).

6. Ps. (Trypethellum) verrucosa Wain. (n. sp.).

Thallus crassus, e verrucis constans 2—0.5 millim. latis, rotundatis aut difformibus, convexis, laevigatis aut rarius rugosis, pallidis vel substramineo-pallidis, nitidis, supra hypothallum nigrum dispersis aut partim contiguus. Pseudostromata a hypothallo haud distincta, nigricantia, difformia, haud emergentia, polycarpica, KHO non reagentia, apotheciis emergentibus, demum hemisphaericis aut depresso-subglobosis, 0.5—0.4 millim. latis, ostiolo haud aut raro leviter impresso, haud annulato aut raro annulo tenuissimo cinerascete instructo. Perithecium globosum, fuligineum, integrum. Nucleus albidus, guttulosis, KHO non reagens. Paraphyses ramoso-connexae, crassit. 0.001 millim. Asci fusiformes. Sporae 8-nae, distichae, decolores, fusiformes, apicibus obtusis, 3-septatae, loculis lenticularibus, haud aut tenuiter gelatinosae, long. 0.022—0.024, crass. 0.007—0.008 millim. Apothecia partim inter verrucas thalli sita discretaeque, quare haec species affinis sit *Ps. tropicae* (Ach.).

Ad corticem Syagri coccodis prope Camp Jacob in Guadalupe (1394: P. Duss).

7. Ps. (Heterothellum) dubia Wain. (n. sp.).

Thallus tenuissimus, albus, laevigatus, sat opacus. Apothecia hemisphaerica, lat. 0.6—0.7 millim., solitaria sparsaque aut pr. p. 2—3 confluentia, nigra, nuda, ostiolo minutissimo, haud impresso. Perithecium depresso-subglobosum, bene depressum, purpureo-fuligineum, integrum basi tenue aut medio deficiens, latere rotundato, haud attenuato-producto, KHO distinctius purpureum. Nucleus depresso-subglobosus, bene guttulosis, dilutissime fulvescens, KHO non reagens. Paraphyses ramoso-connexae, gelatinam hymenialelem percurrentes. Asci ventricosi-fusiformes. Sporae 8-nae, polystichae, decolores, fusiformes, apicibus obtusis, 3-septatae, loculis anguloso-lenticularibus, haud gelatinosae, long. 0.030—0.033, crass. 0.010—0.011 millim., loculi sat aequales aut mediani apicalibus paulo majores. — *Ps. atroalbae* Wain., Lich. Bras. Exs. n. 1402, affinis et apotheciis majoribus a *Ps. diluta* (Fée) differens. *Ps. illota*

(Nyl.) habitu subsimilis est, at sporis minoribus et thallo sordide albido ab ea distinguitur.

Ad corticem arboris in Savane-aux-ananas, circ. 900. m. s. m., in Guadalupa (1496: P. Duss).

8. **Ps. (Heterothellum) subgregaria** Müll. Arg., Pyr. Cub. (1885) p. 408; Wain., Étud. Lich. Brés. II (1890) p. 213, Lich. Bras. Exs. (1892) n. 277. Wright, Verr. Cub. n. 80 (1024 in herb. Nyl.).

Thallus tenuis, albidus, laevigatus. Apothecia hemisphaerica, lat. 0.4—0.6 millim., solitaria crebraque aut pr. p. confluentia, diu tenuissime thalodice obvelata et impure nigricantia vel cinereo-nigricantia, saepe demum nigra nudaque. Perithecium hemisphaericum, fuligineum, subintegrum basi que tenue, latere haud attenuato-producto. Nucleus guttulosus, fulvescens, KHO violascens, jodo non reagens. Paraphyses ramoso-connexae. Asci ventricosoclavati. Sporae 8-nae, distichae, decolores, 3-septatae, long. 0.020—0.023, crass. 0.006—0.008 millim., loculis anguloso-lenticularibus; loculi mediani apicalibus majores.

Ad corticem arboris prope Barrabas in insula S. Domingo (482 pr. p.: C. Raunkiaer).

9. **Ps. (Heterothellum) diluta** (Nyl.) Müll. Arg., Pyr. Cub. (1885) p. 408; Wain. in Schmidt Fl. Koh Chang Lich. (1909) p. 380.

Perithecium lat. 0.5—0.3 millim., latere haud attenuato-producto, fusco-fuligineum, dimidiatum. Nucleus albidus. Sporae 3-septatae, long. circ. 0.030 millim.

Ad corticem Charianthi in Savane-aux-ananas in Guadalupa (1587: P. Duss).

10. Porina.

Stylosporae in *P. olivacea* (Hepp, Flecht. Eur. n. 462) secundum annotationem Nylanderii in herb. suo (n. 1468 c) 5—7-septatae, in „*Sagedia candida* f. *pycnidifera*“ Anzi, Neosymb. p. 17, 5—9-septatae, long. 0.025—0.029, crass. 0.003—0.004 millim.

1. *P. (Rhaphidosegestria) exasperatula* Wain. (n. sp.).

Thallus crassitudine mediocris, partim leviter verruculoso-inaequalis, substrato laxe adhaerens et demum pustulato-vel rugoso-elevatus, isidiis minutissimis inspersus, glaucescenti-pallidus, subtus nigricans, hypothallo nigricante partim limitatus. Apothecia sparsa, verrucas hemisphaericas, 0.8—0.6 millim. latae, basim versus sensim dilatatas, formantia, amphithecio thalino, thallo concolore obducta, vertice demum fusco-nigricante, convexo aut raro demum minute umbonato. Perithecium globosum, superne fuscenscens, ceterum pallidum, KHO rubescens. Nucleus albidus. Paraphyses simplices aut partim parce ramosae. Asci fusiformes, membrana tenui. Sporae 8-nae, polystichae, decolores, aciculares, altero apice obtuso aut sat acuto, altero sensim attenuato acutoque, rectae, haud gelatinosae, 7—20-septatae, loculis cylindricis, sat aequalibus aut nonnullis longioribus, long. 0.100—0.116, crass. 0.005—0.006 millim. — Sect. *Rhaphidosegestria* a sect. *Rhaphidopyxide* Müll. Arg. peritheciis amphithecio thalino obductis differt. Ambarum sporae aciculares aut bacillares. In sect. *Segestria* sporae fusiformes aut raro oblongae.

Supra corticem arboris ad Prince Rupert in insula Dominica (1313: W. R. Elliott).

2. *P. (Segestria) Sanctae Rosae* Wain. (n. sp.).

Thallus crassitudine mediocris aut sat crassus, partim demum pustulato-elevatus, ceterum laevigatus, glaucescens vel cinereo-glaucescens, leviter nitidus, isidiis destitutus, subtus nigricans, hypothallo nullo limitatus. Apothecia numerosa, crebra, thallo immersa aut demum verrucas subhemisphaericas aut parum elevatas,

0.5—1 millim. latas, basi sensim in thallum abeuntes, formantia, amphithecio thallino, thallo concolore maxima parte obducta, vertice demum 0.5—0.3 millim. late nigricante, convexo aut minutissime umbonato. Perithecium superne obscuratum, ceterum pallidum. Paraphyses simplices, tenues, gelatinam hymeniale percurrentes. Asci ventricosofusiformes. Sporae 8-nae, polystichae, decolores, fusiformes, apicibus sat acutis aut obtusis, membrana gelatinosa incrassataque, long. 0.060—0.070, crass. 0.010—0.013 millim. (—0.016 millim., strato gelatinoso incluso), 12-septatae; loculi cylindrici, duo mediani loculis apicalibus multoties longiores. — Habitu similis est *P. mastoideae* (Nyl.), colore thalli obscuriore ceterisque notis leviter a *P. glauca* Müll. Arg. differens. Huc etiam pertinere videtur *P. mastoideastera* Nyl., Fl. 1876 p. 365, scilicet Wright Verr. Cub. n. 19 in herb. Nyl., at n. 19 in herb. Müll. est n. 21 in herb. Nyl. et ad *P. mastoideasteram* Müll. Arg., Pyr. Cub. (1885) p. 399, pertinet, sporis 7-septatis instructa, nulla nota a *P. mastoidea* (Ach.) differens, quare nomen novum huic speciei dedimus. *P. mastoideastera* Nyl. secundum annotationem in herb. Nyl. (n. 1912 a) sporis 9—11-septatis, long. 0.095—0.110, crass. 0.020—0.023 millim., instructa est.

Ad corticem *Ingae laurinae* in monte S. Rose in Guadalupa (1381: P. Duss).

3. *P. (Segestria) chloroterodes* Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 258.

Sporae vulgo 11-septatae, long. 0.044—0.062, crass. 0.011—0.015 (—0.020) millim.

Habitu similis est *P. internigranti* (Nyl.) Wain. (*Verr. internigrans* Nyl., Lich. Andam., 1874, p. 18), quae sporis 7—9-septatis ab ea differt.

Ad corticem *Anonae squamosae* prope Baillif in Guadalupa (567: P. Duss).

4. *P. (Segestria) rudluscula* (Nyl.) Müll. Arg., Lich. Exot. (Hedwigia 1892) p. 287. *Verrucaria* Nyl., Syn. Lich. N. Cal. p. 85.

V. nucula var. *granulatula* Nyl., Énum. Lich. Antill. (1869) p. 22.
P. nuculiformis Müll. Arg., Lich. Beitr. (Fl. 1885) n. 870, Pyr.
 Féean. (1888) p. 22. *P. nucula* var. *verrucosa* Müll. Arg., Pyr.
 Cub. (1885) p. 400. *P. depressula* Müll. Arg., l. c. p. 399.

Var. *granulatula* (Nyl.) Wain.

Sporae 8:nae, 9—11-septatae, long. 0.052—0.062, crass. 0.010—0.016 millim., cum strato gelatinoso crass. 0.016—0.021 millim.; loculi duo intermedii reliquis longiores. Thallus continuus, crebre verruculoso-inaequalis, albidus, KHO leviter flavescens, hypothallo nigricante limitatus. Apothecia verrucas 0.8—0.4 millim. latas, depresso-subglobosas, basi demum leviter constrictas, apice leviter impressas, amphithecio thallino obductas, plus minusve verruculoso-rugosas formantia, ostiolo rufescente aut fuscescente aut roseo. Paraphyses simplices.

Ad corticem arbusti prope Makombo in insula S. Jan (F. Boergesen).

Var. *tetraspora* Wain.

Sporae 4:nae, 5—10-septatae, long. circ. 0.064, crass. circ. 0.018 millim. (strato gelatinoso non computato), fusiformes, apicibus acutis aut sat obtusis, loculis cylindricis; loculi duo intermedii reliquis longiores. Thallus continuus, crebre verruculoso-inaequalis, albidus, KHO leviter flavescens, hypothallo nigricante limitatus. Apothecia sicut in var. praecedente. Perithecium pallidum aut apice obscuratum. Paraphyses simplices. Asci cylindrico-clavati, membrana tota tenui.

Ad corticem arboris prope Debt in insula S. Jan (403 pr. p.: C. Raunkiaer).

5. **P. (Segestria) nucula** Ach., Syn. Lich. (1814) p. 112; Wain., Étud. Lich. Brés. II p. 222.

Variatio apotheciis basi abruptis neque constrictis, apice convexis neque impressis differens. Sporae 8:nae, long. 0.030—0.052, crass. 0.013—0.016 millim. (strato gelatinoso computato), 7-septatae,

loculis cylindricis, aequalibus. Thallus albidus aut cinereus, verruculoso-inaequalis. Nominetur var. **nucalis** Wain.

Ad corticem arborum in summo monte Eagles in insula S. Croix (F. Boergesen) et prope Makombo in insula S. Jan (F. Boergesen) et in Les Palmistes in Gudalupa (1205: P. Duss).

6. **P. (Segestria) isidiophora** Wain. (n. sp.).

Thallus sat tenuis aut crassitudine mediocris, supra hypothallum nigrum dispersus aut partim continuus, leviter plicatulo-vel verruculoso-rugulosus, centrum versus isidiis tenuissimis, granuliformibus aut demum cylindricis increbre aut crebre inspersione, glaucescens aut cinereo-glaucescens, nitidus. Apothecia sparsa, verrucas hemisphaericas aut depresso-hemisphaericas, 0.5—0.7 (—1) millim. latas, basin versus sensim dilatatas aut basi abruptas, forrantia, amphithecio thalino, thallo concolore, laevigato aut raro isidiophoro obducta, vertice convexo, demum fusco aut rufescente. Perithecium globosum, apice obscuratum, ceterum pallidum. Nucleus albidus. Paraphyses simplices. Asci anguste fusiformes, membrana tenui. Sporae 8:nae, distichae, decolores, fusiformes, apicibus acutis aut rarius sat obtusis, haud gelatinosae, 7—6-septatae, loculis cylindricis, fere aequalibus, long. 0.027—0.041, crass. 0.005 millim. — Ab hac specie *P. rudis* Müll. Arg., Lich. Exot. Vindob. (1892) p. 4 (Lich. Beitr. n. 540), in Anstralia lecta, sporis crassioribus (forsan inconstanter) et thallo continuo differt.

Ad corticem arboris prope Debt (454) et in Bordeaux-Hill (439 pr. p.) in insula S. Jan et prope Crown (401) in insula S. Thomas (C. Raunkiaer).

7. **P. (Segestria) tetracerae** (Ach.) Müll. Arg., Pyr. Cub. (1885) p. 401; Wain., Étud. Lich. Brés. II p. 223.

Thallus isidiis destitutus, substrato arcte adnatus, hypothallo nigricante limitatus. Apothecia vertice fusco-nigricante. Sporae 8:nae, fusiformes, 7-septatae, cellulis fere aequae longis, gelatinosae, long. 0.033, crass. 0.006 millim.

Ad corticem arboris in Bordeaux-Hill in insula S. Jan (439 pr. p.: C. Raunkiaer) una cum *P. isidiophora*.

8. *P. (Sagedia) glaucopallida* Wain. (n. sp.).

Thallus tenuis aut sat tenuis, continuus, leviter inaequalis aut sat laevigatus, glaucescens aut cinereo-glaucescens, opacus, hypothallo nigricante partim anguste limitatus. Apothecia partim sat crebra, verrucas hemisphaericas, 0.4—0.3 millim. latas, pallidas, opacas, vertice convexo instructas, formantia. Perithecium subhemisphaericum aut hemisphaerico-subglobosum, basi deficiente, lateribus basi conniventibus, pallidum, KHO roseum, amphithecio thalino nullo obductum, ostiolo rufo, minutissimo. Nucleus albidus, jodo non reagens. Paraphyses simplices. Asci fusiformes aut ventricosi. Sporae 8:nae, distichae, decolores, fusiformes, apicibus sat obtusis aut sat acutis, haud gelatinosae, 3—5—7-septatae, loculis sat aequalibus, subcylindricis, long. 0.022—0.027, crass. 0.006—0.007 millim. — Perithecii pallidis, nudis ab aliis speciebus distinguitur.

Ad saxa prope Macombo in insula S. Jan (F. Boergesen).

9. *P. (Sagedia) buellioides* Wain. (n. sp.).

Thallus tenuis aut sat tenuis, continuus, sat laevigatus aut leviter inaequalis, glaucescenti-cinereus, nitidus, hypothallo nigricante partim angustequae limitatus. Apothecia sat crebra, verrucas depresso-subglobosas, 0.3—0.4 millim. latas, basi constrictas, apice late impressas et simul ostiolo saepe minutissime umbonato instructas, nigricantes aut inferne pallidas, leviter nitidas formantia. Perithecium nudum, extus fusco-fuligineum, intus pallidum, basi item pallidum, partibus pallidis KHO rubescentibus. Nucleus globosus, albidus, jodo non reagens. Paraphyses tenues, simplices, gelatinam abundantem percurrentes. Asci anguste fusiformes aut subcylindrici. Sporae 8:nae, subdistichae, decolores, fusiformes, 3—7-septatae, loculis subcylindricis, fere aequalibus aut medianis paullo longioribus, long. 0.015—0.024, crass. 0.004—0.005 millim., haud gelatinosae, apicibus acutis aut obtusis, interdum caudato-elongatis,

cauda long. 0.006—0.012 millim. Gonidia chroolepidea. — Vertice apotheciorum late impresso a *P. Koerberi* (Flot.) differt, habitum *Buelliae* simulans.

Ad lapides prope Kebay et in saepimento saxeo in Susanna-berg in insula S. Jan (F. Boergesen).

10. *P. (Sagedia) bucidae* Wain. (n. sp.).

Thallus tenuis, verruculoso-inaequalis aut subfarinosus, albidus, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia sat crebra, verrucas hemisphaericas, 0.3—0.2 millim. latas, nigras, nudas, opacas, vertice convexo instructas, basi haud attenuato-productas, formantia. Perithecium hemisphaericum, fusco-fuligineum, integrum. Nucleus albidus, jodo non reagens. Paraphyses simplices. Asci ventricosus-fusiformes, long. circ. 0.060, crass. 0.015 millim. Sporae 8-nae, distichae, decolores, fusiformes, apicibus acutis aut obtusis, 3-septatae, loculis subcylindricis, aequalibus, haud gelatinosae, long. 0.016—0.023, crass. 0.005 millim. — Habitu sub-similis *P. affini* (Mass.) Zahlbr., at perithecio integro ab ea differens.

Ad corticem Bucidae buceratis in Mesgin-Estate in insula S. Thomas (F. Boergesen).

11. *P. (Sagedia) Crequisina* Wain. (n. sp.).

Thallus tenuissimus, leviter inaequalis, glaucescens aut cinereo-glaucescens, leviter nitidus aut sat opacus, hypothallo indistincto. Gonidia chroolepidea, cellulis circ. 0.004—0.006 millim. crassis, concatenatis. Apothecia crebra, verrucas hemisphaericas, 0.200—0.350 millim. latas, nigras aut cinereo-nigricantes, nudas aut subnudas, opacas, vertice saepe demum conoideas, basi haud attenuato-productas, formantia. Perithecium hemisphaericum, fuligineum, integrum. Nucleus albidus, haud gelatinosus, jodo fulvescens. Paraphyses numerosae, simplices. Asci cylindrico-ventricosi, long. 0.035, crass. 0.008 millim., membrana tenui. Sporae 8-nae, subdistichae, decolores, oblongae aut ovoideo-oblongae, altero

apicè rotundato, altero obtuso, haud gelatinosae, 1-septatae, septo in medio, medio leviter constrictae aut haud constrictae, long. 0.009—0.010, crass. 0.003 millim. — Affinis est *P. phaeae* (Ach.), quae autem ad cortices crescit. *P. Bermudana* (Tuck.) apotheciis majoribus, magis increbris ab hac specie differt.

In saxis ad Crequis River in insula S. Croix una cum *Placidio diplacioide* (F. Boergesen).

11. *Strigula*.

1. *Str. (Melanothele) argentea* (Fée) Wain. *Nemator argentea* Fée, Ess. Crypt. Écore. (1824) p. LVIII, XCIV, XCIX, tab. II fig. 4 pr. p. *Strigula nemathora* Nyl., Exp. Pyrenoc. (1858) p. 67 pr. p., haud Mont., Hist. Fis. Nat. Cub. (1838—42) p. 143. *Str. complanata* var. *ciliata* Müll. Arg., Pyr. Féean. (1888) p. 5.

Thallus plagulas circ. 5 millim. latas formans, bene laciniatus, laciniis angustissimis, circ. 0.1 millim. latis, bene convexis, linearibus aut apice leviter dilatatis (0.15 millim.), bene discretis aut partim anastomosantibus confluentibusve, bene varieque ramosis, haud sulcatis, albidis aut glaucescenti-albidis, nitidis, bene pilosis, pilis decumbentibus. Apothecia verrucas circ. 0.1 millim. latas, hemisphaericas, nigras, nudas formantia. Perithecium fusco-fuligineum, dimidiatum, basi deficiens. Nucleus jodo non reagens. Paraphyses simplices, tenues, sat numerosae. Asci subventricosocylindrici. Sporae 8:nae, distichae, decolores, fusiformi-oblongae aut ovoideo-fusiformes, apicibus acutis aut obtusis, rectae, long. 0.016—0.018, crass. 0.004—0.005 millim., 1-septatae, septo in medio spora. — A *Str. angustissima* Wain. peritheciiis nudis et a *Str. pulchella* Müll. Arg. peritheciiis nudis multoque minoribus differt. — „*Str. nemathora*“, secundum specimen in Brasilia lectum (n. 343 in herb. Nyl.) stylosporitis et „spermatiiis“ in Nyl. Exp. Pyrenoc. p. 67 descripta, ad hanc speciem non pertinet (parce etiam vera *Str. argentea* sterilis immixta) et nominetur *Str. Nylanderi* Wain. Thallus glaber, laciniatus, laciniis irregulariter dilatatis, latere crebre

crenulatis; pycnides ex annotatione Nylanderii lat. 0.125 millim.; stylosporae long. 0.018—0.023, crass. 0.0035—0.004 millim.; spermatia (pycnocidia) long. 0.003, crass. vix 0.001 millim.⁴. Ad *Str. argyronemam* Müll. Arg., Pyr. Cub. (1885) p. 379, pertinet antiquior *Str. nemathora* Mont. (specimine Féeano excluso).

Ad folia annua in valle Caledonia in insula S. Croix (F. Boergeresen).

2. *Str. elegans* (Fée) Müll. Arg., Lich. Afr. (1880) p. 41; Wain., Étud. Lich. Brés. II p. 229.

Ad folia annua in valle Caledonia in insula S. Croix (F. Boergeresen) una cum *Str. argentea*.

12. Arthopyrenia.

1. *A. Antillarum* Wain. (n. sp.).

Thallus tenuis, leviter inaequalis, dispersus aut subdispersus, albidus, KHO non reagens, hypothallo indistincto. Apothecia sat crebra, verrucas 0.35—0.25 millim. latas, hemisphaericas, nigras, nudas, opacas, vertice convexas aut conoideo-convexas formantia. Perithecium fusco-fuligineum, dimidiatum, basi deficiens, latere haud alato-productum. Nucleus albidus. Asci cylindrico-clavati, latit. circ. 0.012 millim. Paraphyses abundantes, ramoso-connexae, tubulis tenuibus, gelatina abundante. Sporae 8-nae, distichae, decolores, oblongo-ovoideae, altero apice rotundato, altero obtuso, 1-septatae, haud constrictae, septo fere in medio, haud gelatinosae, long. 0.012—0.014, crass. 0.0045—0.006 millim. Gonidia chroolepidea, cellulis circ. 0.006—0.010 millim. latis.

Ad rupem in Macombo in insula S. Jan (F. Boergeresen) una cum *Buellia chrysobasi* var. *chrysochlora*.

2. *A. insularis* Wain. (n. sp.).

Thallus endophloeodes, tenuis, sat laevigatus, sat opacus, continuus, albidus, hypothallo fusco partim anguste limitatus. Gonidia chroolepidea, cellulis circ. 0.007—0.009 millim. crassis, concatenatis.

Apothecia crebra aut sat crebra, partim aggregata aut confluentia, verrucas 0.2—0.3 millim. latas, hemisphaericas, nigras, nudas aut primum tenuissime obvelatas, opacas, vertice convexas formantia. Perithecium fuscofuligineum, dimidiatum, basi deficiens, latere haud alato-productum. Nucleus albidus, jodo non reagens. Paraphyses ramoso-connexae. Asci cylindrici aut cylindrico-clavati, membrana tenui. Sporae 8-nae, distichae, decolores, oblongae, apicibus obtusis, 1-septatae, septo fere in medio sporae, haud constrictae, haud gelatinosae, long. 0.016—0.020, crass. 0.005—0.006 millim.

Ad corticem arboris in Insulis Danicis Indiae occidentalis (a. 1905—6: F. Boergesen).

3. **A. subinsularis** Wain. (n. sp.).

Thallus endophloeodes, tenuissimus, laevigatus, continuus, nitidus, macula albida aut albido-pallescente indicatus, hypothallo indistincto aut passim fuscescente limitatus. Gonidia chroolepidea, cellulis circ. 0.008—0.005 millim. crassis, concatenatis (circa apothecia in substrato inclusa visa). Apothecia sparsa aut partim crebra vel parce confluentia, verrucas 0.2—0.3 millim. latas, hemisphaericas, nigras, nudas aut primum tenuissime obvelatas, leviter nitidas, vertice convexas formantia. Perithecium fusco-fuligineum, hemisphaericum, integrum, basi sat tenue, latere haud alato-productum. Nucleus albidus, jodo non reagens. Paraphyses increbre ramoso-connexae. Asci cylindrici, long. 0.100—0.115, crass. 0.012 millim., membrana subgelatinosa. Sporae 8-nae, monostichae aut subdistichae, decolores, fusiformes, apicibus sat acutis aut sat obtusis, 1-septatae, septo fere in medio sporae, haud constrictae, haud gelatinosae, long. 0.025—0.014, crass. 0.007—0.005 millim., strato gelatinoso tenui aut vix ullo indutae. — Habitu subsimilis *A. insulari*, at perithecio integro ab ea differens.

Ad corticem arboris in monte Eagles in insula S. Croix (F. Boergesen),

4. *A. anacardii* Wain. (n. sp.).

Thallus endophloeodes, sat opacus, laevigatus, macula albidopallescente indicatus. Apothecia vulgo sat sparsa, verrucas conoideo-hemisphaericas, 0.6—1 millim. latas, atras, nudas, saepe leviter nitidas, vertice conoideas aut subumbonatas formantia. Perithecium hemisphaericum, fuliginium, subintegrum, basi tenuius, latere haud alato-productum. Nucleus albidus. Paraphyses ramoso-connexae. Sporae monostichae, decolores, oblongae aut ovoideo-fusiformes, apicibus obtusis, 1-septatae, haud constrictae, septo in medio sporae, long. 0.021—0.026, crass. 0.006—0.008 millim., haud gelatinosae. Asci cylindrici. Gonidia chroolepidea. — Habitu subsimilis *Pyrenulae mamillanae*.

Ad corticem *Anacardii occidentalis* in Basse-Terre in Guadalupe (498: P. Duss).

Didymella.

Genus *Arthopyreniis* proximum, gonidiis destitutum, ad fungos pertinens.

1. *D. cinconae* (Ach.) Wain., Étud. Lich. Brés. II (1890) p. 233. Fl. Koh Chang Lich. (1909) p. 150.

Ad corticem *Randiae aculeatae* in insula S. Thomas (39: H. F. A. Eggers).

2. *D. labiata* Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 258.

Ad *Sideroxylon mastichodendron* in Basse-Terre in Guadalupe (503: P. Duss).

13. **Celothelium.**

1. *C. aciculiferum* (Nyl.) Wain. *Melanotheca aciculiferu* Nyl., Exp. Pyrenoc. (1858) p. 71. *Leptorhaphis* Wain., Étud. Lich. Brés. II p. 230.

Apothecia confluentia, basi plana dilatataque. Perithecium hemisphaericum, fuliginium, basi apothecii deficiens. Sporae aciculares, pluriseptatae. — Gonidia chroolepidea in hoc genere, ad quod etiam *C. cinchonarum* (Müll. Arg.) et *C. agminellum* (Müll. Arg.) pertinent.

Ad corticem *Anonae muricatae* in Basse-Terre in Guadalupe (522: P. Duss).

Leptorhaphis.

Genus gonidiis destitutum, ad fungos pertinens.

1. *L. Dominicana* Wain. (n. sp.).

Thallus endophloeodes, laevigatus, leviter nitidus, macula albida indicatus, hypothallo indistincto. Apothecia sat crebra, parce etiam 2—3 confluentia, verrucas 0.3—0.2 millim. latas, hemisphaericas, nigras, nudas, apice convexas, sat opacas formantia. Perithecium hemisphaericum, fusco-fuliginereum, integrum, basi tenue, latere acutatum aut saepe leviter subalato-productum, saepe irregulare difformeque. Nucleus albidus, jodo non reagens. Paraphyses tubulis tenuissimis, ramoso-connexis gelatinam percurrentibus. Asci cylindrici, long. circ. 0.090—0.080, crass. 0.006—0.007 millim., membrana tota tenui. Sporae 8-nae, polystichae, decolores, aciculares, apicibus acutis, pluriseptatae, subrectae (in KHO spiraliter contortae), haud gelatinosae, long. 0.076—0.080, crass. 0.0015 millim. Mycelium gonidiis destitutum.

Ad corticem arbusti in monte Grande-Soufrière in insula Dominica (1517: W. R. Elliott).

14. *Microthelia*.

1. *M. leucothallina* Wain. (n. sp.)

Thallus epiphloeodes, tenuis aut sat tenuis, sat laevigatus aut leviter verruculoso-inaequalis, albidus aut pallescenti-albidus, sat opacus, hypothallo indistincto. Gonidia chroolepidea, cellulis concatenatis, circ. 0.008—0.012 millim. crassis. Apothecia sparsa, verrucas 0.4—0.3 millim. latas, hemisphaericas, nigras, nudas, sat opacas aut leviter nitidas, apice convexas aut conoideo-umbonatas formantia. Perithecium fusco- aut rubricoso-fuliginereum, hemisphaericum, dimidiatum, basi apothecii deficiens, latere haud alato-productum. Nucleus albidus, jodo non reagens. Paraphyses ramoso-connexae, crass. 0.0015 millim., haud gelatinosae. Asci cylindrici. Sporae 8-nae, monostichae, fusco-nigricantes, ovoideae, 1-septatae, cellula crassiore paullo longiore, apicibus rotundatis, haud aut modice constrictae, haud gelatinosae, long. 0.019—0.022, crass. 0.007—0.009 millim. — Thallo magis evoluto et apotheciis minoribus a *M. thelena* differt.

Ad corticem arboris in Insulis Danicis Indiae Occidentalis (F. Boergesen annis 1905—6).

Didymosphaeria.

Gonidiis destituta, ad fungos pertinens.

1. *D. distincta* (Nyl.) Wain. *Verrucaria miculiformis* var. *distincta* Nyl., Fl. 1876 p. 364. *Microthelia* Müll. Arg., Pyr. Cub. (1885) p. 417. *V. miculiformis* var. *distincta* Hue, Lich. Exot. (1892) p. 298.

Thallus (mycelium) tenuissimus, laevigatus, opacus, macula cinerascens indicatus, gonidiis destitutus. Apothecia sat crebra aut sparsa, verrucas 0.35—0.25 millim. latas, hemisphaericas aut conoideo-hemisphaericas, nigras, nudas, sat opacas aut apice nitidas formantia. Perithecium fusco-fuligineum, dimidiatum, basi apothecii deficiens, in hyphas fuscescentes, articulatae (=melanogonidia) circa apothecia excrescens. Nucleus albidus, jodo non reagens (metaplasmate ascorum jodo vinose rubente). Paraphyses sat numerosae, ramoso-connexae. Asci clavati, membrana tenui. Sporae 8-nae, distichae, fusco-nigricantes, ovoideae, apicibus obtusis aut rotundatis, 1-septatae, septo in medio sporae, haud gelatinosae, long. 0.016—0.018, crass. 0.007—0.008 millim. (in specim. orig. in herb. Nyl. long. 0.012—0.016, crass. 0.006—0.007 millim.) — Proxima est *Microtheliae miculiformi* (Nyl.) Müll. Arg., quae hypothallo nigricante ab ea distinguitur.

Ad corticem arboris prope Reef-Bay in insula S. Jan (F. Boergesen).

2. *D. thelenoides* Wain. (n. sp.).

Thallus (mycelium) tenuissimus, laevigatus, sat opacus, macula pallido-et albido-variegata indicatus, gonidiis destitutus. Apothecia sparsa aut sat crebra aut nonnulla confluentia, verrucas 0.5—1 millim. latas, hemisphaericas, nigras, leviter nitidas, nudas formantia. Perithecium fusco-fuligineum, integrum, depressum, lenticulari-hemisphaericum, lateribus haud alato-productis. Nucleus albidus. Paraphyses numerosae, ramoso-connexae, tubulis medioeribus, gelatinam abundantem percurrentibus. Asci clavati. Sporae 8-nae, distichae, fusco-nigricantes, ovoideo-oblongae, apicibus rotundatis, 1—3-septatae (partim demum 3-septatae), septo mediano in medio sporae, medio leviter constrictae, haud gelatinosae, long. 0.028—0.032, crass. 0.012 millim.

Ad corticem arboris in summo monte Conliabon, 3700 ped. s. m., in insula Dominica (1533: W. R. Elliott) una cum *Bottaria*.

15. Mycoporum.

1. *M. reviviscens* Wain. (n. sp.).

Thallus tenuis, epiphloeodes, laevigatus, sat continuus, opacus, albidus vel glaucescenti-albidus. Gonidia pleurococcacea, simplicia,

cellulis globosis, diam. 0.006—0.010 millim., aut pr. p. bina aut quaterna aut glomerulosa. Apothecia crebra, parcius simplicia rotundataque, diam. 0.1 millim. aut minora, vulgo confluentia et series elongatas aut radiatas difformesve, arthonioides formantia, partim in centro serierum emorientia et in apicibus serierum renovata. Perithecium fuscescens, dimidiatum, basi apothecii deficiens. Hypothecium pallidum. Nucleus jodo non reagens, metaplasmate ascorum jodo rubescente. Paraphyses numerosae, tubulis tenuibus, ramoso-connexis, gelatinam sat abundantem, mollem percurrentibus. Asci long. 0.045—0.055, crass. 0.018—0.020 millim., primum pyriformes et membrana apice incrassata, demum ventricosi et membrana tota tenui mollique. Sporae 8-nae, distichae, decolores, ellipsoideae, apicibus rotundatis aut altero apice obtuso, murales, cellulis haud numerosis, septis transversalibus 5—3 aut seriebus cellularum irregularibus, strato gelatinoso fere nullo, jodo non reagentes, long. 0.016—0.022, crass. 0.008—0.011 millim.

Ad corticem Lagerstroemiae Indicae in monte S. Rose in Guadalupa (1409: P. Duss).

LICHENES IMPERFECTI.

1. *Cora*.

1. *C. pavonia* (Web.) Fr.; Wain., Étud. Lich. Brés. II p. 240.

Ad basim trunci Sloaneae Caribaeae prope Bains-Jaunes (556) et ad saxa et cortices arborum in Soufrière (682: P. Duss) in Guadalupa. Ad corticem arborum in Shawford-Estate in Dominica (1595: W. R. Elliott).

2. *C. reticulifera* Wain., l. c. p. 241.

Ad terram in Morcit Cape in insula Jamaica (F. Boergesen).

2. Dictyonema.

1. **D. Guadalupense** (Rabenh.) Zahlbr. in Engl. Nat. Pflanzenfam. (1907) p. 239. *D. laxum* Müll. Arg., Exp. Gazell. (1883) p. 57. *D. sericeum* var. *laxa* Hariot, Bull. Soc. Myc. de France VII (1891) p. 41. *Laudatea caespitosa* Johow, Hymenolich. (1884) p. 386.

Ad ramos *Ingae laurifoliae* in Parnasse (420) et ad ramos arborum multorum in regionibus superioribus in Savane-aux-ananas. (1511: P. Duss) in Guadalupa et prope Prince Rupert (1301 pr. p.) et in monte Conliabon, 3700 ped. s. m. (1565: W. R. Elliott), in Dominica.

3. Corella.

1. **C. tomentosa** Wain., Lich. Nov. Rar. III (Hedwigia 1899) p. 259.

Thallus superne glaber, inferne vulgo usque ad marginem laxe tomentosus, strato corticali superne et inferne destitutus. Gonidia scytonemea, cellulis aeruginoso-caerulescentibus, in trichomata brevia, gyrosa concatenatis, vagina gelatinosa tenui induta. Habitu subsimilis *C. Brasiliensi* Wain. (Étud. Lich. Brés. II p. 243), quae autem thallo minore, subtus ambitum versus late denudato ab ea differt. In ambabus zona gonidialis partem superiorem maximamque thalli occupans et stratum medullare gonidiis destitutum tenue, in parte inferiore thalli situm.

Ad *Xylosma nitidum* in Calebasse in Martinica (433: hb. Dussii) et teste Dussio etiam in silvis prope Bains-Jaunes in Guadalupa.

4. Lepraria.

1. **L. xanthina** Wain., Catal. Welw. Afr. Pl. II P. 2 Lich. (1901) p. 463 (Lich. Antill. p. 37).

Thallus farinosus, effusus, tenuis aut rarius crassitudine mediocri, sulfureo-citrinus aut raro flavescenti-citrinus, KHO solutionem luteam effundens, hyphis vulgo 0.001 millim. crassis, gonidiis cystococcaceis, hypothallo indistincto.

Ad truncos arborum vigentium et mortuorum in Camp Jacob (486, 1565) et Basse-Terre (1499) in Guadalupe (P. Duss) et ad Shawford in Dominica (1857: W. R. Elliott) et prope Belvédère (F. Boergesen) et in Mount Steward (444: C. Raunkiaer) in S. Croix.

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Corrigenda.

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