

LICHENES INSULARUM PHILIPPINARUM, II *

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Trib. 3. LECANOREAE

1. CANDELARIA Massalongo

1. C. INDICA (Hue) Wain.

C. fibrosa f. *indica* Hue, Lich. Extr.-Eur. no. 335.

Thallus laciiniis apice 1.5–0.7 mm latis, crenatis, nec isidiosis, saepe breviter ciliatis, centrum versus margine sorediosis, flavido-citrinis et partim cinereo-glaucescenti-variegatis, KHO non reagentibus, adpressis. Ab hac specie *C. callospizodes* (Nyl.) thallo sorediis destituto differt.

Luzon, Subprov. Bontoc, alt. 1,250 m, *Vanoverbergh* 1353. Ad corticem arboris frondosae.

2. HAEMATOMMA Massalongo

1. H. PUNICEUM (Ach.) Wain.

Var. ESOREDIATA Wain. Étud. Lich. Brés. 1: 72.

Luzon, Subprov. Benguet, mons Pulog, *Bur. Sci.* 8954 *McGregor*; Pauai, *Bur. Sci.* 8598 *McGregor*, alt. circ. 2,100 m; Merrill 7993, alt. 1,500 m. Ad truncos arborum frondosarum. MINDANAO, Dist. Davao, mons Apo, *Cope-land* 1196, alt. 1,800 m. Ad truncum *Agathis albae* Foxw.

3. LECANORA (Ach.) Wainio

1. L. SUBFUSCA (L.) Ach.

Var. CHLARONA Ach.

NEGROS, Bago, Hacienda Louisiana, Merrill 6792. Ad corticem *Pithecolobii dulcis*.

Var. TUMESCENS Wain.

Thallus crassitudine mediocris, leviter verruculoso-inaequalis, verruculis increbris, parum elevatis, albidos, KHO lutescens. Apothecia mediocria, 1–2 mm lata, difformia, angulosa aut lobata aut flexuosa, numerosa et partim aggregata, sat crassa, basi bene constricta, disco testaceo-pallido, leviter nitido aut sat opaco, nudo, plano aut subconcavo, margine mediocri, discum

* For Part I see *This Journal* 4 (1909) Bot. 651–662.

haud aut parum elevato, irregulari, subcrenulato aut partim subintegro, partim nitido. Stratum medullare excipuli cristallos magnos continens. Epithecum granulosum. Hymenium jodo persistenter caerulescens. Paraphyses arcte cohaerentes. Sporae 8-nae, distichae, ellipsoideae, apicibus rotundatis, simplices, decolores, long. 0.011–0.015, crass. 0.007–0.011 mm. Affinis est var. *chlairoterae* Nyl., at margine haud elevato apotheciorum *L. intumescentem* (Rebent.) Rabenh. in memoriam revocans et ab ea thallo haud laevigato differens.

LUZON, Subprov. Benguet, *Merrill 7983*, alt. 2,000 m. Ad truncum arboris frondosae.

Var. **CHLAROTERA** (Nyl.) Wain l. c. 1: 77.

LUZON, Subprov. Benguet, *Merrill 7937*, alt. 1,500 m. Ad truncum arboris frondosae.

Var. **SUBCRENULATA** Nyl. Lich. Nov. Gran. Addit. 310.

LUZON, Prov. Rizal, Taytay, *Merrill 6342*, ad corticem *Averrhoae bilimbi*. NEGROS, Cabancalan, *Merrill 6740*, ad corticem *Arecae catechu*; Bago, Hacienda Louisiana, *Merrill 6802*, ad corticem *Pithecolobii dulcis*.

2. **L. CARPINEA** (L.) Wain. Not. Syn. Lich. (1886) 23.

L. angulosa (Schreb.) Ach. Lich. Univ. (1810) 364.

LUZON, Prov. Tayabas, Atimonan, *Merrill 3988*. Ad corticem *Cocoës nuciferae*.

3. **L. CINEREOCARNEA** (Eschw.) Wain.

NEGROS, Cabancalan, *Merrill 6738, 6741*, ad corticem *Arecae catechu*; Bago, Hacienda Louisiana, *Merrill 6795, 6796*, ad corticem *Pithecolobii dulcis*.

4. **L. LIVIDOCARNEA** Wain. sp. nov.

Thallus crustaceus, uniformis, crassitudine mediocris aut sat tenuis, verruculoso-inaequalis, verruculis contiguis aut subdispersis, continuus aut parce etiam subdispersus, raro partim sublaevigatus, glaucescens, isidiis et sorediis destitutus, KHO flavescentia, CaCl_2O_2 non reagens, medulla alba, hypothallo nigricante partim limitatus. Apothecia adpressa, mediocria, circ. 1–2.5 mm lata, disco plano planiusculo, livido-carneo aut livido-pallido, nudo, opaco, CaCl_2O_2 non reagente, margine sat tenui, in sectione discum versus leviter acutato, discum haud aut leviter superante, leviter crenulato aut tantum latere interiore crenulato aut subintegro aut flexuoso, thallo concolore. Hypothecium albidum aut pallidum. Hymenium jodo persistenter caerulescens. Epithecum pallidum, haud granulosum. Paraphyses arcte cohaerentes. Sporae 8-nae, distichae, decolores, ellipsoideae, apicibus rotundatis, simplices, long. 0.016–0.018, crass. 0.008–0.010 mm. Excipulum intus albidum aut parte peritheciali

infra hypothecio sita pallescente. In stirpem *L. flavovirentis* Fée pertinet, *L. hypocreae* Wain., Lich. Brés. Exs. no. 873, habitu subsimilis, at reactionibus et colore hypothecii ab ea differens.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2,100 m, Merrill 6650, Bur. Sci. 8582, 8615 McGregor. Ad corticem arborum frondosarum.

5. L. MERRILLII Wain. sp. nov.

Thallus crustaceus, uniformis, crassitudine mediocris aut sat tenuis, continuus, verruculoso-inaequalis, verruculis subtilissimis, parum elevatis, dispersis aut crebris, substramineo-glaucescens, KHO flavescentia, CaCl_2O_2 non reagens, isidiis et sorediis destitutus, medulla alba, hypothallo nigricante partim limitatus. Apothecia adpressa, mediocria, circ. 0.8–1.5 mm lata, crebra, disco plano, pallido, nudo, opaco aut sat opaco, neque KHO nec CaCl_2O_2 reagente, margine sat tenui, discum haud aut leviter superante, subintegro, thallo concolore, in sectione terete. Hypothecium albidum. Hymenium 0.050–0.075 mm crassum, jodo persistenter caerulescens. Epithecium pallidum, granulosum. Paraphyses arcte cohaerentes, tubulis tenuissimis. Sporae 8-nae, distichae, decolorantes, oblongae aut rarius ellipsoideae, apicibus obtusis aut rarius rotundatis, simplices, long. 0.011–0.015, crass. 0.005–0.007 mm. Excipulum intus albidum, crystallos magnos continens. Speciei praecedenti affinis.

GUIMARAS, Merrill 6720. Ad corticem *Cocoës* in littore crescentes.

6. L. ISIDIOTYLA Wain. sp. nov.

Thallus crustaceus, uniformis, crassitudine mediocris aut sat tenuis, continuus, sat laevigatus aut partim leviter verruculoso-inaequalis, albido, neque KHO nec CaCl_2O_2 reagens, isidiosus, isidiis circ. 0.5 mm longis aut brevioribus, circ. 0.1 mm crassis, cylindricis, simplicibus aut leviter ramosis, sorediis destitutus, medulla alba, jodo non reagente, hypothallo indistincto. Apothecia adpressa, mediocria, circ. 1 mm lata (tantum juvenilia visa), disco concavo aut planiusculo, livido-fuscescente aut livido-pallescidente, tenuiter pruinoso, opaco, margine crassiusculo aut sat tenui, prominente, et discum superante, leviter crenulato aut subintegro, thallo concolore, interdum demum parce isidioso, in sectione terete. Hypothecium partim albido, partim fulvescens, KHO non reagens. Hymenium jodo persistenter caerulescens. Epithecium decoloratum, KHO non reagens. Paraphyses arcte cohaerentes, tubulis tenuissimis. Ascii clavati. Sporae haud visae. Affinis *L. flavovirenti* Fée, at thallo isidioso ab ea differens.

MINDANAO, Dist. Davao, mons Apo, alt. 1,800 m, Copeland 1090 p. p.

7. **L. ATRA** (Huds.) Ach.

LUZON, Subprov. Benguet, Merrill 7993 p. p. Ad corticem arboris frondosae.

4. **PLACOPSIS** Nylander1. **P. ISIDIOPHORA** Wain. sp. nov.

Thallus crustaceus, arcte adnatus, totus laciniatus lobatusque, laciniis circ. 1.2–0.5 mm latis, sat tenuibus, irregulariter radiantibus, contiguis, partim confluentibus, centro saepe demum areolato-diffractis, esorediatus, centrum versus crebre isidiosus, isidiis circ. 0.5 mm longis aut brevioribus, 0.1 mm crassis, cylindricis, sordide albicans, sat opacus, sat laevigatus, neque KHO nec CaCl_2O_2 reagens, at his reagentiis unitis leviter rubescens, subtus pallidus, cephalodiis prominentibus, convexis, 0.5–3 mm latis, integris aut demum vulgo radiatim laciniatis lobatisve, carneo-pallidis aut rarius cinereo-pallidis, gonidia nostocacea continentibus. Apothecia adpressa, basi constricta, mediocria, circ. 2–1 mm lata, zeorina, margine duplice, margine thallode tenui, integro aut crenulato, thallo concolore, margine proprio integro aut crenulato, sat tenui aut interdum inconspicuo disco concolore, prominulo aut discum haud superante, disco plano aut leviter concavo, pallido aut carneo-pallido aut raro cinereo-pallido, tenuiter pruinoso, opaco. Hypothecium cartilagineum, carneum aut carneo-pallidum, KHO non reagens. Hymenium circ. 0.16–0.17 mm crassum. Epithecium sordide carneo-pallidum. Paraphyses tenues, crass. 0.001 mm, laxe cohaerentes, apice arctius cohaerentes crassioresque, ibi etiam ramosae. Asci cylindrici. Sporae 8-nae, monostichae, simplices, decolores, ellipsoideae, apicibus rotundatis, long. 0.010–0.019, crass. 0.009–0.010 mm. Gonidia globosa, diam. 0.005–0.007 mm, dilute flavo-virescentia, membrana tenui, distincta.

NEGROS, Canlaon Volcano, alt. 1,800 m, Merrill 6876. Ad lignum vetustum.

2. **P. PAPILLOSA** Wain. sp. nov.

Thallus crustaceus, arcte adnatus, totus laciniatus lobatusque, laciniis 0.2–0.5 mm latis, tenuibus, irregularibus, contiguis, partim confluentibus, centro saepe demum areolato-diffractis, esorediatus, centrum versus crebre isidiosus, isidiis circ. 0.3 mm longis aut brevioribus, 0.1 mm crassis, cylindricis, vulgo verrucaeformibus, cinereus aut sordide albicans, opacus, sat laevigatus, neque KHO nec CaCl_2O_2 reagens, at his reagentiis unitis leviter rubescens, subtus obscuratus, cephalodiis tuberculiformibus, circ. 0.5–0.7 mm latis, fuscis. Apothecia adpressa, basi constricta, mediocria, circ. 1.3–1 mm lata, lecanorina, margine

simplice, thallode, crassitudine mediocri, integro, thallo concolore, discum haud superante aut rarius leviter prominulo, disco piano, fusco, nudo, opaco. Hypothecium cartilagineum, pallidum. Hymenium circ. 0.14 mm crassum, jodo persistenter caerulescens. Epithecum pallidum aut carneo-pallidum. Paraphyses tenues, crass. 0.0005 mm, laxe cohaerentes, apice arctius cohaerentes, dichotome ramosae, apice etiam ramoso-connexae. Asci cylindrici. Sporae 8-nae, monostichae, simplices, decolores, ellipsoideae, apicibus obtusis aut rotundatis, long. 0.014–0.022, crass. 0.009–0.011 mm. Pycnoconidangia verruculis nigris, parum prominulis indicata. Sterigmata long. 0.020–0.025 mm, basin versus crassit. 0.0015 mm, basin versus dichotome ramosa, apicem versus sensim incrassata, apicibus pycnoconidia efferentibus. Pycnoconidia filiformia, recta aut curvata, long. 0.01–0.02, crass. 0.001–0.0005 mm. Gonidia globosa, flavo-virescentia, simplicia, diam. 0.006–0.007 mm. Proxime affinis speciei praecedenti, at margine apotheciorum simplice, disco fusco et isidiis verrucaeformibus ab ea differens.

NEGROS, Canlaon Volcano, alt. 1,800 m, Merrill 6866. Ad lapides.

5. OCHROLECHIA Massalongo

1. O. PALLESCENS (L.) Koerb.

Thallus verrucoso-inaequalis, sorediosus, neque KHO nec CaCl_2O_2 reagens. Sterilis et eam ob causam determinatione speciei incerta, sed verisimiliter ad hanc speciem pertinens.

MINDANAO, Subprov. Butuan, C. M. Weber 1896, alt. 213 m. In rupe.

Trib. 4. PERTUSARIEAE

1. COCCOTREMA Muell.-Arg.

1. C. CUCURBITULA (Mont.) Wain.

C. cucurbitula Muell.-Arg. in Nuov. Giorn. Bot. Ital. (1889) 51 p. p. (excl. *C. antarcticum* Muell.-Arg. Lich. Cap. Horn 171, quod apice pseudostromatum convexo, nec late impresso, ab hac specie differt). *Pertusaria cucurbitula* Mont. Fl. Chil. 8 (1852) 200; Nyl. Addit. Fl. Chil. (1855) 160, Lich. Fueg. (1888) 11, Lich. Nov. Zel. (1888) 71. *Lecanora cucurbitula* Muell.-Arg. Lich. Beitr. (Fl. 1884) no. 791. *Perforaria cucurbitula* Muell.-Arg. in Nuov. Giorn. Bot. Ital. (1891) 126.

Thallus crustaceus, continuus, verrucis circ. 0.3–0.2 mm latis inspersus, albido, KHO lutescens, CaCl_2O_2 non reagens, soredii destitutus, cephalodiis verrucaeformibus, verrucis thalli consimilibus aut majoribus, circ. 0.3–0.6 mm latis, et magis elevatis, laevigatis, algas scytonemeas et gonidia cystococcaceae continetibus, hypothallo tenui albido ad ambitum plus minusve con-

spicuo. Pseudostromata 1.3–0.8 mm lata, depresso-subglobosa, basi constricta, laevigata aut leviter subverrucosa, thallo coloria, vertice pallido aut albido-pallescens, impresso, 0.6–0.3 mm lato, KHO intus et dilutius etiam extus lutescentia, apothecium unum continentia, ostiolo demum aperto, rotundato, vix 0.1 mm lato. Peritheciun albido-pallescens aut pallidum. Hymenium jodo dilute caeruleascens. Paraphyses parce ramoso-connexae, maxima parte simplices, tubulis 0.0015 mm crassis gelatinam abundantem percurrentibus. Asci ventricosi. Sporae 8-nae, distichae, simplices, decolores, ellipsoideae aut oblongae, apicibus rotundatis, membrana 0.002–0.003 mm crassa, haud gelatinosa, laevigata, limite stratorum laevigata, long. 0.045–0.066, crass. 0.024–0.030 mm. Gonidia cystococcaceae. Genus *Coccotrema* notis vagis a *Pertusaria* differt, at ob affinitatem proximam cum *Lepolichene* Trev. a *Pertusaria* separanda est.

LUZON, Subprov. Benguet, Pauai, alt. circ. 2,100 m, *Bur. Sci.* 8611 *McGregor*; mons Pulog, *Bur. Sci.* 8962 *McGregor*. Ad corticem arborum frondosarum.

2. PERTUSARIA DeCandolle

1. P. VELATA (Turn.) Nyl.; Wain. Étud. Lich. Brés. 1: 106.

Thallus KHO non reagens, CaCl_2O_2 intus rubescens, extus non reagens (7971) aut punctis rubescens (38), his reagentiis unitis rubescens. Medulla jodo non reagens. Pseudostromata et discus apotheciorum KHO non reagentes, CaCl_2O_2 rubescentes. Sporae solitariae.

PANAY, Capiz, Copeland 38 p. p. LUZON, Subprov. Benguet, alt. 1,500 m, Merrill 7971. Ad corticem arborum frondosarum.

2. P. SUBMULTIPUNCTA Nyl. Lich. Jap. (1890) 55.

Thallus KHO lutescens, demum sordide subrubescens, extus interdum minus distincte reagens (15623), CaCl_2O_2 non reagens aut his reagentiis unitis demum passim parce subrubescens (15623). Medulla thalli jodo non reagens (etiam in specim. orig. in herb. Nyl.). Discus pseudostromatum KHO lutescens deindeque sanguineo-rubescens. Sporae non visae.

LUZON, Subprov. Benguet, 2,000 m. alt., Merrill 7938; Baguio, F. Sanchez 16, *For. Bur.* 15623 *Curran*. Ad trunco Pini *insularis* Endl.

3. P. REDUCTA Stirt. in Scott. Naturalist 4 (1877) 28; Leight. Lich. Great Brit. ed. 3 (1879) 229.

Thallus glaucescens vel cinereo-glaucens, nitidus, crassitudine mediocris, continuus, sat laevigatus, KHO fusco-rubescens, CaCl_2O_2 non reagens. Medulla thalli jodo non reagens. Pseudostromata crebra, diam. 0.5–1 (–0.2) mm, albido-sorediosa, KHO

fusco-rubescens, CaCl_2O_2 non reagentia. Sporae non visae. Huc etiam *P. erythrella* Muell.-Arg. Lich. Wils. (1893) 41; Wain. React. Lich. Müll. 8 forsan pertinet.

MINDANAO, Subprov. Butuan, 320 m alt., *C. M. Weber* 1376. Ad corticem.

4. P. PHILIPPINA Wain. sp. nov.

Thallus crustaceus, crassitudine mediocris, continuus, sat laevigatus aut leviter rugulosus aut initiis verrucaeformibus apotheciorum crebre inspersus, albidus, KHO non reagens, CaCl_2O_2 intus rubescens, extus parum reagens, his reagentiis unitis extus leviter, intus bene rubescens, sorediis et isidiis destitutus, medulla jodo non reagente, hypothallo albido parum distincto. Pseudostromata crebra, fere contigua, 0.7–1 (–1.5) mm lata, elevata, primum depresso-subglobosa, demum irregulariter subcylindrica, basi leviter constricta, sorediis destituta, apothecia solitaria aut raro duo continentia, disco demum aperto, 0.5 mm lato, urceolato-impresso, pallido, subnudo, margine prominente, sat laevigato aut leviter verruculoso-crenulato, thallo concolore. Pseudostromata et discus KHO non reagentes, CaCl_2O_2 rubescentes. Sporae binae, oblongae, apicibus rotundatis aut rotundato-obtusis, decolores, haud gelatinosae, membrana circ. 0.006 mm crassa, limite laevigato, stratis typice aequalibus, long. 0.11–0.14, crass. 0.024–0.030 mm. Habitu subsimilis est *P. velatae*.

MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens* 1302. Ad truncum arboris frondosae.

5. P. COPELANDII Wain. sp. nov.

Thallus crassitudine mediocris, continuus aut demum diffractus, verruculoso- et verrucoso-rugosus, glauco-cinereus, subnitus, sorediis et isidiis destitutus, neque KHO, nec CaCl_2O_2 , nec jodo reagens, hypothallo nigricante partim limitatus. Pseudostromata thallo concoloria, irregularia aut depresso-subglobosa, long. 1–3, lat. 1–1.7 mm, basi vulgo leviter constricta, verruculoso-rugulosa, neque KHO, nec CaCl_2O_2 reagentia, apice vulgo convexo, apothecia vulgo plura (1–5) continentia, verruculis ostiolaribus cinereo-nigricantibus sparsis, leviter aut parum prominentibus, parvulis. Sporae binae et monostichae aut 4-nae et distichae, decolores, oblongae, haud gelatinosae, membrana 0.005 mm crassa, stratis aequalibus, limite laevigato, long. 0.082–0.170, crass. 0.024–0.026 mm. Habitu *P. communem* in memoriam revocans, sed in stirpem *Leioplacarum* pertinens.

PANAY, Capiz, Copeland 38 p. p. Ad corticem arborum frondosarum.

Trib. 5. BUELLIEAE

1. ANAPTYCHIA Koerber

1. A. LEUCOMELAENA (L.) Wain.

Luzon, Subprov. Bontoc, *Vanoverbergh* 1024, 1283: Subprov. Lepanto, *For. Bur.* 16021 Bacani; mons Data, alt. 2,100 m, *Merrill* 4959: Subprov. Benguet, *Merrill* 7944, *Bur. Sci.* 5882 Ramos; mons Tonglon, *Bur. Sci.* 5490 Ramos; Pauai, alt. 1,950 m, *Merrill* 4924, *Bur. Sci.* 8549 *McGregor*: Prov. Zambales, *Bur. Sci.* 5154 Ramos: Prov. Pampanga, mons Arayat, alt. 840 m, *Merrill* 5194, *For. Bur.* 19338 *Curran*: Prov. Bataan, *For. Bur.* 19165 *Curran*; mons Mariveles, *Merrill* 3686: Prov. Rizal, *Bur. Sci.* 13633 Ramos. MINDORO, mons Halcon, alt. 1,800 m, *Merrill* 6175, 6197. MINDANAO, Dist. Lanao, mons Malindang, *For. Bur.* 4786 *Mearns & Hutchinson*: Dist. Zamboanga, alt. 1,260 m, *Copeland* "K", 390 m alt., *Merrill* 8350. Ad ramos arborum et raro ad terram muscosam.

2. A. HYPOLEUCA (Muhlenb.) Wain.

Var. SCHÄERERI (Hepp) Wain. Addit. Lich. Antill.

Thallus sorediis destitutus. Apothecia disco fuscescente, nudo.

Luzon, Subprov. Bontoc, alt. 1,650 m, *Vanoverbergh* 1336: Subprov. Benguet, Pauai, alt. 2,100 m, *Bur. Sci.* 8656 *McGregor*; mons Pulog, *Merrill* 6430; mons Tonglon, *Bur. Sci.* 5480 Ramos. Ad corticem arborum.

Var. ROTTBOLLII Wain. Addit. Lich. Antill.

Thallus sorediis destitutus. Apothecia disco pruinoso.

Luzon, Subprov. Benguet, mons Tonglon, alt. 2,000 m, *Merrill* 7984. Ad corticem arborum.

Var. SOREDIIFERA (Muell.-Arg.) Wain. Addit. Lich. Antill.

Thallus sorediosus.

Luzon, Subprov. Bontoc, Bauco, alt. 1300 m, *Vanoverbergh* 61. In rupe.

Var. FULVESCENS Wain.

Thallus sorediis destitutus, subtus partim fulvescens et decoratus, rhizinis squarroso-ramosissimis. Apothecia disco subnudo aut tenuiter pruinoso, margine lobato aut lacinulato, lacinulis in serie simplice dispositis, intus (subtus) partim fulvescentibus. Partes fulvescentes thalli et apotheciorum KHO violascentes. *Pseudophyscia hypoleuca* var. *colorata* Zahlbr. Stud. Bras. Flecht. (1902) 413, thallo soredioso secundum descriptionem, ab hac var. differt.

Luzon, Subprov. Benguet, alt. 1,500 m, *Merrill* 7935, 7966. Ad corticem arborum.

3. *A. DENDRITICA (Pers.) Wain. Étud. Lich. Brés. 1: 134.

* An asterisk indicates a subspecies.

Var. **LAMELLIGERA** (Tayl.) Wain. Addit. Lich. Antill.

Thallus sorediis destitutus.

Luzon, Subprov. Lepanto, mons Data, alt. 2,100 m, Merrill 4906. Mindanao, Subprov. Butuan, C. M. Weber 1398. Ad truncos arborum.

Var. **PROPAGULIFERA** Wain. Addit. Lich. Antill.

Thallus sorediatus, subtus decorticatus. Apothecia disco subnudo, margine integro aut lobato, soredioso.

Luzon, Subprov. Benguet, Baguio, alt. 2,150 m, Bur. Sci. 14071 Robinson. Ad truncum arboris frondosae.

4. A. **SPECIOSA** (Wulf.) Wain.

Var. **ESOREDIATA** Wain. Catal. Welw. Afr. Pl. Lich. 409.

Thallus sorediis destitutus, laciniis margine subintegris.

Luzon, Subprov. Benguet, Merrill 7939, For. Bur. 15960 Curran, For. Bur. 15991 Bacani; Pauai, Merrill 6646, 6653, Bur. Sci. 8555, 8574, 8593, 8647 McGregor; Cabayan, Merrill 4896; mons Pulog, Merrill 6426, 6459; mons Tonglon, Bur. Sci. 5482, 5485 Ramos. Ad truncos arborum, in rupe et supra muscos rupium.

Var. **SOREDIOSA** Muell.-Arg. Lich. Beitr. no. 582.

Luzon, Subprov. Benguet, Cabayan, Bur. Sci. 8784 McGregor. Ad corticem arboris.

5. A. **ISIDIOPHORA** (Nyl.) Wain. Catal. Welw. Afr. Pl. Lich. 409.

Luzon, Subprov. Benguet, Bur. Sci. 13506 Ramos. Ad corticem arboris frondosae.

2. **PHYSCIA** (Schreb.) Wainio

1. P. **INTEGRATA** Nyl.

Var. **OBSESSA** (Mont.) Wain. f. **SUBALBA** Wain. Addit. Lich. Antill.

Thallus sorediis et pruina destitutus, subtus obscuratus.

Luzon, Prov. Tayabas, Atimonan, Merrill 8987 p. p. Ad corticem Cocoës nuciferae.

Var. **SOREDIOSA** Wain. f. **TRISTIS** Wain. Lich. Bras. Exs. no. 155.

Thallus sorediosus, superne haud aut parum pruinosis, subtus obscuratus.

Luzon, Merrill 6331: Prov. Tayabas, Infanta, Bur. Sci. 6793 Robinson. Negros, Cabancalan, Merrill 6743. Ad corticem Codiae variegati, Mangiferae indicae et aliarum arborum.

2. P. **CRISPA** (Pers.) Nyl.

Var. **MOLLESCENS** (Nyl.) Wain.

Luzon, Prov. Bulacan, Baliuag, Bur. Sci. 9643 Robinson: Prov. Rizal, Taytay, Merrill 6334. Ad corticem Arecae catechu et Averrhoae bilimbi. Ster.

Var. **HYPOMELA** Tuck.

NEGROS, Bago, Hacienda Louisiana, Merrill 6801. Ad corticem *Pithecellobii dulcis*. Ster.

3. **P. PICTA** (Sw.) Nyl.

LUZON, Prov. Tayabas, Atimonan, Merrill 3997 p. p. GUIMARAS, Merrill 6721. Ad corticem *Cocoës nuciferae*.

3. **PYXINE** Fries1. **P. ENDOLEUCA** (Muell.-Arg.) Wain. Lich. Ruwenzori 42; Catal. Welw. Afr. Pl. Lich. 412.

P. Meissneri var. *endoleuca* Muell.-Arg. Lich. Beitr. (1879) no. 118, 1492; Prim. Fl. Costaric. 55; Hue, Lich. Extra-Eur. no. 354.

Thallus superne glaucescens aut albido-glaucescens, sat laevigatus aut leviter reticulato-rugulosus rimulosusve, isidiis et sorediis destitutus, intus albidus, KHO neque superne nec intus reagens, laciniis circ. 1–0.2 mm latis, continuis, radiantibus, contiguis, parce confluentibus, subtus obscuratis, rhizinis brevibus, concoloribus. Apothecia circ. 1.3–1 mm lata, haud diu excipulo thallode instructa, mox lecideina et extus tota nigra. Excipulum proprium extus fuligineum (superne aeruginoso-fuligineum, inferne fusco-fuligineum), KHO violascens, intus albidum aut dilute intenseve rufescens, KHO violascens. Hypothecium superne fuscescens, inferne rufescens, KHO violascens. Epithecum aeruginoso-fuligineum, KHO violascens. Sporae 8-nae, distichae, fuscescentes aut fumosae, fusiformi-oblongae aut ellipsoideae oblongaeve, apicibus obtusis aut rotundatis, membrana inaequaliter incrassata, in apicibus et in septo bene incrassata, long. 0.013–0.020, crass. 0.006–0.008 mm. Magis affinis est *P. dissectae* (Fee), quam *P. Meissneri*.

CAVILLI (mare Suluense), Merrill 7183 p. p. Ad corticem arboris frondosae.

2. **P. DISSECTA** (Fée) Wain. Addit. Lich. Antill.

P. cocoës Nyl. Lich. Exot. 255 (neque Sw., nec Malme, nec Hue).

Thallus albidus aut glaucescenti-albidus, sorediosus, KHO neque superne nec intus reagens. Medulla alba. Apothecia lecidea, juvenilia haud zeorina. Sporae uniseptatae, membrana inaequaliter incrassata, long. 0.016–0.018, crass. 0.006–0.007 mm. Excipulum extus aeruginoso-fuligineum, KHO violascens, intus albidum. Hypothecium parte superiore vinoë rubens, parte inferiore fulvo-rufescens, KHO violascens. Epithecum aeruginoso-fuligineum, KHO violascens. Apotheciis mox lecideinis et

sorediis supra laminam thalli evolutis a *P. connectente* Wain. differt.

GUIMARAS, Merrill 6723, ad corticem Cocoës. CAVILLI (mare Suluense) Merrill 7183 p. p., ad corticem.

3. **P. GLAUCESCENS** Wain. sp. nov.

Thallus sat tenuis, superne glaucescens, sat opacus, sorediis et isidiis destitutus, epruinosus, medulla alba, KHO superne non reagens, intus sublutescens, dein rubescens (praesertim in zona gonidiali), laciniis circ. 0.5–1 mm latis, irregularibus, subcontinuis, contiguis, planis, leviter reticulato-rugulosis, subtus nigricantibus, rhizinis brevibus, nigricantibus. Apothecia 0.7–1.2 mm lata, lecideina, margine nigricante, mediocri, disco plano, nigro, nudo. Excipulum extus aeruginoso-fuligineum, KHO violascens, intus sordide albidum. Hypothecium inferne albidum, superne fuscescens, KHO violascens. Epithecum aeruginoso-fuligineum, KHO violascens. Sporae 8-nae, distichae, fuscescentes, oblongae, apicibus obtusis, 1-septatae, membrana inaequaliter incrassata, in apicibus et in septo crassiore, long. 0.017–0.022, crass. 0.005–0.008 mm. A *P. retirugella*, cui habitu similis est, colore et reactione thalli et hypothecii differt.

COMIRAN, Merrill 7167 p. p. Ad corticem arboris frondosae.

4. **P. CONSOCIANS** Wain. sp. nov.

Thallus sat tenuis, superne glaucescens, sat opacus, epruinosus, leviter reticulato-rugulosus, medulla alba, KHO superne non reagens, intus lutescens deindeque rubescens, laciniis circ. 0.5–1 mm latis, irregularibus, subcontinuis, contiguis, planis, margine isidioideo-granulosis vel verruculosis, subtus nigricantibus, rhizinis increbris brevibus, nigris. Apothecia 0.5–1.6 mm lata, lecideina, margine nigricante aut cinereo-nigricante, mediocri, disco plano, nigro, nudo. Excipulum intus albidum. Hypothecium superne fuscescens, KHO non reagens, subtus albidum. Epithecum aeruginoso-fuligineum, KHO violascens. Sporae 8-nae, distichae, fuscescentes, fusiformes aut oblongae, apicibus obtusis, 1-septatae, membrana inaequaliter incrassata, in apicibus et in septo crassiore, long. circ. 0.020, crass. 0.006 mm. Proxime affinis est *P. glaucescenti*, thallo granuloso et reactione hypothecii ab ea differens et his notis cum *P. retirugella* congruens, quae colore et reactione thalli ab hac specie distinguitur.

COMIRAN, Merrill 7167 p. p. Ad corticem arboris frondosae una cum *P. glaucescente*.

5. *P. PHILIPPINA* Wain. sp. nov.

Thallus sat tenuis crassitudine mediocris, sorediis et isidiis destitutus, superne albidus, sat opacus, epruinosus, laevigatus, medulla alba, KHO superne lutescens, intus lutescens deindeque rubescens, laciniis 0.5–1.4 mm latis, irregularibus, subcontinuis, contiguis, saepe passim confluentibus, planis aut partim convexis, subtus nigricantibus, rhizinis brevibus, nigricantibus. Apothecia 1–4 mm lata, lecideina, margine nigricante aut cinereo-nigricante, tenui aut mediocri, disco plano, nigro, nudo. Excipulum extus aeruginoso-fuligineum, KHO violascens, intus albidum aut cinerascens. Hypothecium superne fuscescens, KHO non reagens, inferne albidum aut cinerascens Sporae 8-nae, distichae, fuscantes, oblongae, apicibus obtusis, polari-dyblastae, membrana inaequaliter incrassata, in apicibus et in septo crassiore, long. 0.015–0.023, crass. 0.006–0.008 mm. Affinis est *P. denudatae* Wain. Lich. Bras. Exs. no. 1178, thallo haud ruguloso et colore epithecii ab ea differens. *P. retirugella* Nyl. jam thallo ruguloso, margine laciniarum granulosum ab ea distinguitur.

Luzon, Subprov. Bontoc, Vanoverbergh 780: Subprov. Benguet, Merrill 7934. Ad corticem arborum frondosarum.

6. *P. COPELANDII* Wain. sp. nov.

Thallus tenuis, glaucescens aut pallido- vel albido-glaucescens vulgo nitidus, soraliis rotundatis, tenuiter farinosis, vulgo supra laminam adspersis, KHO superne leviter lutescens, intus leviter lutescens deindeque rubescens, laciniis 0.3–0.7 mm latis, irregularibus, radiantibus, continuis, contiguis, planis, laevigatis, intus albis, subtus obscuratis, rhizinis brevissimis, nigricantibus. Apothecia incognita. Ab hac specie *P. sorediata* (Ach.) Fr. thallo ambitum versus pruinoso, KHO superne lutescente, medulla alba et passim parce flava, KHO non reagente aut demum pallida secundum specimen orig. in herb. Ach. differt. *P. chrysanthoides* Wain. Addit. Lich. Antill. thallo KHO non reagente et medulla flava ab his distinguitur. *P. asiatica* Wain. thallo ruguloso et reactione medullae a *P. Copelandii* recedit.

Panay, Capiz, Copeland 38 p. p. Ad corticem arborum frondosarum.

7. *P. MICROSPORA* Wain sp. nov.

Thallus tenuis, albidus aut partim cinerascens, parum nitidus, laevigatus, sorediis destitutus, epruinosus, intus albus, KHO neque superne nec intus reagens, subtus nigricans, rhizinis brevibus increbris, nigricantibus instructus, laciniis 0.5–0.2 mm latis, irregularibus, contiguis, ambitum versus continuis, centrum versus demum subareolato-diffractis, planis, saepe demum

partim latere parce verruculoso-proliferis. Apothecia 0.7–0.4 mm lata, lecideina, margine tenui, integro, nigricante aut primum cinereo-nigricante, saepe demum excluso, disco nigro, nudo, opaco, plano aut demum convexo. Excipulum extus fusco-fuligineum aut partim aeruginoso-fuligineum, KHO violascens, intus sordide albidum, KHO non reagens. Hypothecium fuscescens, inferne dilute coloratum, KHO non reagens. Epitheciun aeruginoso-fuligineum aut aeruginoso-fuscescens, KHO violascens. Sporae 8-nae, distichae, fuscescentes, ellipsoideae aut raro ellipsoideo-oblongae, apicibus rotundatis aut obtusis, 1-septatae, membrana inaequaliter incrassata, in septis et praesertim in apicibus crassiore, juniores polari-dyblastae, long. 0.010–0.013, crass. 0.0055–0.006 mm. Affinis est *P. minutae* Wain. Lich. Bras. Exs. no. 211, sporis ellipsoideis minoribusque ab ea differens.

LUZON, Subprov. Benguet, prope Cabayan, *Bur. Sci.* 8804 *McGregor*. Ad lapides.

3. BUELLIA De Notaris

1. B. VACCINII Wain. sp. nov.

Thallus crustaceus, uniformis, sat tenuis, e verruculis dispersis aut parce contiguis, subglobosis aut difformibus, 0.2–0.1 (–0.05) mm latis constans, albidus, KHO sordide flavescens, CaCl_2O_2 non reagens, hypothallo indistincto. Apothecia 0.5–0.3 mm lata, elevata simplicia aut proliferationibus aggregata, disco plano aut leviter convexo, nigro, nudo, opaco, margine tenui, integro, persistente aut demum subexcluso. Peritheciun fusco-nigrum. Hypothecium fusco-nigrum, crassum. Epitheciun fusco-nigrum. Paraphyses arcte cohaerentes. Sporae 8-nae, distichae, ellipsoideae aut oblongae, apicibus obtusis aut rotundatis, fuscae aut nigricantes, 1-septatae, medio haud aut parum constrictae, haud gelatinosae, membrana aequaliter incrassata, long. 0.011–0.012, crass. 0.005–0.006 mm. Pycnoconidia filiformia, recta, long. 0.010, crass. 0.0005 mm. Affinis est *B. punctiformi* (Hoffm.).

MINDANAO, Dist. Davao, in summo monte Apo, 2,900 m alt., *Copeland* 1157. Ad corticem *Vaccinii Villarri* Vid.

2. B. PITHECOLOBII Wain. sp. nov.

Thallus crustaceus, uniformis, tenuis, continuus, sat laevigatus aut leviter subverrucoso-inaequalis glaucescens, neque KHO nec CaCl_2O_2 reagens, hypothallo indistincto. Apothecia crebra, parva, 0.5–0.3 mm lata, adnata, diu tenuia, demum convexa, KHO non reagentia, disco nigro, nudo, opaco, margine tenuissimo, nigro, opaco, integro, mox excluso. Excipulum fuscum. Hypo-

thecium fuscum. Hymenium circ. 0.07 mm crassum, haud oleosum. Epithecum fuscescens. Sporae 8-nae aut 12-nae aut 16-nae in eodem apothecio, distichae aut polystichae, oblongae, apice rotundato aut obtuso, fuscae, 1-septatae, medio haud aut parum constrictae membrana aequaliter incrassata, long. 0.010–0.013 (–0.015), crass. 0.004–0.006 mm. Paraphyses arcte cohaerentes, apice capitato-clavato, fusco. A *B. polyspora* (Willey) thallo magis evoluto et apotheciis convexis, usque ad marginem adnatis differt.

NEGROS, Bago, Hacienda Lousiana, Merrill 6794. Ad corticem *Pithecellobii dulcis*.

3. *B. LAURICASSIAE* (Fée) Wain. Addit. Lich. Antill.

B. triphragmia Auct. p. p.

Thallus albidus, intus KHO flavescens deindeque rubescens. Sporae 8-nae, fuscae, 3-septatae, long. 0.014–0.018, crass. 0.015–0.018 mm, membrana aequaliter incrassata. Hypothecium fuscum. Apothecia nigra, nuda. *B. triphragmia* (Nyl.) thallo KHO lutescente ab hac specie differt.

NEGROS, Cabancalan, Merrill 6737, ad corticem *Arecae catechu*. SABTAN (Insulae Batanes), Bur. Sci. 10193 McGregor, ad corticem palmae.

Trib. 6. PELTIGEREAE

1. *PELTIGERA* Willdenow

1. *P. ERIODERMA* Wain. sp. nov.

Thallus foliaceus, long. circ. 45–20 mm, adpressus aut adscendens, lobatus, lobis circ. 30–3 mm latis, margine subintegro, sat laevigatus aut leviter impresso-rugosus, superne totus creberime tomentosus aut demum plus minusve late glabratius, cephalodiis, sorediis et isidiis destitutus, pallidus aut cinereo-pallidus, opacus, subtus plus minusve late albido-pallescens, medium versus nigricans, reticulato-nervosus, nervis elevatis, fuscescentibus aut ambitum versus pallidis, rhizinas circ. 8–10 mm longas, fuscas, apicem versus byssideo-tomentosas, byssum confluentem formantes, subsimplices efferentibus. Apothecia lobulis adscendentibus aut margini thalli adnata, horizontalia, 5.5–2 mm lata, disco fusco, nitido aut opaco, nudo, margine pallido, subintegro aut lobulis 0.5–0.3 mm longis, triangularibus crenulato. Hypothecium rufescenti-pallidum, strato medullari gonidiis destituto impositum. Hymenium circ. 0.145 mm crassum. Epithecum rufescens. Paraphyses sat laxe cohae-

rentes, increbre septatae, apicem versus clavatae. Asci cylindrico-ventricosi. Sporae 8-nae, polystichae, fusiformes, apicibus sat acutis aut obtusis, fuscescentes aut rufesceni-pallidae, 3-septatae, long. 0.05–0.06, crass. 0.005–0.006 mm. Stratum corticale pseudoparenchymaticum, circ. 0.04–0.03 mm crassum, e seriebus circ. 3–4 cellularum formatum, membranis sat tenuibus, lumine cellularum 0.012–0.007 mm lato, anguloso-subgloboso, superne hyphis in filamenta ramosa continuatis. Stratum medullare hyphis 0.008–0.006 mm crassis sat leptodermaticis. Gonidia nostocacea, polycoccoidea. Habitu quasi magnum *Erioderma*.

Luzon, Subprov. Benguet, mons Pulog, *For. Bur.* 16362 *Curran, Merritt, & Zschokke, Bur. Sci.* 8936 *McGregor*. Ad trunco putrido arborum et ad terram muscosam.

2. **P. CRENULATA** Wain. sp. nov.

Thallus foliaceus, long. circ. 30–20 mm, adscendens, laevigatus, glaber, sorediis, isidiis et cephalodiis destitutus, livido-cinereo-pallido-cinereo- et olivaceo-fuscescenti-variegatus, sat nitidus, irregulariter lobatus, lobis circ. 4–20 mm latis, margine crenulatis, subtus crebre subreticulato-nervosus, nervis leviter elevatis, angustis aut partim late confluentibus, ambitum versus pallidis et medium versus fusco-nigricantibus, interstitiis angustis albidis, medium versus obscuratis, rhizinas sparsas et medium versus creberimas, cinereo-fuscescentes aut nigricantes, breves, circ. 0.5–1.5 mm longas, penicillatas et tomentosas efferentibus. Sterilis. Thallus superne et subtus sicut in *P. horizontali* (L.) DC., quae autem margine thalli haud crenulato ab hac specie differt.

Luzon, Subprov. Benguet, mons Pulog, *Merrill* 6424. Ad plantes de-structas et terram humosam.

3. **P. POLYDACTYLON** (Neck.) Hoffm. f. **MELANOCOMA** (Mont. & v. d. Bosch) Wain. Étud. Lich. Brés. 1: 180.

Luzon, Subprov. Benguet, *For. Bur.* 980 *Barnes, Bur. Sci.* 2847 *Mearns*: frequenter in summo monte Pulog, 2,900 m alt., *For. Bur.* 16435, 16356 *Curran, Merritt, & Zschokke, Bur. Sci.* 8947 *McGregor, Merrill* 6451; Pauai, alt. circ. 2,100 m, *Bur. Sci.* 8530, 8531 *McGregor*; mons Tonglon, 2,000 m alt., *Merrill* 7940, 7979; Baguio, 1,500 m alt., *Merrill* 4882: Subprov. Lepanto, *For. Bur.* 16020, 16023 *Bacani*; mons Data, 2,250 m alt., *Merrill* 4925: Prov. Zambales, *For. Bur.* 8184, 8199 *Curran & Merritt*; mons Pinatubo, *Bur. Sci.* *Foxworthy*. MINDORO, mons Halcon, *Merrill* 6187. MINDANAO, Dist. Zamboanga, circ. 1,000 m alt., *Merrill* 8348, *Cope-land "E"*. Supra muscos ad terram et in rupibus et ad trunco putrido.

4. *P. NANA* Wain. sp. nov.

Thallus foliaceus, long. circ. 30–15 mm, adscendens, laevigatus, glaber, sorediis et isidiis destitutus, olivaceus aut pallido-glaucescens, sat nitidus, subtus plus minusve late albido-pallescens, medium versus nigricans, reticulato-nervosus, nervis cinereo-fuscescentibus aut nigricantibus aut ambitum versus pallidis, nudis aut basin versus rhizinis circ. 2–10 mm longis, subsimplicibus, pallidis aut fusco-nigricantibus instructus. Apothecia lobulis adscendentibus adnata, demum ellipsoidea, fere convoluta convexaque, fusca. Hypothecium rufescens-pallidum. Hymenium circ. 0.1 mm crassum. Epithecum rufescens. Paraphyses apice capitato-clavatae. Sporae 8-nae, polystichae, dilute pallidae aut subdecolores, fusiformi-aciculares, apicibus sat obtusis aut altero attenuato, 3-septatae, long. 0.046–0.077, crass. 0.003 mm. Affinis est speciei praecedenti et forsitan ejus variatio, analoga *P. spuriae* (Ach.). *P. spuricella* Wain. thallo ad apothecia verruculoso-scabrido ab ea differt.

Luzon, Subprov. Benguet, *Bur. Sci.* 5878 Ramos; Baguio, alt. 1,450 m, *Bur. Sci.* 14058 Robinson: Subprov. Lepanto, mons Malaya, *F. R. Bona* 156. Ad terram arenosam.

5. *P. MACRA* Wain, sp. nov.

Thallus foliaceus, long. circ. 50–20 mm, adscendens, laevigatus, glaber, sorediis, isidiis et cephalodiis destitutus, pallidus aut olivaceo- vel pallido-glaucescens, sat nitidus, irregulariter lobatus, lobis circ. 3–15 mm latis, subtus albidus, crebre reticulato-nervosus, nervis elevatis, angustis, pallidis aut medium versus cinereo-fuscescentibus, rhizinas concolores, creberrimas, 0.5–1 mm longas, medium versus usque ad 7 mm longas, penicillatas aut partim irregulariter connexas confluentesque efferentibus. Apothecia lobulis adscendentibus adnata, demum ellipsoidea, fere convoluta convexaque, fusca. Hypothecium rufescens-pallidum. Hymenium circ. 0.1 mm crassum. Epithecum rufescens. Paraphyses clavati. Sporae 8-nae, polystichae, dilute pallidae aut subdecolores, fusiformi-aciculares, apicibus sat obtusis, rectae, 3–5–7-septatae, long. 0.060–0.075, crass. 0.003–0.0035 mm. Habitu praecedenti et *P. spuriae* (Ach.) similis, nervis et rhizinis breviter crebreque tomentosis dignota.

Luzon, Prov. Pangasinan, *Bur. Sci.* 8298 Ramos: Subprov. Benguet, *Bur. Sci.* 5478 Ramos: Subprov. Bontoc, Vanoverbergh 330. Ad terram calcaream et argillaceam et humosam.

2. OPISTERIA (Ach.) Wainio

1. O. TROPICA (Muell.-Arg.) Wain. Lich. Pitlekai Sib. Sept. (1909) 93.
Nephromium tropicum Muell.-Arg. Lich. Beitr. (Fl. 1883) no. 599;
 Hue, Lich. Extra.-Eur. no. 368.

Thallus superne livido-fuscescens aut cinerascens aut cinereo-fuscescens, glaber, laevigatus aut partim rugosis angustis elevatis instructus, margine isidioideo-lacinulatus et isidiosus, isidiis subteretibus aut leviter applanatis subsimplicibus etiam supra laminam saepe passim instructus, subtus partim breviter tomentosus partim glaber, obscuratus aut ambitum versus pallidus aut late pallidus, medulla alba, KHO non reagente. Apothecia resupinata, 0.3–0.7 mm lata, dorso vulgo obsolete verruculoso aut sublaevigato, glabro aut leviter tomentoso, disco fusco aut rufo, opaco, nudo, margine membranaceo, angusto, pallido, lacinulato aut isidioso aut rarius subintegro. Hypothecium rufescens aut rufescenti-pallidum. Hymenium circ. 0.09 mm crassum, jodo persistenter glaucescenti-caerulescens. Paraphyses sat arcte cohaerentes, apice leviter clavato-incrassatae. Asci clavati. Epithecium pallidum aut rufescenti-pallidum. Sporae 8-nae, distichae, rufescentes, oblongae aut fusiformi-oblongae, apicibus obtusis aut rotundato-obtusis, 3-septatae, long. 0.018–0.022, crass. 0.006–0.007 mm.

LUZON, Subprov. Benguet, 1,500 m alt., Merrill 7982; mons Pulog, Merrill 6457, Bur. Sci. 8933, 8943 McGregor.

Trib. 7. STICTEAE

1. PSEUDOCYPHELLARIA Wainio

1. P. AURATA (Ach.) Wain. Étud. Lich. Brés. 1: 113.

LUZON, Subprov. Benguet, 1,500 m. alt., Merrill 7956 p. p.; Pauai, alt. 2,100 m, Bur. Sci. 8641 McGregor. Ster. Ad cortices arborum frondosarum.

2. P. FLAVICANS (Hook. & Tayl.) Malme, Beitr. Stict. Feuerl. (1899) 29.

Thallus superne praesertimque margine isidiosus et isidioideo-laceratus, flavidо-glaucесcens, medulla lutea, KHO non reagente, subtus pallidus aut flavidо-pallescens aut centrum versus demum fuscescens, tomento crebro brevi pallido aut demum cinerascente obscuratove obductus aut partim denudatus pseudocypellis luteis, vulgo verrucaeformibus aut demum applanatis instructus. Gonidia pleurococcaceae.

LUZON, Subprov. Benguet, 1,500 m alt., Merrill 7956 p. p., Bur. Sci. 13510 Ramos; mons Tonglon, 2,000 m alt., Merrill 7953. Ster. Ad corticem pini et arborum frondosarum.

3. P. MULTIPARTITA Wain. sp. nov.

Thallus margine anguste laciniatus, lacinulis partim isidioideis, saepe partim etiam lamina isidiosa, superne pseudocyphellis destitutus, glaucescens, KHO non reagens, sat laevigatus, intus albus, nec KHO nec CaCl_2O_2 nec his reagentis unitis reagens, subtus obscuratus, ambitum versus pallidus, rhizinis concoloribus, crebris, brevibus instructus, aut partim ambitum versus denudatus, pseudocyphellis parvis, punctiformibus, haud aut leviter prominentibus, albis. Apothecia in lamina thalli sparsa, 1.7–1 mm lata, disco fusco, concavo aut plano, margine sat tenui, integro, superne disco concolore aut pallido. Excipulum extus leviter verruculosum, glabrum, gonidia continens, in margine gonidiis destitutum. Hypothecium fulvescens aut fulvescenti-pallidum. Epithecum fulvo-rufescens. Sporae 8-nae, distichae, fusiformes, apicibus obtusis, 1-septatae, raro 2-septatae, rufescentes, long. 0.020–0.023, crass. 0.007–0.010 mm. Gonidia pleurococcaceae, diam. 0.005–0.010 mm, flavescentia, simplicia. Habitu similis est "*Stictae multifidae* Laur." (no. 33530 in herb. Nyl., ex insulis Viti), cuius medulla autem KHO et CaCl_2O_2 unitis rubescens. *P. subvariabilis* (Nyl.) reactione cum *P. multipartita* congruens, at thallo superne et inferne pallido et subtus late denudato ab ea differt. *S. variabilis* var. *polyschista* Mey. & Flot., in Manila lecta, ex opinione Muell.-Arg. ad *P. subvariabilem* pertinet, at reactione thalli defecte cognita.

Luzon, Prov. Pampanga, mons Arayat, For. Bur. 19334 Curran: Prov. Batangas, For. Bur. 7809 Curran & Merritt. Ad truncos arborum et supra muscos.

4. P. PHAEORHIZA Wain. sp. nov.

Thallus margine anguste laciniatus, lacinulis partim isidioideis, sat laevigatus, superne pseudocyphellis destitutus, glaucescenti-pallidus, nec KHO, nec CaCl_2O_2 reagens, at his reagentis unitis intus rubescens, subtus pallidus aut centrum versus obscuratus, rhizinis pallido-fuscescentibus aut ambitum versus pallidis, crebris, brevibus instructus, aut partim ambitum versus denudatus, pseudocyphellis parvis aut sat parvis, haud aut leviter prominentibus, albis, medulla alba. Apothecia marginalia aut in lamina thalli sparsa, 4–1.5 mm lata, disco rufo, plano, margine integro, sat crasso, pallido. Excipulum extus verruculosum, glabrum, gonidia tantum in infima basi continens. Hypothecium pallidum. Epithecum rufescens. Sporae 8-nae, distichae, rufae, fusiformes, apicibus sat obtusis, diu 1-septatae, demum 3-septatae, long. 0.020–0.032, crass. 0.009–0.011 mm. Gonidia pleurococcaceae, flavescentia, vulgo simplicia, diam.

0.006–0.007 mm. Etiam in *P. prolificante* (Nyl.) Wain. (secund. specim. orig. no. 33467 in herb. Nyl.) stratum medullare thalli KHO et CaCl_2O_2 unitis rubescens. Ab ea non differt *S. psilophylla* Muell.-Arg. Thallo subtus pallido, late denudato, a *P. phaeorhiza* distinguuntur.

LUZON, Prov. Laguna, mons Banajao, *Bur. Sci.* 9798, 9867 *Robinson, O. W. Calvin 322.* MINDANAO, Dist. Lanao, Castra Keithley, *Mary Strong Clemens 1320 p. p.* Ad truncos arborum.

5. **P. HOMALOSTICTA** Wain. sp. nov.

Thallus margine anguste laciniatus, lacinulis partim isidioideis, saepe partim etiam lamina isidiosa, sat laevigatus, superne pseudocypellis albis, parvis, punctiformibus, prominentibus instructus, cinereo-glaucescens aut partim pallido-glaucescens, intus albus, nec KHO, nec CaCl_2O_2 , nec his reagentis unitis reagens, subtus late pallidus et centrum versus obscuratus, rhizinis fuscouscentibus aut ambitum versus pallidis, crebris, brevibus obductus, pseudocypellis albis, parvis, vulgo prominentibus, sat crebris instructus. Gonidia pleurococcaceae, vulgo simplicia, flavescentia, diam. circ. 0.006–0.010 mm. Lacinulis et isidiis et reactionibus thalli congruens cum *P. episticta* (Nyl.), quae pseudocypellis in pagina inferiore thalli parcissime evolutis ab ea distinguitur.

LUZON, Prov. Rizal, *Bur. Sci.* 13453 *Ramos.* Ad truncos arborum. Ster.

6. **P. QUERCIFOLIA** (Tayl.) Wain.

Thallus dichotome sat crebre aut sat increbre repetito-laciniatus, laciniis circ. 2–10 mm. latis, sat linearibus aut subcuneatis, apicibus subtruncatis aut rotundatis aut obtusis, axillis latis aut sat angustis, rotundatis aut obtusis, superne impresso-punctatus foveolatusve (ex pseudocypellis prominentibus paginae inferioris), ceterum sat laevigatus, pallidus aut pallido-glaucescens aut olivaceo- vel fuscouscenti-pallidus, saepe nitidus, sat tenuis, haud valde fragilis, isidiis et sorediis destitutus, intus albidus, KHO nec superne nec intus reagens, addito CaCl_2O_2 intus distincte pulchreque rubescens, reactione vulgo cito evanescente, subtus pallidus rhizinis pallidis aut fuscouscentibus, brevibus aut sat brevibus, crebris aut rarius partim increbris obductus aut rarius partim late denudato, vulgo sat laevigatus, pseudocypellis albis, mediocribus aut parvis, circ. 1–0.3 mm latis, sat crebris, prominentibus instructus. Gonidia pleurococcaceae. Apothecia marginalia aut supra thallum sparsa, 3–1.5 mm lata, disco fusco aut nigricante aut rufo, opaco, nudo, plano aut concavo, margine sat tenui, saepe inflexo, excipulo extus verru-

coso aut raro laevigato, verrucis e pilis crebre septatis, sat pachydermaticis, brevibus, partim conglutinatis formatis, gonidiis destituto, extus vulgo testaceo-pallido. Hypothecium pallidum. Epitheciun rufescens. Sporae 8-nae, distichae, fusiformes, apicibus obtusis, fuscantes, diu 1-septatae, p. p. demum 3-septatae, long. 0.028–0.034, crass. 0.008–0.009 mm.

Luzon, Prov. Cagayan, *For. Bur.* 16706 *Bacani*: Subprov. Lepanto, *For. Bur.* 16022 *Bacani*; mons Data, alt. 2,250 m, Merrill 4981: Subprov. Benguet, *Bur. Sci.* 5880 *Ramos*; mons Pulog, Merrill 6453, *Bur. Sci.* 8930 *McGregor*; mons Tonglon, *For. Bur.* 5052 *Curran*, *Bur. Sci.* 5491a, 5494, 5495a *Ramos*; Pauai, circ. 2,100 m alt., *Bur. Sci.* 8534, 8536 *McGregor*, *Bur. Sci.* 4437, 4541 *Mearns*: Prov. Bataan, *For. Bur.* 19166 *Curran*; mons Mariveles, *Bur. Sci.* 6216 *Robinson*: Prov. Rizal, *Bur. Sci.* 18454 *Ramos*: Prov. Laguna, mons Banajao, *Bur. Sci.* 9814, 9868 *Robinson*. MINDANAO, Prov. Misamis, mons Malindang, *For. Bur.* 4809 *Mearns & Hutchinson*: Dist. Lanao, Castra Keithley, *Mary Strong Clemens* 1817. MINDORO, mons Halcon, 1,800 m alt., Merrill 6214, 6191 p. p., 6220. Ad truncos arborum.

7. P. DISSIMULATA (Nyl.) Wain.

Var. HYPOPHAEA Wain.

Thallus subtus pallidus aut medium versus obscuratus, rhizinis brevibus, crebris fuscantibus obductus aut apices versus denudatus. Thallus superne glaucescens, leviter nitidus, inaequalis, subreticulato-rugosus aut fossulatus, isidiis et sorediis destitutus, medulla alba, superne et intus nec KHO, nec CaCl_2O_2 , nec his reagentiis unitis reagens, pseudocyphellis vulgo prominentibus, mediocribus aut parvis. Apothecia marginalia aut raro parce etiam supra thallum sparsa, 2.5–1 mm lata, disco rufo aut fusco-nigricante plano, opaco, margine mediocri aut sat tenui, nec prominente, nec flexuoso, excipulo extus demum verrucoso, gonidiis destituto, extus pallido. Hypothecium pallidum. Epitheciun pallidum aut rufescens. Sporae 8-nae, distichae, rufescentes, fusiformes, apicibus sat obtusis, demum 3-septatae, long. 0.022–0.026, crass. 0.007–0.009 mm. Gonidia pleurococcaceae.

Luzon, Prov. Laguna, mons Banajao, *For. Bur.* 7990 *Curran & Merritt*: Prov. Batangas, parce cum *For. Bur.* 7823 *Curran & Merritt*. MINDANAO, Dist. Zamboanga, 1,000–1,300 m alt., Merrill 8347, 8349, 8351. Ad truncos arborum.

Var. NUDIOR Wain.

Thallus subtus pallidus aut albido-pallescens, rhizinis concoloribus aut raro demum obscuratis increbris aut crebris passim parce obductus, late aut fere totus denudatus. Thallus superne glaucescens aut partim pallido-glaucens, leviter nitidus aut sat opacus, inaequalis, isidiis et sorediis destitutus, medulla alba, superne et intus nec KHO, nec CaCl_2O_2 , nec his reagentiis unitis

reagens, pseudocyphellis vulgo prominentibus, parvis. Gonidia pleurococcaceae.

LUZON, Prov. Pampanga, mons Arayat, *Merrill 3843*: Prov. Bataan, mons Mariveles, *Whitford 241*: Prov. Batangas, *For. Bur. 7883 p. p. Curran & Merritt*. NEGROS, Canlaon Volcano, 1,600 m alt., *Merrill 6889*. Ad trunco arborum.

Var. **CURRANII** Wain.

Thallus subtus pallidus et medium versus obscuratus, rhizinis fuscouscentibus, crebris aut passim increbris obductus, superne olivaceo-virescens, leviter nitidus, leviter impresso-punctatus. Thallus crebre ramosus, isidiis et sorediis destitutus, medulla alba, pseudocyphellis parvis, crebris, prominentibus, superne et intus nec KHO, nec CaCl_2O_2 , nec his reagentiis unitis reagens. Gonidia pleurococcaceae. Apothecia marginalia et parce supra thallum sparsa, 1–2 mm lata, disco fusco, opaco, plano aut leviter convexo, margine sat tenui aut demum excluso, excipulo extus demum verrucoso, verrucis parenchymaticis, gonidiis omnino destituto. Hypothecium pallidum. Epithecum rufescens aut pallidum. Sporae 8-nae, fusiformes, apicibus sat obtusis, rufescentes, 1–3-septatae, long. 0.022–0.028, crass. 0.007–0.010 mm, membrana intus verrucoso-inaequali. *P. homoeophylla* (Nyl.) thallo crassiore, pallido, apotheciis majoribus, cet. ab hac varietate differt.

LUZON, Prov. Pampanga, mons Arayat, *For. Bur. 19341 Curran*. Ad truncum arboris.

8. **P. CROCATA** (L.) Wain.

LUZON, Subprov. Benguet, mons Pulog, *Merrill 6458, Bur. Sci. 8935 McGregor*. MINDANAO, Dist. Davao, mons Apo, 1,900 m alt., *Copeland 1093*. Etiam fertiles. Ad ramos arborum.

9. **P. GILVA** (Thunb.) Malme.

LUZON, Subprov. Benguet, 1,500 m alt., *Merrill 7950*; Pauai, alt. circ. 2,100 m, *Bur. Sci. 8528, 8562, 8595, 8627 McGregor*; mons Tonglon, 2,000 m alt., *Merrill 7962, 7972*. MINDANAO, Dist. Davao, mons Apo, 1,800 m alt., *Copeland 1089, 1092 p. p.* In arboribus.

10. **P. SUBPUNCTULATA** (Nyl.) Wain.

Thallus superne impresso-punctatus, foveolatusve, isidiis et sorediis destitutus, medulla alba, KHO non reagente, at addito hypochlorite calcico roseo-rubescente. Gonidia nostocacea. Excipulum gonidiis destitutum. Hypothecium albidum aut passim pallidum. Epithecum rufescens aut testaceum. Sporae 8-nae, distichae, fuscouscentes, fusiformes, apicibus sat acutis aut sat obtusis, 3-septatae, long. 0.027–0.032, crass. 0.009–0.011 mm.

Habitu omnino similis est *P. quercifoliae* (Tayl.), at gonidiis ab ea differens.

LUZON, Subprov. Benguet, Pauai, alt. circ. 2,100 m, *Bur. Sci.* 4553 *Mearns, Bur. Sci.* 8550 *McGregor*; mons Pulog, *For. Bur.* 16360 *Curran, Merritt, & Zschokke, Bur. Sci.* 8927, 8934, 8938 *McGregor*; mons Tonglon, *Bur. Sci.* 5486, 5492 *Ramos, For. Bur.* 11069 *Whitford*: Prov. Zambales, *For. Bur.* 8197 *Curran & Merritt*: Prov. Rizal, *Bur. Sci.* 19452 *Ramos*: Prov. Laguna, mons Banajao, circ. 2,000 m alt., *Bur. Sci.* 6556 *Robinson, Merrill* 7525. MINDORO, flumen Alag, *Merrill* 5497. Ad trunco arborum.

11. P. CINNAMOMEA (Rich.) Wain.

Thallus KHO nec superne nec intus reagens, addito CaCl_2O_2 intus rubescens, subtus haud costato-incrassatus, margine isidiosus, sorediis destitutus, medulla alba, pseudocyphellis albis, mediocribus. Gonidia nostocacea. Apothecia marginalia et parce supra thallum sparsa, 4.5–2 mm lata, disco fusco aut rufo, nitido aut opaco, plano aut concavo, margine mediocri, integro, excipulo extus areolato-diffracto aut subverrucoso, glabro, gonidiis destituto. Hypothecium pallescens. Epithecium rufescens aut pallidum. Sporae 8-nae, distichae, fusiformes, apicibus sat obtusis, fuscantes, diu 1-septatae, demum 3-septatae, long. 0.023–0.030, crass. 0.007–0.011 mm. Secundum specim. orig. no. 34107 in herb. Nyl. huc pertinet *Stictina fragillima* var. *dis-similis* Nyl. Syn. Lich. 336, etiam reactionibus huic congruens. In specimine orig. *S. fragillimae* Bab. no. 34115 in herb. Nyl. medulla thalli KHO, addito CaCl_2O_2 non reagens.

LUZON, Subprov. Benguet, Pauai, alt. circ. 2,100 m, *Bur. Sci.* 4432 *Mearns, Bur. Sci.* 8546, 8561, 8599 *McGregor*; mons Pulog, *Bur. Sci.* 8950 *McGregor*; mons Tonglon, *For. Bur.* 5049 *Curran*: Subprov. Lepanto, mons Data, 2,250 m alt., *Merrill* 4976. Ad trunco arborum.

12. P. INTRICATA (Del.) Wain.

Thallus sat laevigatus, tantum margine sorediosus, nec KHO, nec CaCl_2O_2 reagens. Apothecia marginalia, 2–1.5 mm lata, tenuia, disco rufo aut fusco, nitido aut opaco, plano, margine tenui, integro, excipulo extus minute verruculoso, gonidiis destituto. Hypothecium pallidum aut rufescenti-pallidum. Epithecium rufescens. Sporae 8-nae, distichae, fusiformes, apicibus obtusis, fuscantes, diu 1-septatae, parce demum 3-septatae, long. 0.024–0.030, crass. 0.006–0.008 mm. Medulla thalli alba. Pseudocyphellae albae, sat latae aut mediocres. Gonidia nostocacea.

LUZON, Subprov. Benguet, *For. Bur.* 15864 *Bacani*; mons Tonglon, alt. 2,000 m, *Merrill* 7952, *Bur. Sci.* 5488 *Ramos*; mons Pulog, *Bur. Sci.* 8951 *McGregor*: Subprov. Bontoc, *Vanoverbergh* 740. MINDANAO, Prov. Misamis, mons Malindang, *For. Bur.* 4785 *Mearns & Hutchinson*: Dist. Davao, mons Apo, alt. 1,800 m, *Copeland* 1092 p. p. Ad trunco arborum.

Var. **THOUARSII** (Del.) Nyl.

Soralis supra laminam thalli sparsis. Thallus KHO, addito CaCl_2O_2 non reagens.

LUZON, Subprov. Benguet, Sanchez 15; Baguio, Bur. Sci. 11994 p. p. Robinson; Pauai, alt. 2,100 m, Bur. Sci. 8589 McGregor: Subprov. Bontoc, Vanoverbergh 781. Ad trunco arborum.

13. **P. ARGYRACEA** (Bor.) Wain.

Thallus in superficie laminae et saepe in margine thalli pseudocyphellis instructus albis, vulgo demum isidia fragilia formantibus, saepe etiam margine isidiosus, medulla alba, pseudocyphellis albis, mediocribus, sat crebris in pagina inferiore instructus, KHO nec superne nec intus reagens, addito CaCl_2O_2 intus rubescens. Gonidia nostocacea. Apothecia marginalia et supra laminam thalli sparsa, 1–2 mm lata, tenuia, disco fusco-nigro aut fusco, opaco, plano, margine tenui, integro, excipulo extus increbre verruculoso aut sublaevigato, gonidiis destituto. Hypothecium pallidum aut rufescens. Epitheciun pallido-rufescens. Sporae 8-nae, distichae, oblongae, apicibus obtusis, rufescentes, 1-septatae, long. 0.022–0.028, crass. 0.007–0.009 mm.

LUZON, Prov. Pampanga, mons Arayat, For. Bur. 19342 Curran: Prov. Rizal, Bur. Sci. 13634 Ramos: Prov. Laguna, mons Banajao, Bur. Sci. 6587 Robinson. MINDANAO, Subprov. Butuan, C. M. Weber 1352, 1375: Dist. Lanao, Castra Keithley prope lacum Lanao, Mary Strong Clemens 1320 p. p. INSULAE BATANES, Bur. Sci. 3860 Félix. Ad trunco et ramos arborum.

Var. **REVENIENS** Wain.

Thallus in pagina superiore pseudocyphellis parvis aut sat parvis instructus, isidiis destitutus. Thallus superne leviter fossulato-rugulosus, olivaceo-glaucescens, leviter nitidus, crebre dichotome repetito-laciniatus, laciniis 12–2 mm latis, apicibus vulgo truncatis, subtus ambitum versus late pallidus, centrum versus fuscescens, rhizinis concoloribus, brevibus, crebris obductus, KHO nec superne nec intus reagens, addito CaCl_2O_2 intus rubescens.

LUZON, inter prov. Albay et Sorsogon, For. Bur. 12394 Curran. Ad corticem arboris.

14. **P. TOMENTOSA** (Mey. & Flot.) Wain.

Sticta Richardi var. *tomentosa* Mey. & Flot. in Nov. Act. Acad. Caes. Leop.-Car. Nat. Cur. 19 (1843) Suppl. 1: 216.

Pseudocyphellis majoribus, apotheciis marginalibus axillis laciniarum latioribus ceterisque notis secundum specim. orig. no. 34046 in herb. Nyl. a *P. foveolata* (Del.) differt.

LUZON, ad trunco arborum, Meyen.

2. *STICTA* (Schreb.) Wainio1. *S. MANILENSIS* Wain. sp. nov.

Thallus sat irregulariter crebre iteratim laciniatus lobatusque, laciniis circ. 22–2 (–1) mm latis, basin versus vulgo angustatis, apicibus saepe subtruncatis aut rotundatis, superne sat laevigatis, pallidus aut testaceo-fuscescenti-variegatus, sat opacus, glaber, sorediis et isidiis destitutus, subtus pallidus aut centrum versus obscuratus, rhizinis concoloribus, brevibus, sat crebris, cyphellis circ. 0.3–1 mm latis, KHO et CaCl_2O_2 nec superne nec intus reagens. Apothecia marginalia et parcus supra thallum sparsa, 5–2.5 mm lata, parmelioideo-elevata, disco fusco aut rufo, saepe sat nitido, concavo aut planiusculo, margine primum inflexo et supra discum formante, demum crenulato aut subintegro, mediocri, excipulo extus verruculoso, pilis brevibus, crebre articulatis, pachydermaticis, gonidia continent. Hypothecium pallidum. Epithecum testaceum aut rufesceni-pallidum. Sporae 8-nae, polystichae, fusiformes, apicibus acutis aut sat obtusis, pallidae aut dilute fuscescentes, 1-septatae, long. 0.044–0.050, crass. 0.004–0.006 mm. Gonidia pleurococcacea. Habitu similis est *S. subcaperatae* Nyl., quae secundum specim. orig. in herb. Nyl. excipulo gonidia continent instructa est, at sporis crassioribus brevioribusque 3-septatis (–6-septatis) ab ea distinguitur.

Luzon, Subprov. Benguet, mons Pulog, For. Bur. 16354 Curran, Merritt, & Zschokke: Prov. Zambales, mons Pinatubo, Bur. Sci. 2538 Foxworthy. Ad truncos arborum.

2. *S. CAPERATA* Bory.

Apothecia gonidiis destituta secund. specim. orig. no. 33639 in herb. Nyl. Ad hac non est distinguenda *S. caperata* var. *javanica* Nyl. Fl. (1869) 118, in insulis Philippinis a Cuming lecta (no. 2176), sporis "long. 0.05–06, crass. 0.009–0.011 mm, 1–5-septatis" secundum annotationem Nylander in sched., et excipulo gonidiis destituto instructa.

3. *S. RECEDENS* (Muell.-Arg.) Wain.

Thallus increbre dichotome repetitō-laciniatus, laciniis circ. 13–4 mm latis, apicibus subtruncatis aut obtusis, axillis latis, rotundato-obtusis, superne sat laevigatus aut leviter impresso- vel ruguloso-inaequalis, cinereo- aut olivaceo-glaucescens aut fusco-pallescens, sorediis et isidiis destitutus, subtus centrum versus fuscescens et ambitum versus aut totus pallescens, rhizinis brevibus, fuscescentibus, increbris aut partim crebris aut evanescentibus aut subtus fere totus nudus, basin versus saepe costatus, cyphellis parvis, basi breviter stipitiformi-contracta et vulgo in-

crassata et saepe radiciforme elongata. Apothecia marginalia aut p. p. supra thallum sparsa, 2–1.3 mm lata, disco rufo aut testaceo-rufescente aut fusco, plano aut concavo, margine subintegro aut leviter crenulato verruculosove, excipulo ceterum sat laevigato, gonidiis destituto. Hypothecium pallidum aut pallido-rufescens. Epithecum pallidum aut pallido-rufescens. Sporae 8-nae, distichae, decolores aut pallescentes, fusiformes, apicibus sat acutis aut rarius obtusis, 1–3-septatae (raro etiam 8-septatae: in no. 7823), long. 0.036–0.052, crass. 0.008–0.010 mm. Gonidia pleurococcaceae. *S. hypopsiloides* Nyl. secundum specimina originalia in herb. Nyl. thallo breviter stipitato cum hac specie congruens, laciniis latioribus magisque irregularibus ab ea differt. *S. dichotoma* Del. thallo haud stipitato ab ea distinguitur. *S. canariensis* Bory secundum specim. orig. no. 1943 in herb. Nyl. thallo pallido-flavante dignota, basi stipitata cum *S. recedente* congruens. *S. dichotomoides* Nyl. laciniis angustioribus et cephalodiis marginibus, arbusculaformibus elongatis ab ea recedit.

Luzon, Prov. Bataan, mons Mariveles, alt. 1,200 m, *For. Bur. 2393*
Borden: Prov. Batangas, *Copeland 264*, *For. Bur. 7823, 7837 bis Curran*
& Merritt. Ad truncos arborum.

4. S. PULVINATA (Mey. & Flot.) Wain.

Cephalodiis arbusculaformibus, brevibus a *S. carpolomoide* Nyl. differt. Thallus subtus pallidus, denudatus aut partim rhizinis brevibus increbris aut rarius sat crebris obductus, cephalodiis mediocribus aut latis instructus, basi breviter stipitatus. Gonidia pleurococcaceae. Huc etiam pertinet coll. Vieillard no. 1798 e Nova Caledonia et planta in Manila a Gaudichaud lecta, disco apotheciorum fusco et sporis "long. 0.32–0.34, crass. 0.009–0.011 mm, 3-septatis" instructa secundum annotationem Nylander (no. 3366 in herb. Nyl.). In specimine orig. *S. carpolomoides* Nyl., in Java a Korthals lecto (no. 33664 in herb. Nyl.), thallus isidiis destitutus, subtus rhizinis brevibus, crebris fuscescenti-pallidis obductus.

Luzon, Prov. Bataan, mons Mariveles, *Merrill 6285a*. MINDANAO, Dist. Zamboanga, 700 m alt., *Copeland "F."* Ad truncos arborum.

5. S. TRICHOPHORA Wain. sp. nov.

Thallus sat increbre dichotome repetito-laciniatus, laciniis sublinearibus, 7–4 mm latis, apicibus obtusis aut subtruncatis, axillis latis, rotundatis aut obtusis, superne sat laevigatus, pallidus aut glaucescenti-pallidus, sat opacus, apices versus breviter albidotomentosus aut pubescens, sorediis isidiisque destitutus, haud stipitatus, KHO nec superne nec intus reagens, subtus fuscescens

et ambitum versus pallescens, rhizinis concoloribus, sat brevibus, crebris obductus aut partim etiam denudatus, cyphellis mediocribus, albis, haud profundis, partim pseudocyphelliformibus. Apothecia marginalia aut parcus etiam supra thallum sparsa, 1.7-mm lata, disco rufo nitido aut opaco, concavo aut plano, margine crassitudine mediocri aut sat tenui, prominente, integro, excipulo extus piloso, gonidia parce in basi apothecii continente. Hypothecium pallidum. Epithecum testaceo-rufescens. Sporae 8-nae, distichae, rufescentes, fusiformes, apicibus sat obtusis, 1-septatae, septo tenui, long. 0.018–0.022, crass. 0.007–0.008 mm. Gonidia nostocacea. Habitu omnino similis *S. damaecorni* (Sw.) Ach. var. *rudiusculae* Wain., cuius gonidia pleurococcaceae, saepe bicellulosa aut glomerulosa. Ad speciem nostram forsitan pertinet *Stictina quercizans* var. *trichophora* Muell.-Arg. Lich. Beitr. no. 238.

MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1804*. Ad trunco arborum.

6. S. AMBAVILLARIA (Bor.) Del.

Thallus laevigatus aut impresso-punctatus, ciliis marginalibus, albidis, brevibus instructus aut ciliis et isidiis destitutus, haud stipitatus, subtus pallidus aut albidus, tomento crebro, concolore (aut raro denudatus, var. *papyrina* Nyl.). Apothecia excipulo piloso, gonidia in basi continente. Sporae fusiformes, decolores, 3-septatae, long. 0.034–0.036, crass. 0.005 mm. Gonidia nostocacea. Huc etiam pertinent *S. Lenormandii* (v. d. Bosch) Nyl. et *S. impressula* Nyl.

Luzon, Subprov. Benguet, Baguio, alt. 1,400 m, *Bur. Sci. 11994 p. p. Robinson*. Ad trunco arborum.

7. S. FIMBRIATA Schae.

Thallus margine ciliatus, ciliis 1–0.5 mm longis, nigris, simplicibus, isidiis destitutus, subtus fuscens aut ambitum versus pallescens ochraceusve, rhizinis concoloribus, brevibus, crebris aut partim denudatus, cyphellis mediocribus aut parvis, profundis, basi stipitatus. Apothecia supra thallum sparsa, 2.5–1.5 mm lata, sat tenuia, disco fusco aut rufo, margine tenui aut sat tenui, integro, excipulo leviter verruculoso aut sat laevigato, glabro, gonidiis destituto. Gonidia nostocacea.

Luzon, Subprov. Benguet, Baguio, 1,500 m alt., *Merrill 4839*. MINDORO, mons Halcon, *Merrill 6195*. MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1816 p. p.*

8. S. DUPLOLIMBATA (Hue) Wain.

Thallus margine ciliatus, ciliis 10.5 mm longis, nigris, simplicibus, et isidiatus, isidiis brevibus, tenuibus, interdum tantum parce evolutis, subtus fuscescens aut maxima parte pallidus, rhizinis concoloribus, brevibus, crebris, aut raro partim denudatus, cyphellis profundis, mediocribus, parvis aut latis, basi stipitatus. Apothecia supra thallum sparsa, 3.5–2 mm lata, sat tenuia, disco plano, rufo aut fusco aut testaceo, margine tenui aut sat tenui, integro aut verruculoso-crenulato, excipulo sat laevigato aut leviter verruculoso, glabro, gonidiis destituto. Hypothecium pallidum. Epithecium pallescens aut lutescens aut rufescens. Sporae 8-nae, distichae, fusiformes, apicibus sat acutis, demum 3-septatae, pallescentes, long, 0.038–0.040, crass. 0.009–0.010 mm. Gonidia nostocacea. Huc pertinet *S. ciliaris* f. *duplicolimbata* Hue, Lich. Extra-Eur. no. 440, et proxime affinis est *S. fimbriatae*, quae tantum thallo isidiis destituto ab ea differre videtur. Ambae habitu et ramificatione thalli *S. ambavillariae* (Bor.) similes, at thallo stipitato ab ea distinguuntur.

Luzon, Subprov. Bontoc, 1,500 m alt., *Vanoverbergh* 784: Subprov. Benguet, Pauai, alt. circ. 2,100 m, *Bur. Sci.* 8596 *McGregor*; mons Pulog, *Bur. Sci.* 8958, 8961 *McGregor*: Prov. Batangas, *For. Bur.* 7837 bis p. p. *Curran & Merritt*. MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens* 1309: Dist. Zamboanga, 1,000 m alt., *Merrill* 8345. Ad truncos.

9. S. LINGULATA Wain. sp. nov.

Thallus increbre aut sat increbre dichotome repetito-lacinatus, laciniis sublinearibus, 12–2 mm latis, apicibus obtusis aut rotundatis, axillis latis, obtusis, superne laevigatus, planus aut basin versus canaliculatus, cinereus aut raro apices versus pallescens, sat opacus, glaber, isidiis marginalibus, minutissimis aut raro 2 mm longis, vulgo tenuissimis, obscure cinereis, parciissimis aut abundanter evolutis instructus, sorediis et ciliis marginalibus destitutus, KHO nec superne nec intus reagens, subtus fuscescens aut ambitum versus pallescens, rhizinis fuscescens, brevibus, crebris obductus aut ambitum versus aut raro totus denudatus, basin versus costatus, cyphellis minutis, profundis, saepe pallido-marginatis, margine prominente, stipite brevi aut sat brevi instructus. Gonidia nostocacea. Huc pertinet "*Stictina strictula*" Nyl. e *Madagascarica* (33855), sed haud specimen originale Delisei.

MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens* 1310: Subprov. Butuan, alt. 320 m, *C. M. Weber* 1892. MINDORO, prope flumen Alag, *Merrill* 5497 p. p.

10. *S. MARGINIFERA* Mont.

Thallus irregulariter laciniatus lobatusque, lobis cuneatis, latere sinuatis, apice iterum lobatis et lobato-crenatis, superne flavescentia aut flavidio-glaucescens aut pallescenti- vel fuscescenti-variegatus, isidiis brevibus, tenuibus, obscure cinereis, crebris aut parcis marginatus, sorediis et ciliis destitutus, subtus sordide pallescens aut fuscescens, rhizinis concoloribus, brevissimis, crebris obductus aut partim denudatus, basin versus costatus, cyphellis parvis aut parce etiam mediocribus, profundis instructus, basi breviter stipitatus. Gonidia nostocacea. Apothecia supra thallum sparsa, 1.5-3.5 mm lata, sat crassa aut crassitudine mediocria, disco fusco aut fusco-nigro, margine crassitudine mediocri aut sat tenui, crebre radiatim fisco aut subintegro, excipulo glabro, sat laevigato, gonidiis destituto. Hypothecium dilute pallido-rufescens. Epitheciun pallido-rufescens. Sporae 8-nae, distichae, dilute pallidae, diu 1-septatae, demum 3-septatae, long. 0.045, crass. 0.012 mm. Thallo margine isidioso secundum specimen originale no. 33790 in herb. Nyl. cum hac specie congruit *S. filicinella* Nyl., quae autem thallo subtus distinctissime nervoso differt.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2,100 m, *Bur. Sci.* 8577, 8609 *McGregor*; mons Pulog, *Bur. Sci.* 8946 *McGregor*, *For. Bur.* 16381 *Curran*, *Merritt*, & *Zschokke*; mons Tonglon, *For. Bur.* 11069 *Whitford* p. p.: Subprov. Lepanto, *For. Bur.* 16027 *Bacani*; mons Data, alt. 2,200 m, *Merrill* 4946. MINDANAO, Dist. Davao, mons Apo, alt. 1,900 m, *Copeland* 1087. In arboribus.

11. *S. ORBICULARIS* (Mey. & Flot.) Wain.

Var. *PALLESCENS* Wain.

Thallus saepe suborbicularis et subinteger aut parum lobatus, margine isidiosus, isidiis brevibus tenuibusque, obscure cinereis, subtus sordide pallescens, rhizinis concoloribus, brevissimis, crebris aut sat crebris obductus, cyphellis inaequalibus, latis et mediocribus, breviter stipitatus. Gonidia nostocacea. Apothecia marginalia. *S. hypochra* Wain. thallo magis lobato, polyphyllino ab hac varietate differt.

Luzon, Prov. Pampanga, mons Arayat, *For. Bur.* 19340 *Curran*. MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens* 1824.

12. *S. BOSCHIANA* Mont.

Thallus isidiis destitutus, subtus pallidus, rhizinis concoloribus, brevissimis, crebris aut sat crebris obductus aut raro partim denudatus, breviter stipitatus, cyphellis minutis, prominentibus, margine nudis. Apothecia marginalia, margine integro, sat

tenui, excipulo glabro, laevigato, gonidiis destituto. Hypothecium dilute fuscescens. Epithecum pallido-rufescens. Sporae 8-nae, dilute fuscescentes, fusiformes, apicibus sat obtusis, 3-septatae, long. 0.040–0.044, crass. 0.01 mm. Gonidia nostocacea.

Luzon, Prov. Laguna, mons Banajao, Bur. Sci. 9797 Robinson. Ad truncum arboris.

13. S. COPELANDII Wain. sp. nov.

Thallus cuneatus, long. 25–20 mm, lat. 35–25 mm, bilobatus aut subdichotome laciniatus, lobis cuneatis, crenatis, superne pallidus aut pallido- vel fuscescenti-glaucescens, isidiis et ciliis destitutus, esorediatus, sat laevigatus, aut leviter scrobiculatus, KHO non reagens, subtus ochraceo-pallidus, rhizinis concoloribus, brevissimis crebre obductus, basin versus saepe sat distincte nervosus, breviter stipitatus, cyphellis latis aut mediocribus (1–0.5 mm latis) instructus. Gonidia nostocacea. Apothecia marginalia aut submarginalia, 1–3.5 mm lata, late adnata, crassitudine mediocria, disco fusco-nigro, vulgo opaco, plano, margine subintegro aut leviter fisso, excipulo sat laevigato, glabro, gonidiis destituto. Hypothecium dilute rufescens vel pallido-rufescens. Epithecum pallido-rufescens. Sporae 8-nae, distichae, pallidae aut dilute pallidae, fusiformes, apicibus sat acutis aut sat obtusis, diu 1-septatae, demum 3-septatae, long. 0.050–0.064, crass. 0.010–0.014 mm. A *S. Boschiana* praesertim cyphellis multo majoribus differt.

MINDANAO, Dist. Davao, mons Apo, 2,000 m alt., Copeland 1087 p. p., 1090 p. p. In arboribus.

14. S. PLURISEPTATA Wain. sp. nov.

Thallus in lobos cuneatos aut irregulares, circ. 30–25 mm longos, 30–15 mm latos, denuo lobatos aut crenatos partitus, superne cinereo-glaucescens aut obscure glaucescens, laevigatus, ciliis et isidiis et sorediis destitutus, KHO non reagens, subtus pallidus et centrum versus fuscescens, rhizinis longitudine mediocribus aut partim brevibus, obscuratis aut sordide pallescentibus, crebris aut partim rarescentibus, cyphellis latis aut mediocribus (1–0.5 mm latis), haud costatus, basi breviter stipitatus. Apothecia marginalia aut submarginalia, 1.5–3 mm lata, late adnata, crassitudine mediocria, disco nigricante aut fusco-nigro, opaco, plano, margine crenulato aut subintegro, excipulo sat laevigato, subtus breviter tomentoso, gonidiis destituto. Hypothecium testaceum aut rufescens. Epithecum pallidum aut rufescens. Sporae 8-nae, fusiformes, decolores aut dilute pallidae, 1-septatae aut demum 5-septatae, long. 0.058–0.066, crass. 0.012–0.013 mm.

Affinis *S. dilatatae* (Nyl.) Wain., quae secund. specim. orig. in coll. Lindig. no. 1236 thallo stipitato, isidiis destituto, pilis marginalibus, penicilliformibus, cinereis ornato, apotheciis supra thallum sparsis, glabris, differt a *S. tomentosa* Sw., quae thallo ciliis et isidiis et stipite destitutus, subitus obscuris aut pallidis, apotheciis parvis, primum tomentosis, demum glabris secundum specim. orig. in herb. Ach. instructa est.

Luzon, Subprov. Benguet, mons Pulog, Merrill 6468. Ad truncum arboris.

3. LOBARIA Schreber

1. L. MERIDIONALIS Wain.

Thallus sat irregulariter iteratim lobatus et laciniatus, subpendulus, apicibus vulgo obtusis; axillis rotundatis aut obtusis, superne reticulato-costatus scrobiculatusque, fusco-pallescens aut pallido- vel cinereo-glaucescens, vulgo nitidus, sorediis destitutus, costis et margine plus minusve isidiosis, intus albus et KHO leviter fulvescens, subitus dilute pallidus aut albidus aut canaliculis inter bullas denudatas rufescentibus fuscescentibusve et tomentosis, tomento brevi, pallido aut rufescente aut fuscescente aut nigricante, ex hyphis laxe adhaerentibus, apice liberis formato. Gonidia pleurococcaceae, simplicia. Apothecia marginalia et supra laminam sparsa, 2-4 mm lata, elevata, basi bene constricta, substipitata aut sessilia, cupuliformia aut appanata aut raro convexa, disco rufo aut fusco aut pallido, nitido aut raro opaco, margine sat tenui aut demum excluso, integro, excipulo tessellato-verruculoso, pallido aut testaceo, glabro, gonidia infra stratum corticale continente, margine gonidiis destituto. Hypothecium pallidum. Epithecum pallidum aut testaceum aut rufescens. Sporae 8-nae, distichae, decolores aut dilute pallidae, fusiformes, apicibus sat obtusis, 3-septatae, long. 0.021-0.033, crass. 0.008-0.011 mm. Conidangia thallo immersa. Huc partim *S. pulmonaria* var. *papillaris* auctorum p. p. pertinet, at *Lobaria pulmonaria* (L.) Hoffm. sporis vulgo 1-septatis et thallo semper soredioso, isidiis destituto aut simul soredioso et isidioso (var. *papillaris* Del.) a *L. meridionali* differt.

Luzon, Subprov. Abra, Bur. Sci. 7301 Ramos: Subprov. Bontoc, Vanoverbergh 393: Subprov. Lepanto, mons Data, alt. 2,250 m, Merrill 4952, 4985: Subprov. Benguet, Merrill 7932, 1,500 m alt., For. Bur. 15901 Bacani, Bur. Sci. 3380 Mearns, Bur. Sci. 13511 Ramos; Baguio, 1,440 m alt., Bur. Sci. 14008 Robinson; Pauai, alt. 2,100 m, Bur. Sci. 8626 McGregor; mons Pulog, Merrill 6464, 6465, 6466, 6467, For. Bur. 16380 Curran, Merritt, & Zschokke; mons Tonglon, Bur. Sci. 5495 Ramos. MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, Mary Strong Clemens 1318. Ad truncos arborum.

2. L. ISIDIOSA (Muell.-Arg.) Wain.

Thallus irregulariter lobatus laciniatusque, subpendulus, apicibus saepe subtruncatis, superne olivaceo- aut pallido- aut fusco- aut cinereo-glaucescens aut obscure virescens, vulgo leviter nitidus, reticulato-costatus scrobiculatusque, in rugarum jugis et in marginibus isidiosus, isidiis linearibus, cylindricis aut rarius applanatis, sorediis destitutus, intus albidus, nec KHO nec CaCl_2O_2 reagens, subtus pallidus aut subalbidus et canalibus inter bullas glabras pallidis aut rufescentibus aut fuscescentibus, ambitum versus denudatis, ceterum crebre tomentosis, tomento brevi, nigricante aut fuscescente, penicillato, ex hyphis laxe cohaerentibus, apice liberis formato, vulgo etiam rhizinis filiformibus, 2–7 mm longis, ex hyphis arcte connatis formatis, pallidis aut fuscescentibus aut nigricantibus, simplicibus aut ramosis, glabris aut breviter squarroso-tomentosis, saepe aggregatis, in canalibus aut bullis affixis instructus. Gonidia nostocacea. Apothecia supra laminam thalli sparsa, parce etiam marginalia, 3.5–1 mm lata, sessilia, haud elevata, vulgo applanata, disco rufo aut fuscescente, nitido aut raro opaco, margine tenui, integro, pallido aut fuscescente, excipulo tessellato-verruculoso, tomentoso aut glabro, gonidia solum in basi infra stratum corticale continente. Hypothecium pallidum. Epithecum rufescens. Sporae 8-nae, distichae, decolores, fusiformes, apicibus obtusis, 3-septatae, long. 0.028–0.030, crass. 0.007–0.011 mm. Conidangia thallo immersa. *Stictina retigera* f. *isidiosa* Muell.-Arg. Lich. Beitr. no. 393, huc pertinet.

Luzon, Subprov. Benguet, Bur. Sci. 5876 Ramos, For. Bur. 15772 Curran; Pauai, alt. 2,250 m, Bur. Sci. 4431, 4546 Mearns, Bur. Sci. 8537, 8594 (f. *sphyridioides* Wain., isidiis morbose rufo-capitatis), 8626 McGregor; mons Pulog, Merrill 6470, Bur. Sci. 8926, 8966 McGregor. In arboribus.

3. L. RETIGERA (Bor.) Wain.

Thallus irregulariter aut iteratim dichotome lobatus laciniatusque, subpendulus, apicibus saepe subtruncatis, superne pallido- aut olivaceo-glaucescens, leviter nitidus, reticulato-costatus scrobiculatusque, sorediis et isidiis destitutus, intus albidus, nec KHO nec CaCl_2O_2 reagens, subtus pallidus et canalibus inter bullas glabras pallidis aut rarius demum rufescentibus, ambitum versus denudatis, ceterum crebre tomentosis, tomento brevi, nigricante, penicillato, ex hyphis laxe cohaerentibus, apice liberis formato, etiam rhizinis filiformibus, 1–4 mm longis, ex hyphis arcte connatis formatis, pallidis aut fuscescentibus aut nigricantibus, vulgo subsimplicibus, glabris aut breviter squarroso-tomentosis, saepe aggregatis, in canalibus aut bullis affixis in-

structus. *Gonidia nostocacea*. Apothecia supra laminam thalli sparsa, parce etiam marginalia, 2.5–1 mm lata, sat elevata, basi bene constricta, substipitata aut sessilia, primum cupuliformia, dein mox applanata, disco rufo aut fuscescente, nitido aut opaco, margine tenui, subintegro, fuscescente aut subpallido, excipulo tessellato-verruculoso, subglabro aut glabro, primum in basi gonidia continente, demum gonidiis destituto, stipite gonidia continente. Hypothecium pallidum aut rufesceni-pallidum. Epithecum rufescens aut pallidum. Sporae 8-nae, distichae, decolores aut pallidae, fusiformes, apicibus obtusis aut sat acutis, demum 3-septatae, long. 0.026–0.030, crass. 0.007–0.010 mm. Thallo isidiis destituto et apotheciis magis elevatis, demum gonidiis substitutis a *L. isidiosa* (Muell.-Arg.) differt.

MINDORO, mons Halcon, Merrill 6110. MINDANAO, Prov. Misamis, mons Malindang, For. Bur. 4808 Mearns & Hutchinson. Ad truncos arborum.

4. *L. ASIATICA* Wain. sp. nov.

Thallus irregulariter lobatus, adpressus, superne olivaceo-pallido- et pallido-fuscescenti-variegatus, subtus late nigricans, rhizinis concoloribus, tomento subcontinuo aut partim abrupto, ex hyphis laxe cohaerentibus formato, rhizinis longioribus abundantanter immixto superne et intus nec KHO nec CaCl_2O_2 reagens, at his reagentiis unitis intus rubescens. Gonidia pleurococcaceae. Apothecia supra laminam thalli sparsa, parmelioidea, cupuliformia, 3–6 mm lata, sessilia, disco concavo aut demum applanato, rufo aut fusco, margine elevato aut inflexo, sat tenui, saepe demum anguste thallino-dilatato, integro aut demum parce thallino-lobato, excipulo laevigato, glabro, gonidia infra stratum corticale continente, thallo concolore. Hypothecium pallidum. Epithecum pallido-rufescens. Sporae 8-nae, polystichae, decolores aut demum pallidae, fusiformes, apicibus sat acutis, diu 1-septatae, demum 3-septatae, long. 0.05–0.06, crass. 0.008 mm. Conidangia demum verrucas hemisphaericas formantia. Ramificatione thalli et apotheciis similis est *L. herbacea* (Huds.), at thallo subtus late nigricante rhizinisque concoloribus ab ea differens. Sporis longioribus 3-septatisque et margine apotheciorum saepe thallino-dilatato a *L. intermedia* (Nyl.) distinguatur.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2,100 m, Bur. Sci. 8585 McGregor; mons Pulog, Merrill 6447; mons Tonglon, Bur. Sci. 5479 Ramos. Ad truncos arborum.

5. **L. PHILIPPINA** Wain. sp. nov.

Thallus subdichotome sat crebre iteratim laciniatus, apicibus saepe subtruncatis aut rotundato-obtusis, axillis sat latis aut angustis, rotundatis aut obtusis, adpressus, superne leviter scrobiculato-inaequalis, pallido-fuscescenti- et olivaceo-pallido-variegatus, leviter nitidus, sorediis et isidiis destitutus, intus albidus, superne et intus nec KHO nec CaCl_2O_2 reagens, at his reagentiis unitis intus rubescens, subtus pallidus aut medio demum nigricans, subcontinue aut partim sparse tomentosus, tomento brevi, crebro aut partim increbro, fuscescente aut nigricante aut ambitum versus pallido, margines et apices versus partim inaequaliterque denudatus, rhizinis longioribus crassioribusque passim parceve instructus. Gonidia pleurococcaceae. Apothecia submarginalia et partim supra laminam thalli sparsa, 3–8 mm lata, sessilia, sat planata aut rarius primum cupuliformia, disco rufo aut fusco, margine mediocri aut sat tenui, subintegro aut raro subcrenulato, haud thallino-dilatato, excipulo glabro, laevigato aut tessellato-verruculoso aut demum scrobiculato, gonidia infra stratum corticale continente, thallo concolore. Hypothecium pallidum. Epithecium rufescens. Sporae 8-nae, distichae, pallidae, fusiformes, apicibus sat acutis aut rarius obtusis, diu 1-septatae, demum 3-septatae, long. 0.031–0.042, crass. 0.009–0.011 mm. Conidangia thallo immersa. Tomento thalli similis est *Lobariae Schaeereri*. *L. intermedia* (Nyl.) rhizinis majoribus, sporis 2-septatis et habitu *L. herbaceae* ab ea recedit. *L. americana* Wain. lobis thalli rotundatis et rotundato-crenatis et sporis acicularibus ab ea distinguitur. *L. patinifera* (Tayl.) isidiis vel “gemmae marginalibus subrotundis, planis” thalli et “thallo albido” ab his omnibus differt.

MINDANAO, Dist. Davao, mons Apo, 1,900 m alt., Copeland 1149, 1088.
Ad truncos arborum.

6. **L. STICTAEFORMIS** (Schaer.) Wain.

Parmelia stictaeformis Schaer. in Moritzi Syst. Verzeichn. (1846) 128.
Sticta Schaeereri Mont. & v. d. Bosch, Lich. Jav. (1856) 14.
Lobaria Schaeereri Hue, Lich. Jav. (1901) 181 p. p.

Thallus irregulariter aut subdichotome crebre iteratim laciniatus lobatusque, apicibus saepe subtruncatis aut rotundato-obtusis, axillis sat angustis, rotundatis aut obtusis et lateribus conniventibus, adpressus, superne sat laevigatus, saepe late canaliculatus, albido- aut pallido-glaucescens, KHO lutescens et

addito CaCl_2O_2 , intus rubescens, subtus pallidus et centrum versus et medio laciniarum nigricans aut fuscescens et ibi tomento brevi, crebro aut partim disperso, nigricante aut fusco instructus, apices et saepe margines versus denudatus, rhizinis longioribus parcis aut nullis, sorediis et isidiis destitutus, laciniis 3–15 mm latis. Apothecia marginalia aut submarginalia, 3–6 mm lata, elevata, subpedicellata, cupuliformia aut demum applanata, disco rufo, margine sat tenui, subintegro aut rugoso, haud thallino-dilatato, excipulo laevigato aut verruculoso, glabro, thallo concolore, gonidia pleurococcaceae usque ad marginem continens. Hypothecium pallidum. Epithecum pallidum aut rufesceni-pallidum. Sporae 8-nae, distichae, dilute pallidae, fusiformes, apicibus sat acutis aut obtusis, 1–3-septatae, long. 0.025–0.042, crass. 0.009–0.010 mm. Conidangia submarginalia, thallo immersa, haud prominentia, ostiolo nigro indicata.

Luzon, Subprov. Benguet, *For. Bur.* 15902 Bacani, F. Sanchez 14. Mindanao, Subprov. Butuan, vallis Agusan, *For. Bur.* 7584 Hutchinson. Ad trunco arborum.

7. L. FERAX Wain. sp. nov.

Thallus irregulariter aut subdichotome crebre iteratim laciniatus lobatusque, laciniis 2–40 mm latis, apicibus rotundato-crenatis aut subtruncatis rotundatisve aut obtusis, axillis angustis aut sat angustis, rotundato-obtusis aut rotundatis et lateribus conniventibus, adpressus, superne sat laevigatus aut leviter inaequalis, albido- aut pallido-glaucescens, KHO lutescens et addito CaCl_2O_2 , intus rubescens, subtus albido-pallescens aut pallidus aut centrum versus partim fuscescens vel pallido-fuscescens, tomento brevi, disperso, sordide pallescente aut nigricante et rhizinis longioribus sparsis aut aggregatis, numerosis aut parcissimis instructus, ambitum versus plus minusve late denudatus, sorediis et isidiis destitutus. Apothecia supra laminam thalli sparsa, 2.5 mm lata, sessilia, applanata aut raro praesertimque primum cupuliformia, disco rufo, margine sat tenui aut mediocri, saepe crenulato aut verrucoso aut subintegro, haud thallino-dilatato, excipulo vulgo verruculoso, glabro, thallo concolore. Hypothecium pallidum. Epithecum pallidum. Sporae 8-nae, distichae, dilute fuscescentes vel pallidae, fusiformes, apicibus acutis aut rarius obtusis, 1–3-septatae, long. 0.022–0.055, crass. 0.008–0.012 mm. Conidangia supra laminam thalli sparsa, saepe leviter prominentia, ostiolo nigricante instructa. *L. Schaeferi* auctorum hoc pro parte pertinet, at *L. ferax* apotheciis

centralibus, sessilibus et conidangiis centralibus ab *L. stictaeformi* facile distinguitur.

Var. **GENUINA** Wain.

Thallus laciniis circ. 3–10 mm latis. Sporae 1–3-septatae, long. 0.025–0.052, crass. 0.008–0.011 mm. Ramificatione thalli similis *L. stictaeformi*.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2,100 m, Bur. Sci. 8532, 8533, 8539, 8558, 8576, 8583, 8597 p. p. McGregor; mons Pulog, Bur. Sci. 8928, 8939, 8948 McGregor, For. Bur. 16358 Curran, Merritt, & Zschokke; mons Tonglon, Bur. Sci. 5491 Ramos. Ad truncos arborum.

Var. **SUBSINUOSA** Wain.

Thallus laciniis circ. 15–40 mm latis. Sporae 1–3-septatae, long. 0.040–0.055, crass. 0.008–0.010 mm. Ramificatione thalli subsimilis *Stictae sinuosa* Pers. et *Lobariae platylobae* (Nyl.), quae posterior thallo subtus albido rhizinisque albidis (et sporis 1-septatis) ab ea differt.

Luzon, Subprov. Benguet, Pauai, Bur. Sci. 8581 McGregor; mons Pulog, Merrill 6471; mons Tonglon, Merrill 7961. Mindoro, mons Haleon, alt. 1,800 m, Merrill 5523. Ad truncos arborum.

Var. **STENOPHYLLODES** Wain.

Thallus laciniis circ. 2–5 (–10) mm latis, axillis latioribus. Apothecia 1.5–2.5 mm lata. Sporae pallidae, fusiformes, apicibus obtusis aut acutis, diu 1-septatae, raro demum 3-septatae, long. 0.022–0.040, crass. 0.010–0.012 mm. *Lobarium Fendleri* (Mont.) in memoriam revocans.

Luzon, Subprov. Benguet, Baguio, 1,450 m alt., Merrill 4941. Ad fructices.

8. L. SUBSCROBICULATA Wain. sp. nov.

Thallus irregulariter aut subdichotome sat crebre iteratim laciniatus lobatusque, laciniis 7–25 mm latis, apicibus rotundato-lobatis, axillis sat angustis, rotundato-obtusis aut rotundatis, lateribus conniventibus, adpressus, superne subreticulato- et impresso-rugosus, albido-glaucens, KHO bene lutescens, intus non reagens, at addito CaCl_2O_2 , intus rubescens, subtus albido-pallescens, tomento brevi, crebro aut partim disperso, sordide pallescente et centrum versus cinereo-fuscescente instructus, pustulis vulgo denudatis, ambitum versus late denudatus, rhizinis longioribus parcissimis, sorediis et isidiis destitutus. Conidangia supra laminam thalli sparsa, immersa aut raro verruculam formantia, ostiolo nigro aut fuscescente. *Ricasolia*

subdissecta f. *scrobiculata* Nyl. in Flora (1864) 618 secund. specim. orig. tomento nigro, margine apotheciorum haud thallino-dilatato et conidangiis thallo immersis instructa, etiam ramificatione thalli et habitu huic speciei est similis, at colore tomenti ab ea differt.

Luzon, Subprov. Bontoc, Vanoverbergh 394. Ad truncum arboris.

9. **L. DISCOLOR** (Bor.) Wain.

Thallus dichotome sat crebre iteratim laciniatus, laciniis circ. 12–3 mm latis, apicibus vulgo subtruncatis aut obtusis aut rotundatis, axillis rotundatis, sat latis, lateribus conniventibus, adpressus, superne sat laevigatus, saepe leviter late canaliculatus, pallide cinereo-glaucescens, KHO non reagens, at addito CaCl_2O_2 intus rubescens, subtus pallescens, subglaber et tomento destitutus, rhizinis nonnullis, subsimplicibus instructus, sorediis et isidiis destitutus. Apothecia submarginalia et supra laminam thalli sparsa, elevata, sessilia aut subsessilia, 2–3.5 mm lata, primum cupuliformia, demum applanata, disco rufo, margine sat tenui, integro, haud thallino-dilatato, demum saepe tessellato-diffracto, excipulo glabro. Hypothecium pallidum. Epitheciun pallidum. Sporae 8-nae, distichae, pallidae, fusiformes, apicibus acutis aut raro obtusis, 1–3-septatae, long. 0.022–0.036, crass. 0.009–0.011 mm. Conidangia marginalia et supra laminam thalli sparsa, haud aut raro leviter prominentia, ostiolo nigricante instructa. Reactionibus thalli cum specimine originali no. 33360 e Borbonia (in herb. Nyl.) congruens. Arn. Lich-Exs. 1693 thallo superne KHO lutescente, subtus maculis nigricantibus nigro-tomentosis instructo ab hac specie differt et nominetur *Lobaria Arnoldi* Wain.

Luzon, Prov. Pampanga, mons Arayat, Merrill 3842. Ad truncum arboris.

10. **L. ROBINSONII** Wain. sp. nov.

Thallus irregulariter laciniatus lobatusque, laciniis 12–3 mm latis, apicibus rotundato-crenatis, axillis angustis, lateribus conniventibus, adpressus, superne laevigatus, albido-glaucescens, superne et intus nec KHO nec CaCl_2O_2 reagens, subtus albido-pallescens, subglaber et tomento destitutus, rhizinis parcis, subsimplicibus instructus, sorediis et isidiis destitutus. Apothecia supra laminam thalli sparsa, adpressa aut sat elevata, sessilia, 2–3 mm lata, applanata aut primum cupuliformia, disco rufo, margine sat tenui, subintegro aut verruculoso, haud thallino-dilatato, excipulo sublaevigato, glabro. Hypothecium pallidum. Epitheciun lutescenti-pallidum. Hymenium circ. 0.13 mm cras-

sum. Sporae 8-nae, distichae, pallidae, fusiformes, apicibus acutis, diu 1-septatae, demum 3-septatae, long. 0.032–0.058, crass. 0.007–0.009 mm. Conidangia marginalia et supra laminam thalli sparsa, bene prominentia, ostiolo nigricante instructa. Ramificatione thalli *Parmeliam tiliaceam* in memoriam revocans.

Luzon, Prov. Laguna, mons Banajao, *Bur. Sci. 9866 Robinson*. Ad truncum arboris.

11. L. INTERVERSANS (Nyl.) Wain.

Thallus irregulariter laciniatus lobatusque, laciniis 15–2 mm latis, apicibus rotundato-crenatis, axillis angustis, lateribus coniventibus, arcte adpressus, superne laevigatus, cinereo- aut pallido-glaucescens, KHO non reagens, at addito CaCl_2O_2 intus rubescens, subtus pallidus aut centrum versus demum fuscescens, rhizinis 2–0.2 mm longis subsimplicibus aut apice demum ramosis, pallidis aut fuscescens instructus, sorediis et isidiis destitutus. Apothecia supra laminam thalli sparsa, sessilia, 1.5–5 mm lata, aplanauta cupuliformia, disco fusco, margine tenui aut sat tenui, integro aut crenulato, excipulo laevigato, glabro. Hypothecium pallidum. Epithecum pallidum. Sporae 8-nae, pallidae, fusiformes, apicibus acutis aut rarius sat obtusis, 1–3-septatae, long. 0.034–0.064, crass. 0.006–0.010 mm. Conidangia supra laminam thalli sparsa, prominentia, ostiolo nigricante instructa. Cum specimine orig. hujus speciei, in insula S. Thomé in Guinea lecta, satis congruens.

Luzon, Subprov. Benguet, Pauai, *Bur. Sci. 4555 Mearns*: Prov. Cagayan, *For. Bur. 16801 Curran*. Mindoro, mons Halcon, *Merrill 6191 p. p.*

12. L. MACGREGORII Wain. sp. nov.

Thallus irregulariter laciniatus lobatusque, laciniis 15–3 mm latis, apicibus rotundato-crenatis, axillis angustis, lateribus coniventibus, adpressus et apicibus leviter adscendentibus, superne laevigatus, glaber, pallidus aut partim glaucescenti-pallidus, KHO non reagens, at addito CaCl_2O_2 intus rubescens, subtus pallidus aut centrum versus demum fuscescens, tomento nigricante, brevi, ramoso et rhizinis subsimplicibus aut squarroso-tomentosis, nigricantibus, numerosis obsitus, ambitu anguste denudatus, sorediis et isidiis destitutus. Apothecia supra laminam thalli sparsa, sessilia, 2–6 mm lata, cupuliformia, disco pallido-rufescente, margine tenui, subintegro aut leviter crenato, demum anguste thallino-dilatato, excipulo laevigato aut leviter verruculoso, glabro. Hypothecium pallidum. Epithecum pallidum. Sporae 8-nae, pallidae aut rufescenti-pallidae, fusiformes, apicibus acutis, 1–3 septatae, long. 0.032–0.040, crass. 0.007–0.010 mm.

Conidangia supra laminam thalli sparsa, verrucas conoideo-hemisphaericas formantia, apice mammillato, nigricante.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2,100 m, Bur. Sci. 8597
McGregor. Ad truncum arboris.

13. *L. INSULARIS* Wain. sp. nov.

Thallus sat crebre iteratim dichotome laciniatus, laciinis circ. 11–3 mm latis, apicibus vulgo subtruncatis aut obtusis, axillis rotundatis, sat latis, lateribus conniventibus, prostratus, superne sat laevigatus, saepe leviter late canaliculatus, glaber, albido-aut cinereo- aut pallido-glaucescens, KHO non reagens, at addito CaCl_2O_2 intus rubescens, subtus pallidus et medium aut centrum versus laciniarum nigricans aut fuscescens, medio laciniarum aut partim subreticulatum tomento brevi, crebro, nigricante aut raro partim pallido (in no. 1301) obductus et rhizinis elongatis parcis interdum instructus, latere saepe glaber, ambitum versus interdum partim late denudatus, sorediis et isidiis destitutus. Apothecia supra laminam thalli sparsa aut partim marginalia, elevata, substipitata, cupuliformia aut planata, 2–5 mm lata, disco rufo, margine mediocri, integro, excipulo tessellato-verruculoso, glabro. Hypothecium pallidum. Epithecum pallidum. Sporae 8-nae, distichae, fusiformes, apicibus acutis aut sat acutis, pallidae, 1–3-septatae, long. 0.022–0.042, crass. 0.009–0.014 mm. Conidangia marginem versus thalli sparsa, thallo immersa, ostiolo punctiformi, nigro indicata. Habitu subsimilis *L. marginatae* (Muell.-Arg.), at reactione thalli et tomento nigricante et sporis crassioribus ab ea differens. *L. Fendleri* (Mont.) tomento distinctius reticulato ab ea distinguitur.

Luzon, Subprov. Lepanto, For. Bur. 16024 Bacani: Prov. Bataan, mons Mariveles, Copeland "N." MINDANAO, Dist. Lanao, Castra Keithley prope lacum Lanao, Mary Strong Clemens 1301. Ad truncum arboris.

14. *L. CLEMENSÆ* Wain. sp. nov.

Thallus sat irregulariter lobatus, lobis circ. 10–2 mm latis, margine partim anguste lacinulatus, lacinulis partim isidioideis, etiam lamina saepe partim isidiosa, adpressus, sat laevigatus, saepe partim late canaliculatus, superne glaucescens aut partim pallido-glaucescens, nec KHO nec CaCl_2O_2 nec his reagentis unitis reagens, subtus pallidus et centrum versus fuscescens vel nigricans, fere totus tomentosus, tomento brevi, crebro, fuscescente vel nigricante aut ambitum versus partim pallido, zonam continuam formante, aut apices marginesque versus plus minusve late denudatus, rhizinis subsimplicibus, elongatis, parcis interdum instructus. *L. subcorrosa* (Nyl.) et *L. ad-*

scripta (Nyl.), thallo margine isidioideo lacinulato instructae, reactione thalli ab hac specie differunt. Diversa etiam est planta, nomine *Ricasoliae adscriptae* a Nyl. salutata, ex Japonia, thallo crassiore, margine haud isidioideo-lacinulato, dignota, quae nominetur *L. adscripturiens*, nam *R. adscripturiens* Nyl. ab ea non distinguenda est et "puncta alba pseudocyphe-
loidea," a Nyl. in thallo ejus observata, secundum specimen orig.
in herb. Nyl. tantum rhizinae abruptae sunt.

MINDANAO, Subprov. Butuan, 320 m alt., *C. M. Weber 1385*: Dist. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1313, 1316*. Ad truncum arboris. Ster.

15. *L. ALBIDOGLAUCESCENS* Wain. sp. nov.

Thallus irregulariter crebre laciniatus lobatusque, laciniis 10–2 mm latis, ambitu rotundato-crenatis, axillis angustis, vulgo acutis, adpressus, superne sat laevigatus, glaber, albido-vel cinereo-glaucescens, KHO lutescens, et addito CaCl_2O_2 intus rubescens, subtus pallescens aut centrum versus demum fuscescens, rhizinis subsimilibus, sat brevibus crebris partim obduc-tus, ambitum versus sat anguste denudatus, isidiis et sorediis destitutus. Apothecia supra laminam thalli sparsa, sessilia, cupuliformia aut sat applanata, 1.5–4 mm lata, disco rufo aut testaceo-rufescente, margine sat tenui, crenato aut rarius subin-tegro, saepe subinfuso, interdum demum anguste thallino-dila-tato, excipulo minutissime verruculoso, glabro. Hypothecium pallidum. Epithecum rufescens aut pallido-rufescens. Sporae 8-nae, polystichae, aciculares, apicibus acutis aut sat acutis, de-colores aut dilutissime pallidae, 3-septatae, long. 0.052–0.080, crass. 0.004–0.006 mm. Conidangia supra laminam thalli sparsa, verrucas hemisphaericas aut depresso-hemisphaericas formantia, ostiolo fusco-nigro, punctiformi, interdum leviter impresso. A *L. crenulata* conidangiis prominentibus, thallo superne laevigato, margine apothecium minus thallino-dilatato, sporis triseptatis distinguitur. *Ricasolia sublaevis* Nyl. thallo subtus subnudo ab iis differt.

LUZON, Subprov. Benguet, Pauai, alt. 2,100 m, *Bur. Sci. 8619, 8636 McGregor*. Ad truncos arborum.

ERRATA TYPOGRAPHICA, PARS I (Philip. Journ. Sci. 4 (1909) Bot.).

- Fol. 652 lin. 7 inf. pro: *U. cinchonarum* lege: **U. cinchonarum*.
- Fol. 653 lin. 8 inf. pro: *U. ciliata* lege: **U. ciliata*.
- Fol. 659 lin. 4 sup. pro: *P. Clandelli* lege: *P. Claudelii*.
- Fol. 662 lin. 13 inf. pro: *S. alpina* lege: *S. alpino*.
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