

Some Philippine Polyporaceae

WILLIAM ALPHONSO MURRILL

A large number of Philippine polypores have been added to the herbarium of the New York Botanical Garden during the last few years, mainly through the efforts of Mr. Robert S. Williams, who was collecting in the islands from November, 1903 to July, 1905, and to some extent from the collections of Mr. Elmer D. Merrill and Mr. A. D. E. Elmer, who sent material either to Mr. Ricker or myself for determination. A list of these additions to the herbarium is given in the following pages.

Mr. Williams collected the most of his specimens on the Lamao River and elsewhere on the slopes of Mt. Mariveles across the bay west of Manila. At Baguio, some distance to the north, he reached an elevation of 5200 feet, about 1000 feet higher than Mt. Mariveles, and found open pine woods, with much dead pine timber left by lumbermen. At Santa Cruz, on the Gulf of Davao, in Mindanao, he collected at an elevation of only a few hundred feet, and mostly in a more continuous forest than in the Lamao region. The specimens from Mr. Merrill and Mr. Elmer were collected in Luzon, Mindanao, Mindoro, Palawan, Culion, and Leyte.

A number of Philippine species which have been seen in European herbaria have as yet failed to appear in these additions, but it is hoped that the list will be complete enough in a year or two more so that a fairly full synopsis of Philippine polypores will be possible. Excursions into the interior of the larger islands will undoubtedly bring to light a considerable number of novelties, while further explorations among the smaller islands will serve more strongly to connect the native species with their relatives in Formosa, China, Japan, Malacca, Borneo, Java, Celebes, New Guinea, Australia, and the many small neighboring islands of the Pacific.

Subfamily POLYPOREAE

COLTRICIA CINNAMOMEA (Jacq.) Murrill, Bull. Torrey Club 31:

343. 1904.

Luzon: Mt. Mariveles, *Elmer* 6949.

COLTRICIA PERENNIS (L.) Murrill, Jour. Myc. **9**: 91. 1903.

Luzon: Baguio, *Williams*.

Corioloopsis aneba (Berk.) Murrill. *Polyporus anebus* Berk.

Lond. Jour. Bot. **6**: 504. 1847. (Type from Ceylon.)

? *Polyporus bicolor* Jungh. Fl. Crypt. Jav. **1**: [54]. 1838.

(Type from Java.)

Luzon: Mt. Mariveles, *Elmer* 6909.

Corioloopsis badia (Berk.) Murrill. *Trametes badia* Berk. Lond.

Jour. Bot. **1**: 151. 1842. (Type from the Philippines.)

Polystictus badius Cooke, Grevillea **14**: 86. 1886.

Luzon: Lamao, 70 m., 115 m., 130 m., *Williams*. Culion:

Merrill 3526. Mindanao: Santa Cruz, Gulf of Davao,

Williams.

Corioloopsis dermatodes (Lév.) Murrill. *Trametes dermatodes*

Lév. Ann. Sci. Nat. Bot. III. **2**: 196. 1844. ? *Polyporus cer-*

vino-gilvus Jungh. Fl. Crypt. Jav. **1**: [45]. *pl.* 9. 1838.

(Type from Java.) *Polyporus dermatodes* Lév.; Gaud. Voy.

Bonite **1**: 180. *pl.* 138. *f.* 2. 1846. *Polyporus Peradeniae*

Berk. & Br. Jour. Linn. Soc. Bot. **14**: 51. 1885. (Type

from Ceylon.)

Luzon: Lamao, 70 m., 80 m., 115 m., 130 m., *Williams*;

Mt. Mariveles, *Elmer* 6936, 6957.

CORIOLOPSIS OCCIDENTALIS (Kl.) Murrill, Bull. Torrey Club **32**:

358. 1905. *Polyporus lanatus* Fr. Epicr. 490. 1838. (Type

from the East Indies.) *Polyporus scorteus* Fr. Nov. Symb. 89.

1851. (Type from Pulo-Milu.)

Luzon: Lamao, 15 m., *Williams*. Culion: *Merrill* 3571.

Mindanao: Santa Cruz, Gulf of Davao, *Williams*.

Corioloopsis phocinus (Berk. & Br.) Murrill. *Polyporus phocinus*

Berk. & Br. Jour. Linn. Soc. Bot. **14**: 52. 1885. (Type

from Ceylon.)

Luzon: Lamao, 80 m., *Williams*.

Corioloopsis semilaccata (Berk.) Murrill. *Polyporus zonalis semi-*

laccatus Berk. Jour. Linn. Soc. Bot. **16**: 46. 1878. (Type

from Malamon.) *Fomes semilaccatus* (Berk.) Cooke, Grevillea

15: 22. 1886.

Luzon: Bataan, *Merrill* 3503; Mt. Mariveles, *Elmer* 6929,

6946; Mt. Banahao, *Elmer* 7557.

CORIOLOUS ABIETINUS (Dicks.) Quél. Ench. Fung. 175. 1886.

Luzon: Baguio, *Williams*.

CORIOLOUS ATYPUS (Lév.) Pat. Tax. Hymén. 94. 1900. *Polyporus atypus* Lév. Ann. Sci. Nat. Bot. III. 2: 184. 1844. (Type from Java.) ? *Polyporus brunneolus* Berk. Lond. Jour. Bot. 3: 187. 1844. (Type from the Philippines.) ? *Polystictus Dridrichsenii* Fr. Nov. Symb. 76. 1851. (Type from the island of Bora-bora.) *Trametes Aurora* Ces. Myc. Borneo 5. 1897. (Type from Borneo.)

Luzon: Lamao, 75 m., 80 m., 115 m., 500 m., *Williams*; Mt. Mariveles, *Merrill* 3506, *Elmer* 6938, 6940, 6947, 6955, 6958; Bataan, *Merrill* 3505. Mindoro: Baco River, *Merrill* 3578.

Coriolus cuneatiformis Murrill, sp. nov.

Pileus flabelliform, with a cuneate base, thin, dry, flexible, conchate, depressed behind, $2-3 \times 3-4 \times 0.1$ cm.; surface subglabrous, zonate, smooth, white, with pale-avellaneous zones, sometimes avellaneous behind; margin very thin, entire, slightly deflexed when dry: context thin, white, fibrous, less than 1 mm. thick; tubes short, yellowish-white, 1 mm. long, mouths minute, circular to angular, regular, 6 to a mm., edges thin, entire, white to pale-yellowish: spores ellipsoidal, smooth, hyaline, $2.5-3 \times 5-6 \mu$; hyphae hyaline, $3.5-5 \mu$; cystidia none.

Type collected on the Lamao River, Luzon, 80 m., on dead wood, December 1903, by R. S. Williams.

CORIOLOUS ELONGATUS (Berk.) Pat. Tax. Hymén. 94. 1900. *Polyporus elongatus* Berk. Lond. Jour. Bot. 1: 149. 1842. (Type from the Philippines.)

Luzon: Lamao, 500 m., 700 m., *Williams*.

Coriolus maximus (Mont.) Murrill. *Irpex maximus* Mont. Ann. Sci. Nat. II. 8: 364. 1837. (Type from Cuba.) *Polyporus Meyenii* Kl. Nov. Act. Acad. Nat. Cur. 19: Suppl. 236. 1843. (Type from Manila.)

Luzon: Lamao, 80 m., 115 m., *Williams*; Mt. Mariveles, *Elmer* 6931; Bataan, *Merrill* 3499.

Coriolus murinus (Lév.) Pat. Tax. Hymén. 94. 1900. *Polyporus murinus* Lév. Ann. Sci. Nat. Bot. III. 2: 185. 1844. (Type from Java.)

Luzon: Lamao, 115 m., 130 m., *Williams*. Leyte: Palo, *Elmer* 7237.

- Coriolus vernicipes** (Berk.) Murrill. *Polyporus vernicipes* Berk. Jour. Linn. Soc. Bot. 16: 50. 1878. (Type from Japan.) Luzon: Mt. Banahao, 650 m., *Elmer* 7550.
- Cycloporellus*** **cichoriaceus** (Fr.) Murrill. *Polyporus intybaceus* Berk. Lond. Jour. Bot. 1: 149. 1842. (Type from the Philippines.) Not *P. intybaceus* Fr. *Polystictus cichoriaceus* Fr. Nov. Act. Reg. Soc. Sci. Ups. III. 1: 92. 1855. *Polyporus setiporus* Berk. Hook. Lond. Jour. Bot. 6: 505. pl. 20. f. 2. 1847. (Type from Ceylon.) Luzon: Upper Lamac, 700 m., *Williams*; Lamac, *Merrill* 3528.
- Cycloporellus microcylus** (Lév.) Murrill. *Polyporus microcylus* Lév. Ann. Sci. Nat. Bot. III. 2: 188. 1844. (Type from Java.) Luzon: Lamac, 115 m., *Williams*; Upper Lamac, 700 m., *Williams*; Mt. Mariveles, *Elmer* 6937. Leyte: Palo, *Elmer* 7228.
- Earliella corrugata** (Pers.) Murrill. *Polyporus corrugatus* Pers.; Gaud. Voy. Freyc. Bot. 172. 1826. *Polyporus fusco-badius* Pers.; Gaud. Voy. Freyc. Bot. 172. 1826. (Type from the Marianne Islands.) *Polyporus scabrosus* Pers.; Gaud. Voy. Freyc. Bot. 172. 1826. (Type from the Marianne Islands.) ? *Polyporus mariannus* Pers.; Gaud. Voy. Freyc. Bot. 173. 1826. (Type from the Marianne Islands.) *Daedalea sanguinea* Kl. Linnaea 8: 481. 1833. (Type from the East Indies.) ? *Trametes bicolor* Berk. Trans. Linn. Soc. Bot. 16: 43. 1878. (Type from the island of Aru.) *Polystictus Persoonii* Cooke, Grevillea 14: 85. 1886. *Trametes nitida* Pat. Jour. de Bot. 4: 17. 1890. (Type from Tonkin.) Luzon: Mt. Mariveles, *Elmer* 6921, 6935. Leyte: Palo, *Elmer* 7206, 7208.

*The genus *Cyclomycetella* (Bull. Torrey Club 31: 422. 1904), based on *Boletus pavonius* Hook., becomes a synonym of *Coriolus*, since the real type of this species proves to be a member of the latter genus, rather than synonymous with *Polyporus iodinus* Mont. as generally supposed. I therefore suggest the name **Cycloporellus** for this group of species, with *Polyporus iodinus* Mont. (Ann. Sci. Nat. Bot. II. 16: 108. 1841) as its type, and with the same diagnosis as that already published for *Cyclomycetella*.

FAVOLUS TENUIS (Hook.) Murrill, Bull. Torrey Club 32: 100.

1905. *Polyporus bivalvis* Pers.; Gaud. Voy. Freyc. 168.

1826. (Type from Rawak.) *Hexagona orbiculata* Fr. Fung.

Guin. f. 9. 1837. (Type from Guinea.) *Hexagona cervino-*

plumbea Jungh. Crypt. Java 61. f. 32. 1838. (Type from

Java.) *Hexagona Thwaitesii* B. & C. Proc. Am. Acad. Arts

& Sci. 4: 122. 1860. (Type from Bonin island.)

Luzon: Lamac, 70 m., 130 m., Williams; Mt. Mariveles, Elmer

6927, 6934. Leyte: Palo, Elmer 7226.

FAVOLUS WIGHTII (Kl.) Ricker, Philipp. Jour. Sci. 1: Suppl. 286.

1906. *Polyporus Wightii* Kl. Linnaea 7: 200. pl. 10. 1832.

Hexagona Wightii Fr. Epicr. 496. 1838.

Pileus thin, coriaceous, flexible, umbonate-affixed, dimidiate to reniform, applanate when young, becoming deeply depressed with age, 5-10 × 7-16 × 0.2 cm., surface multizonate, marked with a few concentric ridges, pale-umbrinous and nearly glabrous when young, then chestnut-colored, with a few appressed aculeae, and finally opaque-black and clothed with conspicuous, erect or ascending, rigid, flattened, somewhat branched, black aculeae; margin very thin, isabelline, undulate or slightly lobed: context scarcely 1 mm. thick, tough, punky, fibrous; tubes 1.5 mm. long, cinereous or fulvous and glabrous within, mouths large, shallow, equally hexagonal, 1-3 mm. in diameter, cinereous or fulvous, edges thin, rarely obtuse, firm, entire.

Luzon: Mt. Mariveles, Elmer 6913, 6919; Lamac, 130 m., Williams.

Funalia philippinensis Murrill, sp. nov.

Pileus sessile, dimidiate, subimbricate, applanate above, slightly convex below, 5-10 × 10-15 × 1-2 cm.; surface slightly zonate near the margin, dark-fulvous throughout, very conspicuously clothed with rigid, branched, flattened or terete, concolorous, pointed aculeae, which partially disappear in extreme age; margin ochraceous, sterile, acute, undulate: context ferruginous, thin, punky-corky, 2-3 mm. thick; tubes 5-10 mm. long, ferruginous-fulvous within, mouths circular to hexagonal, very regular, averaging 1 mm. in diameter, edges thin, firm, entire, white when young, becoming dark-umbrinous: spores ovoid, smooth, hyaline, 3.5-4.5 μ ; hyphae pale-ferruginous, 2-4 μ ; cystidia none.

Type collected on the Lamac River, Luzon, 115 m., on dead wood, February, 1904, by R. S. Williams.

Funalia versatilis (Berk.) Murrill. *Trametes versatilis* Berk.

Lond. Jour. Bot. **1**: 150. 1842. (Type from the Philippines.)
Hexagonia ciliata Kl. Nov. Act. Acad. Nat. Cur. **19**: Suppl.
 235. pl. 5. f. 1. 1843. *Polystictus cilicioides* Fr. Nov. Symb.
 87. 1851.

Luzon: Lamao, 80 m., 115 m., *Williams*. Mindanao: Santa
 Cruz, Gulf of Davao, *Williams*.

HAPALOPILUS GILVUS (Schw.) Murrill, Bull. Torrey Club **31**: 418.
 1904. *Polyporus discipes* Berk. Hook., Lond. Jour. Bot. **6**:
 499. 1847. (Type from Ceylon.) *Polyporus holosclerus* Berk.
 Lond. Jour. Bot. **6**: 501. 1847. (Type from Ceylon.)
Polyporus spadiceus Berk. Ann. Mag. Nat. Hist. **3**: 388. 1839.
 (Type from the East Indies.) *Polyporus breviporus* Cooke,
 Grevillea **12**: 17. 1883. (Type from Australia.) *Polyporus*
aureomarginatus P. Henn. Bot. Jahrb. **22**: 72. 1895. (Type
 from Kamerun.)

Luzon: Lamao, 70 m., 130 m., *Williams*; Lamao, *Merrill*
 3525; Mt. Mariveles, *Elmer* 6925.

HAPALOPILUS LICNOIDES (Mont.) Murrill, Bull. Torrey Club **31**:
 417. 1904.

Culion: *Merrill* 3607.

Hapalopilus subrubidus Murrill, sp. nov.

Pileus imbricate, umbonate-sessile or attached by a narrow
 base, dimidiate or flabelliform, conchate, thin, slightly flexible,
 3-4 × 4-6 × 0.1-0.3 cm.; surface glabrous, slightly zonate, ful-
 vus; margin thin, straight, entire or slightly undulate, reddish-
 brown when bruised: context ferruginous, punky-fibrous, tough,
 1-2 mm. thick; tubes short, dark-lilac within, 1 mm. in length,
 mouths minute, slightly angular, regular, 7-8 to a mm., edges thin,
 entire, dark flesh-colored to fulvous: spores globose, smooth,
 hyaline, 3-4 μ ; hyphae 2-3 μ , pale-ferruginous; cystidia none.

Type collected on Mt. Mariveles, Luzon, on dead wood, No-
 vember, 1904, by A. D. E. Elmer, no. 6912.

HEXAGONA CUCULLATA (Mont.) Murrill, Bull. Torrey Club **31**: 332.
 1904.

Mindanao: Santa Cruz, Gulf of Davao, *Williams*.

Hexagona vibecinoides (P. Henn.) Murrill. *Polyporus vibeci-*
noides P. Henn. Bot. Jahrb. **23**: 546. 1896. (Type from
 Kamerun, Africa.)

Luzon: Lamao, 70 m., *Williams*.

Inonotus Elmerianus Murrill, sp. nov.

Pileus subimbricate, sessile, dimidiate, conchate, thin, slightly flexible, $3 \times 4-5 \times 0.1-0.3$ cm.; surface finely tomentose to nearly glabrous, spongy-tomentose behind or in certain parts, very uneven, slightly zonate, ferruginous to fulvous, fuliginous at times behind; margin thin, undulate, ferruginous: context ferruginous, punky above, fibrous below, 1 mm. or less thick; tubes short, fulvous within, 0.5-1.5 mm. long, mouths very minute, regular, circular to angular, 9-11 to a mm., fulvous to umbrinous, bay when bruised, stuffed with flavous to luteous mycelium when very young, edges thin, entire: spores subglobose, smooth, pale-ferruginous, copious, 2μ ; hyphae pale-ferruginous, 3-4 μ ; cystidia none.

Type collected on Mt. Mariveles, Luzon, on dead wood, November, 1904, by A. D. E. Elmer, no. 6942.

Microporellus subdealbatus Murrill, sp. nov.

Pileus very thin, tough, flexible, flabelliform, tapering to a short flattened stipe, which appears to be merely a continuation of the pileus, $4 \times 3 \times 0.1$ cm.; surface zonate, fibrillose to glabrous, resinous in appearance, pale-yellowish or light reddish-brown; margin very thin, sterile, lacerate, uneven: context very thin, white, fibrous, flexible; tubes short, decurrent, white within, mouths small, glistening, irregular, angular, white to slightly yellowish, 5 to a mm., edges acute, uneven, lacerate-dentate, soon becoming irpiciform: spores ovoid, smooth, hyaline, 3-4 μ ; hyphae hyaline, 3-4 μ ; cystidia none.

Type collected in the Province of Bataan, Luzon, on prostrate logs, October, 1903, by E. D. Merrill, no. 3511.

Nigroporus durus (Jungh.) Murrill. *Polyporus durus* Jungh. Fl. Crypt. Jav. 1: [62]. 1838. (Type from Java.)

Luzon: Bataan, Merrill 3500.

NIGROPORUS VINOSUS Murrill, Bull. Torrey Club 32: 361. 1905. (Type from San Domingo.)

Luzon: Lamac, 70 m., Williams. Leyte: Palo, Elmer 7212.

POLYPORUS CELEBICUS P. Henn. Monsunia 1: 12. pl. 1. f. 5. 1899. (Type from Celebes.)

Luzon: Lamac, 75 m., 80 m., 130 m., Williams.

Polyporus coracinus Murrill, sp. nov.

Pileus suborbicular to reniform, attached by a short lateral tubercle, thin, fleshy-tough, conchate, $3-4 \times 4-5 \times 0.2$ cm., surface yellowish-white, finely tomentose, becoming glabrous and black;

margin thin, entire, concolorous: context less than 1 mm. thick, homogeneous and white to pallid, except the very thin black cuticle; tubes 1.5 mm. long, white to avellaneous within, mouths circular, regular, 4 to a mm., pallid to black, edges very obtuse, entire: spores subglobose, smooth, hyaline, $2.5-3.5\ \mu$; hyphae $3\ \mu$; cystidia dark-fulvous, short, ventricose, sharp-pointed, $10-25\ \mu$, often branched or cespitose.

Type collected at Palo, Leyte, on dead sticks, January, 1906, by A. D. E. Elmer, no. 7232.

POLYPORUS GRAMMOCEPHALUS Berk. Lond. Jour. Bot. 1: 148. 1842. (Type from the Philippines.)

Mindanao: Santa Cruz, Gulf of Davao, Williams.

Polyporus palensis Murrill, sp. nov.

Pileus flabelliform, tapering behind, shallowly depressed to infundibuliform, $2-3 \times 2-3 \times 0.1$ cm.; surface white to fulvous, finely radiate-striate, glabrous; margin very thin, entire to undulate or lacerate, inflexed on drying: context very thin, fleshy, white, fragile when dry; tubes decurrent, less than 1 mm. long, white or slightly flesh-colored within, mouths minute, white to dull-fulvous, fragile when dry, somewhat radially elongated, 0.5×0.25 mm., edges lacerate-dentate, becoming almost irpiciform in appearance: spores oblong-ellipsoid, smooth, hyaline, $3-4 \times 5-6\ \mu$; hyphae smooth, hyaline, $3-4\ \mu$; cystidia none: stipe lateral, rarely eccentric, short, tapering below, white, terete, striate above, covered with tubes below at the base, 3 mm. long, 2 mm. thick.

Type collected at Palo, Leyte, on dead sticks, January, 1906, by A. D. E. Elmer, no. 7236.

POLYPORUS PERULA (Beauv.) Fr. Epicr. 437. 1838. *Microporus Perula* Beauv. Fl. Owar. 1: 12. pl. 43. 1805. (Type from Wari.) *Polyporus xanthopus* Fr. Obs. Myc. 2: 255. 1818. (Type locality unknown.) *Polyporus affinis* Nees, Nov. Act. Acad. Nat. Cur. 13¹: pl. 4. f. 1. 1826. *Polyporus incomptus* Fr. Epicr. 437. 1838. (Type from Guinea.) *Polyporus polychrous* Ces. Myc. Borneo 4. 1879. (Type from Borneo.) *Polyporus carneo-niger* Berk.; Cooke, Grevillea 12: 15. 1883. (Type from Australia.)

Luzon: Baguio, Williams; Bataan, Merrill 3498, 3502, 3535; Mt. Banahao, Elmer, 7546, 7552, 7555; Lamao, 70 m., 80 m., 100 m., 115 m., 700 m., Williams; Mt. Mariveles, Elmer 6908, 6920, 6923, 6926, Merrill 3495. Mindanao:

Santa Cruz, Gulf of Davao, *Williams*. Mindoro: Baco River, *Merrill* 3582. Palawan: Ewiig River, *Merrill* 3585, 3588. Culion: *Merrill* 3605.

POLYPORUS VIBECINUS Fr. Kongl. Vet.-Akad. Handl. Stockh. 126. 1849. (Type from Natal.)

Luzon: Lamao, 80 m., *Williams*.

PYCNOPORUS SANGUINEUS (L.) Murrill, Bull. Torrey Club 31: 421. 1904.

Luzon: Lamao, 75 m. and 130 m., *Williams*; Province of Tarlac, *Merrill* 3601. Leyte: Palo, *Elmer* 7239. Mindanao: Santa Cruz, Gulf of Davao, *Williams*.

Rigidoporus surinamensis (Miq.) Murrill. *Polyporus surinamensis* Miq. Bull. Sci. Phys. Nat. Néerl. 1839: 454. 1839. *Polyporus zonalis* Berk. Ann. Mag. Nat. Hist. 10: Suppl. 375. pl. 10. f. 5. 1843. (Type from Ceylon.)

Luzon: Mt. Banahao, 900 m., *Elmer* 7549.

Spongipellis luzonensis Murrill, sp. nov.

Pileus thin, tough, rigid, imbricate, laterally connate, sessile, dimidiate, somewhat decurrent, conchate, $1-1.5 \times 1.5-2.5 \times 0.2-0.5$ cm.; surface azonate, anoderm, fibrillose-tomentose, white to discolored, absorbing water; margin thin, undulate, concolorous, easily bruised, fertile, decurved when dry: context spongy-fibrous, white to pale-isabelline, about 2 mm. thick, tubes white to discolored, tough, elastic, 2-3 mm. long, mouths white to discolored, irregular, 4-6 to a mm., subglistening, edges very thin, fimbriate-dentate: spores globose, smooth, hyaline, $3-4 \mu$; hyphae hyaline, $5-6 \mu$; cystidia none.

Type collected on Mt. Mariveles, Luzon, on dead wood, November, 1904, by A. D. E. Elmer, no. 6944.

Trametes caespitosa Murrill, sp. nov.

Hymenophore densely imbricate, dimidiate, conchate, laterally connate, $1-2 \times 2-3.5 \times 0.2-0.3$ cm.; surface puberulent to subglabrous, smooth, very slightly subzonate, pale-avellaneous, with a tinge of pale-purple; margin rather thick, concolorous, undulate, sharply deflexed: context white, fibrous, rigid, tough, 1-2 mm. thick; tubes white to pallid, 1-1.5 mm. long, mouths very regular, minute, circular, white to pallid, with a tinge of flesh color, 7-8 to a mm., edges rather thick, firm, tough, entire: spores smooth, hyaline, ovoid, copious, $5-6 \times 7-7.5 \mu$; hyphae hyaline, $5-6 \mu$; cystidia none.

Type collected on Mt. Mariveles, Luzon, on dead wood, November, 1904, by A. D. E. Elmer, *no.* 6951.

Trametes lamaensis Murrill, sp. nov.

Pileus subcircular, narrowly attached, convex above and below, $3-4 \times 3-4 \times 1$ cm.; surface finely puberulent, anoderm, slightly zonate or sulcate at times, white or pale-isabelline; margin rather thick, sterile, concolorous, entire: context white, subzonate, punky-corky, 7 mm. thick; tubes firm, tough, pallid, 2-3 mm. long, mouths somewhat irregular, circular to angular, 2-3 to a mm., subglistening, white to isabelline, edges rather thick, entire: spores globose, smooth, hyaline, $5-6 \mu$; hyphae hyaline, $4-5 \mu$; cystidia none.

Type collected on the Lamao River, Luzon, 130 m., on dead deciduous wood, February, 1904, by R. S. Williams.

Trametes luzonensis Murrill, sp. nov.

Pileus small, laterally connate, dimidiate, sessile, rarely encircling the twig, conchate, $1-2 \times 1.5-3 \times 0.2-0.4$ cm.; surface smooth, anoderm, finely tomentose to subglabrous, white to very pale avellaneous, entirely without marks; margin acute, entire, deflexed when dry: context punky, white, 1-2 mm. thick; tubes white within, 1-2 mm. long, tough, mouths regular, minute, circular, 6 to a mm., edges white to slightly discolored, rather thick, entire: spores smooth, hyaline.

Type collected on Mt. Mariveles, Luzon, on dead sticks, November, 1904, by A. D. E. Elmer, *no.* 6932.

TRAMETES MÜLLERI Berk. Jour. Linn. Soc. Bot. **10**: 320. 1868.
(Type from Victoria River, Australia.)

Luzon: Province of Tarlac, *Merrill* 3602.

Trametes ostreaeformis (Berk.) Murrill. *Polyporus ostreaeformis* Berk. Jour. Linn. Soc. Bot. **16**: 46. 1878. (Type from the Philippines.)

Luzon: Lamao, 600 m., *Williams*.

Trametes subacuta Murrill, sp. nov.

Pileus very large, dry, firm, slightly flexible, reniform, sessile, applanate, $10-12 \times 20 \times 1-2$ cm.; surface narrowly zonate, finely puberulent, becoming glabrous and tuberculose behind, avellaneous or umbrinous in front, murinous behind; margin ochraceous, thin, entire, fertile: context punky-corky, rather soft, white, 5-7 mm. thick; tubes 5 mm. long, white to pallid within, firm, tough, mouths glistening, very regular, circular, 2-3 to a mm., white to pale-isabelline, edges rather thin, entire: spores subglobose to

ovoid, smooth, hyaline, $4-5\ \mu$ long, hyphae hyaline, $3-5\ \mu$; cystidia none.

Type collected on the Lamao River, Luzon, 115 m., on dead deciduous wood, December, 1903, by R. S. Williams.

Trametes Williamsii Murrill, sp. nov.

Pileus sessile, dimidiate, subimbricate, at times laterally connate, applanate, thicker behind, $4-5 \times 4-7 \times 1$ cm.; surface finely tomentose to nearly glabrous, slightly zonate, isabelline or avellaneous, sometimes partly murinous, anoderm, slightly tuberculose; margin thick, sterile, entire, easily bruised: context corky, tough, somewhat zonate, white, 5-7 mm. thick, eagerly devoured by insects; tubes pallid, 5 mm. long, tough, firm, mouths circular, regular, pallid, 2-3 to a mm., edges thick, obtuse, entire: spores globose, smooth, hyaline, $4-5\ \mu$; hyphae hyaline, $3-4\ \mu$; cystidia none.

Type collected at Santa Cruz, Gulf of Davao, Mindanao, on dead pine logs, June, 1905, by R. S. Williams.

Tyromyces Elmeri Murrill, sp. nov.

Pileus fleshy, rigid and fragile when dry, dimidiate, sessile, subimbricate, $2-3 \times 3-4 \times 0.2-0.3$ cm.; surface rough, with minute tubercles and pits, glabrous, white to isabelline; margin rather thick, entire, concolorous: context white, fleshy-tough, 1 mm. thick; tubes white to isabelline within, 2 mm. long, mouths slightly angular, minute, regular, 6-7 to a mm., pruinose, glistening, at length avellaneous, edges thin, entire: spores globose, smooth, hyaline, $3-4\ \mu$; hyphae hyaline, $4-5\ \mu$; cystidia none.

Type collected on Mt. Mariveles, Luzon, on dead wood, November, 1904, by A. D. E. Elmer, no. 6954.

Subfamily FOMITEAE

Amauroderma Elmerianum Murrill, sp. nov.

Pileus stipitate, umbonate-affixed, subcircular to reniform, usually convex above, plane or slightly concave below, hard and rigid, $3 \times 4-7 \times 0.5-1$ cm.; surface thinly encrusted, finely puberulent, conspicuously radiate-rugose, many times sulcate, marked with narrow, avellaneous lines and broad, fuliginous or black zones; margin thick, truncate, zonate, crumpled or rugose, concolorous: context avellaneous, punky-corky, homogeneous, 2-4 mm. thick; tubes 3-7 mm. long, slender, avellaneous within, mouths regular, circular, constricted, 5-6 to a mm., nearly white to smoky-black, reddish-brown when bruised, edges thick, obtuse, entire: spores subglobose, very pale brown, finely echinulate,

thick-walled, $5-6\ \mu$; hyphae subhyaline, $3-5\ \mu$; cystidia none: stipe laterally-attached, ascending, cylindrical, subequal, 3-12 cm. long, 0.7-1.3 cm. thick, resembling the pileus in surface and substance.

Type collected at Palo, Leyte, on dead stumps, January, 1906, by A. D. E. Elmer, *no.* 7210. Also collected on Mt. Mariveles, Luzon, November, 1904, by Elmer, *no.* 6960.

Elfvingia Elmeri Murrill, *sp. nov.*

Pileus very large, compressed-ungulate, convex above, slightly concave below, sessile, dimidiate, very hard, $20 \times 25-35 \times 4-7$ cm.; surface glabrous, deeply sulcate, tuberculose, horny-encrusted, becoming slightly rimose when old and dry, but never weathering, brown with a grayish tinge; margin thick, rounded, ferruginous, entire: context ferruginous to fulvous, punky-corky, rather firm, 1-2 cm. thick; tubes distinctly stratified, 1-2 mm. long each season, fulvous within, mouths circular, regular, 5 to a mm., edges rather thin, entire: spores ferruginous, globose, smooth, $5-6\ \mu$; hyphae ferruginous, $3-4\ \mu$; cystidia ventricose, fulvous, sharp-pointed, copious, 15-40 μ long.

Type collected on Mt. Mariveles, Luzon, on dead wood, November, 1904, by A. D. E. Elmer, *no.* 6961.

ELFVINGIA TORNATA (Pers.) Murrill, *Bull. Torrey Club* 30: 301. 1903. *Polyporus tornatus* Pers.; Gaud. Voy. Freyc. Bot. 173. 1826. (Type from islands in the Pacific ocean.) *Polyporus australis* Fr. Elench. 108. 1828. (Type from islands in the Pacific ocean.)

Luzon: Mt. Mariveles, *Elmer* 6916. Culion: *Merrill* 3572.

Leyte: Palo, *Elmer* 7209.

Fomes luzonensis Murrill, *sp. nov.*

Pileus dimidiate, umbonate-affixed, compressed-ungulate, very convex above, plane or slightly concave below, $4 \times 6-8 \times 1-2$ cm.; surface zonate, sulcate, glabrous, horny-encrusted, dull-brown in the older portions, pale-isabelline on the thin, expanded, recent growth; margin acute, narrowly sterile, pallid, undulate, straight: context thin, 1-2 mm., pale-isabelline, punky-corky; tubes distinctly stratose, isabelline within, 2-3 mm. long each season, mouths regular, circular, 5 to a mm., white to isabelline, opaque, edges thick, firm, tough, obtuse, entire: spores globose, smooth, hyaline, $5\ \mu$; hyphae hyaline, $4\ \mu$; cystidia none.

Type collected on the Lamao River, Luzon, 500 m., on a decaying trunk, January, 1904, by R. S. Williams.

Fomes philippinensis Murrill, sp. nov.

Pileus dimidiate, sessile, bracket-shaped, applanate above, plane or convex below, 5–10 × 10–15 × 1–2.5 cm.; surface horny, thinly encrusted, radiate-rugose, glabrous, somewhat zonate, shallowly sulcate, becoming slightly rimose with age, pale-isabelline to dull-umbrinous; margin sterile, pallid, glabrous, zonate, rather thick, entire, at length somewhat truncate and furrowed: context punky, tough, isabelline, zonate, 5–10 mm. thick; tubes more or less distinctly stratified, 2–3 mm. long each season, isabelline within, mouths pallid, regular, circular, 5 to a mm., edges thick, obtuse, entire: spores ovoid, smooth, hyaline, $5 \times 4 \mu$; hyphae hyaline, 3–4 μ ; cystidia none.

Type collected on the Lamao River, Luzon, 700 m., on a dead trunk, March 23, 1904, by R. S. Williams.

FOMES SEMITOSTUS Berk. Jour. Bot. & Kew Misc. 6: 143. 1854.

(Type from the Khasia Mountains, India.)

Luzon: Lamao, 80 m., *Williams*; Mt. Mariveles, *Elmer* 6050.

Leyte: Palo, *Elmer* 7222.

GANODERMA AMBOINENSE (Lam.) Pat. Bull. Soc. Myc. Fr. 5: 70.

1889. *Agaricus amboinensis* Lam. Enc. 1: 49. 1783. (Type from Amboina.)

Luzon: Lamao, 80 m., *Williams*.

Ganoderma subtornatum Murrill, sp. nov.

Pileus sessile, short-stipitate, flabelliform, with a narrow base, applanate, slightly concave below, hard and rigid, 6–11 × 6–12 × 1 cm.; surface thinly encrusted, shining-black, except where covered with the brown conidia, glabrous, sulcate, radiate-rugose; margin truncate, slightly furrowed, sterile, entire: context 2–4 mm. thick, punky, white above, chestnut-colored below; tubes unstratified, slender, 5–8 mm. long, avellaneous-umbrinous within, mouths regular, circular, 5 to a mm., smoky-fuliginous, edges obtuse, entire: spores ovoid, pale-brown, finely asperulate, $9 \times 6\text{--}7 \mu$; hyphae dark-brown, 5–6 μ ; cystidia none: stipe lateral, compressed, 0–2 cm. long, 1.5–2 cm. thick, resembling the pileus in surface and substance.

Type collected on the Lamao River, Luzon, 100 m., on a decayed trunk, November, 1903, by R. S. Williams. Collected also on Mt. Mariveles, Luzon, November, 1904, by A. D. E. Elmer, no. 6943, and at Palo, Leyte, January, 1906, by Elmer, no. 7213.

Ganoderma Williamsianum Murrill, sp. nov.

Pileus sessile, dimidiate, compressed-ungulate or applanate, usually convex above, plane or concave below, subimbricate, rigid, $3-4 \times 5-6 \times 1-2$ cm.; surface shallowly sulcate, slightly zonate, radiate-rugose, avellaneous, with narrow, dark zones when young, at length ochraceous-pulverulent from the secreted varnish, and finally glabrous, laccate, and bay or black; margin conchate at maturity, yellowish-brown, laccate, entire, sterile: context chestnut-colored, punky, soft, 3-6 mm. thick; tubes not stratified, slender, murinous-umbrinous within, hymenium white to ochraceous or melleous, mouths circular to slightly angular, regular, 5 to a mm., edges obtuse and entire when young, soon becoming thin: spores broadly ovoid, truncate, dark-brown, roughly echinulate, thick-walled, $8-9 \times 12-14 \mu$; hyphae concolorous, $5-6 \mu$; cystidia none.

Type collected on the Lamao River, Luzon, 115 m., on a dead trunk, January, 1904, by R. S. Williams.

NIGROFOMES MELANOPORUS (Mont.) Murrill, Bull. Torrey Club

31: 425. 1904. *Fomes melanoporoides* Ces. Myc. Borneo 6. 1879. (Type from Borneo.) *Fomes Cornu-bovis* Cooke, Grevillea **13**: 2. 1884. (Type from Malacca.) ? *Polyporus cinereo-fuscus* Currey, Trans. Linn. Soc. II. **1**: 124. pl. 19. f. 1. 1876. (Type from India.)

Luzon: Lamao, Williams; Mt. Mariveles, Elmer 6959.

Pyropolyporus albomarginatus (Lév.) Murrill. *Polyporus albomarginatus* Lév. Ann. Sci. Nat. Bot. III. **2**: 191. 1844. (Type from Java.) *Polyporus Kermes* Berk. & Br. Jour. Linn. Soc. Bot. **14**: 49. 1875. (Type from Ceylon.) *Polyporus laeticolor* Berk. Jour. Linn. Soc. Bot. **16**: 46. 1878. (Type from the Philippines.) *Fomes pyrrhocreas* Cooke, Grevillea **14**: 11. 1885. (Type from New Guinea.)

Luzon: Lamao, 115 m., Williams.

Pyropolyporus caliginosus (Berk.) Murrill. *Polyporus caliginosus* Berk. Jour. Linn. Soc. Bot. **16**: 46. 1878. (Type from Philippines.) Not *Polyporus caliginosus* Ces. Myc. Borneo 5. 1879. (Type from Borneo.)

Leyte: Palo, Elmer 7221.

Pyropolyporus endotheius (Berk.) Murrill. *Polyporus endotheius* Berk. Jour. Linn. Soc. Bot. **16**: 47. 1878. (Type from the Philippines.)

Culion: Merrill 3575.

Pyropolyporus fastuosus (Lév.) Murrill. *Polyporus fastuosus* Lév. Ann. Sci. Nat. Bot. III. 2: 190. 1844. (Type from Singapore.)

Luzon: Lamac, 80 m., *Williams*.

Pyropolyporus lamaensis Murrill, sp. nov.

Pileus dimidiate, sessile, thin, subimbricate, applanate, $2 \times 4 \times 0.3-0.7$ cm.; surface finely tomentose, zonate, slightly sulcate, horny-encrusted, fulvous-chestnut; margin thick, obtuse, sterile, ferruginous, entire: context luteous to ferruginous, hard, woody, homogeneous, 3-5 mm. thick; tubes 2 mm. long, smoky-avellaneous within, mouths circular, regular, minute, 6 to a mm., opaque, dull smoke-colored, edges thin, entire: spores globose to ovoid, smooth, hyaline, $3.5-5 \mu$ long; hyphae ferruginous, 4μ ; cystidia slender, pointed, $15-40 \mu$, dark-fulvous.

Type collected on the Lamac River, Luzon, on decayed wood, November, 1904, by R. S. Williams.

Pyropolyporus Merrillii Murrill, sp. nov.

Pileus sessile, ungulate, plane below, $4 \times 6 \times 3-5$ cm.; surface finely tomentose, deeply sulcate, anoderm or slightly encrusted, hard, bay, becoming blackish and weathered in the older layers; margin fulvous, sterile, finely tomentose, obtuse, undulate: context dark-fulvous, hard, horny, 3-6 mm. thick; tubes indistinctly stratified, fulvous within, 2-4 mm. long each season, mouths fulvous, subcircular, regular, 4 to a mm., edges rather thick, entire: spores ferruginous-fulvous, copious, subglobose, smooth, $3-4 \mu$; hyphae concolorous, 4μ ; cystidia none.

Type collected in Culion, on decaying trees near the seashore, December 1902, by E. D. Merrill, no. 3575.

Pyropolyporus pectinatus (Kl.) Murrill. *Polyporus pectinatus* Kl. Linnaea 8: 485. 1833. (Type from the East Indies.)
Fomes pullus (Berk. & Mont.) Cooke, Grevillea 14: 19. 1885. (Type from Java.)

Luzon: Lamac, 80 m., *Williams*; Mt. Mariveles, *Elmer* 6933. Palawan: Ewiig River, *Merrill* 3586.

Pyropolyporus Williamsii Murrill, sp. nov.

Pileus bracket-shaped, sessile, dimidiate, plane above, convex below, very hard, horny and brittle, $5-8 \times 8-15 \times 1-2$ cm., surface finely tomentose to glabrous, dark-bay to black, horny-encrusted, deeply and roughly sulcate, somewhat tuberculose, slightly cracking with age; margin isabelline, sterile, rounded, entire or undulate: context 8-10 mm. thick, ferruginous, hard,

radiate-striate, with white dendroid markings; tubes distinctly stratified, 2–3 mm. long each season, umbrinous to avellaneous within, mouths circular, avellaneous, opaque, regular, 5 to a mm., edges thick, obtuse, entire: spores subglobose, smooth, hyaline, 3–5 μ ; cystidia dark-fulvous, ventricose, pointed, 15–30 μ long.

Type collected on the Lamao River, Luzon, 80 m., on a dead trunk, December, 1903, by R. S. Williams. What appears to be a young, deformed specimen of this species was collected on Mt. Banahao, Luzon, 500 m., on dead timber, May, 1906, by A. D. E. Elmer, no. 7556.

Subfamily DAEDALEAE

DAEDALEA AMANITOIDES Beauv. Fl. Owar. 1: 44. pl. 25. 1804.
(Type from Wari.) *Daedalea Palisoti* Fr. Syst. 2: 335.
1821. *Lenzites Palisoti* Fr. Epicr. 404. 1838. Afzel. Fung.
Guin. 1: pl. 11. f. 23. a. b. *Daedalea repanda* Pers.; Gaud.
Voy. Freyc. Bot. 168. 1826. (Type from the island of
Rawak.) Mont. Cuba 382. pl. 14. f. 4. 1842. *Lenzites repanda*
Fr. Epicr. 404. 1338. *Daedalea applanata* Kl. Linnaea
8: 481. 1833. (Type from Mauritius.) *Lenzites applanata*
Fr. Epicr. 404. 1838. *Lenzites pallida* Berk. Lond. Jour.
Bot. 1: 146. 1842. (Type from Manila.) *Lenzites platypoda*
Lév. Bonite Crypt. 1: 184. 1844–1846. Ann. Sci. Nat. Bot.
III. 2: 180. 1844. (Type from Manila.)
Luzon: Lamao, 70 m., Williams; Mt. Mariveles, Elmer 6942.
Leyte: Palo, Elmer 7218. Culion: Merrill 3574.

DAEDALEA HOBSONI Berk. Jour. Linn. Soc. Bot. 13: 165. 1873.
(Type from Australia.) ? *Trametes colliculosa* Berk. Lond.
Jour. Bot. 6: 506. 1847. (Type from Ceylon.)
Luzon: Lamao, 115 m., Williams; Mt. Mariveles, Elmer 6914,
6928, 6948; Merrill 3507. Culion: Merrill 3608.

Gloeophyllum edule Murrill, sp. nov.

Pileus imbricate, sessile, dimidiate, conchate or applanate, slightly decurrent at times, 4–7 $\times$ 6–10 $\times$ 0.3–0.6 cm.; surface short-tomentose to almost glabrous behind, subzonate, ochraceous-isabelline to pale-fulvous, becoming bleached with age, with a few, shallow, concentric furrows; margin acute, entire or undulate, ochraceous, tomentose, brownish when bruised: context ferruginous, punky, 2–4 mm. thick, soft enough when young to be



Murrill, William A. 1907. "Some Philippine Polyporaceae." *Bulletin of the Torrey Botanical Club* 34, 465–481.

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