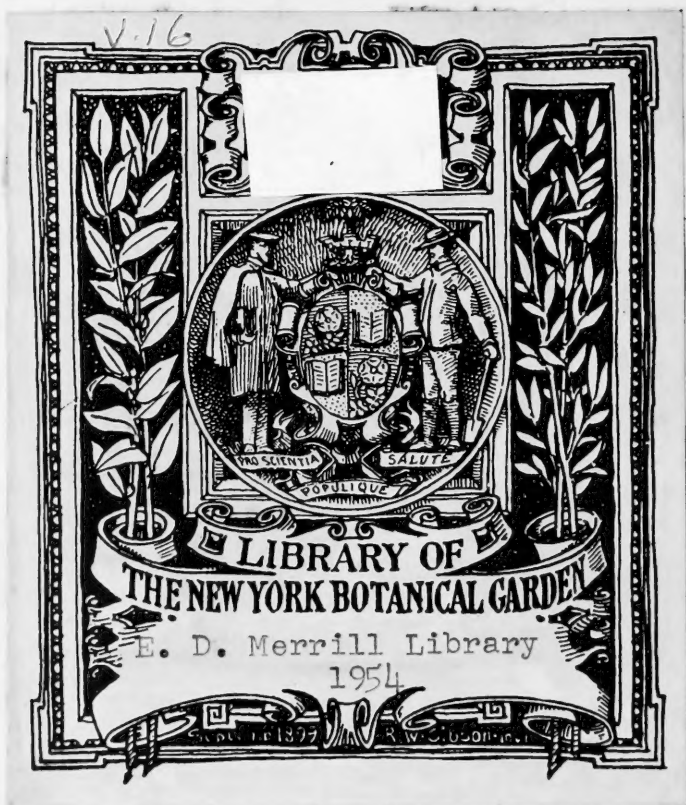


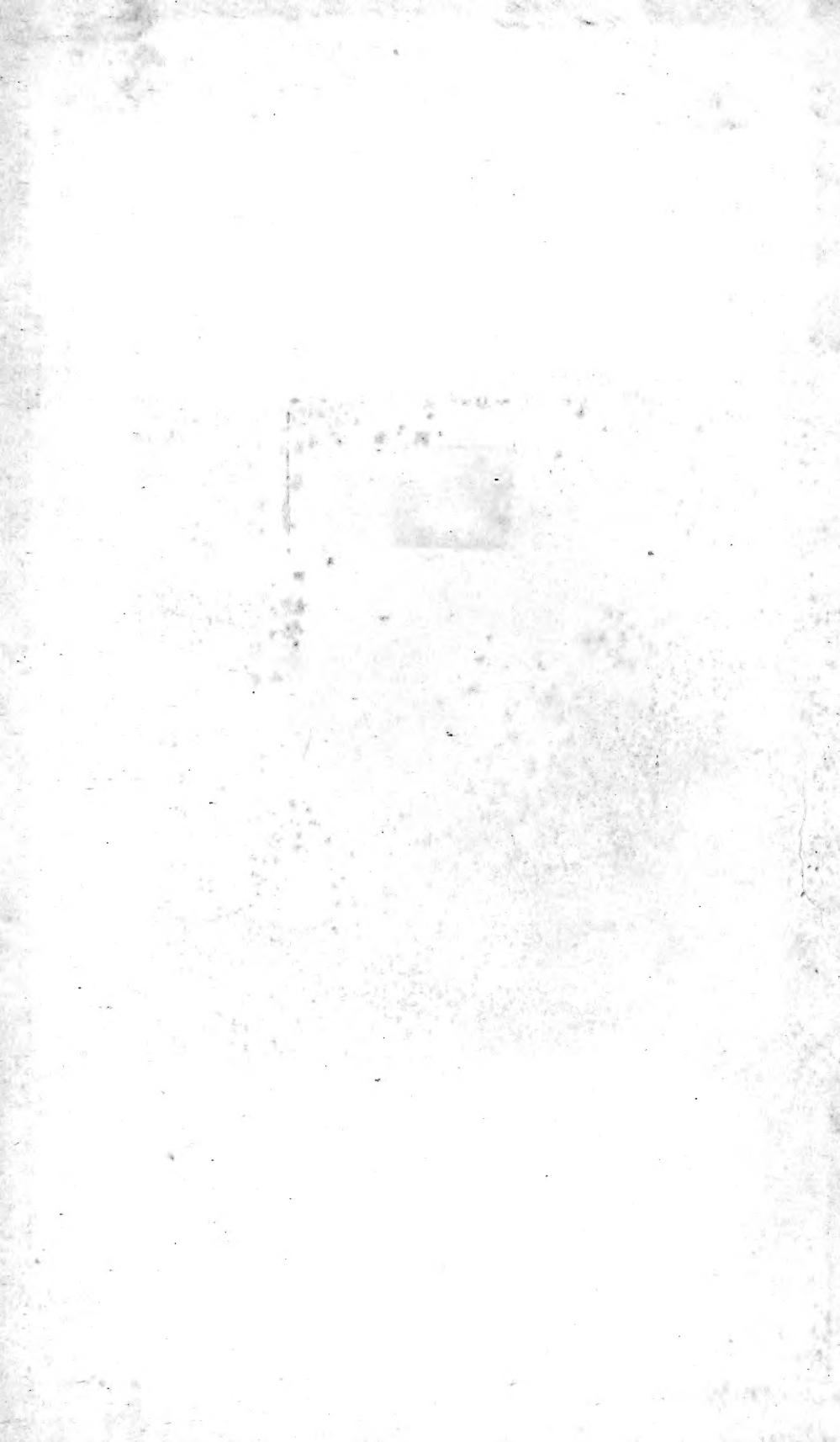


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# AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

ELMER D. MERRILL

DIRECTOR AND BOTANIST, BUREAU OF SCIENCE

VOLUME 2



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EXPLANATORY NOTE

The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., August 25, 1921.



# AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

By ELMER D. MERRILL

*Director and Botanist, Bureau of Science*

## DICOTYLEDONAE

### CASUARINACEAE

#### 1. CASUARINA Linnaeus

**CASUARINA EQUISETIFOLIA** Linn. *Amoen. Acad.* 4 (1759) 143 (*equiseifolia*); *Forst. Char. Gen.* (1776) 103, *f.* 52; *Miq. Fl. Ind. Bat.* 1<sup>1</sup> (1857) 874; *DC. Prodr.* 16<sup>2</sup> (1868) 339; *Blanco Fl. Filip.* (1837) 661, ed. 2 (1845) 460, ed. 3, 3 (1879) 67; *Vidal Sinopsis Atlas* (1883) 41, *t.* 91, *f.* A, *Rev. Pl. Vasc. Filip.* (1886) 259, *Phan. Cuming. Philip.* (1885) 147; *F.-Vill. Novis. App.* (1880) 206; *Merr. in Govt. Lab. Publ. (Philip.)* 27 (1905) 81, *Fl. Manila* (1912) 169, *Sp. Blancoanae* (1918) 118.

Throughout the Philippines along sandy seashores, extending inland in open sandy valleys along streams, in places growing at altitudes as high as 800 m; usually gregarious. Tropics of the Old World from Africa to Polynesia near the sea, pantropic in cultivation.

Local names: Agó (Ibn., Neg.); agóho (Tag., Ilk., Bis., Bik.); Agóo (Pang., Ilk., Kuy.); agóko (Pang.); agó-o (Ilk.); agóso (Pang., Tag.); agué (Ibn.); alaut (Bon.); antong (Is.); aróo (Ilk.); aróho (Ilk., Ting.); ayo (Bis.); káro (Ilk.); mahohók (Mbo.); malabohók (Bis.); maribuhók (Bis.).

**CASUARINA RUMPHIANA** *Miq. in Flora* 48 (1865) 23, 38; *F.-Vill. Novis. App.* (1880) 207; *Ceron Cat. Pl. Herb. Manila* (1892) 164.

*Casuarina nodiflora* *Merr. in Govt. Lab. Publ. (Philip.)* 17 (1904) 9, non *Forst.*

Northern Luzon to Mindanao and Palawan, in mountain forests, usually gregarious, altitude 100 to 1,100 m. Celebes, Moluccas.

Local names: Agó (Lan.); agóho (Bis., Tag.); ahgáho (P. Bis.); angól (Bik.); bunai (Tagb.); gó-o (Bag.); gouet (Ibn.); manholai (Mbo.); ó'o (Bag.); saplui (Mbo.).

**CASUARINA SUMATRANA** *Jungh. in Hoev. & De Vriese Tijdschr.* 11 (1844) 115; *F.-Vill. Novis. App.* (1880) 207 (excl. syn. *Blanco*); *Ceron Cat. Pl. Herb. Manila* (1892) 164.

Luzon (Sorsogon), Palawan, Leyte, Mindanao, in forests back of mangrove swamps. Burma to Sumatra, Borneo, and Java.

Local names: Agóho (Tag.); maliañgin (Sul.); maribuhók (Bis.); pagospos (C. Bis.); pugaspas (Bis.); sampalog (Tagb.).

Sterile specimens from Luzon (Tayabas), Biliran, Samar, and Mindanao, *B. S. 25523 Yates, 18728 McGregor, 13191 Foxworthy & Ramos, F. B. 20559 Miranda*, may also represent this species or may represent the allied *Casuarina nodiflora* Forst. f. This form occurs in mountain forests, altitude 200 to 1,100 m.

## SAURURACEAE

## 1. SAURURUS Plumier

**SAURURUS CHINENSIS** (Lour.) Baill. *Adansonia* 10 (1871) 71; Lond. Hort. Brit. (1830) 144, *nomen nudum*, Encycl. Pl. (1866) 289, *nomen subnudum*.

*Spathium chinense* Lour. Fl. Cochinch. (1790) 217.

*Saururus cernuus* Thunb. Fl. Jap. (1784) 154, non Linn.

*Saururus loureiri* Decne. in Ann. Sci. Nat. III 3 (1845) 102; C. DC. Prodr. 16<sup>1</sup> (1869) 239; F.-Vill. Novis. App. (1880) 174; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

*Saururopsis chinensis* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 589.

*Saururopsis cumingii* C. DC. Prodr. 16<sup>1</sup> (1869) 239.

Luzon (Ilocos Norte, Bontoc), *Cuming 1259, Vanoverbergh 1159, 2710, B. S. 27167 Ramos*. In swampy places, rice paddies, etc., altitude 50 to 1,100 m. Japan, central and southern China, and Formosa.

## PIPERACEAE

## 1. PIPER Linnaeus

**PIPER ABBREVIATUM** Opiz in Presl Rel. Haenk. 1 (1828) 157; C. DC. in Leaf. Philip. Bot. 3 (1910) 775.

*Piper chaba* Blume in Verh. Bat. Genoots. 11 (1826) 168, *f. 7*; Miq. Syst. Pip. (1843) 251; C. DC. Prodr. 16<sup>1</sup> (1869) 347, Philip. Journ. Sci. 5 (1910) Bot. 432 (incl. formae *b, c, d, e*), 11 (1916) Bot. 216; F.-Vill. Novis. App. (1880) 175, non Hunter (1809).

*Chavica chaba* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 443.

*Piper rubripunctulatum* C. DC. in Perk. Frag. Fl. Philip. (1905) 158.

*Piper parvispicum* C. DC. in Perk. Frag. Fl. Philip. (1905) 156.

In forests at low and medium altitudes throughout the Philippines. Borneo, Java.

Local names: Alapápan (Mbo.); bagaybajon (Mbo.); buyo-buyo (Bik.); buyo-halo (P. Bis.); guti-guti (Bik.); halopai (Mbo.); kaligu-uan (Lan.); laiñgan (Sub.); lauigang (Tag.); lingolingo-daytoi (Bis.); manikatápai (Bag.); samaina (Mbo.); tandauon (Mbo.).

**PIPER ABRAENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 451.

Luzon (Abra), *B. S. 7159 Ramos*. In forests. Endemic.

**PIPER ACUTIBACCUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 459.

Luzon (Laguna), *B. S. 10031 Ramos*. In forests at low altitudes. Endemic.

**PIPER AGUSANENSE** C. DC. in Leaf. Philip. Bot. 6 (1914) 2291, Philip. Journ. Sci. 11 (1916) Bot. 221.

Mindanao, Camiguin de Misamis, *Elmer 13319, B. S. 14644 Ramos*. In forests. Endemic.

Local name: Halopái (C. Bis.).

**PIPER ALLENII** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 441.

*Piper longivagians* C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 444,  
11 (1916) Bot. 219 (incl. forma b).

Luzon (Tayabas, Nueva Ecija, Laguna, Zambales, Rizal, Camarines), Mindanao (Surigao), *Allen 152, B. S. 6069 Robinson, 28797, 26496, 26497, 29094 Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

**PIPER ANGUSTIPELTATUM** Merr. in Philip. Journ. Sci. 17 (1920) 244.

Luzon (Tayabas, east coast), *B. S. 28846 Ramos & Edaño*. In damp forests at low altitudes. Endemic.

**PIPER ARBORESCENS** Roxb. Hort. Beng. (1814) 80, Fl. Ind. 1 (1820) 161, ed. 2, 1 (1832) 159; Merr. Interpret. Herb. Amb. (1917) 180.

*Piper miniatum* Blume in Verh. Bat. Genoots. 11 (1826) 166; C. DC. Prodr. 16<sup>1</sup> (1869) 354, Leaf. Philip. Bot. 3 (1910) 766, Philip. Journ. Sci. 5 (1910) Bot. 422 (incl. formae *a, b, c*), 11 (1916) Bot. 208; F.-Vill. Novis. App. (1880) 175; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

*Chavica miniata* Miq. Syst. Pip. (1843) 234, Nov. Act. Acad. Nat. Cur. 21 (1846) Suppl. 32, t. 28, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 440.

*Piper glandulosa* Opiz in Presl Rel. Haenk. 1 (1828) 158.

Northern Luzon to Palawan and Mindanao. Common in forests at low and medium altitudes. Malay Peninsula and Archipelago.

Local names: Lauiñgan (Buk.); mangolas (Sub.); manlakbayan (Mbo.); malabonyok (C. Bis.); opoi (Mbo.); parong (S. L. Bis.); tugpuan (Buk.).

Var. **HIRTELLUM** (Miq.) comb. nov.

*Piper miniatum* Blume var. *hirtellum* C. DC. in Leaf. Philip. Bot. 3 (1910) 776, Philip. Journ. Sci. 5 (1910) Bot. 422.

*Chavica miniata* Miq. var. *hirtella* Miq. Fl. Ind. Bat. Suppl. (1860-61) 473.

Mindanao (Davao), *Elmer 11229*. In primary forests, altitude about 750 m. Sumatra.

**PIPER APOANUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 785, Philip. Journ. Sci. 5 (1910) Bot. 454.

Mindanao (Davao, Mt. Apo), *Elmer 11174*. In thickets, altitude about 800 m. Closely allied to *Piper viminale* Opiz. Endemic.

Local name: Manikatápai (Bag.).

**PIPER ARBORISEDENS** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 223.

Luzon (Laguna), *B. S. 24934 Ramos*. In forests at low altitudes. Endemic.

**PIPER ATROSPICUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 208.

Luzon (Tayabas), Leyte, *B. S. 15359, 28781, 28664 Ramos*. In forests at low and medium altitudes. Endemic. Very closely allied to *Piper allenii* C. DC.

**PIPER AURILIMBUM** C. DC. Leaf. Philip. Bot. 3 (1910) 768, Philip. Journ. Sci. 5 (1910) Bot. 425, 11 (1916) Bot. 210.

Luzon (Cagayan, Kalinga, Ifugao, Benguet), *Elmer 8866, B. S. 13980, 13946 Ramos, 37499, 37566, 37568 Ramos & Edaño, 19821 McGregor, Weber 1584*. In forests at medium altitudes. Endemic.

Local names: Dauusha-atab (Ig.); gauád (It.); gaid (Klg.); gók (Ibn.).

**PIPER BACCATUM** Blume in Verh. Bat. Genoots. 11 (1826) 172, t. 3; C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 462.

*Piper sarcopodium* C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 207.

Luzon (Laguna), Mindanao, *B. S. 23759 Ramos, Clemens, Elmer 14210, 13972*. In forests at medium altitudes. Borneo, Java.

Local name: Sambañganai (Mbo.).

**PIPER BAGUIONUM** C. DC. in Leaflet. Philip. Bot. 3 (1910) 775, Philip. Journ. Sci. 5 (1910) Bot. 434.

Luzon (Benguet), *Elmer 5874, 8784*. In thickets, altitude about 1,500 m. Endemic.

**PIPER BASILANUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 457.

Basilan, *Hallier*. Endemic. A species closely allied to *Piper caninum* Bl. and doubtfully distinct from *P. marivelesanum* C. DC. Endemic.

**PIPER BATHICARPUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 153, Philip. Journ. Sci. 5 (1910) Bot. 434.

Jolo, (*Warburg 14844*). Endemic; very closely allied to *Piper betle* Linn.

**PIPER BETLE** Linn. Sp. Pl. (1753) 28; Blanco Fl. Filip. (1837) 22, ed. 2 (1845) 16, ed. 3, 1 (1877) 30, t. 12; F.-Vill. Novis. App. (1880) 175; C. DC. Prodr. 16<sup>1</sup> (1869) 359, Philip. Journ. Sci. 5 (1910) Bot. 431 (incl. formae *b, c*), 11 (1916) Bot. 216, Leaflet. Philip. Bot. 3 (1910) 447; Merr. Fl. Manila (1912) 170, Sp. Blancoanae (1918) 119.

*Piper canaliculatum* Opiz in Presl Rel. Haenk. 1 (1828) 156.

*Piper betle* Linn. var. *densum* C. DC. Prodr. 16<sup>1</sup> (1869) 360.

*Piper philippinense* C. DC. Prodr. 16<sup>1</sup> (1869) 353; F.-Vill. Novis. App. (1880) 175; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

*Chavica betle* Syst. Pip. (1843) 228; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 439.

*Piper anisumolens* Blanco Fl. Filip. (1837) 23.

*Piper anisodorum* Blanco Fl. Filip. ed. 2 (1845) 16, ed. 3, 1 (1877) 31, t. 362.

*Piper siriboa* Hassk. in Flora 47 (1864) 59 quoad syn. Blanco.

*Piper blancoi* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 40.

*Piper canaliculatum* Opiz in Rel. Haenk. 1 (1828) 156; Miq. Syst. Pip. (1843) 336.

The betle pepper, cultivated throughout the Philippines, also wild in most provinces of Luzon (*P. philippinense* C. DC., *P. canaliculatum* Opiz). India to Malaya.

Local names: Buyo (Bik.); buyo-anís (Tag.); buyo-búyo (Bik.); buyog (Mbo.); buyok (C. Bis.); buyu (Sul.); gaéd (Pang.); gaúed (Ilk.); gaúod (It.); gók (Ibn.); ikmo (Tag.); íkmong-ilóko (Tag.); itmo (Tag.); kanisi (Bis.); mamin (Bis., Tag.); mamon (Bis.); samat (Pamp.).

**PIPER BREVIAMENTUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 434.

Mindanao, *Williams 2104*. In forests, altitude about 150 m. Endemic.

**PIPER BREVICUSPE** (Miq.) comb. nov.

*Rhyncholepis brevicuspis* Miq. Syst. Pip. (1843) 283, Nov. Act. Acad.

Nat. Cur. 19 (1843) Suppl. 1: 492, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 447.

*Rhyncholepis cumingiana* Miq. Syst. Pip. (1843) 282, non *Piper cumingiana* Miq.

*Piper rhyncholepis* C. DC. Prodr. 16<sup>1</sup> (1869) 344 (*rhyncholepsis*),

Philip. Journ. Sci. 5 (1910) Bot. 423, 11 (1916) Bot. 209; F.-Vill.

Novis. App. (1880) 176; Vidal Phan. Cuming. Philip. (1885) 138,

Rev. Pl. Vasc. Filip. (1886) 220.

*Piper rhyncholepis* C. DC. var. *brevicuspe* C. DC. Prodr. 16<sup>1</sup> (1869)

344, Philip. Journ. Sci. 5 (1910) Bot. 424; Vidal Phan. Cuming.

Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 220.

Samar, Leyte, Bohol, Mindanao, *Cuming 1697, 1843, Wenzel 21, 56, 733, B. S. 17409, 17563 Ramos, Merrill Phil. Pl. 1159, B. S. 37606, 36976 Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

Local names: Talon-tálon (Sub.); tonyabáyan (Mbo.).

**PIPER BREVISTIGMUM** C. DC. in Leaf. Philip. Bot. 6 (1914) 2292.

Mindanao (Agusan), *Elmer 13684*. Endemic.

Local name: Ianáhon (Mbo.).

**PIPER CABADBARANUM** C. DC. in Leaf. Philip. Bot. 6 (1914) 2292.

Mindanao (Agusan), *Elmer 14136*. Endemic.

Local name: Bodunghay-as (Mbo.).

**PIPER CACUMINUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 765, Philip. Journ. Sci. 5 (1910) Bot. 421.

Luzon (Bataan, Zambales), *Elmer 6890, F. B. 8076 Curran & Merritt*. In the mossy forests on higher mountains, altitude 1,100 to 1,500 m. Endemic.

**PIPER CAGAYANENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 435, 11 (1916) Bot. 217.

Luzon (Cagayan, Apayao), *B. S. 7484, 13838 Ramos, B. S. 28369, 28351 Fénix*. In forests at low altitudes. Endemic.

**PIPER CALVIFOLIUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 217.

Luzon, (*Loher 6794 p. p.*). Endemic.

**PIPER CANINUM** Blume in Verh. Bat. Genoots. 11 (1826) 214; A. Dietr. Sp. Pl. 1 (1831) 681; Miq. Comm. Phyt. (1839) 17, 33, t. 3; C. DC. Prodr. 16<sup>1</sup> (1869) 341, Philip. Journ. Sci. 5 (1910) Bot. 458, 11 (1916) Bot. 224; F.-Vill. Novis. App. (1880) 175; Vidal Rev. Pl. Vasc. Filip. (1886) 219.

*Piper densibaccum* C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 454.

*Piper parcipilum* C. DC. op. cit. 445.

Northern Luzon to Mindanao and Palawan, *Merrill 7213, 9462, B. S. 14672, 14676, 14699, 24260, 17508, 39672 Ramos*. In forests at low and medium altitudes. Malay Peninsula to New Guinea.

**Var. GLABRIBRACTEUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 459.

Mindanao, *Clemens 176*. In thickets or forests, altitude about 600 m.

**Var. LANAENSE** C. DC. l. c.

Mindanao, *Clemens*. In thickets or forests, altitude about 600 m.

Var. **LATIBRACTEUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 787, Philip. Journ. Sci. 5 (1910) 459.

Luzon (Tayabas, Benguet), *Elmer 7627, 7990, 8844*. In forests, altitude 200 to 1,300 m.

Var. **SABLANUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 459.

Luzon (Benguet), Mindanao, *Elmer 6150, 14008*. In forests, altitude about 800 m.

The species extends from the Malay Peninsula to New Guinea, the varieties endemic.

Local names: Buyo-búyo (Bik.); buyobuyóg (C. Bis.); détid (Ig.); lauíngan (Sub.); tampádan (Mbo.).

**PIPER CARNISTYLUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 774, Philip. Journ. Sci. 5 (1910) Bot. 432.

Luzon (Tayabas), (*Elmer 9333*). In forests along streams, altitude about 600 m. Endemic.

**PIPER CATUBIGENSE** Merr. in Philip. Journ. Sci. 17 (1920) 244.

Samar, *B. S. 24278 Ramos*. In damp forests at low altitudes. Endemic.

**PIPER CELTIDIFORME** Opiz in Presl Rel. Haenk. 1 (1828) 152, t. 26, f. 2; C. DC. Prodr. 16<sup>1</sup> (1869) 377; F.-Vill. Novis. App. (1880) 76.

*Chavica celtidiformis* Miq. Syst. Pip. (1843) 276.

*Piper corylistachyon* C. DC. Prodr. 16<sup>1</sup> (1869) 346 (incl. var. *magnifolia* C. DC.); F.-Vill. Novis. App. (1880) 175; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219; C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 438 (incl. formae *b, c, d, d2*), 11 (1916) 218, Leaf. Philip. Bot. 3 (1910) 776; Merr. Sp. Blancoanae (1918) 118.

*Piper obliquum* Blanco Fl. Filip. (1837) 22, ed. 2 (1845) 16, ed. 3, 1 (1877) 30, non Ruiz & Pav.

*Chavica corylistachya* Miq. Syst. Pip. (1843) 281, Fl. Ind. Bat. 1<sup>1</sup> (1858-59) 447.

*Piper warburgii* C. DC. in Perk. Frag. Fl. Philip. (1905) 159.

*Piper usterii* C. DC. in Vierteljahrsh. Naturf. Ges. Zürich 50 (1905) 447 [Usteri Beitr. Ken. Philip. Veg. (1905) 125]; Fedde Repert. 5 (1908) 64.

*Piper usterii* C. DC. var. *plurifistulosum* C. DC. l. c.; Fedde l. c.

*Piper luzonense* C. DC. Prodr. 16<sup>1</sup> (1869) 350; F.-Vill. Novis. App. (1880) 175.

*Piper reinwardtianum* C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 218, non C. DC. Prodr. 16<sup>1</sup> (1869).

Throughout the Philippines at low and medium altitudes in thickets and forests. Endemic.

Local names: Baligágod (Neg.); buyo-bóyo (Bis.); harás (Bis.); litlít (Tag.); litlít-anák (Pamp.); litlít-anító (Tag.); litlít-báboy (Tag.); litlít-matsing (Tag.); manikatápai (Bag.); nopau (Bik.); samát-áhas (Tag.); sañgilo (Bis.); saog (Bis.); sumpat (Sub.); talon-tálon (Sub.).

**PIPER CLEMENSIAE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 449.

Mindanao (Lanao), *Clemens 1200*. In forests, altitude about 600 m. Endemic.

**PIPER COSTULATUM** C. DC. Leaf. Philip. Bot. 3 (1910) 764, Philip. Journ. Sci. 5 (1910) Bot. 420, 11 (1916) Bot. 208.

Luzon (Nueva Ecija, Nueva Vizcaya, Bataan, Tayabas), Panay, Mindanao (Agusan). In forests at higher altitudes. Endemic.

Local names: Pagítan (Mbo.); sobo-manók (Tag.).

**PIPER CRASSILIBUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 210.

Luzon (Benguet), *Merrill 7660, 7649*. In thickets, altitude about 1,500 m. Endemic.

**PIPER CRASSINODUM** C. DC. Leaf. Philip. Bot. 3 (1910) 780, Philip. Journ. Sci. 5 (1910) Bot. 445.

Luzon (Tayabas, Laguna), *Elmer 8042, B. S. 28723 Ramos & Edaño, B. S. 27972 Ocampo*. In forests, altitude about 1,000 m. Doubtfully distinct from *Piper allenii* C. DC. Endemic.

**PIPER CRISTATUM** C. DC. Leaf. Philip. Bot. 3 (1910) 770, Philip. Journ. Sci. 5 (1910) Bot. 428.

Leyte, Mindanao (Davao), *Elmer 10703, Wenzel 638, 1130*. In forests, altitude 500 to 1,000 m. Endemic.

Local names: Busok-búsok (Bag.); buyok-búyok (C. Bis.).

**PIPER CURTIFOLIUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 421.

Luzon (Abra, Bontoc), *B. S. 7107 Ramos, 37844 Ramos & Edaño*. In the mossy forest, altitude about 1,800 m. Endemic.

**PIPER DAGAMIENSE** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 211.

Luzon (Tayabas), Panay, Leyte, Samar, *B. S. 15181, 24186, 24331, 24550 Ramos, B. S. 28591, 31349, 31425 Ramos & Edaño, 32493 McGregor*. In damp forests at low and medium altitudes. Endemic.

Local name: Buyat-halo (P. Bis.).

**PIPER DAGATPANUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 154, Philip. Journ. Sci. 5 (1910) Bot. 455.

Mindanao (Davao), (*Warburg 14739, 14738*). Probably from forests at medium altitudes. Endemic.

**PIPER DAVAOENSE** C. DC. in Perk. Frag. Fl. Philip. (1905) 154, Leaf. Philip. Bot. 3 (1910) 785, Philip. Journ. Sci. 5 (1910) Bot. 453.

Mindanao (Davao, Agusan), (*Warburg 14740, 14745*), *Elmer 13582, 11065*. In bamboo thickets, altitude about 750 m. Endemic. Perhaps not distinct from *Piper interruptum* Opiz.

Local names: Bitung-tuñgon (Mbo.); manikatápai (Bag.).

**PIPER DECUMANUM** Linn. in Stickman Herb. Amb. (1754) 19, Amoen. Acad. 4 (1759) 128, Sp. Pl. ed. 2 (1762) 41; Merr. Interpret. Herb. Amb. (1917) 181.

*Sirium decumanum* Rumph. Herb. Amb. 5: 45, t. 27!

*Piper forstenii* C. DC. Prodr. 16<sup>1</sup> (1869) 348, Leaf. Philip. Bot. 3 (1910) 768, Philip. Journ. Sci. 5 (1910) Bot. 424.

Mindanao (Agusan, Bukidnon, Davao, Lanao), *Clemens 572, B. S. 13667 Fénix, Elmer 13296, 11179*. In forests at medium altitudes. Mollucas.

Local names: Barágit (Bag.); búyog (Mbo.); malapágba (Buk.).

**PIPER DELICATUM** C. DC. in *Leafl. Philip. Bot.* 3 (1910) 778, *Philip. Journ. Sci.* 5 (1910) Bot. 444, 11 (1916) Bot. 219 (incl. forma *b*).

Luzon (Ilocos Norte, Lepanto, Benguet, Bontoc, Ifugao, Camarines), Mindanao, Agusan. In forests on the higher mountains. Endemic.

Local names: Maniniak (Ig.); tamasaon (Mbo.); umum (Ig.).

Var. **GLABRUM** C. DC. in *Philip. Journ. Sci.* 5 (1910) Bot. 444.

Luzon (Benguet, Lepanto). In the mossy forest on the higher mountains.

**PIPER DENUDATUM** Opiz in *Presl Rel. Haenk.* 1 (1828) 158; C. DC. *Prodr.* 16<sup>1</sup> (1869) 377, *Philip. Journ. Sci.* 5 (1910) Bot. 444; *F.-Vill. Novis. App.* (1880) 176.

*Rhyncholepis haenkeana* Miq. *Syst. Pip.* (1843) 284, *Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 448.

*Piper albidirameum* C. DC. in *Perk. Frag. Fl. Philip.* (1905) 153, *Leafl. Philip. Bot.* 3 (1910) 771, *Philip. Journ. Sci.* 5 (1910) Bot. 428 (incl. formae *b*, *c*, *d*), 11 (1916) Bot. 213.

*Piper fuscuscentirameum* C. DC. in *Philip. Journ. Sci.* 11 (1916) Bot. 217.

*Piper maagnasanum* C. DC. in *Philip. Journ. Sci.* 5 (1910) Bot. 429.

*Piper psilocarpum* C. DC. *Philip. Journ. Sci.* 11 (1916) Bot. 215.

*Piper lividum* C. DC. in *Perk. Frag. Fl. Philip.* (1905) 155, *Philip. Journ. Sci.* 5 (1910) Bot. 462.

*Piper pendulifolium* C. DC. in *Leafl. Philip. Bot.* 3 (1910) 772, *Philip. Journ. Sci.* 5 (1910) Bot. 429.

Northern Luzon to Mindanao, in forests at low and medium altitudes. Having examined the types or cotypes of all the synonyms above cited, I can see no reason for distinguishing more than one species. Endemic.

Local names: Boyóg (Mbo.); gauéd (Ibn.); guti-guti (Neg.); kañgal (Bag.); lakbaugan (Mbo.); lauiñgan (Buk.); litlit (Mbo.); makago (Mbo.); manikatápai (Bag.); maragum (Neg.); muyo-búyo (Bik.).

**PIPER DIPTEROCARPINUM** C. CD. in *Philip. Journ. Sci.* 5 (1910) Bot. 455.

Mindanao (Zamboanga), *F. B. 9146 Whitford & Hutchinson*. In forests at low altitudes. Endemic. Probably a form of *Piper caninum* Blume.

**PIPER ELLIPTICIBACCUM** C. DC. in *Philip. Journ. Sci.* 5 (1910) Bot. 449.

Luzon (Ilocos Norte, Camarines), Catanduanes, *B. S. 6344 Robinson, 30385, 33180, 33025 Ramos*. In forests at low altitudes. Endemic. Very close to *Piper interruptum* Opiz.

**PIPER ELMERI** Merr. in *Philip. Journ. Sci.* 17 (1920) 245.

Luzon (Laguna, Sorsogon), Samar, *B. S. 24256, 23490 Ramos, F. B. 26751 Mabesa, Elmer 18059*. In primary forests at low and medium altitudes. Endemic.

**PIPER EUPODUM** C. DC. in *Philip. Journ. Sci.* 11 (1916) Bot. 219.

Leyte, *B. S. 15227 Ramos, Wenzel 1005*. In forests, altitude about 500 m. Endemic.

**PIPER FENIXII** C. DC. in *Philip. Journ. Sci.* 5 (1910) Bot. 425.

Batan Islands (Batan), *B. S. 3652 Fénix*. In thickets at low altitudes. Endemic. Apparently very close to *Piper betle* Linn.

Local name: Samój (Iv.).



**PIPER FIRMOLIMBUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 435.

Leyte, Mindanao (Lanao), *Clemens, Wenzel 1622*. In forests, altitude about 600 m. Endemic.

**PIPER FRAGILE** Benth. in Hook. Lond. Journ. Bot. 2 (1843) 234, var. **MULTINERVE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 421, 11 (1916) Bot. 208.

Luzon (Tayabas, Camarines), Bucas, *Merrill 3366, 5271, B. S. 19426 Ramos*. On rocks near the sea, in thickets, and in forests at low altitudes. The species in New Guinea, the variety endemic.

Local name: Litlit-aníto (Tag.).

**PIPER GLABRISPICUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 155, Philip. Journ. Sci. 5 (1910) Bot. 451.

Mindanao (Davao), (*Warburg 14748*). Endemic. Perhaps a form of *Piper nigrum* Linn.

**PIPER HAENKEANUM** Opiz in Presl Rel. Haenk. 1 (1828) 159; C. DC. Prodr. 16<sup>1</sup> (1869) 377, Philip. Journ. Sci. 5 (1910) Bot. 462; F.-Vill. Novis. App. (1880) 176.

*Piper hirsutissimum* Miq. Syst. Pip. (1843) 336.

Luzon (Sorsogon), *Haenke*. An endemic species of doubtful status, perhaps the same as *P. merrittii* C. DC.

**PIPER HALCONENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 422.

Mindoro (Mt. Halcon), *Merrill 5773, F. B. 4393 Merritt, B. S. 40571, 40607, 40725, 40729 Ramos & Edaña*. In forests, altitude about 1,500 m. Endemic.

**PIPER HALLIERI** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 458.

Basilan, *Hallier*. Endemic. Perhaps merely a form of *Piper caninum* Blume.

**PIPER INTERRUPTUM** Opiz in Presl Rel. Haenk. 1 (1828) 157; Miq. Syst. Pip. (1843) 336; C. DC. Prodr. 16<sup>1</sup> (1869) 377, Philip. Journ. Sci. 5 (1910) Bot. 448 (incl. forma b), 11 (1916) Bot. 222 (incl. forma c); F.-Vill. Novis. App. (1880) 176.

*Piper cumingianum* Miq. Syst. Pip. (1843) 329, Fl. Ind. Bat. 1<sup>1</sup> (1858-59) 454; C. DC. Prodr. 16<sup>1</sup> (1869) 366; F.-Vill. Novis. App. (1880) 176; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

Northern Luzon to Mindanao. In forests, mostly at medium altitudes. Endemic.

Var. **HERBACEUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 448.

Luzon (Bataan), *Merrill 3182*. On exposed ridges, altitude about 1,150 m.

Var. **MULTIPLINERVE** C. DC. in Leaf. Philip. Bot. 3 (1910) 785, Philip. Journ. Sci. 5 (1910) Bot. 448.

Luzon (Benguet, Tayabas, Rizal, Bataan), *Elmer 7691, B. S. 1019 Ramos, F. B. 15865 Baconi*. In forests at medium altitudes.

Var. **SUBARBORESCENS** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 448.

*Piper subarborescens* C. DC. op. cit. 11 (1916) Bot. 222.

Luzon (Rizal), *B. S.* 4585 Ramos. In forests. The species and all varieties endemic.

Local names: Ikmong-uák (Tag.); kadákad (Ilk.); kadákad-kalaat (Ilk.); kalaskás (Tag.); litlít (Tag.); litlít-áso (Tag.); nanankáling (Mbo.); pamipamintáhan (Tag.).

**PIPER JAGORI** C. DC. Prodr. 16<sup>1</sup> (1859) 358 (*jayeri*, sphalm), Philip. Journ. Sci. 5 (1910) Bot. 437; F.-Vill. Novis. App. (1880) 175.

Luzon, (*Jagor* in herb. Berol.). Probably from forests at low altitudes. Endemic.

**PIPER KORTHALSII** Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863) 139; C. DC. Prodr. 16<sup>1</sup> (1869) 365, Philip. Journ. Sci. 5 (1910) Bot. 414, Leaf. Philip. Bot. 3 (1910) 763.

Northern Luzon to Mindanao, *Merrill* 7805, 5592, *Phil. Pl.* 471, *Elmer* 13726, 5896, 5905. In forests, medium to higher altitudes.

Var. **LONGIBRACTEUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 414.

Mindanao (Lanao), *Clemens* 463. In forests, altitude about 600 m. Sumatra (the species), the variety endemic.

Local names: Dagóg (Mbo.); dauód (Ig.); tápi (Ig.).

**PIPER LAEVIRAMEUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 450.

Mindanao (Lanao, Surigao), *Clemens* 1255, *B. S.* 34428, 34544 Ramos & Pascasio. In forests at low and medium altitudes. Endemic.

**PIPER LAGENIOVARIUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 767, Philip. Journ. Sci. 5 (1910) Bot. 424.

Mindanao (Davao), *Elmer* 10589. In thickets and forests. Endemic. Local name: Kúyo (Bag.).

**PIPER LANGLASSEI** C. DC. in Ann. Conserv. Jard. Bot. Genève 2 (1898) 273, Philip. Journ. Sci. 5 (1910) Bot. 433.

Luzon (Laguna, Mt. Banahao), (*Langlassé*). Endemic.

**PIPER LAXIRAMEUM** C. DC. Leaf. Philip. Bot. 3 (1910) 779, Philip. Journ. Sci. 5 (1910) Bot. 443.

Mindanao (Davao), *Elmer* 10503. In forests, altitude about 1,200 m. Endemic.

Local name: Manikatápai (Bag.).

**PIPER LESSERTIANUM** (Miq.) C. DC. in Journ. Bot. 4 (1866) 164, non C. DC. Prodr. 16<sup>1</sup> (1869) 258.

*Chavica lessertiana* Miq. Syst. Pip. (1843) 270, Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 445.

*Piper pseudochavica* C. DC. Prodr. 16<sup>1</sup> (1869) 351, Leaf. Philip. Bot. 3 (1910) 769, Philip. Journ. Sci. 5 (1910) Bot. 427, 11 (1916) Bot. 212; F.-Vill. Novis. App. (1880) 175; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

Luzon to Mindanao, *Cuming* 1343, *B. S.* 28226 *Fénix*, 24527 Ramos, 31372, 28507, 28688, 38688 Ramos & Edaña, *Clemens* 574, *Elmer* 11417. In forests at medium altitudes. Endemic.

Local names: Manikatápai (Bag.); tugpoái (Buk.).

**PIPER LOHERI** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 450, 11 (1916) Bot. 223 (incl. forma *c*); Merr. Fl. Manila (1912) 171.

Northern to central Luzon, *B. S.* 12217 Ramos, 11840 Robinson, Merrill 5039, *Phil. Pl.* 269. In thickets and forests at low and medium altitudes.

Forma **MULTIPLINERVE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 450, 11 (1916) Bot. 223.

Luzon (Bataan, Laguna), *B. S.* 6015 Robinson, 1870, 12242 Foxworthy. An endemic species. Closely allied to *Piper interruptum* Opiz.

Local names: Litlít (Tag.); litlít-cauáyan (Tag.); maragaued (Ilk.); pamintá (Tag.); pamipamintahan (Tag.); piméntan (Tag.); samát-uák (Pamp.).

**PIPER LONGILIMUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 221.

Samar, *B. S.* 24307, 17602 Ramos. In forests at low altitudes. Endemic. Local name: Parong-dagkó (S. L. Bis.).

**PIPER LONGISTIGMUM** C. DC. in Leaflet. Philip. Bot. 3 (1910) 770, Philip. Journ. Sci. 5 (1910) Bot. 428.

Luzon (Tayabas, Mt. Banahao), *Elmer* 7578. Endemic.

**PIPER LONGUM** Linn. Sp. Pl. (1753) 29; C. DC. Prodr. 16<sup>1</sup> (1869) 355, Philip. Journ. Sci. 5 (1910) Bot. 423; F.-Vill. Novis. App. (1880) 175.

Philippines, unknown collector, fide *C. de Candolle*, l. c. India to Malaya.

**PIPER LUCBANENSE** C. DC. in Leaflet. Philip. Bot. 6 (1914) 2293.

Luzon (Tayabas, Mt. Banahao), (*Elmer* 7383). Endemic.

**PIPER MACGREGORII** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 215.

Biliran, Catanduanes, *B. S.* 18491, 18991 McGregor, 30493 Ramos. In forests, altitude about 300 m. Endemic.

**PIPER MAGALLANESANUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 212.

Sibuyan, *Elmer* 12313 *p. p.* Endemic. Allied to *Piper longivagins* C. DC.

**PIPER MALALAGANUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 461.

Mindanao (Davao), *Copeland* 696. In thickets at low altitudes. An endemic species very close to *Piper caninum* Blume.

**PIPER MALARAYATENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 442.

Luzon (Batangas), *Copeland*. Endemic.

**PIPER MALINDANGENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 436.

Mindanao (Misamis), *F. B.* 4758 Mearns & Hutchinson. In forests. Endemic.

**PIPER MARIVELESANUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 155, Leaflet. Philip. Bot. 3 (1910) 787, Philip. Journ. Sci. 5 (1910) Bot. 457, 11 (1916) Bot. 224.

Central Luzon to Mindanao, in thickets and forests at low and medium altitudes. Endemic. Perhaps merely a form or variety of *Piper caninum* Blume.

Local names: Buyók-hálo (P. Bis.); litlít-matsíng (Tag.); súbong-manók (Tag.); súbu-manok (Tag.); tubóg-manók (Tag.).

**PIPER MEARNsii** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 447.

Luzon (Tayabas, east coast), *B. S.* 2987 Mearns, 28710 Ramos & Edaña. In forests at low altitudes. Endemic.

**PIPER MERRILLii** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 426, 11 (1916) Bot. 212.

Luzon (Laguna), Mindoro, Palawan, Negros, Samar, Merrill 1809, 9505, 7033, McGregor 178, *B. S.* 20557, 39431 Ramos, 40575, 40695, 40709, 40719, 40720 Ramos & Edaña. In damp forests at low altitudes. Endemic.

Local name: Parong (Bis.).

**PIPER MERRITTii** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 460, 11 (1916) Bot. 224 (incl. var. *parvifolium* C. DC. l. c.).

Central Luzon to Mindanao, *B. S.* 31423, 26610 Ramos & Edaña, 24933, 16537 Ramos, 22828 McGregor, Wenzel 1173, 1095, 502, 309, Elmer 10581. In damp forests at low and medium altitudes. Endemic.

Local name: Manikatápai (Bag.).

**PIPER MINDORENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 423.

Mindoro, Panay, *F. B.* 4474 Merritt, *B. S.* 30691, 30660, 30664, 30663 Ramos & Edaña. In damp forests at medium altitudes. Endemic.

**PIPER MULTISTIGMUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 222.

Luzon (Bontoc, Ifugao), *B. S.* 19819 McGregor, 37665, 37987 Ramos & Edaña. In forests, altitude about 1,000 m. An endemic species very close to *Piper interruptum* Opiz.

**PIPER MYRMECOPHILUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 211.

Leyte, Samar, *B. S.* 17599, 24366, 24345, 24346 Ramos, Wenzel 1464, 1778. In damp forests at low altitudes. Endemic.

**PIPER NIGRUM** Linn. Sp. Pl. (1753) 28; Presl Epim. (1851) 224; Blanco Fl. Filip. (1837) 21, ed. 2 (1845) 16, ed. 3, 1 (1877) 29, t. 11; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 451; F.-Vill. Novis. App. (1880) 175; C. DC. Prodr. 16<sup>1</sup> (1869) 363, Philip. Journ. Sci. 5 (1910) Bot. 452; Merr. Sp. Blancoanae (1918) 118.

*Piper laxum* Vahl Enum. 1 (1804) 326; F.-Vill. Novis. App. (1880) 176.

Philippines, fide Vahl l. c.; probably the specimen cited represents the next variety.

Var. **TRIOICUM** C. DC. Prodr. 16<sup>1</sup> (1869) 363, Philip. Journ. Sci. 5 (1910) Bot. 452.

Luzon (Cavite, Batangas), *B. S.* 1339 Mangubat, Merrill Sp. Blancoanae 585, cultivated only. Black and white pepper.

Local names: Malísa (Tag.); pimienta (Sp.).

Var. **GLABRISPICUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 223.

Mindanao (Surigao), Weber. The black pepper plant of commerce; widely distributed in the Malayan region in cultivation.

**PIPER OBLONGIBACCUM** C. DC. in Leaf. Philip. Bot. 3 (1910) Bot. 777, Philip. Journ. Sci. 5 (1910) Bot. 441.

Negros, *Elmer 9456*. In forests, altitude about 1,200 m. Endemic.  
Local name: Buyok-búyok (C. Bis.).

**PIPER OBOVATIBRACTEUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 784,  
Philip. Journ. Sci. 5 (1910) Bot. 447, 11 (1916) Bot. 221.

Central Luzon to Mindanao. In forests at medium altitudes. Endemic.  
Local name: Dumadiñgan (Lan.).

**PIPER OVATIBACCUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 782, Philip.  
Journ. Sci. 5 (1910) Bot. 445, 11 (1916) Bot. 220.

*Piper robinsonii* C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 445.

Central Luzon to Mindanao, in forests at medium altitudes. Endemic.

Local names: Búyo-háyo (P. Bis.); diltít (Ig.); litlít (Tag.); litlít-  
matsíng (Tag.); mapoua (Buk.).

**PIPER PALAWANUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 210.

Palawan, *B. S. 15573 Fénix*. On trees along the seashore. Endemic.

**PIPER PARCIRAMEUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 781, Philip.  
Journ. Sci. 5 (1910) Bot. 445.

Mindanao (Davao), *Elmer 11274, 10899*. In forests, altitude about 900  
m. Endemic.

Local names: Poruan (Bag.); salimbáñgon (Bag.).

**PIPER PAUCINERVE** C. DC. in Perk. Frag. Fl. Philip. (1905) 156, Philip.  
Journ. Sci. 5 (1910) Bot. 456.

Luzon (Isabela), (*Warburg 11929*). Endemic.

**PIPER PENNINERVE** C. DC. in Perk. Frag. Fl. Philip. (1905) 157, Philip.  
Journ. Sci. 5 (1910) Bot. 440, 11 (1916) Bot. 218.

Luzon to Mindanao, *B. S. 13857 Ramos & Edaño, 23557 Ramos, 15230, 24284, 28392 Fénix, 11818 Robinson, Wenzel 2, 374, 719*. In forests at  
medium altitudes. Endemic.

**PIPER PETRAEUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 430.

Luzon (Benguet), *Elmer 6430, Sandkuhl 158*. In thickets. Endemic.

**PIPER PHILIPPINUM** Miq. Syst. Pip. (1843) 322, Fl. Ind. Bat. 1<sup>a</sup>  
(1858-59) 453; C. DC. Prodr. 16<sup>1</sup> (1869) 348, Philip. Journ. Sci.  
5 (1910) Bot. 437; F.-Vill. Novis. App. (1880) 175; Vidal Phan.  
Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

Luzon (Rizal, Tayabas, Albay), Samar, Leyte, *Cuming 912, B. S. 24184, 26205 Ramos, 29127, 29131 Ramos & Edaño*. In forests at medium altitudes.  
Endemic.

**PIPER PERPUNCTATUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 219.

Palawan, *Merrill 7246*. In forests at low altitudes. Closely allied to  
*Piper caninum* Blume. Endemic.

**PIPER PILISPICUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 452.

Luzon (Ilocos Norte, Benguet), *B. S. 5720 Ramos, F. B. 12484 Merritt & Darling*. Endemic.

**PIPER PODANDRUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 436, 11  
(1916) Bot. 217.

Luzon (Zambales), Catanduanes, *B. S. 5053, 30495 Ramos, F. B. 8141 Curran & Merritt*. In forests. Endemic.

**PIPER POLISANUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 209.

Luzon (Ilocos Norte, Bontoc, Apayao, Ifugao), *B. S.* 19817, 19816 *McGregor*, 33363 *Ramos*, 10755 *Worcester*, 38069 *Ramos & Edaña*. In forests, altitude about 1,200 m. Endemic.

**PIPER POLYCLADUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 438, 11 (1916) Bot. 218.

Luzon (Benguet, Rizal), *Williams* 1134, *B. S.* 13396 *Ramos*, *Merrill Phil. Pl.* 751. In thickets and forests, altitude about 1,200 m. Endemic.

**PIPER PUBERULINODUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 773, Philip. Journ. Sci. 5 (1910) Bot. 429.

Mindanao (Davao), *Elmer* 11972. In forests, altitude about 800 m. Endemic.

**PIPER PULOGENSE** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 453, 11 (1916) Bot. 222.

Luzon (Benguet), *Merrill Phil. Pl.* 749, *F. B.* 16240 *Curran*, *Merritt*, & *Zschokke*. In forests, altitude about 2,200 m. Endemic.

**PIPER RAMOSII** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 426, 11 (1916) Bot. 211.

Luzon (Rizal), Panay, Mindanao, *B. S.* 1755, 13433, 13397, 24932, 22279 *Ramos*, 19149 *Reillo*, 15788 *Fénix*, 31218, 29645, 29730 *Ramos & Edaña*. In forests, altitude about 1,200 m. Endemic.

Local names: Litlít (Tag.); tugpuán (Buk.).

**PIPER RETROFRACTUM** Vahl Enum. 1 (1804) 314; *Usteri* Beitr. Ken. Philip. Veg. (1905) 125, C. DC. in Perk. Frag. Fl. Philip. (1905) 157 (incl. var. *latifolium* C. DC.), Philip. Journ. Sci. 5 (1910) Bot. 439, 11 (1916) Bot. 218, Leaf. Philip. Bot. 3 (1910) 776; *Merr. Fl. Manila* (1912) 170, Sp. Blancoanae (1918) 118.

*Piper parvifolium* Blanco Fl. Filip. (1837) 23, ed. 2 (1845) 17, ed. 3, 1 (1877) 32; C. DC. Prodr. 16<sup>1</sup> (1869) 376.

*Chavica parvifolia* Hassk. in Flora 47 (1864) 59.

*Piper officinarum* C. DC. Prodr. 16<sup>1</sup> (1869) 356; F.-Vill. Novis. App. (1880) 175; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 219.

*Chavica officinarum* Miq. Syst. Pip. (1843) 256, Nov. Act. Acad. Nat. Cur. 21 (1846) Suppl. 39, t. 34, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 444.

Batan Islands, Luzon, Mindanao, Panay, Palawan. In thickets at low altitudes, usually common. Indo-China and the Malay Peninsula to the Moluccas.

Local names: Amáras (Ilk.); boyo-bóyo (Tagb.); kamára (Ilk.); kayuñgo (Tag.); lilít (Ilk.); litlít (Tag.); sabía (Tag.); salimára (Tag.); soag-matsíng (Tag.); súbon-manók (Tag.).

**PIPER RHOMBOPHYLLUM** C. DC. Prodr. 16<sup>1</sup> (1869) 352, Leaf. Philip. Bot. 3 (1910) 775, Philip. Journ. Sci. 5 (1910) Bot. 433, 11 (1916) Bot. 216; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 220.

*Chavica populifolia* Miq. Syst. Pip. (1843) 248, Fl. Ind. Bat. 1<sup>1</sup> (1858-59) 442, non *Piper populifolia* Opiz.

*Piper rhombifolium* F.-Vill. Novis. App. (1880) 175, sphalm.

*Piper sarcostylum* C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 216.

*Piper copelandii* C. DC. in op. cit. 5 (1910) Bot. 447.

Southern Luzon to Mindanao, *Cuming 834, B. S. 13282, 17507, 22150 Ramos, Copeland 1298, Merrill 7305*. In forests at low altitudes. Endemic. Allied to *Piper abbreviatum* Opiz.

Local name: Guti-guti (Bik.).

**PIPER ROTUNDISTIGMUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 425, 11 (1916) Bot. 209.

*Piper leyteanum* C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 220.

Southern Luzon, Leyte, Biliran, Samar, Mindanao, *Wenzel 505, 214, 463, 657, 1819, B. S. 15247, 15379, 17653, 23405 Ramos, 18882 McGregor, Elmer 13521, Clemens*. In forests at low and medium altitudes.

Var. **PILOSIUS** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 209.

Samar, *B. S. 17434, 17653 Ramos*. Endemic.

Local name: Ihaláson (Mbo.).

**PIPER RUFINERVE** Opiz in Presl Rel. Haenk. 1 (1828) 159; Miq. Syst.

Pip. (1843) 336; C. DC. Prodr. 16<sup>1</sup> (1869) 377; F.-Vill. Novis.

App. (1880) 176; C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 462.

Luzon, *Haenke*. A species of doubtful status, known only from the original description.

**PIPER SAMARANUM** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 223.

Samar, Leyte, *B. S. 17546 Ramos, Wenzel 1544*. In forests at low altitudes. Endemic.

**PIPER SARMENTOSUM** Roxb. Fl. Ind. 1 (1820) 162; C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 424, 11 (1916) Bot. 218.

*Piper siassiense* C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 443.

Southern Luzon, Negros, Palawan, Mindanao, Sulu Archipelago, *Merrill 6729, 9480, 5311, Elmer 14245, Wenzel 1882*. In thickets, coconut groves, etc., at low altitudes. India to southern China, southward to the Moluccas.

Local name: Patai-butu (Sul.).

**PIPER SIBULANUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 158, Philip. Journ. Sci. 5 (1910) Bot. 442.

Mindanao (Davao), (*Warburg 14742*). In forests at low altitudes. Endemic.

**PIPER STRIATUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 776, Philip. Journ. Sci. 5 (1910) Bot. 441.

Mindanao (Davao), *Elmer 11764*. In forests, altitude about 900 m. Endemic.

Local name: Miaukau (Bag.).

**PIPER SUBPROSTRATUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 425.

Mindoro, *F. B. 6751 Merritt, B. S. 40726 Ramos & Edaña*. In forests at low altitudes. Endemic.

**PIPER TAUMANUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 159, Philip. Journ. Sci. 5 (1910) Bot. 462.

Mindanao (Davao), (*Warburg 14741*). A species of doubtful status, described from a sterile specimen. Endemic.

**PIPER TENUIPEDUNCULUM** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 460.

Mindanao (Zamboanga), *Williams 2374 p. p.* In forests at low altitudes, closely allied to *Piper cantinum* Blume. Endemic.

**PIPER TENUIRAMEUM** C. DC. in Perk. Frag. Fl. Philip. (1905) 159, Philip. Journ. Sci. 5 (1910) Bot. 456.

Luzon (Rizal), (*Warburg 13317*). Perhaps not distinct from *Piper viminale* Opiz. Endemic.

**PIPER TOPPINGII** C. DC. in Leaf. Philip. Bot. 3 (1910) Bot. 783, Philip. Journ. Sci. 5 (1910) Bot. 446, 11 (1916) Bot. 221.

*Piper chlorocarpum* C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 221.

*Piper pilipes* C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 423, 11 (1916) Bot. 209.

Central Luzon to Mindanao, *Merrill 7770, 6530, Phil. Pl. 274, Elmer 5850, Clemens, B. S. 20129 McGregor, 15364 Ramos, 37650, 37790, 37902 Ramos & Edaña, Wenzel 20, 717, 773, 894, 889, 893, 948.* In forests at medium altitudes. Endemic.

Local name: Dauút (Ig.).

**PIPER UMBELLATUM** Linn. Sp. Pl. (1753) 43, var. **SUBPELTATUM** (Willd.) C. DC. in Donn.-Sm. Enum. 6: 39, Philip. Journ. Sci. 5 (1910) Bot. 463, 11 (1916) Bot. 225.

*Piper subpeltatum* Willd. Sp. Pl. 1 (1798) 166; C. DC. Prodr. 16<sup>1</sup> (1869) 333; F.-Vill. Novis. App. (1880) 176; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 220.

*Piper peltatum* Usteri Beitr. Ken. Philip. Veg. (1905) 125 (sphalm) non Linn.

*Pothomorphe subpeltata* Miq. Comment. Phytogr. (1840) 36, Syst. Pip. (1843) 213.

Northern Luzon to Mindanao. In damp forests at low and medium altitudes. Pantropic.

Local names: Balai (Bon.); bayag-bayág (C. Bis.); dujáran (Ig.); gumba (Sul.); kamámba (Tag.); kubámba (Tag.); kúyo (Bag.); kúyok (Bag.); pugápung (Buk.).

Var. **GLABRUM** C. DC. in Bull. Herb. Boiss. 6 (1898) 494, Leaf. Philip. Bot. 3 (1910) 789, Philip. Journ. Sci. 11 (1916) Bot. 225.

Luzon (Laguna), *B. S. 12414 McGregor.* In forests.

**PIPER URDANETANUM** C. DC. in Leaf. Philip. Bot. 6 (1914) 2293.

Mindanao (Agusan), *Elmer 13713.* Very closely allied to *Piper wenzellii* C. DC. Endemic.

Local name: Sauodan (Mbo.).

**PIPER VARIBRACTEUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 764, Philip. Journ. Sci. 5 (1910) 421, 11 (1916) Bot. 208.

Mindanao (Davao), *Elmer 11998.* In forests at low altitudes. Endemic.

Local name: Manikatápai (Bag.).



**PIPER VILLILIMBUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 788, Philip. Journ. Sci. 5 (1910) Bot. 461, 11 (1916) Bot. 224.

Northern Luzon to Mindanao, *B. S.* 23309, 23544, 20594, 13895, 14472, 22023 Ramos, Wenzel 372, 414, 427, 730, 916, 1660, 1791, 1734, 1879, Elmer 13605, Merrill 1783. In forests at low and medium altitudes. Endemic.

Local name: Mandásai (Mbo.).

**PIPER VILLIRHACHE** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 214.

Mindanao (Agusan, Zamboanga, Bukidnon), Merrill 7280, *B. S.* 15773 Fénix, 36989, 36853, 36889 Ramos & Edaña. In forests at low altitudes. Endemic.

Local name: Tugpuán (Buk.).

**PIPER VIMINALE** Opiz in Presl Rel. Haenk. 1 (1828) 150, t. 26, f. 1; Miq. Syst. Pip. (1843) 336; C. DC. Prodr. 16<sup>1</sup> (1869) 361, Philip. Journ. Sci. 5 (1910) 436, 11 (1916) Bot. 217; F.-Vill. Novis. App. (1880) 176.

*Chavica viminalis* Miq. in Linnaea 20 (1847) 131, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 445.

*Piper negrosense* C. DC. in Leaf. Philip. Bot. 3 (1910) 786, Philip. Journ. Sci. 5 (1910) Bot. 454.

Northern Luzon to Mindanao, *B. S.* 20408, 14685, 30513, 30560 Ramos, 33690, 34036, 34033, 28746, 29194, 31131 Ramos & Edaña, Warburg 12126. In forests at low and medium altitudes. Endemic.

Local name: Lauñgan (Sub.).

**PIPER WENZELII** C. DC. in Philip. Journ. Sci. 11 (1916) Bot. 213.

*Piper hirtirhache* C. DC. l. c.

Leyte, Samar, Wenzel 628, 723, 779, 819, 891, 1168, 1197, 1543, *B. S.* 17587, 24290, 24285 Ramos. In forests, altitude about 500 m. Endemic.

**PIPER ZAMBOANGAÉ** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 424.

*Piper oophyllum* C. DC. op. cit. 430.

*Piper williamsii* C. DC. op. cit. 441.

Mindanao (Zamboanga, Davao, Bukidnon), Copeland 320, 333, *B. S.* 15773 Fénix, 36987 Ramos & Edaña, De Vore & Hoover 233, Williams 2750. In thickets, coconut groves, etc., at low altitudes. Endemic.

Local name: Lauñgan (Sub.).

#### DOUBTFUL AND EXCLUDED SPECIES

**PIPER AMBOINENSE** C. DC.; F.-Vill. Novis. App. (1880) 175.

**PIPER ARCUATUM** Blume; F.-Vill. Novis. App. (1880) 175.

**PIPER ATTENUATUM** Miq.; F.-Vill. Novis. App. (1880) 176.

**PIPER GUAHAMENSE** C. DC.; F.-Vill. Novis. App. (1880) 176.

**PIPER MARGINATUM** Jacq.; F.-Vill. Novis. App. (1880) 176.

**PIPER MIQUELIANUM** F.-Vill. Novis. App. (1880) 176.

**PIPER POTAMOGETONIFOLIUM** Opiz; F.-Vill. Novis. App. (1880) 176.

The above seven species were erroneously credited to the Philippines by F.-Villar; none of them have been found in the Archipelago.

**PIPER CALLOSUM** Ruiz & Pavon; Presl Rel. Haenk. 1 (1828) 152.

"Hab. in insula Luzon" Presl; the record was apparently based on a South American specimen erroneously localized as Philippine.

PIPER CLYPEATUM Wall.; C. DC. Prodr. 16<sup>1</sup> (1869) 378; F.-Vill. Novis. App. (1880) 176.

PIPER MANILLANUM Miq. Syst. Pip. (1843) 339.

"Manille, *Gaudichaud 1836*" de Candolle; the "Philippine" specimen was probably from Singapore or Penang rather than from the Philippines.

PIPER GRANDE Vahl; Opiz in Presl Rel. Haenk. 1 (1828) 156.

"Hab. in insula Luzon" Opiz. Vahl's species, one of doubtful status, seems to be an American form, Haenke's Luzon specimen being either erroneously localized or wrongly identified.

PIPER LATUM HBK.; Opiz in Presl Rel. Haenk. 1 (1828) 159.

"Hab. ad portum Sorzogon in insula Luzon" Opiz. The record was unquestionably based on an American specimen erroneously localized in the Haenke Malaspina Expedition collections.

PIPER RADICANS Vahl Enum. 1 (1804) 333; Opiz in Presl Rel. Haenk. 1 (1828) 159; C. DC. Prodr. 16<sup>1</sup> (1869) 379; F.-Vill. Novis. App. (1880) 176.

Vahl's type was from the Isle of France; Opiz was doubtless in error in referring Haenke's Luzon specimen to this species.

PIPER SYLVESTRE Lam. Ill. 1 (1791) 79; Vahl Enum. 1 (1804) 326; C. DC. Prodr. 16<sup>1</sup> (1869) 361; F.-Vill. Novis. App. (1880) 175.

Lamarck's type material was from "Insula Francia, Malabar, Philippens." As currently interpreted this is an Indian species.

## 2. ZIPPELIA Blume

ZIPPELIA BEGONIAEFOLIA Blume in Roem. & Schultes Syst. 7 (1830) 1641, 1651; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 6.

*Zippelia lappacea* Benn. Pl. Jav. Rar. (1838) 76, t. 16.

*Piper zippelia* C. DC. Prodr. 16<sup>1</sup> (1869) 256.

*Piper lappacea* C. DC. in Lecomte Fl. Gen. Indo-Chine 5 (1910) 68.

Jolo, *Clemens 9335*. In damp forests, altitude about 600 m. Indo-China and the Malay Peninsula to Sumatra, Borneo, and Java.

## 3. PEPEROMIA Ruiz and Pavon

PEPEROMIA AGUSANENSIS C. DC. in Leaflet. Philip. Bot. 6 (1914) 2294.

Mindanao (Agusan, Bukidnon), *Elmer 18635*, *B. S. 38560 Ramos & Edaña*. In the mossy forest, altitude about 1,800 m. Endemic.

Local name: Salimbágat (Mbo.).

PEPEROMIA APOANA C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 411.

Mindanao (Davao), *Copeland 1002*. On trees, altitude about 1,700 m. Endemic.

PEPEROMIA CANLAONENSIS C. DC. Prodr. 5 (1910) Bot. 408.

Negros (Mt. Canlaon), *Phil. Pl. 251 Merrill*. In the mossy forests on trees, altitude about 1,800 m. Endemic.

**PEPEROMIA ELMERI** C. DC. in Leaf. Philip. Bot. 3 (1910) 761, Philip. Journ. Sci. 5 (1910) Bot. 412.

Mindanao (Davao, Mt. Apo), *Elmer 10493*. On trees in forests, altitude about 1,200 m. Endemic.

Local name: Salibútbut (Bag.).

**PEPEROMIA EXIGUA** (Blume) Miq. Syst. Pip. (1843) 77, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 432; F.-Vill. Novis. App. (1880) 176; C. DC. Prodr. 16<sup>1</sup> (1869) 403, Leaf. Philip. Bot. 3 (1910) 759, Philip. Journ. Sci. 5 (1910) Bot. 410.

*Piper exiguum* Blume in Verh. Bat. Genoots. 11 (1826) 233, t. 36, f. 7.

Luzon, Mindanao, *Merrill 9785*, *B. S. 11878*, *9543 Robinson*, *Elmer 11004*. On damp cliffs at low and medium altitudes. Tropical Africa, India, and the Malay Archipelago.

Local name: Sigbat-ta-pangpang (Bag.).

**PEPEROMIA LAEVIFOLIA** (Blume) Miq. Syst. Pip. (1843) 101; C. DC. Prodr. 16<sup>1</sup> (1869) 419; Philip. Journ. Sci. 5 (1910) Bot. 410.

*Piper laevifolium* Blume Cat. Gew. Buitenz. (1823) 33, Verh. Bat. Genoots. 11 (1826) 229.

Luzon (Bataan, Mt. Mariveles), *Merrill 3205*. On boulders in the mossy forest, altitude 1,200 m. Java.

**PEPEROMIA LAGUNAENSIS** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 407.

*Peperomia puberulifolia* C. DC. op. cit. 412.

Luzon (Laguna, Bataan), *Merrill 5130*, *7514*, *7616*, *B. S. 6047*, *6210*, *6069*, *17310*, *9776*, *9809*, *9760 Robinson*, *27936 Ocampo*, *Baker 2877*. In damp forests on mossy earth, boulders, and trees at medium altitudes. Endemic.

**PEPEROMIA LANAOENSIS** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 410.

Mindanao (Lanao, Bukidnon, Zamboanga), *Clemens 625*, *Merrill 8152*, *B. S. 26045 Félix*. On rocks and ledges in ravines and near streams at low and medium altitudes. Endemic.

**PEPEROMIA MACGREGORII** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 412.

Luzon (Benguet), *B. S. 8380 McGregor*. In the mossy forest, altitude 2,100 m. Endemic.

**PEPEROMIA MARIVELESANA** C. DC. in Leaf. Philip. Bot. 3 (1910) 762, Philip. Journ. Sci. 5 (1910) Bot. 413.

Northern and central Luzon, Mindoro, Palawan, *Merrill 6147*, *3721*, *7618*, *B. S. 33164 Ramos*, *678 Foxworthy*, *Elmer 6820*. On mossy ledges and trees on the higher mountains. Endemic.

**PEPEROMIA MERRILLII** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 411.

Luzon (Rizal, Cavite), *Merrill 4180*, *Phil. Pl. 270*, *B. S. 29319 Ramos & Edaño 13757*, *1071 Ramos*. On ledges near streams at medium altitudes. Endemic.

**PEPEROMIA MINDOROENSIS** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 413.

Mindoro (Mt. Halcon), *Merrill 6107*, *6184*. On mossy trees, altitude about 1,400 m. Endemic.

**PEPEROMIA NEGROSENSIS** C. DC. in Leafl. Philip. Bot. 3 (1910) 760, Philip. Journ. Sci. 5 (1910) Bot. 412.

Negros (Cuernos Mts.), *Elmer 9425*. On mossy rocks in shaded ravines. Endemic.

**PEPEROMIA PALLIDIBACCA** C. DC. in Leafl. Philip. Bot. 3 (1910) 763, Philip. Journ. Sci. 5 (1910) Bot. 413.

Luzon (Benguet), *Elmer 9344*, *Copeland*, *Clemens*. In the mossy forests, altitude 2,200 m. Endemic.

**PEPEROMIA PELLUCIDA** (Linn.) HBK. Nov. Gen. Sp. Pl. 1 (1815) 64; C. DC. Prodr. 16<sup>1</sup> (1869) 402; Merr. Fl. Manila (1912) 170.

*Piper pellucida* Linn. Sp. Pl. (1753) 30.

*Peperomia bilineata* Miq. in Nov. Act. Acad. Nat. Cur. 19 (1843)

Suppl. 1: 485; F.-Vill. Novis. App. (1880) 176, non Miq. Syst.

*Peperomia hymenophylla* Miq. in Nov. Act. Acad. Nat. Cur. 19 (1843)

Suppl. 1: 485, Syst. Pip. (1843) 78.

*Micropiper tenellum* Klotz. ex Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 432.

*Micropiper pellucidum* Miq. Comment. Phyt. (1840) 54.

A pantropic species of American origin, common in the rainy season on and about damp walls in towns and now widely distributed in the Philippines.

Local name: Olasíman-ihálas (C. Bis.).

**PEPEROMIA PELLUCIDOPUNCTULATA** C. DC. in Leafl. Philip. Bot. 3 (1910) 760, Philip. Journ. Sci. 5 (1910) Bot. 411.

Northern Luzon to Mindanao, *Merrill 8158*, *Elmer 8436*, *B. S. 2962 Mearns, 18954*, *32441 McGregor, 6469 Robinson*. On mossy trees and wet cliffs at medium and higher altitudes. Endemic.

**PEPEROMIA RECURVATA** (Blume) Miq. Syst. Pip (1843) 141; Fl. Ind.

Bat. 1<sup>2</sup> (1858-59) 435 (var. *philippinensis*); C. DC. Prodr. 16<sup>1</sup>

(1869) 440, Philip. Journ. Sci. 2 (1907) 269; F.-Vill. Novis. App.

(1880) 176; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl.

Vasc. Filip. (1886) 220.

Forma **LONGISPICA** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 409.

Luzon (Benguet, Bontoc), *Merrill 4425*, *Williams 1084*, *Vanoverbergh 835*, *F. B. 4847 Curran*. In damp places along shaded streams.

Forma **PILOSIOR** C. DC. l. c.

Luzon (Benguet, Ifugao, Bontoc), *Merrill 7682*, *Elmer 6622*, *B. S. 19635 McGregor, Vanoverbergh 603*. On mossy slopes, boulders, etc., at higher altitudes. Java (the species).

**PEPEROMIA REFLEXA** (Linn. f.) A. Dietr. Sp. Pl. 1 (1831) 180. C. DC.

Prodr. 16<sup>1</sup> (1869) 451, Philip. Journ. Sci. 5 (1910) Bot. 410 (incl.

formae *subsessilifolia* C. DC., *capensis* C. DC., *parvilimba* C. D., et

*callicola* C. DC.).

*Piper reflexum* Linn. f. Suppl. (1781) 91.

Northern Luzon to Mindanao, *Merrill 4583, 3918*, *Phil. Pl. 748*, *Elmer 6077, 8576*, *B. S. 8894 McGregor, Williams 1114*. On trees, boulders, and ledges at higher altitudes. In various forms and varieties in the Tropics of both hemispheres.

Local name: Kanapá (Ig.).

**PEPEROMIA RIVULORUM** C. DC. in Leaf. Philip. Bot. 3 (1910) 762, Philip. Journ. Sci. 5 (1910) Bot. 412.

Mindanao (Mt. Apo), *Elmer 11147, Copeland 933*. On mossy bowlders in shaded ravines along streams. Endemic.

Local name: Lambu-lambú (Bag.).

**PEPEROMIA RUBRIVENOSA** C. DC. in Philip. Journ. Sci. 5 (1910) Bot. 409.

Luzon (Benguet), *Williams 1083*. On trees. Endemic.

**PEPEROMIA TOMENTOSA** (Vahl) A. Dietr. Sp. Pl. 1 (1831) 172 var.

**CARNOSA** C. DC. Prodr. 16<sup>1</sup> (1869) 455, Philip. Journ. Sci. 5 (1910) Bot. 409.

*Piper tomentosum* Vahl Enum. 1 (1804) 351.

Central Luzon to Mindanao, *Clemens 517, B. S. 20126 De Veyra*. On trees at medium altitudes. Java.

Local name: Libágod (Bag.).

**PEPEROMIA VENTENATII** Miq. var. **PUBESCENS** Miq. in Nov. Act.

Acad. Nat. Cur. 19 (1843) Suppl. 1: 485, Fl. Ind. Bat. 1<sup>2</sup> (1858-59)

434; C. DC. Prodr. 16<sup>1</sup> (1869) 446, Philip. Journ. Sci. 5 (1910)

Bot. 408; F.-Vill. Novis. App. (1880) 176.

Luzon (Benguet, Lepanto, Bontoc, Rizal), *Merrill 4592, 7709, Vanoverbergh 488, B. S. 29619 Ramos & Edaña*. In the mossy forest at higher altitudes. Java.

#### EXCLUDED SPECIES

**PEPEROMIA BILINEATA** Miq.; Usteri Beitr. Ken. Philip. Veg. (1905) 125.

Usteri's Guimaras specimen was probably wrongly identified.

**PEPEROMIA MARIANNENSIS** C. DC.; F.-Vill. Novis. App. (1880) 176.

**PEPEROMIA MEMBRANACEA** Hook.; F.-Vill. l. c.

**PEPEROMIA ARGYREIA** Morren in Belg. Hort. 17 (1867) 2, t. 2; Merr. Fl. Manila (1912) 170.

An exotic species of American origin occasionally cultivated in Manila for its variegated leaves.

#### CHLORANTHACEAE

##### 1. CHLORANTHUS Swartz

**CHLORANTHUS BRACHYSTACHYS** Blume Fl. Jav. Chlor. (1828) 13, t. 2; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 801; Solms in DC. Prodr. 16<sup>1</sup> (1869) 475; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 220; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 40, 2 (1907) Bot. 269, 5 (1910) Bot. 342.

Common and widely distributed throughout the Archipelago in primary forests at medium and higher altitudes. India to Japan, southward to Malaya.

Local names: Apot (Ig.); damoko (Ig.); emem (Ig.); gapas (Ig.); gumok (Buk.); kari-kari (Bag.); total (Yak.); umuum (Ig.).

**CHLORANTHUS OFFICINALIS** Blume Enum. Pl. Jav. (1827) 79, Fl. Jav. Chlor. (1828) 10, t. 1; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 801; Solms

in DC. Prodr. 16<sup>1</sup> (1869) 474; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 220; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 269, Sp. Blancoanae (1918) 119.

*Chloranthus inconspicuus* Blanco Fl. Filip. ed. 2 (1845) 54, ed. 3, 1 (1877) 101; F.-Vill. Novis. App. (1880) 177, non Sw.

*Chloranthus salicifolius* Presl Epim. (1851) 231; Walp. Ann. 3 (1852-53) 352; Baill. Adansonia 3 (1863) 206; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 801.

Widely distributed in forests at low and medium altitudes from central Luzon southward to Palawan and Mindanao. India to western China, southward through Malaya.

Local names: Barau-bárau (Mang.); sunulampóng (Sub.).

**CHLORANTHUS PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 259.

Luzon (Cagayan, Abulug River), *Weber 1582*. In forests at medium altitudes. Endemic.

**CHLORANTHUS VERTICILLATUS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 3.

Luzon (Ifugao, Mt. Polis), *B. S. 19757 McGregor*. In forests at high altitudes. Endemic.

## 2. ASCARINA Forster

**ASCARINA PHILIPPINENSIS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 70.

Mindanao (Bukidnon, Davao, Mt. Apo), Panay, *Williams 2541, Elmer 11480, B. S. 30647, 38559 Ramos & Edaña, 32332 McGregor*. In forests at high altitudes. Endemic.

Local name: Kari-kari (Bag.).

**ASCARINA RETICULATA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 263.

Luzon (Ilocos Norte, Nueva Ecija), *B. S. 26399 Ramos & Edaña, 33323 Ramos*. In forests. Endemic. A small genus otherwise known only from New Caledonia, New Zealand, and southern Polynesia.

Local name: Parukanak (Neg.).

## SALICACEAE

### 1. SALIX Linnaeus

**SALIX TETRASPERMA** Roxb. Pl. Coromandel 1 (1795) 66, t. 97; Spreng. Syst. 1 (1825) 100; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 106; F.-Vill. Novis. App. (1880) 210; Merr. Sp. Blancoanae (1918) 119.

*Salix azaolana* Blanco Fl. Filip. ed. 2 (1845) 539, ed. 3, 3 (1879) 188; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 81, Philip. Journ. Sci. 1 (1906) Suppl. 182.

Luzon (Cagayan, Laguna, Rizal, Bulacan), Bohol, Mindanao, *Merrill Sp. Blancoanae 115, Phil. Pl. 461, F. B. 1987, 2139 Ahern's collector, B. S. 26102 Fénix*. In forests in swamps and near streams at low and medium altitudes. India to China, Formosa, southward to Sumatra and Java.

Local names: Libás (Tag.); maksa (C. Bis.); malatíki (Tag.); tiáun (Tag.).

## MYRICACEAE

## 1. MYRICA Linnaeus

**MYRICA ESCULENTA** Ham. in G. Don Prodr. Fl. Nepal. (1825) 56, var. **FARQUHARIANA** (Wall.) Cheval. Monogr. Myric. (1901) 125; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 269.

*Myrica rubra* Merr. in Philip. Journ. Sci. 1 (1906) 41, non Sieb. & Zucc.

*Myrica nagi* Hook. f. Fl. Brit. Ind. 5 (1888) 597, non Thunb.

*Myrica farquhariana* Wall. Tent. Fl. Nepal. (1826) 61.

Luzon (Bataan, Zambales), Mindoro, in mountain forests, *Whitford 1140, 1174, 1177, F. B. 2595 Meyer*. India to China, the Malay Peninsula, and Borneo.

**MYRICA JAVANICA** Blume Bijdr. (1825) 517; Fl. Jav. Myric. (1828) 7, t. 1; Cheval. Monogr. Myric. (1901) 129; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 270; Koord. & Val. Atlas Baumart. Java 2 (1914) f. 374.

*Myrica vidaliana* Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 316; Vidal Rev. Pl. Vasc. Filip. (1886) 259; Ceron Cat. Pl. Herb. Manila (1892) 163; Cheval. Monogr. Myric. (1901) 129.

Central Luzon southward to Mindanao, on the higher mountains, *Merrill Phil. Pl. 1333, Elmer 9743, 11475, 11380*. Java.

Local names: Hindáng (C. Bis.); pagátpat (Bag.).

**MYRICA NAGI** Thunb. Fl. Jap. (1784) 76; Cheval. Monogr. Myrist. (1901) 116.

*Morella rubra* Lour. Fl. Cochinch. (1790) 548.

*Myrica rubra* S. & Z. in Abh. Akad. Münch. 4<sup>3</sup> (1846) 230.

Luzon (Zambales), Palawan, *F. B. 3359 Curran, 8074 Curran & Merritt*. On the higher mountains. Japan and China.

## JUGLANDACEAE

## 1. ENGELHARDTIA Leschenault

**ENGELHARDTIA APOENSIS** Elm. Leaf. Philip. Bot. 7 (1915) 2693.

Mindanao (Davao, Mt. Apo), *Elmer 11744*. On forested ridges, altitude about 1,200 meters. Endemic.

Local name: Lupísan (Bag.).

**ENGELHARDTIA COLEBROOKEANA** Lindl. in Wall. Pl. As. Rar. 3 (1832) 4, t. 208; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 264.

Luzon (Bontoc, Ilocos Sur), *B. S. 37939 Ramos & Edaña*. On slopes at medium altitudes. India to Burma and southern China.

Local name: Pedpéd (Ilk.).

**ENGELHARDTIA PARVIFOLIA** C. DC. Prodr. 16<sup>2</sup> (1864) 141; F.-Vill. Novis. App. (1880) 206; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 259.

Northern Luzon to Samar and Leyte, *B. S. 28385 Félix, 28761 Ramos & Edaña, 22437 Ramos, Merrill Phil. Pl. 390, F. B. 27830 Alambra*. In forests at medium altitudes. Endemic.

Local names: Bagatarhán (S. L. Bis.); báгна (Tag.); málayau (Ibn.).

**ENGELHARDTIA SPICATA** Blume Bijdr. (1825) 528, Fl. Jav. Jugl. (1828) 8, t. 5; C. DC. Prodr. 16<sup>2</sup> (1864) 140; F.-Vill. Novis. App. (1880) 206; Vidal Sinopsis Atlas (1883) 40, t. 90, f. A, Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 259; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 41, 2 (1907) Bot. 270, Sp. Blancoanae (1918) 120.

*Gyrocarpus pendulus* Blanco Fl. Filip. ed. 2 (1845) 55, ed. 3, 1 (1877) 104, t. 387.

*Engelhardtia philippinensis* C. DC. Prodr. 16<sup>2</sup> (1864) 141; F.-Vill. Novis. App. (1880) 206.

Northern Luzon to Mindanao, *Cuming 1120, 1290, F. B. 1970 Ahern's collector, Merrill 5760, Sp. Blancoanae 176, Elmer 8948, 11489, Williams 2723, B. S. 19753 McGregor, 14630 Ramos*. In forests at low and medium altitudes. India to Burma and Malaya.

Local names: Aroi-oi (Ig.); bibít (Tag.); hanamlód (C. Bis.); lapísan (Bag.); lupísan (Lan.); panyongyóng (C. Bis.); pedpéd (Ting.); píngol (Tag.); polikdik (Ig.); salotsót (Ting.); taguhúsai (Bis.); tariókan (Tag.).

**ENGELHARDTIA SUBSIMPLICIFOLIA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 6, Philip. Journ. Sci. 1 (1906) Suppl. 41.

Central Luzon and Mindanao, *Merrill 3942, 3951, 8366, Whitford 1176, F. B. 2759, 2770 Meyer, Elmer 14131*. On forested mountains at medium and higher altitudes. Endemic.

Local name: Buntán (Mbo.).

## FAGACEAE

### 1. CASTANEA Tournefort

**CASTANEA MOLLISSIMA** Blume Mus. Bot. Lugd.-Bat. 1 (1850) 286; Rehder & Wils. in Sargent Pl. Wils. 3 (1916) 192.

Luzon (Benguet, Lepanto), *Merrill 4614, F. B. 18381 Alvarez*. The former from a cultivated tree grown from introduced seeds, the latter from "mountain top, altitude 6,000 ft." Both specimens agree with the Chinese *Castanea mollissima* Blume, which extends from northern China to Yunnan and Kwangtung and has been confused with the European chestnut, *Castanea vulgaris* Lam.

### 2. CASTANOPSIS Spach

**CASTANOPSIS JAVANICA** (Blume) A. DC. in Journ. Bot. 1 (1863) 182, Prodr. 16<sup>2</sup> (1864) 111; F.-Vill. Novis. App. (1880) 209; Elm. Leaf. Philip. Bot. 3 (1910) 936; Vidal Sinopsis Atlas (1883) 41, t. 92, f. 1.

*Castanea javanica* Blume Bijdr. (1825) 525, Fl. Jav. Cupulif. (1828) 44, t. 23.

*Castanopsis evansii* Elm. Leaf. Philip. Bot. 5 (1913) 1778.

Mindanao, Palawan, *Elmer 11269, 10579, 12938, F. B. 15449 Pray, 26556 Rola*. In forests up to 2,000 m altitude. Sumatra, Java, Borneo.

Local name: Gasa (Buk.).

**CASTANOPSIS INERMIS** (Lindl.) Benth. & Hook. f. ex Jackson Index Kewensis 1 (1895) 456.

*Castanea inermis* Lindl. in Wall. Pl. As. Rar. 2 (1831) 6.



*Castanea glomerata* Blume Mus. Bot. Lugd.-Bat. 1 (1850) 283, excl. syn.

*Callaeocarpus sumatrana* Miq. Pl. Jungh. (1851) 14.

*Castanopsis sumatrana* A. DC. in Journ. Bot. 1 (1863) 182, Prodr. 16<sup>2</sup> (1864) 113, Elm. Leaf. Philip. Bot. 3 (1910) 936; King in Ann. Bot. Gard. Calcutta 2 (1889) 103, t. 97.

Luzon (Rizal), Mindanao, Basilan, *B. S. 29615 Ramos & Edaño, 16130 Reillo, Elmer 11315, 14124, 11295*. In dense forests, altitude about 1,000 m. Burma, Malay Peninsula, Sumatra, Lingga, Borneo.

Local names: Linolimón (Bag.); malabásag (Bag.); tayungkájon (Mbo.).

**CASTANOPSIS PHILIPPENSIS** (Blanco) Vidal Rev. Pl. Vasc. Filip. (1886) 265; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 319, Sp. Blancoanae (1918) 120.

*Fagus philippensis* Blanco Fl. Filip. ed. 2 (1845) 503, ed. 3, 3 (1879) 132.

*Castanopsis sumatrana* Vidal Sinopsis Atlas (1883) 41, t. 92, f. H; F.-Vill. Novis. App. (1880) 210, non A. DC.

*Castanopsis glabra* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 354.

Central Luzon, Mindoro, Samar, Leyte, *Merrill Sp. Blancoanae 672, Phil. Pl. 360, B. S. 2658, 24556 Ramos, F. B. 2148, 2872, 3100 Ahern's collector, 24796 Lomuntad, Wenzel 619, 737*. In forests at medium altitudes. Endemic.

Local names: Bating (Tag.); bayoktoán (Tag.); lobián (Tag.); paun-ñgágan (Tag.); takátak (Tag.); talakálak (Tag.); tulakátak (Tag.); uláyan (S. L. Bis.).

### 3. QUERCUS Tournefort

**QUERCUS APOENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 946.

*Quercus pseudomolucca* Elm. Leaf. Philip. Bot. 3 (1910) 937, non Blume.

*Lithocarpus apoensis* Rehd. in Journ. Arnold Arb. 1 (1919) 123.

Mindanao (Davao, Mt. Apo), Panay, Samar, *Elmer 11887, 11460, 10511, 11811, 11331, Merrill Phil. Pl. 1643, F. B. 22686 Oro, 24942 Sandique*. In forests, 1,000 to 1,700 m. Endemic.

Local name: Ulayan (Bag., Ak. Bis.).

**QUERCUS BENNETTII** Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858-59) 857, Suppl. (1860-61) 348; King in Ann. Bot. Gard. Calcutta 2 (1889) 64, t. 58A; F.-Vill. Novis. App. (1880) 207; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 41, 3 (1908) Bot. 328; Elm. Leaf. Philip. Bot. 3 (1910) 937.

*Quercus wenzigiana* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 41, non King.

*Quercus llanosii* Vidal Sinopsis Atlas (1883) 41, t. 91, f. F, Rev. Pl. Vasc. Filip. (1886) 263, non A. DC.

*Synaedrys bennettii* Koidz. in Bot. Mag. Tokyo 30 (1916) 190.

*Lithocarpus bennettii* Rehd. in Journ. Arnold Arb. 1 (1919) 123.

Luzon to Mindanao, *F. B. 1826 Klemme, 632, 635, 781, 759 Borden, 7224 Curran, B. S. 32958 Ramos*. In forests at medium altitudes. Malay Peninsula, Borneo, Bangka. The identity of the Philippine form with Miquel's species is not certain.

Local names: Katábang (Tag.); katíban (Tag.); katíbang (Tag.); oláyan (Tag.); palonápoi (Sbl.); pagnán (Tag.); pagnán-laláki (Tag.); pagnan (Tag.); ratíban (Tag.); uláyan (Bag., Tag.).

**QUERCUS BICOLORATA** Elm. Leaf. Philip. Bot. 6 (1913) 1985.

Mindanao (Agusan), *Elmer 13810*. In forests, altitude about 900 m. Endemic.

Local name: Lipákon (Mbo.).

**QUERCUS CAGAYANENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 6.

Luzon (Cagayan, Ilocos Sur, ? Rizal), *F. B. 26973 Velasco, 6665 Klemme, 25486 Paraiso, 23958 Maneja*. In forests, 60 to 400 m. altitude. Endemic.

Local names: Kakaná (Tag.); olayán (Ibn.).

**QUERCUS CASTELLARNAUIANA** Vidal Rev. Pl. Vasc. Filip. (1886) 264;

Merr. in Philip. Journ. Sci. 3 (1908) Bot. 326.

*Synaedrys castellarнауana* Koidz. in Bot. Mag. Tokyo 30 (1916) 190.

Marinduque, *Vidal 1806*. Endemic.

Local name: Puso-púso (Tag.).

**QUERCUS CAUDATIFOLIA** Merr. in Philip. Journ. Sci. 3 (1908) Bot.

324; Elm. Leaf. Philip. Bot. 3 (1910) 939.

? *Quercus celebica* Vidal Sinopsis Atlas (1883) 41, t. 92, f. A;

F.-Vill. Novis. App. (1880) 207, non Miq.

*Synaedrys caudatifolia* Koidz. in Bot. Mag. Tokyo 30 (1916) 190.

*Lithocarpus caudatifolia* Rehd. in Journ. Arnold Arb. 1 (1919) 123.

Luzon to Mindanao, *Whitford 276, Merrill 2702, 2979, Elmer 11884, F. B. 17401 Curran, 806 Borden*. In forests at medium altitudes. Endemic.

Local names: Bayukán (Tag.); dalután (Ilk.); diráan (Ilk.); katábang (Tag.); kerkersáng (Ilk.); makabíngau (Tag.); puso-púso (Tag.); uláyan (Bag.).

**QUERCUS CELEBICA** Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863-64) 110;

Elm. Leaf. Philip. Bot. 3 (1910) 938.

*Synaedrys celebica* Koidz. in Bot. Mag. Tokyo 30 (1916) 194.

*Lithocarpus celebica* Rehd. in Journ. Arnold Arb. 1 (1919) 123.

Mindanao (Davao), *Elmer 11923*. In forests, altitude about 700 m. Celebes, Buru. The identity of the Philippine form with Miquel's species is doubtful.

**QUERCUS CLEMENTIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 321.

*Pasania clementis* Schky. ex Winkler in Engl. Bot. Jahrb. 49 (1913) 358.

*Synaedrys clementis* Koidz. in Bot. Mag. Tokyo 30 (1916) 194.

Mindanao (Lanao), Basilan, *Clemens 1138, 906, B. S. 16122 Reillo, F. B. 18909 Miranda*. In forests at medium altitudes. Endemic.

**QUERCUS COOPERTA** Blanco Fl. Filip. ed. 2 (1845) 503, ed. 3, 3 (1879)

130; A. DC. Prodr. 16<sup>2</sup> (1864) 105; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 329, Sp. Blancoanae (1918) 129.

*Castaneu cooperta* Oerst. in Vidensk. Selskr. Skr. 9 (1873) 379.

*Castanopsis costata* F.-Vill. Novis. App. (1880) 209, non A. DC.

? *Quercus fernandezii* Vidal Sinopsis Atlas (1883) 41, t. 92, f. E, Rev. Pl. Vasc. Filip. (1886) 260.

*Synaedrys cooperta* Koidz. in Bot. Mag. Tokyo 30 (1916) 186.

*Lithocarpus cooperta* Rehd. in Journ. Arnold Arb. 1 (1919) 124.

Northern Luzon to Mindanao, (*Vidal 617*), *Clemens 1146*, *B. S. 28419 Fénix*. In forests at medium altitudes. Endemic.

**QUERCUS COPELANDII** Elm. Leaf. Philip. Bot. 6 (1913) 1984.

*Lithocarpus copelandii* Rehd. in Journ. Arnold Arb. 1 (1919) 124.

Mindanao (Davao, Mt. Apo), *Elmer 13965*. In forests, altitude about 900 m. Endemic.

Local name: Lipákon (Bag.).

**QUERCUS CURRANII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 329.

*Synaedrys curranii* Koidz. in Bot. Mag. Tokyo 30 (1916) 189.

*Lithocarpus curranii* Rehd. in Journ. Arnold Arb. 1 (1919) 124.

Luzon (Laguna, Mt. Banahao), *F. B. 7917, 7918 Curran & Merritt*. In forests, altitude 800° to 900 m. Endemic.

**QUERCUS CYRTORHYNCHA** Miq. Fl. Ind. Bat. Suppl. (1860-61) 350;

Elm. Leaf. Philip. Bot. 3 (1910) 939.

*Lithocarpus cyrtorhyncha* Rehd. in Journ. Arnold Arb. 1 (1919) 124.

Mindanao (Davao, Mt. Apo), *Elmer 11299, 11789*. In forests, altitude about 600 m. Malay Peninsula, Sumatra, Borneo.

Local name: Uláyan (Bag.).

**QUERCUS DASYSTACHYA** Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863-64)

221; Elm. Leaf. Philip. Bot. 3 (1910) 938.

*Lithocarpus dasystachya* Rehd. in Journ. Arnold Arb. 1 (1919) 124.

Mindanao (Davao, Zamboanga), *Elmer 11841, Merrill 8267*. In forests, altitude about 1,000 m. Borneo.

**QUERCUS JORDANAE** Laguna Apuntes Sobre Nuev. Roble Filip. (1875)

7, plate; F.-Vill. Novis. App. (1880) 208 (descr.); Vidal Rev. Pl. Vasc. Filip. (1886) 264; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 322.

*Quercus havilandii* Stapf in Trans. Linn. Soc. Bot. 4 (1894) 231 p.p., quoad *Vidal 1814*; Perk. Frag. Fl. Philip. (1904) 42.

*Quercus caraballoana* F.-Vill. Novis. App. (1880) 209; Vidal Rev. Pl. Vasc. Filip. (1886) 265; Ceron Cat. Pl. Herb. Manila (1892) 165.

*Quercus sundaica* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 41, non Blume.

*Synaedrys jordanae* Koidz. in Bot. Mag. Tokyo 30 (1916) 196.

*Lithocarpus jordanae* Rehd. in Journ. Arnold Arb. 1 (1919) 127.

Luzon (Abra, Bontoc, Benguet, Nueva Vizcaya). In the mossy forest on the higher mountains, altitude 2,000 to 2,400 m. Endemic.

Local names: Katábang (Tag.); kitaldág (Ig.); katápang (Tag.); katilog (Ig.); katiluk (Ig.); kotílik (Ig.); natíleg (Ig.); paláyen (Ting.); ticklick (Ig.); tikléb (Ig.); tilílid (Ig.).

**QUERCUS LIPACON** Elm. Leaf. Philip. Bot. 6 (1913) 1983.

*Lithocarpus lipacon* Rehd. in Journ. Arnold Arb. 1 (1919) 128.

Leyte, Mindanao (Agusan), *Elmer 13735, Wenzel 759, 815, 932, 1247, 1596*. In forests at medium altitudes, extending to about 1,000 m altitude. Endemic.

Local name: Lipákon (Mbo.).

**QUERCUS LLANOSII** A. DC. Prodr. 16<sup>2</sup> (1864) 97, excl. syn. Blanco; F.-Vill. Novis. App. (1880) 208; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 323.

*Quercus campanoana* Vidal Sinopsis Atlas (1883) 41, t. 92, f. D, Rev. Pl. Vasc. Filip. (1886) 260; Ceron Cat. Pl. Herb. Manila (1892) 164.

*Quercus sundaica* F.-Vill. Novis. App. (1880) 207, excl. syn. Naves, fide Vidal, non Blume.

*Synaedrys llanosii* Koidz. in Bot. Mag. Tokyo 30 (1916) 196.

*Lithocarpus llanosii* Rehd. in Journ. Arnold Arb. 1 (1919) 128.

Central Luzon, *Llanos*, Merrill 2344, 2480. In forests at medium altitudes. Endemic.

Local names: Alayan (Tag.); bayúkan (Tag.); kaliban (Tag.); makabiñgau (Tag.); makulab (Neg.); manloáb (Tag.); pagnán (Tag.).

**QUERCUS LUZONIENSIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 323, 5 (1910) Bot. 342.

*Synaedrys luzoniensis* Koidz. in Bot. Mag. Tokyo 30 (1916) 197.

Luzon (Mountain Province, Zambales), Merrill Phil. Pl. 720, F. B. 5040 Curran, B. S. 31975 Santos, 8346 McGregor. In the mossy forest on the higher mountains, altitude 2,000 to 2,300 m. Endemic.

Local names: Iklík (Ig.); kilog (Ig.); paláin (Ig.); ulían (Neg.).

**QUERCUS MABESAE** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 7.

Luzon (Laguna, Mt. Maquiling), F. B. 26915 *Mabesa*. In forests, altitude 300 m and above. Endemic.

Local name: Uláyan (Tag.).

**QUERCUS MERRILLII** Von Seem. in Fedde Repert. 5 (1908) 21; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 329; Koidz. in Bot. Mag. Tokyo 30 (1916) 201.

*Cyclobalanopsis merrillii* Schottky in Engl. Bot. Jahrb. 47 (1912) 648.

Palawan (Mt. Pulgar), B. S. 566 Foxworthy, F. B. 3857, 3858 Curran, Elmer 13219. In mossy thickets, altitude about 1,300 m. Endemic.

Local name: Pungo-púngo (Tagb.).

**QUERCUS MERRITTII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 325.

*Synaedrys merrittii* Koidz. in Bot. Mag. Tokyo 30 (1916) 192.

*Lithocarpus merrittii* Rehd. in Journ. Arnold Arb. 1 (1919) 128.

Luzon (Laguna, Bataan), F. B. 8047 Curran & Merritt, F. B. 12900 Alvarez. In forests, altitude 450 to 700 m. Endemic.

**QUERCUS MINAHASSAE** Koord. Syst. Verzeich. 3 (1911) 28; Elm. Leaf. Philip. Bot. 3 (1910) 941.

Mindanao (Davao, Mt. Apo), Elmer 11942. In forests, altitude about 1,300 m. Celebes.

**QUERCUS MINDANAENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 942.

*Quercus acuminatissima* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 326, non A. DC.

*Quercus celebica* Von Seem. in Perk. Frag. Fl. Philip. (1904) 41, non Miq.

*Quercus philippinensis* Merr. in Philip. Forest. Bur. Bull. 1 (1903) 16, non A. DC.

*Synaedrys acuminatissima* Koidz. in Bot. Mag. Tokyo 30 (1916) 190.

*Lithocarpus mindanaensis* Rehd. in Journ. Arnold Arb. 1 (1919) 128.

Leyte, Mindanao (Lanao, Zamboanga, Davao, Misamis), *Ahern 432*, *F. B. 22455 Klemme, 24151, 22938 Miranda, Clemens 709*. In forests at low and medium altitudes. Endemic.

Local names: Bangái (S. L. Bis.); láyan (Mbo.); oláyan (Lan.); oyágan (C. Bis.); uláyan (Bag.).

**QUERCUS MONTICOLA** King in Ann. Bot. Gard. Calcutta 2 (1889) 44, *t. 37*; Elm. Leaf. Philip. Bot. 3 (1910) 942, 6 (1913) 1982.

Mindanao (Davao, Agusan), *Elmer 11894, 14164*. In forests, altitude about 1,700 m. Sumatra.

Local names: Lipákong (Mbo.); uláyan (Bag.).

**QUERCUS OBLIQUINERVIA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 250.

Luzon (Abra, Benguet, Zambales), *F. B. 18380 Alvarez, 8113 Curran & Merritt, 14605 Darling*. On the higher mountains, altitude 1,400 to 2,200 m. Endemic.

Local names: Bultiók (Ting.); tiklík (Ig.).

**QUERCUS OVALIS** Blanco Fl. Filip. ed. 2 (1845) 502, ed. 3, 3 (1879) 129, *t. 440*; A. DC. Prodr. 16<sup>2</sup> (1864) 97; F.-Vill. Novis. App. (1880) 208; Vidal Rev. Pl. Vasc. Filip. (1886) 262; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 325, Sp. Blancoanae (1918) 120.

*Quercus glabra* Blanco Fl. Filip. (1837) 727, non Thunb.

*Quercus blancoi* A. DC. Prodr. 16<sup>2</sup> (1864) 97; Vidal Sinopsis Atlas (1883) 41, *t. 92, f. C*; Rev. Pl. Vasc. Filip. (1886) 262.

*Quercus nococarpa* Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 440*, non Oudem.

*Quercus teysmanni* F.-Vill. Novis. App. (1880) 207, non Blume.

*Synaedrys ovalis* Koidz. in Bot. Mag. Tokyo 30 (1916) 192.

*Lithocarpus ovalis* Rehd. in Journ. Arnold Arb. 1 (1919) 129.

Luzon (Cagayan to Camarines), *Merrill 2684, Sp. Blancoanae 704, F. B. 27073 Guzman, 3235 Russell, 10017, 5817 Curran, B. S. 33113 Ramos, 1909 Foxworthy*. In forests at medium altitudes. Endemic.

Local names: Basákan (Bik.); katíban (Tag.); makabíngau (Tag.); manaring (Gad.); mangasiríki (Tag.); manloáb (Tag.); pangnán (Tag.); uayán (Tag.).

**QUERCUS PHILIPPINENSIS** A. DC. Prodr. 16<sup>2</sup> (1864) 97; F.-Vill. Novis. App. (1880) 208; Wenzig in Jahrb. Bot. Gart. Berlin 4 (1886) 231; Vidal Rev. Pl. Vasc. Filip. (1886) 265, Phan. Cuming. Philip. (1886) 147; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 328.

*Synaedrys philippinensis* Koidz. in Bot. Mag. Tokyo 30 (1916) 192.

*Lithocarpus philippinensis* Rehd. in Journ. Arnold Arb. 1 (1919) 129.

Luzon (Zambales, Tayabas, Laguna, Rizal), *Cuming 809, Merrill Phil. Pl. 304, Loher 6958, B. S. 27919 Ocampo, Elmer 8185, F. B. 7910, 7911, 7848 Curran & Merritt*. In forests on the higher mountains, altitude 1,000 to 1,700 m. Endemic.

**QUERCUS PRUINOSA** Blume in Verh. Bat. Genoots. 9 (1825) 217; A. DC. Prodr. 16<sup>2</sup> (1864) 87; F.-Vill. Novis. App. (1880) 207; Elm. Leaf. Philip. Bot. 3 (1910) 940.

*Lithocarpus pruinosa* Rehd. in Journ. Arnold Arb. 1 (1919) 130.

Mindanao (Bukidnon, Davao), *Elmer 10480, 10866*. In forests, altitude about 1,200 m. Java.

Local name: Uláyan (Bag.).

**QUERCUS REFLEXA** King in Hook. f. Fl. Brit. Ind. 5 (1888) 616, Ann. Bot. Gard. Calcutta 2 (1889) 78, t. 72; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 329; Elm. Leaf. Philip. Bot. 3 (1910) 940, 6 (1913) 1981.

*Synaedrys reflexa* Koidz. in Bot. Mag. Tokyo 30 (1916) 187.

*Castanopsis reflexa* Rehd. in Journ. Arnold Arb. 1 (1919) 122.

Luzon (Tayabas, east coast), Samar, Leyte, Mindanao, *Merrill 8268, Copeland 1289, Elmer 11853, 14012, Wenzel 1079, B. S. 15239 Ramos, F. B. 24229 Phasis*. In damp forests at medium altitudes, ascending to 1,200 m. Borneo.

Local names: Lipákon (Mbo.); uláyan (Bag.).

**QUERCUS RIZALENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 272.

Luzon (Rizal, Tayabas, Camarines), *B. S. 29587 Ramos & Edaña, 9445 Robinson, F. B. 27827 Alambra*. In forests, altitude about 1,000 m. Endemic.

Local name: Basákan (Tag.).

**QUERCUS ROBINSONII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 297.

*Synaedrys robinsonii* Koidz. in Bot. Mag. Tokyo 30 (1916) 192.

*Lithocarpus robinsonii* Rehd. in Journ. Arnold Arb. 1 (1919) 130.

Luzon (Laguna, Tayabas, Rizal), *B. S. 26666, 17911 Brown, 17143 Robinson*. In forests at 600 to 1,000 m. Endemic.

Local names: Babaysákan (Tag.); basákan (Tag.); katábang (Tag.).

**QUERCUS SOLERIANA** Vidal Rev. Pl. Vasc. Filip. (1886) 261; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 327; Sp. Blancoanae (1918) 121; Elm. Leaf. Philip. Bot. 6 (1913) 1983.

*Quercus molucca* Blanco Fl. Filip. (1837) 726, non Linn.

• *Quercus concentrica* Blanco Fl. Filip. ed. 2 (1845) 502, ed. 3, 3 (1879) 129, non Lour.

*Quercus costata* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 441, non Blume.

*Quercus clementiana* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 41, non King.

*Synaedrys soleriana* Koidz. in Bot. Mag. Tokyo 30 (1916) 193.

*Lithocarpus soleriana* Rehd. in Journ. Arnold Arb. 1 (1919) 131.

Northern Luzon to Mindanao. *Elmer 6898, Merrill Sp. Blancoanae 538, F. B. 1824, 1825 Klemme, 5458 Curran, 1148 Ahern's collector, B. S. 4659 Ramos*. In forests at medium altitudes. Endemic.

Local names: Babaysákan (Tag.); barúsang (Tag.); basákan (Tag.); báyan (Mbo.); bayókan (Tag.); bayúkan (Tag.); íhip (Sbl.); kakána (Tag.); katában (Tag.); katíban (Tag.); lisikan (Tag.); manáring (Klg.); manáring (Neg.); maráring (Ilk.); oláyan (Tag.); oyágan (Mbo.); tikálod (Bik.); tiklég (Ig.); ulán (Lan.); ulián (Ilk.); umáyan (C. Bis.); uyán (Mbo.).

**QUERCUS SUBMONTICOLA** Elm. Leaf. Philip. Bot. 3 (1910) 943.

*Lithocarpus submonticola* Rehd. in Journ. Arnold Arb. 1 (1919) 131.

Mindanao (Davao, Mt. Apo), *Elmer 11428*. In forests, altitude about 1,700 m. Closely allied to *Quercus monticola* King, apparently differing only in its relatively longer fruits. Endemic.

Local name: Tapotása (Bag.).

**QUERCUS SUNDAICA** Blume in Verh. Bat. Genoots. 9 (1825) 216; Elm.

Leaf. Philip. Bot. 3 (1910) 941; King in Ann. Bot. Gard. Calcutta 2 (1889) 51, t. 47, 48.

*Lithocarpus sundaica* Rehd. in Journ. Arnold Arb. 1 (1919) 131.

Mindanao (Davao, Mt. Apo), *Elmer 11949, 11943, 10624, 11245, 11810, 11679*. In forests up to 1,900 m altitude. Malay Peninsula, Sumatra, Java.

Local name: Uláyan (Bag.).

**QUERCUS VIDALII** F.-Vill. Novis. App. (1880) 209; Vidal Sinopsis Atlas

(1883) 41, t. 92, f. B, Rev. Pl. Vasc. Filip. (1886) 260; Ceron Cat. Pl. Herb. Manila (1892) 164; Elm. Leaf. Philip. Bot. 6 (1913) 1981.

Northern Luzon to Mindanao, *Vidal 3898, 617, B. S. 26626 Ramos & Edaño, 22877, 27883 McGregor, Elmer 7903, 14096, Quisumbing 1287, 1288, Whitford 1186*. In forests at medium altitudes, ascending to 1,200 m. Endemic.

Local name: Lipákon (Mbo.).

**QUERCUS WENZELII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 267.

*Synaedrys wenzelii* Koidz. in Bot. Mag. Tokyo 30 (1916) 193.

*Lithocarpus wenzelii* Rehd. in Journ. Arnold Arb. 1 (1919) 132.

Leyte, *Wenzel 1157, 1008*. In forests, altitude about 500 m. Endemic.

**QUERCUS WOODII** Hance in Journ. Bot. 12 (1874) 240; F.-Vill. Novis.

App. (1880) 208; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 326, 5 (1910) Bot. 342, Sp. Blancoanae (1918) 21.

*Synaedrys woodii* Koidz. in Bot. Mag. Tokyo 30 (1916) 193.

Luzon (Mountain Province), *Wood, Williams 949, 980, Elmer 5900, Vano-verbergh 1065, 2201, Sandkuhl 186*. In forests, altitude 1,400 to 2,000 m. Endemic.

Local names: Tigdóg (Ig.); tiklík (Ig.).

**QUERCUS ZSCHOKKEI** Elm. Leaf. Philip. Bot. 3 (1910) 944.

*Lithocarpus zschokkei* Rehd. in Journ. Arnold Arb. 1 (1919) 132.

Mindanao (Davao, Zamboanga), *Elmer 10846, F. B. 22019 Villamil*. In forests, altitude 75 to 900 m. Endemic.

#### DOUBTFUL AND EXCLUDED SPECIES

**QUERCUS ARGENTATA** Korth.; F.-Vill. Novis. App. (1880) 207.

**QUERCUS CERRIS** Blanco Fl. Filip. (1837) 727, ed. 2 (1845) 503, ed. 3, 3

(1879) 130; Merr. Sp. Blancoanae (1918) 121, non Linn.

Blanco's description is very imperfect, and was based on a single fruit. F.-Villar was certainly wrong in referring it to *Castanopsis javanica* A. DC.

QUERCUS DAPHNOIDEA Blume; F.-Vill. Novis. App. (1880) 207.

QUERCUS DIEPENHORSTII Miq.; F.-Vill. l. c.

QUERCUS INDUTA Blume; F.-Vill. l. c.

QUERCUS LAMPONGA Miq.; F.-Vill. l. c.

QUERCUS NITIDA Von Seem. in Perk. Frag. Fl. Philip. (1904) 42, non Blume.

The specimen cited is a mixture, the detached fruits a *Quercus* near *Q. reflexa* King, and the leafy branch perhaps a species of *Parinarium*.

QUERCUS OMALOKOS Korth.; F.-Vill. Novis App. (1880) 207.

QUERCUS REINWARDTII Korth.; F.-Vill. l. c.

## ULMACEAE

### 1. CELTIS Linnaeus

CELTIS ASPERIFOLIA Merr. in Philip. Journ. Sci. 17 (1920) 246.

Mindanao (Davao), *F. B. 27562 De Mesa*. In thickets or forests at low altitudes. Endemic.

Local name: Sikím (Tagk.).

CELTIS CINNAMOMEA Lindl. in Wall. Cat. (1831) No. 3696, *nomen nudum*; Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 303, DC. Prodr. 17 (1873) 181; Hook. f. Fl. Brit. Ind. 5 (1888) 482.

*Celtis crenato-serrata* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 174.

Luzon (Cagayan, Bataan), *F. B. 20043 Topacio, 26259, 27081 Bernardo, 17747 Curran, 26744 Mabesa & Sulit, Adduru 48*. In open forests at low altitudes. India and Ceylon to Java and Sumatra. The Philippine form produces a wood with a very disgusting odor, as noted by Thwaites for the Ceylon form.

Local names: Malabutúlan (Tag.); takúlau (Ibn.).

CELTIS LUZONICA Warb. in Perk. Frag. Fl. Philip. (1905) 164.

Northern Luzon to Mindanao, in thickets and forests at low altitudes. Closely allied to *Celtis philippensis* Blanco. Endemic.

Local names: Dálu (Bag.); kayonkóng (C. Bis.); magabóyo (P. Bis.); malaígmó (Bik.); malaíkmo (Tag.); malaítmo (Tag.); manikbubúyu (P. Bis.); maragauíd (Ilk.); maragouéd (Ilk.); óau (C. Bis.); olaróg (Bik.); tabau (P. Bis.); udáyu (Mbo.); ulálo (P. Bis.).

CELTIS PHILIPPENSIS Blanco Fl. Filip. (1837) 197, ed. 2 (1845) 139, ed. 3, 1 (1877) 249; Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 206, DC. Prodr. 17 (1873) 184 (*philippinensis*); F.-Vill. Novis. App. (1880) 197; Vidal Sinopsis Atlas (1883) 39, t. 85, f. A, Rev. Pl. Vasc. Filip. (1886) 248, Phan. Cuming. Philip. (1885) 144; Merr. in Philip. Forestry Bur. Bull. 1 (1903) 16, Philip. Journ. Sci. 1 (1906) Suppl. 42.

*Solenostigma philippensis* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 220 (*philippinensis*).

*Celtis mindanaensis* Elm. Leaf. Philip. Bot. 8 (1915) 2842.

*Celtis multifolia* Elm. in herb.

Northern Luzon to Mindanao and Palawan, common in thickets and open forests at low altitudes. Southeastern China and Formosa to north-



eastern Australia. The Indo-Malayan *Celtis wightii* Planch. is doubtfully distinct.

Local names: Abúyo (Chab.); amaman (Bik.); bugabua (Bik.); enlaid (Tagb.); habúyo (Chab.); isóg (Bag.); logóg (Bis.); lunás-bató (Tag.); lunís (Tag.); magabúyo (Bik.); malagabuyó (Tag.); malagibúyo (P. Bis.); maligagók (Ilk.); maligmo (Tag.); malikmo (Tag.); malingagók (Ilk.); malitmó (Tag.); mangonkóng (P. Bis.); maragaoág (Ibn.); maragaoéd (Ilk.); maragauíd (Ilk., Pang.); odálo (S. L. Bis.); oratán (Ilk.); payápa (Tag.); toñgautóñgau (Bik.); uáu (C. Bis.); udáiu (C. Bis.); ulálo (P. Bis.); ularóg (Bik.); uláu (S. L. Bis.); uraróg (Bik.); uratán (Ilk.); yagáu (C. Bis.).

**CELTIS RUBROVENIA** Elm. Leaf. Philip. Bot. 2 (1908) 464.

Luzon (Ilocos Norte, Bontoc, Benguet), *Vidal 1330, Loher 5037, Elmer 6040, 8775* (distributed as *Grewia*), *Vanoverbergh 1741, 2578*. On forested ridges, altitude 1,000 to 1,400 m. Endemic.

Local name: Palek (Bon.).

Var. **INTEGRA** Merr. var. nov. A typo differt foliis integerrimis.

Luzon (Ilocos Norte, Mt. Nagapatan), *B. S. 33201 Ramos*, August, 1918. On dry slopes, altitude about 500 m. Endemic.

## 2. TREMA Loureiro

**TREMA AMBOINENSIS** (Willd.) Blume Mus. Bot. Lugd.-Bat. 2 (1856) 61, quoad syn., excl. descr!; Merr. Interpret. Herb. Amb. (1917) 187.

*Celtis amboinensis* Willd. Sp. Pl. 4<sup>2</sup> (1805) 997.

*Sponia amboinensis* Decne. in Nuov. Ann. Mus. Paris 3 (1834) 498.

*Sponia virgata* Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 316, DC. Prodr. 17 (1873) 195 (incl. var. *major* Planch.).

*Sponia glabrescens* Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 317; Walp. Ann. 3 (1853) 403; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 217.

*Trema virgata* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 59.

*Trema timorensis* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 60; Bernard in Bull. Herb. Boiss. II 6 (1906) 33.

*Trema aspera* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 58; F.-Vill. Novis. App. (1880) 197.

*Trema aspera* Blume var. *viridis* Benth. Fl. Austral. 6 (1873) 158; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 248.

*Trema morifolia* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 59; Lauterb. in Engl. Bot. Jahrb. 50 (1913) 318, saltem quoad Philipp.

Mindoro, southern Luzon (Camarines), Samar, Leyte, Negros, and Mindanao. In old clearings, second-growth forests, thickets, etc., at low altitudes. Southern China to the Malay Peninsula, southward to New Guinea, northeastern Australia, and the Caroline Islands.

It is very probable that this form is identical with *Trema cannabina* Lour. Fl. Cochinch. (1790) 563, the type of the genus. Lauterbach, in Engl. Bot. Jahrb. 50 (1913) 321, is entirely wrong in his interpretation of *Trema amboinensis* (Willd.) Blume.

Local names: Anabión (Bik.); hanagdón (C. Bis.); inangdón (Mang.); latóng (P. Bis.).

**TREMA ORIENTALIS** (Linn.) Blume Mus. Bot. Lugd.-Bat. 2 (1856) 62; F.-Vill. Novis. App. (1880) 197; Lauterb. in Engl. Bot. Jahrb. 50 (1913) 320 (incl. var. *argentea* Lauterb., var. *rigida* Lauterb., var. *amboinensis* Lauterb., (non *T. amboinensis* Blume), et var. *viridis* Lauterb.); Merr. Sp. Blancoanae (1918) 121.

*Celtis orientalis* Linn. Sp. Pl. (1753) 1044.

*Sponia amboinensis* Decne. in DC. Prodr. 17 (1873) 198; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 216, non *Trema amboinensis* (Willd.) Blume.

*Trema amboinensis* F.-Vill. Novis. App. (1880) 197; Vidal Sinopsis Atlas (1883) 39, t. 85, f. C, Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 248; Merr. in Philip. Forestry Bur. Bull. 1 (1903) 16, Philip. Journ. Sci. 1 (1906) Suppl. 42, 3 (1908) Bot. 401, Fl. Manila (1912) 171, non (Willd.) Blume.

*Celtis lima* Blanco Fl. Filip. (1837) 197, ed. 2 (1845) 139, ed. 3, 1 (1877) 250, non Lam.

*Sponia blancoi* Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 327; Walp. Ann. 3 (1853) 405; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 218.

*Trema blancoi* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 58.

*Sponia velutina* Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 328.

Throughout the Philippines at low and medium altitudes, in places ascending to an altitude of 2,000 m; usually abundant. A characteristic shrub or small tree in deserted clearings, thickets, and second-growth forests. India to southern China, southward to northeastern Australia and Polynesia.

Local names: Agandúng (Ibn.); alindagón (Sul.); anabíong (Bis., Tag.); anadúng (Bon.); anagdúng (P. Bis.); anagúm (Bik.); anaríong (Iv.); anaróng (Sbl.); anádung (Bon.); andaluíong (Buk.); arandón (Ilk.); du-ung (Sul.); hágod (Tag.); hanadíong (Tag.); hanadgóng (Bik., S. L. Bis.); hanagdón (Tag.); hanagdóng (Tag.); hanaríon (Tag.); hínagdúng (Tag.); hínlaláong (Pamp.); hubúlos (Bon.); inandóng (Tag.); indai lúging (Lan.); inugdón (Tag., Bis.); lagód (Tag.); lamái (Ilk.); langóng (Sub.); malarúng (Tag.); malarúrang (Tag.); malasikong duróng (Pam.); mandalógon (Bag.); nagdón (P. Bis.); pangarandógen (Ilk.); pañgarandúngin (Ilk.); pitidán (Ig.); pitikán (Ig.); tatagtág (P. Bis.).

### 3. APHANANTHE Planchon

**APHANANTHE PHILIPPINENSIS** Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 337; Walp. Ann. 3 (1852-53) 408; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 219; Benth. in Hook. Ic. III 2 (1876) 65, t. 1741, Fl. Austral. 6 (1873) 160; Planch. in DC. Prodr. 17 (1873) 208; F.-Vill. Novis. App. (1880) 197; Vidal Sinopsis Atlas (1883) 39, t. 85, f. B, Rev. Pl. Vasc. Filip. (1886) 249, Phan. Cuming. Philip. (1885) 145; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 42.

*Taxotrophis rectinervis* F.-Muell. Frag. 6 (1863-64) 192.

Northern and central Luzon. In thickets and second-growth forests at low altitudes, locally abundant. Eastern tropical and subtropical Australia.

Local names: Alasiis (Tag.); dularíng (Ilk.); kalisis (Tag.); malaásis (Tag.); malaisiis (Tag.); siis (Tag.).

4. **GIRONNIERA** Gaudichaud

**GIRONNIERA CELTIDIFOLIA** Gaudich. Bot. Freycinet's Voy. (1844) t. 85; Planch. in Ann. Sci. Nat. III 10 (1848) 340, DC. Prodr. 17 (1873) 207; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 233; F.-Vill. Novis. App. (1880) 98; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 249; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 270.

Southern Luzon (Camarines, Albay), Samar, Leyte, Mindanao, *Cuming 870, B. S. 30393, 17450 Ramos, 21493 Escritor, Merrill Phil. Pl. 1165, Elmer 7084, 13509*. In forests at low and medium altitudes. Bismarck Archipelago, Solomon Islands, Fiji, Samoa.

Local names: Amamampáng (Bik.); aragási (S. L. Bis.); gulága (Mbo.); magaubáu (S. L. Bis.); taguntagúnán (Mbo.).

**GIRONNIERA CUSPIDATA** (Blume) Kurz Forest Fl. Brit. Burma 2 (1877) 470; J. J. Sm. in Meded. Dept. Landbouw 10 (1910) 668.

*Cyclostemon cuspidatum* Blume Bijdr. (1825) 599.

*Galumpita cuspidata* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 73.

*Aphananthe cuspidata* Planch. in DC. Prodr. 17 (1873) 209.

*Gironniera reticulata* Thw. Enum. Pl. Zeyl. (1859-64) 262; Hook. f. Fl. Brit. Ind. 5 (1888) 486.

*Gironniera curranii* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 251.

Luzon (Camarines), Mindanao (Davao), *F. B. 10498 Curran, Elmer 11059*. In forests at medium altitudes. India and Ceylon to Java and Celebes.

Local name: Dulsís (Bag.).

**GIRONNIERA GLABRA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 42.

*Aphananthe negrosensis* Elm. Leaf. Philip. Bot. 2 (1909) 575.

Luzon (Tayabas, Rizal, Bataan, Sorsogon), Negros, *Merrill 5185, Whitford 1205, B. S. 3297, 19518 Ramos, Elmer 9801, 15574*. In mountain forests up to 1,200 m altitude. Endemic.

Local names: Bálau (C. Bis.); galigiúon (If.); galikón (If.); kálau (C. Bis.); uráng (Tag.).

**GIRONNIERA SIBUYANENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1845.

Luzon (Cagayan to Sorsogon), Mindoro, Sibuyan, *B. S. 28084 Fénix, 20783 Escritor, 19531, 23453 Ramos, Elmer 12077, 7388, 9182, Loher 6937*. In forests at low and medium altitudes. Endemic. Closely allied to *Gironniera celtidifolia* Gaudich.

Local name: Amaitán (Ibn.).

**GIRONNIERA SUBAEQUALIS** Planch. in Ann. Sci. Nat. Bot. III 10 (1848) 339; F.-Vill. Novis. App. (1880) 198; Vidal Rev. Pl. Vasc. Filip. (1886) 249.

Samar, *F. B. 23588 Lasquety*. In forests, altitude about 200 m. Ceylon to southern China, southward to Java and New Guinea (var. *papuana* J. J. Sm.). Vidal 604, from a note made by me at Kew in 1907, is apparently a form of *Gironniera celtidifolia* Planch. or *G. sibuyanensis* Elm.

Local name: Ngahil (S. L. Bis.).

## MORACEAE

## 1. FATOUA Gaudichaud

FATOUA PILOSA Gaudich. Bot. Frey. Voy. (1826) 509; F.-Vill. Novis. App. (1880) 198; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 249.

*Fatoua japonica* Blume Mus. Bot. Lugd.-Bat. 2 (1856) t. 38; Valetton in Bull. Dept. Agr. Ind. Néerl. 10 (1907) 5; Merr. Fl. Manila (1912) 179.

*Urtica japonica* Thunb. Fl. Jap. (1784) 70, non Linn. f.

*Urtica manillensis* Walp. Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 423.

Northern Luzon to Mindanao; in dry thickets, on walls, cliffs, etc., at low altitudes. Japan and China southward to Malaya.

Local names: Sarungkár-a-babasít (Ilk.); sikír (Ilk.).

## 2. PARATROPHIS Blume

PARATROPHIS GRANDIFOLIA Elm. Leaf. Philip. Bot. 5 (1913) 1814.

Palawan, Luzon (Sorsogon), *Elmer 13176, B. S. 23382 Ramos*. In damp forests at low and medium altitudes. Scarcely other than a large-leaved form of *Paratrophis philippinensis* F.-Vill. Endemic.

Local name: Magtónob (Mbo.).

PARATROPHIS PHILIPPINENSIS (Bureau) F.-Vill. Novis. App. (1880) 98; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 250.

*Uromorus philippinensis* Bureau in DC. Prodr. 17 (1873) 237; Vidal Cat. Pl. Prov. Manila (1880) 43.

Luzon (Laguna, Tayabas, Albay), Samar, Mindanao, *Cuming 919, F. B. 12674 Rosenbluth & Tamesis, Merrill 1087, Phil. Pl. 1638, Clemens 569, Elmer 10827*. In damp forests at low and medium altitudes. Endemic.

Local names: Agusus (Tag.); bulaus (Neg.); spai (Bag.).

## 3. MORUS Tournefort

MORUS ALBA Linn. Sp. Pl. (1753) 986; Blanco Fl. Filip. (1837) 705, ed. 2 (1845) 489, ed. 3, 3 (1879) 109, t. 209; F.-Vill. Novis. App. (1880) 198; Vidal Sinopsis Atlas (1883) 39, t. 85, f. D (var. *latifolia* Bureau); Merr. in Philip. Journ. Sci. 3 (1908) Bot. 404, Fl. Manila (1912) 178, Sp. Blancoanae (1918) 122.

*Morus indica* Linn. Sp. Pl. (1753) 986; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 279.

The mulberry, widely distributed in the Philippines in cultivation, is thoroughly naturalized in the Batan Islands and northern Luzon (Cagayan); perhaps of ancient introduction here. According to Blanco the mulberry was first introduced into the Philippines in 1780. A native of tropical Asia, now in all warm countries.

Local names: Amingít (Ig.); amóras (Ilk.); móra (Ibn.); morál (Sp.); moráya (Ibn.); morera (Sp.); tanúd (Iv.); tanyúd (Iv.).

## 4. PSEUDOTROPHIS Warburg

PSEUDOTROPHIS MINDANAENSIS Warb. in Perk. Frag. Fl. Philip. (1905) 165.

*Paratrophis caudata* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 183.

*Taxotrophis mindanaensis* Elm. Leaf. Philip. Bot. 5 (1913) 1815, in nota, sphalm.

Leyte, Cebu, Mindanao, Basilan. In thickets and forests at low altitudes. Endemic. The only other known representative of the genus occurs in the Key Islands.

Local names: Hulas (Bag.); olis (Yak.); taitai (Chab.).

#### 5. ALLAEANTHUS Thwaites

**ALLAEANTHUS LUZONICUS** (Blanco) F.-Vill. Novis. App. (1880) 198; Vidal Sinopsis Atlas (1883) 39, t. 86, f. A, Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 250; Merr. Sp. Blancoanae (1918) 122.

*Morus luzonica* Blanco Fl. Filip. (1837) 703.

*Broussonetia luzoniensis* Blanco op. cit. ed. 2 (1845) 488, ed. 3, 3 (1879) 107, t. 278.

*Broussonetia luzonica* Bureau in DC. Prodr. 17 (1873) 224.

Northern Luzon to Mindanao and Basilan. In thickets, second-growth forests, etc., at low and medium altitudes, in some localities ascending to 1,100 m; common. Endemic.

Var. **GLABER** (Warb.) comb. nov.

*Allaeanthus glaber* Warb., in Perk. Frag. Fl. Philip. (1905) 166.

Range of the species, from which it differs only in its less-pubescent leaves.

Local names: Alibabág (Ibn.); alibabák (Ibn.); alibaibái (Ibn.); alitagtág (Bik.); alokón (Ig., Ilk., Pang.); babáyan (Tag., Sbl.); baég (Ilk.); bagh (Mag.); baglí (Sul.); balitagtág (Bik.); bálóng-kadiós (Bis.); boñgón (Ilk.); buñgón (Ilk.); himbabá-o (Tag.); imbabá-u (Tag.); kabág (Bis.); karúd (C. Bis.); libá (Bag.); malambíngan (Sul.); talólóng (Ilk.); tutu (Sul.).

#### EXCLUDED SPECIES

**ALLAEANTHUS ZEYLANICUS** Thwaites; F.-Vill. Novis. App. (1880) 198.

#### 6. MALAISIA Blanco

**MALAISIA SCANDENS** (Lour.) Planch. in Ann. Sci. Nat. Bot. IV 3 (1855) 293; Blume Mus. Bot. Lugd.-Bat. 2 (1856) 76; K. Schum. in Engl. Bot. Jahrb. 9 (1888) 199 (incl. var. *blancoi* K. Sch. l. c.); Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 43, Fl. Manila (1912) 178, Sp. Blancoanae (1918) 122.

*Caturus scandens* Lour. Fl. Cochinch. (1790) 613.

*Trophis scandens* Hook. & Arn. Bot. Beechy's Voy. (1841) 214.

*Malaisia tortuosa* Blanco Fl. Filip. (1837) 789, ed. 2 (1845) 543, ed. 3, 3 (1879) 196; Blume Mus. Bot. Lugd.-Bat. 2 (1856) 75; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 282; Bureau in DC. Prodr. 17 (1873) 221 (incl. var. *racemosa* Bureau); F.-Vill. Novis. App. (1880) 198; Vidal Sinopsis Atlas (1883) 39, t. 86, f. B, Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 250; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 78.

*Malaisia blancoi* Elm. Leaf. Philip. Bot. 5 (1913) 1812.

*Caturus torulosus* Seem. Fl. Vit. (1868) 254.

Northern Luzon to Mindanao and Palawan. In thickets and forests at low and medium altitudes. China and Formosa to Malaya, Australia, and Polynesia.

Local names: Hīngí (Tag.); hingiu (Tag.); hinguin (Tag.); malais-ís (Tag.); sabá (Tag.); sádak (Ilk.); salimpágot (Tagb.); sígid (P. Bis.).

#### 7. TAXOTROPHIS Blume

**TAXOTROPHIS MACROPHYLLA** (Blume) Boerl. *Handl. Fl. Nederl. Ind.* 3 (1900) 379.

*Streblus macrophyllus* Blume *Mus. Bot. Lugd.-Bat.* 2 (1856) 80.

*Diplocos macrophylla* Bureau in *DC. Prodr.* 17 (1873) 216.

*Taxotrophis ilicifolia* Vidal *Rev. Pl. Vasc. Filip.* (1886) 249; *Ceror. Cat. Pl. Herb. Manila* (1892) 157; *Usteri Beitr. Ken. Philip. Veg.* (1905) 127; *Merr. in Philip. Bureau Forest. Bull.* 1 (1903) 16, *Interpret. Herb. Amb.* (1917) 188; *Hutchins. in Kew Bull.* (1918) 150, *f. 1*.

*Balanostreblus ilicifolia* Kurz in *Journ. As. Soc. Beng.* 42<sup>2</sup> (1873) 247, *t. 19*, p. p.

*Taxotrophis obtusa* Elm. *Leaf. Philip. Bot.* 5 (1913) 1813; *Hutchins. in Kew Bull.* (1918) 150.

Luzon (Tayabas, Laguna, Camarines), Mindoro, Palawan, Negros, Cebu, Mindanao, Basilan. In dry thickets and thin forests at low altitudes. Chittagong, Burma, Indo-China, Malay Peninsula, Celebes, and the Moluccas.

*Taxotrophis ilicifolia* Vidal was published without reference to *Balanostreblus ilicifolia* Kurz, the latter being identical with Vidal's species only as to the male flowers. *Taxotrophis obtusa* Elm. is certainly only a form of Vidal's species with smaller entire leaves, *F. B. 21477 Fernandez* from Palawan presents normal leaves of *T. ilicifolia* and normal leaves of *T. obtusa* on the same plant. The proper name for the species seems to be *Taxotrophis macrophylla* (Blume) Boerl., based on a Celebes specimen.

Local names: Dagpít (P. Bis.); gúlus (P. Bis.); kolis-kolís (Tag.); kurus-kúrus (Bik.); kuyas-kúyas (Tag.); kuyos-kúyos (Tag.); súting-gimba (Yak.); talingáan (C. Bis.).

#### 8. STREBLUS Loureiro

**STREBLUS ASPER** Lour. *Fl. Cochinch.* (1790) 615; *Miq. Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 278; Bureau in *DC. Prodr.* 17 (1873) 218; *F.-Vill. Novis. App.* (1880) 198; *Vidal Sinopsis Atlas* (1883) 39, *t. 86, f. C*, *Phan. Cuming. Philip.* (1885) 145, *Rev. Pl. Vasc. Filip.* (1886) 250; *Merr. Fl. Manila* (1912) 177, *Sp. Blancoanae* (1918) 123.

*Calis lactescens* Blanco *Fl. Filip.* (1837) 698, *ed. 2* (1845) 485, *ed. 3*, 3 (1879) 103, *t. 171*; Bureau in *DC. Prodr.* 17 (1873) 278.

*Streblus lactescens* Blume *Mus. Bot. Lugd.-Bat.* 2 (1856) 80.

Northern Luzon to Palawan and Mindanao. In thickets at low altitudes, especially common in regions subject to a long dry season. India to southern China and Malaya.

Local names: Alúdig (Ilk.); ampás (Pamp.); bəgták (P. Bis.); balangí-king (Ibn.); buntátai (P. Bis.); kagasáka (Ibn.); kakadli (Tag.); kaliós (Tag.); kallós (Ibn.); lampataki (Tagb.).

#### 9. PHYLLOCHLAMYS Bureau

**PHYLLOCHLAMYS TAXOIDES** (Heyne) *Koord. Exkursionsfl. Java* 2 (1912) 89, var. **PARVIFOLIA** Merr. in *Philip. Journ. Sci.* 14 (1920) 247.

*Taxotrophis taxoides* Heyne in Roth Nov. Pl. Sp. (1821) 368.

*Trophis spinosa* Roxb. Fl. Ind. ed. 2, 3 (1832) 762.

*Phyllochlamys spinosa* Bureau in DC. Prodr. 17 (1873) 218.

Palawan, Merrill 9482. In dry forests at low altitudes. India and Ceylon to Indo-China and Timor, the variety endemic.

#### 10. VANIERIA Loureiro

(*Cudrania* Trécul)

**VANIERIA COCHINCHINENSIS** Lour. Fl. Cochinch. (1790) 565.

*Cudrania javanensis* Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 123; F.-Vill. Novis. App. (1880) 202; Merr. Fl. Manila (1912) 179, Interpret. Herb. Amb. (1917) 189, Sp. Blancoanae (1918) 123 (*javanensis*).

*Trophis spinosa* Blume Bijdr. (1825) 489, non Roxb.

*Batis spinosa* Roxb. Hort. Beng. (1814) 71.

*Morus tinctoria* Blanco Fl. Filip. (1837) 704, non Linn.

*Broussonetia tinctoria* Blanco op. cit. ed. 2 (1845) 488, ed. 3, 3 (1879) 108, t. 418.

*Cudrania obovata* Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 126; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 291; F.-Vill. Novis. App. (1880) 202; Vidal Sinopsis Atlas (1883) 40, t. 88, f. C, Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 254; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 80.

*Cudrania spinosa* Hochr. in Bull. N. Y. Bot. Gard. 6 (1910) 271.

Northern Luzon to Mindanao, sea level to an altitude of 1,400 m. India to East Africa, China, Malaya, and Australia. Loureiro's genus and species are clearly identical with *Cudrania javanensis* Tréc.

Local names: Kokom-pusa (Ilk.); patdang-labúyo (Tag.); tahid-labúyo (Tag.); talobtób (Sbl.); talólong (Ilk., Ig.).

**VANIERIA GRANDIFOLIA** (Merr.) comb. nov.

*Cudrania grandifolia* Merr. in Philip. Journ. Sci. 18 (1921) 52.

Mindanao (Surigao), Wenzel 1883. In forests at low and medium altitudes. Endemic.

#### EXCLUDED SPECIES

**CUDRANIA PUBESCENS** Tréc.; F.-Vill. Novis. App. (1880) 202.

#### 11. PARARTOCARPUS Baillon

**PARARTOCARPUS WOODII** (Merr.) comb. nov.

*Artocarpus woodii* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 221.

*Gymnartocarpus woodii* Merr. in Philip. Journ. Sci. 18 (1921) 52.

Luzon (Cagayan to Camarines), Mindoro, Samar, Leyte, Bucas, Mindanao. In forests at low and medium altitudes. Endemic.

Local names: Anúbing-kadiós (Tag.); anúbing-kagiós (Tag.); anúbing-nańangka (Tag.); bayúko (Bik.); biga (S. L. Bis.); bitúun (Tag.); buratú (Ibn.); malanáńka (Tag.); pangí (Bik.); pongí (Ilk.); sulipa (Tag.); tabuli (Bik.).

I follow Beccari\* in reducing the genus *Gymnartocarpus* to *Parartocarpus*.

\* Nelle Foreste di Borneo (1902) 632.

## 12. ARTOCARPUS Forster

**ARTOCARPUS ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 18 (1921) 49.

Luzon (Tayabas), *F. B. 22777 De Mesa & Rosario*. In dense forests at low altitudes. Endemic.

Local name: Kúbi (Tag.).

**ARTOCARPUS BLANCOI** (Elmer) comb. nov.

*Artocarpus incisa* Linn. f. var. *blancoi* Elm. Leaf. Philip. Bot. 2 (1909) 617.

*Artocarpus incisa* Blanco Fl. Filip. (1837) 668, ed. 2 (1845) 465, ed. 3, 3 (1879) 75, non Linn. f.

*Artocarpus communis* Forst. var. Merr. Sp. Blancoanae (1918) 124.

Batan Islands and northern Luzon to Negros, Mindoro, Palawan, and Mindanao, *Merrill Sp. Blancoanae 214, Phil. Pl. 1819*. In thickets and forests at low and medium altitudes; common. Endemic.

This form is strictly wild, is never cultivated, and has inedible fruits. It has long been confused with the true breadfruit, *Artocarpus communis* Forst., from which it can be distinguished by the elongated tips of the anthers.

Local names: Antipólo (Tag.); chipúho (Iv.); kálo (Bis.); kólo (Bis.); pakák (Ilk.); tipólo (Tag., Pamp., Bik., P. Bis.).

**ARTOCARPUS COMMUNIS** Forst. Char. Gen. (1776) 101; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 43, 3 (1908) Bot. 401, Fl. Manila (1912) 176, Sp. Blancoanae (1918) 123, 124; Elm. Leaf. Philip. Bot. 2 (1909) 615.

*Radermachia incisa* Thunb. in Vet. Akad. Handl. Stockh. (1776) 254.

*Artocarpus incisa* Linn. f. Suppl. (1781) 411; F.-Vill. Novis. App. (1880) 202; Vidal Sinopsis Atlas (1883) 40, t. 83, f. B, Rev. Pl. Vasc. Filip. (1886) 254; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17.

*Artocarpus camansi* Blanco Fl. Filip. (1837) 670 (*Arctocarpus*), ed. 2 (1845) 467 (*Arctocarpus*), ed. 3, 3 (1879) 77, t. 457; F.-Vill. Novis. App. (1880) 202.

*Artocarpus rima* Blanco Fl. Filip. (1837) 671 (*Arctocarpus*), ed. 2 (1845) 467 (*Arctocarpus*), ed. 3, 3 (1879) 77, t. 267.

*Rima* Sonn. Voy. Nuov. Guin. (1876) 99, t. 57-60.

Northern Luzon to Mindanao, *Merrill Sp. Blancoanae 603, 760 (A. rima), 830 (A. camansi)*. In cultivation; the breadfruit. The seedless form was described by Blanco as *Artocarpus rima*, which is much less common than the seeded form, *A. camansi* Blanco. Polynesia; now cultivated in most tropical countries. Probably an introduced tree in the Philippines.

Local names: Bakák (If.); dalangián (Bis.); kamongsi (Tag., Bis.); kamansi (Tag.); pa-a (Is.); pakák (Ibn., Ilk., Sbl.); rimas (Tag.); úgub (Bik.).

**ARTOCARPUS CUMINGIANA** Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 119 (*cummingiana*); Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 288; F.-Vill. Novis. App. (1880) 203; Vidal Phan. Cuming. Philip. (1885) 146; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17, Philip. Journ. Sci. 1 (1906) Suppl. 43, Sp. Blancoanae (1918) 125; Elm. Leaf. Philip. Bot. 2 (1909) 620.



*Artocarpus ovata* Blanco Fl. Filip. (1837) 666, ed. 2 (1845) 464, ed. 3, 3 (1879) 74, t. 450; Vidal Rev. Pl. Vasc. Filip. (1886) 254, non Noronha.

Northern Luzon to Palawan and Mindanao. In forests at low and medium altitudes in most islands and provinces; often common. Endemic.

Local names: Anobión (Pamp.); anobling (Tag.); anóbung (Tag.); anúbung (Tag., Bik., Bis.); anubling (Tag.); bayúko (P. Bis.); buriuas (Tagb.); indáng (Tag.); kalauáhan (Bon.); kamandág (Neg.); kanabling (Bik.); kanét (Tag.); kanubling (Bik.); koliúng (Ting.); kubí (Bis., Tag.); obién (Ilk.); tugáp (Neg.); ubién (Ilk., Ibn.).

**ARTOCARPUS ELASTICA** Reinw. ex Blume Bijdr. (1825) 481; F.-Vill. Novis. App. (1880) 202; Koord. & Val. Bijdr. Boom. Java 11 (1906) 13.

*Artocarpus blumei* Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 111; Vidal Rev. Pl. Vasc. Filip. (1886) 254; Ceron Cat. Pl. Prov. Manila (1892) 160; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17; Elm. Leaf. Philip. Bot. 2 (1909) 613.

Luzon (Tayabas to Sorsogon), Mindoro, Samar, Biliran, Mindanao, *B. S. 28855 Ramos & Edaño, 13284, 17596 Ramos, Merrill 2024*. In forests at low and medium altitudes. Malay Peninsula, Java, Borneo, Moluccas.

Local names: Antipólo (Tag., Bis.); gomihán (Bik.); gumihán (Bik.); tugúp (Bag., Mbo.).

**ARTOCARPUS INTEGR**A (Thunb.) Merr. Interpret. Herb. Amb. (1917) 190, Sp. Blancoanae (1918) 124.

*Radermachia integra* Thunb. in Vet. Akad. Handl. Stockh. (1776) 254.

*Artocarpus integrifolia* Linn. f. Suppl. (1781) 412; Blanco Fl. Filip. ed. 2 (1845) 466, ed. 3, 3 (1879) 76; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 287; F.-Vill. Novis. App. (1880) 203; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17, Philip. Journ. Sci. 1 (1906) Suppl. 43, Fl. Manila (1912) 176; Elm. Leaf. Philip. Bot. 2 (1909) 612.

*Artocarpus jaca* Lam. Encycl. 3 (1789) 209.

*Artocarpus philippensis* Lam. Encycl. 3 (1789) 210; Willd. Sp. Pl. 4 (1805) 189.

*Artocarpus heterophylla* Lam. l. c.

*Artocarpus maxima* Blanco Fl. Filip. (1837) 669.

The jak fruit; cultivated throughout the Philippines at low and medium altitudes, in some regions spontaneous. Not a native of the Archipelago, but of prehistoric introduction from Malaya or tropical Asia. India to Malaya, now cultivated in most tropical countries.

Local names: Lángka (Ilk., Bis., Tag.); lánka (Tag., Bis.); nángka (Tag., Ibn., Bis., Sul.); nanka (Tag., Bis.).

**ARTOCARPUS LAMELLOSA** Blanco Fl. Filip. (1837) 667, ed. 2 (1845) 465, ed. 3, 3 (1879) 74; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 80, Sp. Blancoanae (1918) 124; Elm. Leaf. Philip. Bot. 2 (1909) 625 (*lamosella*).

*Artocarpus nitida* Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 119; F.-Vill. Novis. App. (1880) 203; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 254; Elm. Leaf. Philip. Bot. 2 (1909) 624.

Northern Luzon to Mindoro, Tablas, and Cebu, *Cuming 1078, B. S. 27283, 11022 Ramos, Merrill 4167, Sp. Blancoanae 100*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Anóbing-kagiósing (Tag.); anúbing (Tag.); hamúgi (Bik.); kúbí (Tag., S. L. Bis.); lanusí (Ibn.); obien (Ilk., Pang.); pangnangkáus (Ilk.).

**ARTOCARPUS LANCEOLATA** Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 121; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 288; F.-Vill. Novis. App. (1880) 203; Vidal Rev. Pl. Vasc. Filip. (1886) 255; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 43; Elm. Leaf. Philip. Bot. 2 (1909) 624.

*Artocarpus xanthocarpa* Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 10, Philip. Journ. Sci. 1 (1906) Suppl. 43; Elm. Leaf. Philip. Bot. 2 (1909) 626.

Batan Islands southward to Mindoro and Siquijor, *B. S. 3581 Fénix, F. B. 682 Borden*. In forests at medium altitudes. Endemic.

Local names: Kubí (Tag., Bis.); mulní (Iv.); sulípa (Tag.).

**ARTOCARPUS LEYTENSIS** Elm. Leaf. Philip. Bot. 1 (1908) 279, 2 (1909) 622.

*Artocarpus paloensis* Elm. op. cit. 1 (1908) 280, 2 (1909) 621.

Leyte, Negros, Panay, Biliran, Mindanao, Palawan, *Elmer 7243, 7244, 12944, Wenzel 811, F. B. 17439 Curran, 26409 Franco, 23561 Vergara, B. S. 18663 McGregor, Merrill Phil. Pl. 1196* (as *A. rotundifolia* Elm.). In forests at low and medium altitudes. Endemic. Allied to *Artocarpus cumingiana* Tréc.

Local names: Bayúko (P. Bis.); kaluí (Bag.); kaluít (Bag.); kubí (P. Bis.); kubi-nangkáon (S. L. Bis.).

**ARTOCARPUS NIGRESCENS** Elm. Leaf. Philip. Bot. 2 (1909) 614.

Negros, Mindanao, *Elmer 9795*. From sea level to an altitude of 800 m. Endemic. Closely allied to *Artocarpus communis* Forst.

Local names: Atípu (Sul.); bíáu (Bag.); tagúp (C. Bis.).

**ARTOCARPUS ODORATISSIMA** Blanco Fl. Filip. (1837) 671, ed. 2 (1845) 647, ed. 3, 3 (1879) 78; F.-Vill. Novis. App. (1880) 203; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 80, Journ. Str. Branch Roy. As. Soc. 76 (1917) 80, *Sp. Blancoanae* (1918) 124.

*Artocarpus tarap* Becc. Nelle Foreste di Borneo (1902) 626.

Mindoro, Mindanao, Basilan, *Merrill Sp. Blancoanae 1018, 1019*. Apparently always planted; sea level to at least 800 m altitude. Borneo.

Local names: Loloí (Tag.); madáng (Lan.); maráng (Sul.); olói (Tag.); ulói (Mang.).

**ARTOCARPUS OVATIFOLIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 268.

Northern Luzon to Samar and Leyte, *F. B. 18566 Alvarez, 10164 Curran, B. S. 20530, 15040 Ramos, Merrill Phil. Pl. 1390, Elmer 15785* (*A. sorsogonensis* Elm.). The typical form with staminate inflorescences 2 to 3 cm long, the leaves usually entire. Endemic.

Var. **DOLICHOSTACHYS** var. nov.

A typo differt inflorescentiis ♂ cylindraceis, elongatis, usque ad 20 cm. longis, 6 mm diametro, foliis perisque incis, lobis utrinque 1 vel 2.

Samar, Leyte, *Merrill Phil. Pl. 1603* (type), *Elmer 7097*. In forests at low altitudes. Endemic.

**ARTOCARPUS PINNATISECTA** Merr. in *Philip. Journ. Sci.* 18 (1921) 50.

Luzon (Tayabas, Camarines), Mindanao (Davao), *B. S. 20789 Escritor, 33536 Ramos & Edaña, F. B. 27751 Cruz*. In forests at medium altitudes. Endemic.

Local names: Antipólo (Tag., Bik.); bió (Mbo.).

**ARTOCARPUS RUBROVENIA** Warb. in *Perk. Frag. Fl. Philip.* (1905)

166; Merr. in *Philip. Journ. Sci.* 1 (1906) Suppl. 43, 3 (1908) Bot. 401; *Elm. Leaf. Philip. Bot.* 2 (1909) 622.

Luzon (Cagayan to Sorsogon), Mindoro, Cagayan Sulu, *F. B. 14704 Darling, 2562, 2948, 2915 Borden, Phil. Pl. 1517 Merrill, Elmer 15598, 15785*. In forests at medium altitudes. Endemic.

Local names: Anabióng (Tag.); anabling (Bik.); anúbing (Tag.); arutág (Iv.); bayúko (Bis.); búnga (Ibn.); hamigi (P. Bis.); haúmgoi (P. Bis.); kalúlot (Tag.); kilikíli (S. L. Bis.); kúbi (Bik., Tag., Bis.); obién (Pang.); tagáp (Tag.); tumolúbo (Klg.); ubién (Pang.); udién (Ig.).

**ARTOCARPUS SUBROTUNDIFOLIA** *Elm. Leaf. Philip. Bot.* 1 (1908)

281, 2 (1909) 619.

Southern Luzon (Sorsogon), Samar, Leyte, Mindanao, *Elmer 7265, 16990, F. B. 10541, 10542 Curran, 25774 Phasis, Merrill Phil. Pl. 1604*. In forests at medium altitudes. Endemic.

Local names: Bayúko (Bis.); burágit (Mbo.); kilikíli (S. L. Bis.); kúbi (Tag., Bis.); lokoán (Bik.).

**ARTOCARPUS SUPERBA** Becc. *Nelle Foreste di Borneo* (1902) 625;

Merr. in *Philip. Journ. Sci.* 18 (1921) 51.

Palawan, Mindanao (Zamboanga), Basilan, *Merrill 8280, F. B. 3989 Hutchinson, 9164 Whitford & Hutchinson, 28009 Cenabre, Baldemor, & Aduviso*. In forests at medium altitudes. Borneo.

Local names: Bukágan (Tagb.); pikpikuág (Yak.).

**ARTOCARPUS TRECULIANA** *Elm. Leaf. Philip. Bot.* 2 (1909) 617.

Batan Islands to Negros, *Elmer 10406, F. B. 310, 685 Gammill, 1081 Clark, B. S. 3613, 4069 Fénix*. In thickets and forests at low and medium altitudes. Endemic. An ally of *Artocarpus communis* Forst., but with entire leaves.

Local names: Antipólo (Tag.); pakák (Ilk.); tipólo (Bis.); tipuhó (Iv.); tugóp (Bis.).

EXCLUDED SPECIES

**ARTOCARPUS HYPARGYREA** Hance; *F.-Vill. Novis. App.* (1880) 203.

**ARTOCARPUS POLYPHEMA** Pers.; *F.-Vill. op. cit.* 203.

The proper name for this is *Artocarpus champeden* (Lour.) Spreng. It has been recently introduced into the Philippines and is cultivated at Lamao.

13. **CASTILLOA** Cervantes

**CASTILLOA ELASTICA** Cerv. in Supl. Gaz. Lit. Mex. (1794) 7; Hook. f. in Trans. Linn. Soc. Bot. 2 (1886) 206; Merr. Fl. Manila (1912) 177.

The castilloa rubber tree, now occasionally cultivated in the Philippines. A native of tropical America.

14. **ANTIARIS** Leschenault

**ANTIARIS TOXICARIA** (Pers.) Lesch. in Ann. Mus. Paris 16 (1810) 478, t. 22; Benn. Pl. Jav. Rar. (1838) 52, t. 13; Hook. f. Fl. Brit. Ind. 5 (1888) 537; F.-Vill. Novis. App. (1880) 202; Vidal Sinopsis Atlas (1883) 40, t. 88, f. A (after Blume, Rumphia); Merr. in Philip. Journ. Sci. 2 (1907) Bot. 111.

*Ipo toxicaria* Pers. Syn. 2 (1807) 566.

Luzon (Cagayan, Apayao), Mindoro, Guimaras, *F. B. 17799 Curran, 21092 Connor, 28414 Fontanoza, B. S. 28224 Fénix, 1551 Bermejós*. In forests at low and medium altitudes; very local. The milky juice is used for poisoning arrows and spears. India to southern China and Malaya; the "deadly upas" tree.

Local names: Dálit (Tag.); ditá (Ibn., Ap.); lata (Neg.); manánau (S. L. Bis.); salógon (Tag.).

15. **FICUS** Tournefort

**FICUS ADAMII** Elm. Leaf. Philip. Bot. 4 (1911) 1258 (*adamsii*), 1521, 7 (1914) 2410.

Luzon (Apayao, Laguna, Bataan), Mindanao (Agusan, Davao), *Elmer 11177, 14029, 17863, 18284, B. S. 28100 Fénix, F. B. 20974 Villamíl, 26373 Catalan, 22821 Diaz & Alambra, 28468 Salvosa*. In primary forests up to 1,000 m altitude. Endemic.

Local names: Baléte (Mbo.); okób (Bag.).

**FICUS AHERNII** Merr. in Philip. Journ. Sci. 18 (1921) 61.

Luzon (Rizal, Sorsogon), Biliran, Samar, *B. S. 18639 McGregor, 17512, 17568 Ramos, F. B. 3104 Ahern's collector, Elmer 17022, 14406*. In primary forests at low and medium altitudes. Endemic.

**FICUS ALTISSIMA** Blume Bijdr. (1825) 455; King in Ann. Bot. Gard. Calcutta 1 (1887) 30, t. 30, 31; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17; Elm. Leaf. Philip. Bot. 4 (1911) 1243.

Luzon (Tayabas, Camarines), Alabat, Mindoro, Mindanao, *Merrill 1932, 10483, Ahern 172, 798, Whitford 1451, Clemens*. In primary forests at low and medium altitudes. India to the Malay Peninsula and Archipelago.

Local names: Baléte (Tag.); nonók (C. Bis.).

**FICUS AMPELOS** Burm. f. Fl. Ind. (1768) 226, excl. syn. Rheede; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 303; King in Ann. Bot. Gard. Calcutta 1 (1887) 90, t. 114; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 45, 3 (1908) Bot. 402; Elm. Leaf. Philip. Bot. 1 (1906) 191, 4 (1912) 1317, 1392, 7 (1914) 2405.

Batan Islands and northern Luzon to Palawan and Mindanao, *Elmer 12177, 17582, 13087, 15249*. Common in thickets and forests at low and medium altitudes. Sumatra to the Moluccas.

Local names: Aplás (Ibn.); baniakáu (Ilk.); bíli (P. Bis.); isís (Neg.); malaisís (Tag.); malauplí (Bik.); opli-gúbat (Tag.); palitík (Sul.); undái (Ibn.); uplás (Ilk.); uplí (Tag.); upling-gúbat (Tag.).

**FICUS ANGUSTISSIMA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 11; Elm. Leaf. Philip. Bot. 1 (1907) 251, 4 (1911) 1255, 1317.

Luzon (Benguet, Tayabas, Rizal, Laguna, Sorsogon), Sibuyan, Mindanao, Merrill 2696, Williams 1291, Elmer 9357, 16101, 13920, B. S. 21986 Ramos, 23097 McGregor. In thickets at low altitudes. Endemic.

Local names: Isis-máya (Tag.); laniñging (Tag.); lortís (P. Bis.); ropít (Bag.).

**FICUS ANTONIANA** Elm. Leaf. Philip. Bot. 4 (1912) 1374.

Palawan, Jolo, Elmer 12831, Wester 31. Epiphytic on large trees at low and medium altitudes. Endemic.

Local name: Hunók (Sul.).

**FICUS APOICARPA** Miq. in Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 269, 289; King in Ann. Bot. Gard. Calcutta 1 (1887) 70, t. 92; Elm. Leaf. Philip. Bot. 1 (1907) 249, 2 (1908) 539 (*piocarpa*).

*Urostigma apiocarpa* Miq. Fl. Ind. Bat. Suppl. (1860-61) 440.

Luzon (Batangas, Tayabas, Camarines, Sorsogon), Elmer 7445, 16116 (*F. peninsularis* Elm.), B. S. 22200, 23331 Ramos, F. B. 28055 Mabesa. In forests at medium altitudes. Malay Peninsula and Archipelago.

Local name: Apgíd (Bik.).

**FICUS APPENDICULATA** Merr. in Philip. Journ. Sci. 18 (1921) 57.

Samar, Mindanao (Surigao), B. S. 24429 Ramos, 34465 Ramos & Pascasio, Sablaya 1. In damp forests at low altitudes. Endemic.

Local names: Tubóg (S. L. Bis.); tuyokái-na-digtói (S. L. Bis.).

**FICUS AREOLATA** Elm. Leaf. Philip. Bot. 4 (1911) 1252.

Mindanao (Lanao, Davao), Elmer 10475, Clemens. In forests up to 1,200 m. Endemic.

Local names: Kataúpi (Bag.); píli (Mbo.).

**FICUS ARGENTEA** Blanco Fl. Filip. (1837) 681, ed. 2 (1845) 473, ed. 3, 3 (1879) 84; Merr. Sp. Blancoanae (1918) 129, Philip. Journ. Sci. 20 (1922) 368, descr.!

*Ficus polycarpa* F.-Vill. Novis. App. (1880) 200, non Roxb.

Luzon (Bataan, fide Blanco), Mindoro, B. S. 39732 Ramos. In dry forests at low altitudes. Endemic.

**FICUS BAKERI** Elm. Leaf. Philip. Bot. 7 (1914) 2402.

Luzon (Laguna, Sorsogon), Mindanao, B. S. 24065 Ramos, F. B. 21379 Villamil, 26439 Catalan, 28467 Salvosa, Elmer 14062, 16804, 17730, 16114. In damp forests, altitude 500 to 1,100 m. Endemic.

Local name: Kataúpi (Mbo.).

**FICUS BALETE** Merr. in Philip. Journ. Sci. 18 (1921) 55.

Luzon (Cagayan, Zambales, Tayabas, Rizal, Laguna, Camarines), Mindoro, Panay, Merrill 1732, 2931, 2041, 2033, B. S. 26878 Edaña, 20869 Escritor, 22246, 39719 Ramos, Elmer 18266. In forests at low and medium altitudes. Endemic.

Local names: Baléte (Tag., Bik.); baléte-pulá (Tag.); baléting-payápa (Tag.); pupútut (Sbl.).

**FICUS BANAHAENSIS** Elm. Leaf. Philip. Bot. 1 (1907) 252, 4 (1911) 1254.

*Ficus camiguinensis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 276.

Luzon (Tayabas) Catanduanes, Samar, Leyte, Camiguin de Misamis, Bucas Grande, Mindanao (Bukidnon), *Elmer* 7479, 7895, *Merrill Phil. Pl.* 1197, 1602, *B. S.* 28743, 39157, 38825, 38588 *Ramos & Edaño*, 19519, 24365, 24469, 30372 *Ramos*, *Wenzel* 1136, 1051, 1014, 528. In forests at medium altitudes. Endemic.

Local names: Banákal (Bag.); kátol (S. L. Bis.); laglág (S. L. Bis.); moráu (S. L. Bis.); tangkulábas (Buk.).

**FICUS BARNESII** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 12, Philip. Journ. Sci. 1 (1906) Suppl. 46; Elm. Leaf. Philip. Bot. 1 (1906) 58, 198, (1907) 256, 7 (1912) 2391.

Luzon (Benguet, Nueva Vizcaya, Tayabas, Pangasinan, Pampanga, Rizal, Bataan, Laguna), Mindoro, Panay, Samar, Leyte, Mindanao. In forests at low and medium altitudes; closely allied to *Ficus conora* King. Endemic.

Local names: Basikóng (Mbo.); tagkulábas (Buk.); tibíg (Tag.).

**FICUS BATAANENSIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 46; Elm. Leaf. Philip. Bot. 2 (1908) 536.

Luzon (Ilocos Norte, Abra, Nueva Vizcaya, Bataan, Rizal, Laguna, Camarines), Palawan, Negros. In forests at medium altitudes, but more often on exposed forested ridges up to 1,500 m altitude. Endemic.

**FICUS BENGUETENSIS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 10; Elm. Leaf. Philip. Bot. 1 (1906) 54, 191, (1907) 250.

*Ficus benguetensis* Merr. var. *leytensis* Elm. Leaf. Philip. Bot. 1 (1906) 194, (1907) 250.

*Ficus benguetensis* Merr. var. *negrosensis* Elm. op. cit. 2 (1908) 542.

*Ficus urdanetensis* Elm. op. cit. 7 (1914) 2413.

Northern Luzon to Leyte, Samar, Negros, and Mindanao. In forests and thickets from near sea level to an altitude of 1,800 m; common. Endemic.

Local names: Hauili (Neg.); labái (Ig.); labéi (Bon.); sabúl (Ig.); tabóg (Mbo.); tabúgai (C. Bis.); tábul (Ig.); tankalibás (Buk.); tayúkai (S. L. Bis.); taguiutan (Mang.); uplít (Tag.).

**FICUS BENJAMINA** Linn. Mant. 1 (1767) 129; F.-Vill. Novis. App. (1880) 199; Vidal Sinopsis Atlas (1883) 39, t. 87, f. B, Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 251; King in Ann. Bot. Gard. Calcutta 1 (1887) 43, t. 52; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 46, Fl. Manila (1912) 175; Elm. Leaf. Philip. Bot. 1 (1906) 48.

*Ficus haematocarpa* Blume ex Decne. in Nuov. Ann. Mus. Paris 3 (1834) 494; F.-Vill. Novis. App. (1880) 200.

*Urostigma haematocarpum* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 584, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 346.

*Urostigma benjaminum* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 583, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 346.

Northern Luzon to Mindanao, in most islands and provinces, *Cuming* 1936, *Wenzel* 447, 1441, *Elmer* 14975, *Merrill* 4187, *B. S.* 11154, 32519 *McGregor*, 22655 *Ramos & Deroy*, *F. B.* 23093 *Guerrero*, 8577, 9693 *Merritt*,

26385 *Catalan*. In primary forests at low and medium altitudes. India to southern China and Malaya.

Very many of the Philippine collections distributed as this species are referable to *Ficus nuda* Miq.

Local names: Baléte (Ilk., Tag.); salísi (Is.).

**FICUS BINUANGENSIS** Merr. in Philip. Journ. Sci. 18 (1921) 67.

Luzon (Tayabas, east coast), *B. S.* 28831 *Ramos & Edaño*. In forests at low altitudes. Endemic.

**FICUS BLEPHAROSTOMA** Warb. in Perk. Frag. Fl. Philip. (1905) 197.

Luzon (Cagayan, Apayao, Ilocos Norte, Benguet, Nueva Vizcaya, Tayabas, Bulacan, Bataan, Laguna, Camarines). In thickets at low and medium altitudes; intergrades with *Ficus ulmifolia* Lam. Endemic.

Local names: Apá (Ibn.); aplás (Ibn., Ilk.); oplás-gránde (Ilk.); piuis (Ibn.); tagáta (Ibn.); uplás (Ilk.).

**FICUS BORDENII** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 11, Philip. Journ. Sci. 1 (1906) Suppl. 46.

Luzon (Bataan), *For. Bur.* 1211 *Borden*. In forests, altitude 650 m. Endemic.

**FICUS BRUNNEA** Merr. in Philip. Journ. Sci. 18 (1921) 56.

Samar, Mindanao (Bukidnon), *B. S.* 24338 *Ramos*, 38972 *Ramos & Edaño*, *Merrill Phil. Pl.* 1605. On forested slopes at low altitudes. Endemic.

**FICUS CALOPHYLLOIDES** Elm. Leaf. Philip. Bot. 4 (1911) 1246.

Luzon (Rizal, Laguna, Bataan, Tayabas, Camarines, Sorsogon), Negros, Mindanao, *Elmer* 11921, 17794, 17107; *Merrill* 9773, *Williams* 2882, *For. Bur.* 2427, 2479 *Borden*. In forests at low and medium altitudes. Endemic, but to be compared with the Javan *Ficus stricta* Miq.

Local names: Baléte (Tag.); marobútum (Bag.); tibí (Bik.).

**FICUS CAMARINENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 269.

Luzon (Laguna, Camarines), Samar, *Merrill Phil. Pl.* 1457, *Elmer* 18404, *B. S.* 24357 *Ramos*, *F. B.* 27027 *Mabesa*, *Sablaya* 103. In primary forests at low and medium altitudes. Endemic.

Local names: Baléte (Bik., Tag.); malapapangión (S. L. Bis.).

**FICUS CARDINALICARPA** Elm. Leaf. Philip. Bot. 4 (1912) 1391.

Palawan, *Elmer* 12875, 12876. In thickets at low altitudes; closely allied to *Ficus pustulata* Elm. Endemic.

**FICUS CARICA** Linn. Sp. Pl. (1753) 1059; F.-Vill. Novis. App. (1880) 200.

The common fig, occasionally cultivated in gardens; Cagayan, Nueva Vizcaya, Manila, etc.

**FICUS CARPENTERIANA** Elm. Leaf. Philip. Bot. 1 (1906) 197, 4 (1911) 1256, 7 (1914) 2414.

Leyte, Samar, Mindanao, Bucas Grande, Basilan, *Elmer* 7177, 13261, 11081, *Williams* 2163, *Merrill* 8177, *Wenzel* 1603, 1889, *B. S.* 24124, 17530, 24433 *Ramos*, 35129, 34789, 34395 *Ramos & Pascasio*. In forests at low and medium altitudes. Endemic.

Local names: Sangi (Bag.); tabog (Mbo.); tuyokái (S. L. Bis.).

**FICUS CASSIDYANA** Elm. Leaf. Philip. Bot. 1 (1906) 200, 4 (1911) 1265, 7 (1914) 2393.

Negros, Samar, Biliran, Mindanao, *Elmer 7169, 11225, 13809, Merrill 8133, Phil. Pl. 1678, B. S. 24428 Ramos, 18889 McGregor, 34370 Ramos & Pascasio, 36576 Ramos & Edaño*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Basíkong (Bag.); dakabkabán (Mbo.); tambón (Sul.); tubóg (S. L. Bis.); tuyukái-na-dako (S. L. Bis.); uuangan (S. L. Bis.).

**FICUS CATAUPI** Elm. Leaf. Philip. Bot. 4 (1911) 1251, 7 (1914) 2387.

Mindanao (Agusan, Bukidnon, Davao), *Elmer 11822, 14211, B. S. 38467 Ramos & Edaño*. On exposed forested ridges, altitude about 1,350 m. Endemic.

Local names: Kataúpi (Bag, Mbo.); sigíd (Buk.).

**FICUS CAUDATIFOLIA** Warb. in Perk. Frag. Fl. Philip. (1905) 194; Elm. Leaf. Philip. Bot. 1 (1907) 240, 2 (1908) 534, 4 (1911) 1241; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 402.

*Ficus urophylla* F.-Vill. Novis. App. (1880) 201; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 255, non Wall.

*Ficus eucaudata* Elm. Leaf. Philip. Bot. 1 (1906) 46.

*Ficus radicans* Miq. in Hook. Lond. Journ. Bot. 7 (1848) 428, quoad Philip., Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 306, quoad Philip.; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 252, non Roxb.

*Ficus rostrata* Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 251; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 45, non Roxb.

Batan and Babuyan Islands and northern Luzon to Mindanao. Common in thickets and forests at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Alintábau (Iv.); isís-máya (Tag.); magamómau (Bag.); magulipít (Bag.); malaisís (Tag.); malanlibás (S. L. Bis.); obdás (Ig.); upling-gúbat (Tag.).

**FICUS CELEBICA** Blume Bijdr. (1825) 461; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1858-59) 313; King in Ann. Bot. Gard. Calcutta 1 (1887) 12, t. 10; Elm. Leaf. Philip. Bot. 1 (1906) 44, 4 (1911) 1239, (1912) 1384.

*Ficus lancifolia* Miq. in Hook. Lond. Journ. Bot. 7 (1848) 452, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 304; F.-Vill. Novis. App. (1880) 200; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 253.

*Ficus acuminatissima* Miq. in Hook. Lond. Journ. Bot. 7 (1848) 233, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 303, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 292; F.-Vill. Novis. App. (1880) 200; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 253.

Northern Luzon to Palawan and Mindanao. Common in thickets and forests at low and medium altitudes, ascending to 1,500 m. Malay Peninsula, Celebes, New Guinea.

King placed the Philippine *Ficus acuminatissima* Miq. as a synonym of *Ficus pisifera* Wall., which does not appear to be the correct disposition of it; K. Schumann considers it a distinct species.



Local names: Magulípid (Bag.); maladalíket (S. L. Bis.); malaisís (Tag.); takines (Tag.).

**FICUS CELTOIDES** Elm. Leaf. Philip. Bot. 4 (1912) 1388.

Luzon (Sorsogon), Biliran, Mindoro, Bohol, Mindanao, Mindoro, Palawan, *Elmer 12796, 17046, B. S. 23709 Ramos, 542 Foxworthy, 18792, 18629 McGregor, Merrill 9577*. In thickets and forests at low altitudes; closely allied to *Ficus ulmifolia* Lam. Endemic.

Local name: Padi (Tagb.).

**FICUS CERVINA** Elm. Leaf. Philip. Bot. 2 (1908) 543.

Negros, *Elmer 10179*, on steep forested slopes, altitude about 1,050 m. Endemic.

**FICUS CLEMENTIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 130; Elm. Leaf. Philip. Bot. 4 (1911) 1244.

Luzon (Cagayan, Laguna, Bataan, Rizal, Tayabas, Camarines, Sorsogon), Panay, Mindanao, Basilan, *Clemens 703, B. S. 33827 Ramos & Edaño, 19495 Ramos, Merrill 1935, Phil. Pl. 1004, Elmer 17743, 15259 (F. crassicalyx Elm.)*. In forests at low and medium altitudes. Endemic.

Local names: Baléte (Bik., Tag.); marárag (Bag.); nonók (C. Bis.).

**FICUS CLUSIOIDES** Miq. in Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 286; F.-Vill. Novis. App. (1880) 199; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 250; King in Ann. Bot. Gard. Calcutta 1 (1887) 42, t. 50; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 18; Elm. Leaf. Philip. Bot. 4 (1912) 1380.

*Urostigma clusioides* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 579, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 340.

*Ficus everettii* Elm. Leaf. Philip. Bot. 2 (1908) 538, 7 (1914) 2394.

Northern Luzon to Mindanao, *Cuming 1929, B. S. 6373 Robinson, 21141 Escritor, Elmer 12765, 15901, 14064, 10254*. Occasional in forests at low and medium altitudes. Endemic. *Koorders 19126!* from Celebes reported as this species is entirely different.

Local names: Baléte (Tag., Bik.); basála (Ig.); nonók (Sul.).

**FICUS CONCINNA** Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 286; F.-Vill. Novis. App. (1880) 199; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 251; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 382; Merr. Fl. Manila (1912) 176.

*Urostigma concinnum* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 570, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 343.

*Ficus glabella* Blume var. *concinna* King in Ann. Bot. Gard. Calcutta 1 (1887) 50.

*Ficus arayatensis* Warb. in Perk. Frag. Fl. Philip. (1905) 196.

*Ficus glabella* Vidal Rev. Pl. Vasc. Filip. (1886) 251; Ceron Cat. Pl. Herb. Manila (1892) 158; Elm. Leaf. Philip. Bot. 1 (1906) 48, non Blume.

*Ficus parvifolia* Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 286; F.-Vill. Novis. App. (1880) 199; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 251.

*Urostigma parvifolium* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 570, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 343.

Northern Luzon to Palawan and Mindanao, scattered in thickets and forests at low and medium altitudes. Endemic; some forms approach *Ficus infectoria* Roxb.

Local names: Agáin (Bon.); baléte (If., Tag.) pasaplá (Ilk.).

**FICUS CONFERTIFOLIA** Merr. in Philip. Journ. Sci. 18 (1921) 59.

Luzon (Nueva Ecija), *B. S. 26307 Ramos & Edaño*. In the mossy forest, altitude about 1,000 m. Endemic.

**FICUS CONORA** King in Ann. Bot. Gard. Calcutta 1 (1888) 103, t. 131; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 15; Elm. Leaf. Philip. Bot. 4 (1912) 1376 (*corona*).

*Ficus endotherix* Warb. in Perk. Frag. Fl. Philip. (1905) 200.

*Ficus subalbidoramea* Elm. Leaf. Philip. Bot. 7 (1914) 2389.

Mindanao, Palawan, *Elmer 13085, 13991, Ahern 683, B. S. 34531 Ramos & Pascasio*. In forests at low altitudes. Amboina, Ternate, New Guinea. Local name: Basikong (Mbo.).

**FICUS COPELANDII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 176; Elm. Leaf. Philip. Bot. 4 (1912) 1385.

Palawan, Mindanao, *Copeland 1606, 1637, Elmer 12830, Williams 2097, 2151, Ahern 544*. In thickets along streams at low altitudes.

**FICUS CORDATULA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 131.

Mindanao (Lanao), *Clemens 1089*. On forested lake margin, altitude about 750 m. Endemic.

**FICUS CRININERVIA** Miq. Fl. Ind. Bat. Suppl. (1860-61) 175, 432; King in Ann. Bot. Gard. Calcutta 1 (1888) 138, t. 173; Merr. in Philip. Journ. Sci. 18 (1921) 69.

Basilan, *B. S. 15425 Reillo*. In forests. Assam to New Guinea.

**FICUS CUERNOSENSIS** Elm. Leaf. Philip. Bot. 2 (1908) 545, 4 (1911) 1265.

*Ficus maquilingsensis* Elm. op. cit. 8 (1919) 3094.

Luzon (Camarines, Laguna, Nueva Ecija), Mindoro, Biliran, Negros, Panay, Siargao, Camiguin de Misamis, Mindanao, *Elmer 9496, 10717, 17854, Baker 2797, B. S. 26338, 33832 Ramos & Edaño, 34888 Ramos & Pascasio, 18886 McGregor, 39666, 39801 Ramos*. In forests at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Basikong (Bag.); tabóg (Bik.); tabúgai (C. Bis.); túbog (Tag.); túbog (Buk.).

**FICUS CUMINGII** Miq. in Hook. Lond. Journ. Bot. 7 (1848) 232, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 301, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 292; F.-Vill. Novis. App. (1880) 200; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 253; King in Ann. Bot. Gard. Calcutta 1 (1887) 92, t. 118; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 18, Philip. Journ. Sci. 5 (1910) Bot. 342, Fl. Manila (1912) 174; Elm. Leaf. Philip. Bot. 1 (1906) 53, 7 (1914) 2404.

*Ficus multiramea* Elm. Leaf. Philip. Bot. 4 (1911) 1259.

*Ficus terminalifolia* Elm. op. cit. 4 (1911) 1318.

Throughout the Philippines in thickets at low and medium altitudes; intergrading with *Ficus ulmifolia* Lam. and *F. angustissima* Merr. Endemic.

Local names: Agosíhis (Mbo.); agupít (Bik., Sul.); agusáhis (C. Bis.); akokósi (Ibn.); ápas (Bon.); apúlas (Ilk.); biríg (C. Bis.); gusáhis (Buk.); hagósis (C. Bis.); hagupít (Sul.); isís (Tag.); isís-na-putí (Tag.); isít (Ibn.); lainging (Bis.); maramai (Bag.).

**FICUS CURRANII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 343.

Luzon (Benguet, Bontoc, Lepanto, Abra, Camarines), Panay. In the mossy forest on the higher mountains, and in ravines at low altitudes; perhaps not specifically distinct from *Ficus lucbanensis* Elm. Endemic.

Local names: Dieudiéu (Ig.); labso (Ig.); lapsú (Ig.); liulíu (Ig.); tarúbog (Bik.); tebé (Ig.).

**FICUS DISTICHA** Blume Bijdr. (1825) 458; F.-Vill. Novis. App. (1880) 201; King in Ann. Bot. Gard. Calcutta 1 (1888) 126, t. 160; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 253; Elm. Leaf. Philip. Bot. 2 (1908) 546, 4 (1911) 1262, 7 (1914) 2388.

Luzon (Rizal, Laguna), Palawan, Camiguin de Misamis, Negros, Mindanao, Merrill 9539, Phil. Pl. 1285, Elmer 13848, 10901, 10051, 10429, Loher 6918, B. S. 29616 Ramos & Edaño, 30382 Ramos. In the mossy forest on exposed ridges and peaks, altitude 1,000 to 2,000 m. Java, Sumatra.

Local names: Kabinsál (Bag.); páñgul (Mbo.).

**FICUS EDAÑOII** Merr. in Philip. Journ. Sci. 18 (1921) 62.

Luzon (Tayabas, east coast), B. S. 29130 Ramos & Edaño. Spreading in forests at low altitudes. Endemic.

**FICUS ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 18 (1921) 53.

Mindanao (Zamboanga), Copeland, F. B. 9309 Whitford & Hutchinson. In forests at low altitudes. Endemic.

**FICUS ELASTICA** Roxb. Hort. Beng. (1814) 65, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 541; King in Ann. Bot. Gard. Calcutta 1 (1887) 45, t. 54; Merr. Fl. Manila (1912) 175.

Planted for ornamental purposes in Manila and other large towns; introduced from British India. Pantropic in cultivation.

**FICUS ELMERI** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 9; Elm. Leaf. Philip. Bot. 1 (1906) 55.

Luzon (Benguet), Elmer 6043. In thickets, altitude about 1,300 m. Endemic.

**FICUS EUPHLEBIA** Merr. in Philip. Journ. Sci. 8 (1913) 364.

Panay, Leyte, Wenzel 52, 194, B. S. 30945, 31369, 31029, 31067 Ramos & Edaño. In thickets and forests at low and medium altitudes; an ally of *Ficus ulmifolia* Lam. Endemic.

**FICUS FALCATA** Thunb. Ficus (1786) 8; Vidal Sinopsis Atlas (1883) 40, t. 87, f. C; F.-Vill. Novis. App. (1880) 201; Usteri Beitr. Ken. Philip. Veg. (1905) 127.

*Ficus punctata* Thunb. op. cit. 9; King in Ann. Bot. Gard. Calcutta 1 (1888) 68, t. 88, 89.

Luzon (Laguna), Palawan, Mindanao (Lanao), *F. B. 20971 Villamil, Clemens*. On trees in primary forests, altitude 300 to 800 m. Malay Peninsula and Archipelago.

**FICUS FASTIGIATA** Elm. Leaf. Philip. Bot. 1 (1906) 44, (1907) 240; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 342.

Luzon (Benguet, Abra, Zambales), *Elmer 6072, 6063, 14284, 8001, Merrill Phil. Pl. 769, B. S. 5582 Ramos, F. B. 10822 Curran*. In thickets and forests, altitudes 1,400 to 1,800 m. Endemic.

Local names: Obdás (Ig.); opdás (Ig.).

**FICUS FENICIS** Merr. in Philip. Journ. Sci. 18 (1921) 66.

Mindanao (Bukidnon), *B. S. 26097 Fénix*. Growing over rocks on open slopes. Endemic.

**FICUS FISKEI** Elm. Leaf. Philip. Bot. 1 (1906) 195, 2 (1908) 540, 7 (1914) 2405; Merr. in Philip. Journ. Sci. 18 (1921) 68.

Luzon (Ilocos Norte, Tayabas, Rizal, Laguna, Camarines, Sorsogon), Pillo, Samar, Leyte, Cebu, Mindanao, *Elmer 7324, 7304, 7185, 13315, B. S. 1119, 4643, 5207, 13745, 19551, 22159, 23401, 24503 Ramos, 6929, 6052 Robinson, F. B. 10547 Curran, 1708 McGregor*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Hagupit (Bik., S. L. Bis.); isís (Tag.); oplás (If.); perái (Mbo.); upláng gúbat (Tag.).

Var. **CEBUENSIS** Merr. in Philip. Journ. Sci. 18 (1921) 68.

Luzon (Sorsogon), Cebu, *B. S. 11086 Ramos, Elmer 16425*. In thickets.

Var. **LAEVIFOLIA** Merr. op. cit. 69.

Siargao, *B. S. 34967, 35030 Ramos & Pascasio*. In thickets or forests.

**FICUS FLAVO-CORTICA** Elm. Leaf. Philip. Bot. 4 (1911) 1241, 7 (1914) 2399.

Luzon (Sorsogon), Leyte, Mindanao (Lanao, Davao, Agusan), *Elmer 10922, 13381, 15954, Clemens 936, 998, Wenzel 713*. In forests, altitude 350 to 1,100 m. Endemic.

Local names: Agópíd (Mbo.); magulípi (Bag.).

**FICUS GARCIAE** Elm. Leaf. Philip. Bot. 2 (1908) 550, 4 (1912) 1384, 7 (1914) 2395.

*Ficus glomerata* Elm. op. cit. 1 (1907) 260, non Roxb.

Luzon (Abra, Benguet, Bataan, Rizal, Laguna, Tayabas), Mindoro, Palawan, Panay, Negros, Camiguin de Misamis, Mindanao (Agusan), *Elmer 8835, 9486, 9379, 12846, 13380, Merrill Phil. Pl. 1094, 1331, B. S. 31174, 39515 Ramos*. In forests at low and medium altitudes. Endemic.

Local names: Agáhon (Mbo.); talo-ót (C. Bis.).

**FICUS GIGANTIFOLIA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 9; Elm. Leaf. Philip. Bot. 1 (1907) 259, 7 (1914) 2407.

Luzon (Tayabas), Burias, Samar, Mindanao, *Ahern 392, 606, Elmer 9360, 13384, Williams 2422, B. S. 24347 Ramos, F. B. 24236 Duldulao, 1738 Clark*. In forests at low and medium altitudes. Endemic.

Local names: Bulbanéra (Tag.); lakbáñgan (Mbo.); malapapañgión (S. L. Bis.); marang-maráng (Sul.); talitígang (Bik.).

**FICUS GLAREOSA** Elm. Leaf. Philip. Bot. 4 (1912) 1393.

Palawan, *Elmer 13736, 12986, 13115*. In forests and thickets at low and medium altitudes. Endemic.

**FICUS GRANDIDENS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 271.

Mindanao (Zamboanga), *Merrill 8089*. In forests, altitude about 800 m. Endemic.

**FICUS GUYERI** Elm. Leaf. Philip. Bot. 1 (1906) 194, 250, 2 (1908) 540, 4 (1911) 1256.

*Ficus validicaudata* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 45.

Luzon (Ifugao and Benguet) southward to Mindanao, in forests and thickets at medium altitudes, ascending in some regions to 2,400 m. Endemic.

Local names: Agupíli (Buk.); apas (Ig.); apúlas (Ilk.); diagaring (Bag.); pili (C. Bis.); uplás-á-babasít (Ilk.); uptás (Ig.).

**FICUS HAGGERI** Merr. in Philip. Journ. Sci. 18 (1921) 62.

Luzon (Cagayan, Laguna, Tayabas, Camarines), Leyte, *Wenzel 1230, Merrill 2009, F. B. 26036 Mabesa, 28075 Alambra, 28425 Zschokke*. In primary forests at low altitudes. Endemic.

Local names: Opli (Tag.); tigilik (Bik.).

**FICUS HALLIERI** Merr. ex Elm. Leaf. Philip. Bot. 2 (1908) 536, 4 (1911) 1243; Merr. in Philip. Journ. Sci. 18 (1921) 54.

Mindanao (Zamboanga, Surigao, Davao), *Hallier, Elmer 11080, B. S. 34357 Ramos & Pascasio*. In forests at low and medium altitudes.

Local name: Mararag (Bag.).

**FICUS HAUILI** Blanco Fl. Filip. (1837) 684; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 45, 2 (1907) Bot. 270, 3 (1908) Bot. 402, 5 (1910) Bot. 342, Fl. Manila (1912) 175, Sp. Blancoanae (1918) 127; Elm. Leaf. Philip. Bot. 1 (1906) 53, 191, 250, 2 (1907) 250, 541, 4 (1911) 1253, 1316, 1395.

*Ficus laccifera* Blanco Fl. Filip. (1837) 673, ed. 2 (1845) 468, ed. 3, 3 (1879) 80, non Roxb.

*Ficus leucopleura* F.-Vill. Novis. App. (1880) 202, Vidal Sinopsis Atlas (1883) 40, t. 87, f. D, non Blume.

*Ficus radiata* F.-Vill. Novis. App. (1880) 202, non Deene.

*Ficus leucantatoma* Merr. in Philip. Bureau Forest. Bull. 1 (1903) 18, non Poir.

*Ficus philippinensis* Bonard ex Hérincq Hort. Franc (1869) 244.

*Ficus didymophylla* Warb. in Perk. Frag. Fl. Philip. (1905) 200.

*Ficus rapiformis* Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 145; Usteri Beitr. Ken. Philip. Veg. (1895) 127, non Roxb.

*Ficus altimeraloo* F.-Vill. Novis. App. (1880) 201; Vidal Rev. Pl. Vasc. Filip. (1886) 252, non Roxb.

Throughout the Philippines in thickets at low and medium altitudes; common. Our representative of *Ficus leucantatoma* Poir. = *F. septica* Burm. f. Endemic unless referable to the latter.

Local names: Auíli (Tag.); diudíu (Ig.); hauíli (Tag.); kauíli (Tag.); labnóg (P. Bis.); labnúg (C. Bis., P. Bis.); lagmút (P. Bis.); laptíng (Ilk.); latáyí (Bag.); lilíau (Ibn.); lio-lio (Pang.); liu-liu (Ting., If.,

Bon., Ilk.); raya-ráya (Ilk.); reya-réya (Ilk.); riá-ria (Ilk.); sió (Bik.); tábung (Sul.); tulíao (Ibn.); yabnói (Iv.).

**FICUS HEMICARDIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 275.

Mindanao (Butuan), *Weber 1001, B. S. 15886 Fénix*. In forests at low altitudes. Endemic.

**FICUS HETEROPODA** Miq. in Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 232, 296; King in Ann. Bot. Gard. Calcutta 1 (1888) 78, t. 96; Elm. Leaf. Philip. Bot. 1 (1906) 193, 2 (1908) 543, 4 (1911) 1321, (1912) 1377.

*Ficus deccussata* Warb. in Perk. Frag. Fl. Philip. (1905) 198.

*Ficus anomala* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 183; Elm. Leaf. Philip. Bot. 1 (1907) 241, 2 (1908) 535.

Luzon (Cagayan, Tayabas, Pampanga, Rizal, Camarines, Sorsogon), Mindoro, Palawan, Leyte, Negros, Mindanao. In thickets and forests at low and medium altitudes. Halmaheira, ? Celebes.

Local names: Alal-lagát (Ibn.); alangas (C. Bis.); isiis (Bik.); mañg-impít (Sub.); talóbog (P. Bis.).

**FICUS HISPIDULOSA** Elm. Leaf. Philip. Bot. 7 (1914) 2401.

Samar, Mindanao (Agusan), *Elmer 13328, B. S. 24332 Ramos*. In forests at medium altitudes; closely allied to the Moluccan *Ficus aurita* Reinw. Endemic.

Local name: Dilásit (Mbo.).

**FICUS INDICA** Linn. Sp. Pl. (1753) 1060; Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 263; F.-Vill. Novis. App. (1880) 199; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 251; King in Ann. Bot. Gard. Calcutta 1 (1887) 39, t. 45, 33b; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17, Philip. Journ. Sci. 1 (1906) Suppl. 47, Fl. Manila (1912) 175; Elm. Leaf. Philip. Bot. 1 (1906) 49, 243, 2 (1908) 536, 4 (1911) 1243, 1314.

*Urostigma tjiela* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 580.

Throughout the Philippines at low and medium altitudes; one of the commonest strangling figs in the Archipelago. This interpretation of the Linnean species follows King l. c. Assam and Burma to Malaya and the Philippines.

Local names: Agáien (Bon.); baléte (Ibn., Tag.); baléting-báging (Tag.); baléting-íbon (Tag.); gudúgud (If.); ísip (Bon.); kamanlingau (Sbl.); kayápa (Ibn.); marobutum (Bag.); nonók (C. Bis., Sul.).

Var. **GELDERI** (Miq.) King in Ann. Bot. Gard. Calcutta 1 (1887) 39, t. 45; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 17; Elm. Leaf. Philip. Bot. 1 (1907) 243, 4 (1912) 1379.

*Ficus gelderi* Miq. in Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 216, 287. Palawan, *Merrill 9245, Elmer 12728*. Malay Peninsula and Archipelago.

**FICUS INTEGRIFOLIA** Elm. Leaf. Philip. Bot. 1 (1906) 61, 260, 2 (1908) 550, 4 (1911) 1324, 7 (1914) 2410.

*Ficus paucinervia* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 44.

Luzon (Benguet), southward to Mindanao. In forests at low and medium altitudes; locally common. Borneo.

Local names: Bubúngog (Sub.); dolálog (P. Bis.); koldén (Ig.); ma-íahan (Mbo.); maratuyokai (S. L. Bis.); painog (Bik.); tábong (Ig.); tibunog (Ig.); tubóg (Bik.).

**FICUS IRISANA** Elm. Leaf. Philip. Bot. 1 (1906) 45, 2 (1908) 535.

Luzon (Benguet, Nueva Ecija, Rizal, Laguna, Camarines), Panay, Camiguin de Misamis. In thickets and forests at low and medium altitudes. Endemic.

Local name: Pili-na-dakó (P. Bis.).

**FICUS IWAHIGENSIS** Elm. Leaf. Philip. Bot. 4 (1912) 1381.

Palawan, *Elmer 13008*. In forests at low altitudes; closely allied to *Ficus forstenii* Miq. Endemic.

**FICUS JAROENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 268

Luzon (Sorsogon), Leyte, Samar, Panay, *Wenzel 1089, Elmer 14847, 16214, B. S. 24324 Ramos, 30658 Ramos & Edaño*. In forests at medium altitudes. Endemic.

**FICUS KALINGAENSIS** Merr. in Philip. Journ. Sci. 20 (1922) 370.

Luzon (Kalinga), *B. S. 37592 Ramos & Edaño*. In the mossy forest, altitude about 1,300 m. Endemic.

**FICUS LAEVICARPA** Elm. Leaf. Philip. Bot. 4 (1912) 1395.

Palawan, *Elmer 12776, B. S. 601, 682, 667 Foxworthy*. In forests at low and medium altitudes, ascending to 1,100 m. Endemic.

Local names: Panpán (Tagb.); tábud (Tagb.).

**FICUS LAGUNENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 273.

Luzon (Laguna, Camarines, Sorsogon), Catanduanes, Mindoro, *Phil. Pl. 1123 Merrill, B. S. 33650, 40578 Ramos & Edaño, 23533, 30384, 20491 Ramos*. In damp forests at low and medium altitudes. Endemic.

**FICUS LAMAOENSIS** Merr. in Philip. Journ. Sci. 18 (1921) 56.

Luzon (Bataan), *F. B. 2483, 2369 Borden, 2316 Meyer*. On ridges in the primary forest, altitude about 200 m. Endemic.

**FICUS LAXIRAMEA** Elm. Leaf. Philip. Bot. 4 (1911) 1257.

Mindanao (Bukidnon, Davao), *Elmer 10786, B. S. 38810, 39017 Ramos & Edaño*. In forests, altitude about 1,350 m. Endemic.

Local name: Kalatayia (Bag.).

**FICUS LINEARIFOLIA** Elm. Leaf. Philip. Bot. 1 (1907) 257.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Samar, *Elmer 7428, 7604, 9364, 17726, 14949, 14514, B. S. 24872 Edaño, 22104 Ramos, 33874 Ramos & Edaño*. In forests at medium altitudes. Endemic.

Local names: Daiñg-dáing (S. L. Bis.); tabóg (Bik.).

**FICUS LINEARIS** Merr. in Philip. Journ. Sci. 18 (1921) 65.

Samar, Mindanao (Zamboanga), *B. S. 17433 Ramos, 36575 Ramos & Edaño*. Along small streams in forests at low altitudes. Endemic.

**FICUS LONGIPEDUNCULATA** (Merr.) Elm. Leaf. Philip. Bot. 1 (1907) 50, 244.

*Ficus chrysolepis* Miq. var. *longipedunculata* Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 11.

*Ficus magallanensis* Elm. Leaf. Philip. Bot. 4 (1911) 1315.

Luzon (Cagayan to Sorsogon), Palawan, Mindanao, *Elmer 6176, 7730, 9365, 9375, 17890, 14436, Merrill 9380, Phil. Pl. 1124, F. B. 17224 Curran, 28469 Salvosa, B. S. 22136, 13672 Ramos*. In primary forests at low and medium altitudes. Endemic.

Local names: Baléte (Tag., Bik.); nonók (C. Bis.).

**FICUS LUCBANENSIS** Elm. Leaf. Philip. Bot. 1 (1907) 254, 2 (1908) 541, 4 (1911) 1254.

Luzon (Tayabas, Zambales, Rizal, Laguna, Camarines, Sorsogon), Mindanao (Davao), *Elmer 7541, 7632, 17622, B. S. 23432, 23419 Ramos, 33886, 33868 Ramos*. In primary forests, altitude 700 to 1,300 m. Endemic.

Local name: Alian (Bag.).

**FICUS LUZONENSIS** Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 8.

Luzon (Tayabas, Rizal, Laguna, Camarines), Guimaras, Cebu, Mindanao, *Merrill 1059, B. S. 14968, 11023, 26734 Ramos, 33771 Ramos & Edaña*. In forests at medium altitudes.

Var. **IMBERBIS** Elm. Leaf. Philip. Bot. 4 (1911) 1323.

Sibuyan, Cebu, Mindanao, *Elmer 12319, 12128, B. S. 34491, 34672 Ramos & Pascasio, 11064 Ramos, 37464 Ramos & Edaña, F. B. 15256 Cenabre*. In forests at medium altitudes. Endemic.

Local names: Danglás (C. Bis.); dularóg (P. Bis.); lalikililánka (P. Bis.); malanáńka (Tag.); salamnóg (P. Bis.).

**FICUS MACROPODA** Miq. in Hook. Lond. Journ. Bot. 7 (1848) 442, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 316, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 294; F.-Vill. Novis. App. (1880) 201; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 252; Elm. Leaf. Philip. Bot. 1 (1906) 59; King in Ann. Bot. Gard. Calcutta 1 (1888) 144, t. 182.

Luzon (Ilocos Norte, Abra, Benguet, Bontoc, Nueva Vizcaya), *Cuming 1933, Elmer 6368, 8487, B. S. 7199, 27690 Ramos, F. B. 17019 Curran, 18413 Alvarez*. In thickets at low and medium altitudes. Endemic.

Local names: Aramtáp (Ilk.); kautińgan (Gad.).

**FICUS MALONUENSIS** Warb. in Perk. Frag. Fl. Philip. (1905) 196; Elm. Leaf. Philip. Bot. 1 (1906) 192.

*Ficus cordatifolia* Elm. Leaf. Philip. Bot. 4 (1911) 1250.

Luzon (Isabela, Bataan, Laguna, Camarines), Mindoro, Palawan, Cebu, Mindanao, *F. B. 3910, 17540 Curran, 20661 Villamil, 23769 Alvarez, 8671 Merritt, B. S. 11070 Ramos, Elmer 10997*. In forests at low and medium altitudes; widely scattered. Endemic, but not clearly distinguishable from the Malayan form currently referred to *Ficus callosa* Willd.

Local names: Bagaríla (Tag.); kalúkoi (Tag.); magaláńgit (Bag.).

**FICUS MANILENSIS** Warb. in Perk. Frag. Fl. Philip. (1905) 199; Elm. Leaf. Philip. Bot. 1 (1907) 250, 4 (1911) 1255, 7 (1914) 2404.

*Ficus rudis* Miq. var. *arborca* Elm. Leaf. Philip. Bot. 1 (1906) 54.

*Ficus rudis* Elm. Leaf. Philip. Bot. 2 (1908) 540, non Miq.



*Ficus copiosa* Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 271 (quoad Philip.); Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 252, non Steud.

Luzon (Cagayan to Camarines), Mindoro, Ticao, Leyte, Negros, Cebu, Siargao, Mindanao, *Elmer* 7171, 8509, 9366, 15551, 18411, 17644, 13430, 10850, *Merrill* 5056, *B. S.* 32767, 27519, 39567 *Ramos*. In thickets and forests at low and medium altitudes. Endemic, unless referable to the closely allied *Ficus rudis* Miq. of Celebes.

Local names: Basikóng (Bag.); butlí (Bik.); dúñgon (Ig.); hagosíhis (Mbo.); tab-bág (Ibn.); talipáson (Bik.); uplás (Ilk.).

**FICUS MEARNsii** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 402.

Batan and Babuyan Islands, Luzon (Cagayan, Tayabas), *B. S.* 3573, 8895 *Fénix*, 3232 *Mearns*, 26587 *Ramos* & *Edaño*, 10606 *McGregor*, *F. B.* 17225 *Curran*. On coral rocks along the seashore. Endemic.

Local name: Tapá (Iv.).

**FICUS MEGACARPA** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 14, Philip. Journ. Sci. 1 (1906) Suppl. 46, 3 (1908) Bot. 402; Elm. Leaf. Philip. Bot. 1 (1906) 25, (1907) 248, 7 (1914) 2388.

*Ficus elliptica* Miq. in Hook. Lond. Journ. Bot. 7 (1848) 440, non HBK.

Babuyan Islands and northern Luzon to Mindanao and Sulu, *Cuming* 1927, *Elmer* 6757, 6102, 7471, 7827, 13932, 15613, 17506, 15393, *Williams* 559, 620, *B. S.* 13727, 16636 *Ramos*, *F. B.* 322 *Barnes*. In forests at low and medium altitudes. Endemic.

Local name: Katáupi (Mbo.).

**FICUS MERRILLii** Elm. Leaf. Philip. Bot. 1 (1908) 282.

Luzon (Benguet, Bontoc, Laguna), *Elmer* 8986, 8495, *Williams* 1125, *Merrill Phil. Pl.* 1743, *F. B.* 5114 *Curran*. In thickets and stream depressions, altitude 1,000 to 1,350 m. Endemic.

Local names: Banídag (Ig.); déudu (Ig.); labái (Bon.); píuis (Bon.).

**FICUS MERRITTii** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 252; Elm. Leaf. Philip. Bot. 4 (1912) 1376.

Luzon (Camarines, Tayabas), Catanduanes, Mindoro, Palawan, Samar, Bucas Grande, Mindanao, *F. B.* 6852, 11466, 11477 *Merritt*, *B. S.* 24510, 24243, 30345 *Ramos*. In forests at low altitudes. Endemic.

Local names: Tábog (Tagb.); tibig (Tag.); toyukai (S. L. Bis.); tuboi (Mang.).

**FICUS MICROSPHAERIA** Warb. in Perk. Frag. Fl. Philip. (1905) 199; Elm. Leaf. Philip. Bot. 4 (1911) 1240.

Panay, Mindanao (Surigao, Bukidnon, Zamboanga, Davao), *B. S.* 34381 *Ramos* & *Pascasio*, 37021 *Ramos* & *Edaño*, 15722 *Fénix*, *Copeland* 1428, *Elmer* 10806, *Wenzel* 1895, 1896, 1851. In thickets and forests along streams, ascending to 900 m. Endemic.

Local names: Kalápat (Buk.); lalañgís (Sub.); magulípid (Bag.).

**FICUS MINAHASSAE** (Teysm. & DeVr.) Miq. Mus. Bot. Lugd.-Bat. 3 (1867) 231, 296; King in Ann. Bot. Gard. Calcutta 1 (1888) 108; t. 140, 141; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 11, 27 (1905) 79, Philip. Bureau Forest. Bull. 1 (1903) 18, Sp. Blancoanae

(1918) 125; Elm. Leaf. Philip. Bot. 1 (1906) 57, 198, (1907) 256, 2 (1908) 543, 4 (1911) 1264, 7 (1914) 2389.

*Bosscheria minahassae* Teysm. & De Vriese in Nat. Tijdschr. Nederl. Ind. 23 (1861) 212.

*Ficus glomerata* Blanco Fl. Filip. (1837) 683, ed. 2 (1845) 475, ed. 3, 3 (1879) 87, non Roxb.

Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Masbate, Panay, Cebu, Leyte, Samar, Mindanao, Basilan. In primary forests, chiefly along streams at low and medium altitudes, ascending to 1,350 m. Celebes.

Local names: Alómit (Ig.); arinit (Ting.); ayímit (Tag.); ayúmit (Tag.); businag (Ik.); gimit (Sub.); hagánit (Tag.); hagímit (Tag., Bis.); hagúmit (Tag.); hasímit (C. Bis.); lagúmit (Buk.); malatúngbog (Mbo.); matánug (Sul.); sabfóg (Bon.); sangai (Bag.); taisán (Yak.); tambis-tambís (C. Bis.); tambuyógan (S. L. Bis.).

**FICUS MINDANAENSIS** Warb. in Perk. Frag. Fl. Philip. (1905) 195; Elm. Leaf. Philip. Bot. 1 (1906) 188, 7 (1914) 2400.

Luzon (Camarines, Sorsogon), Mindoro, Biliran, Leyte, Camiguin de Misamis, Mindanao, *B. S.* 22131, 23311, 14475, 39628, 39827 Ramos, 34751, 34404 Ramos & Pascasio, Elmer 14416, 7183, 7184, 13579, Wenzel 1810, 1370, 1798, 1259, 47, 499, 1730. In thickets and forests at low and medium altitudes. Endemic.

Local names: Dalákit (Mbo.); dayákit (C. Bis.); kalápat (Buk.); ka-láuat (Bik.); magapísa (Mag.).

**FICUS MINDORENSIS** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 12.

*Ficus trichantha* Warb. in Perk. Frag. Fl. Philip. (1905) 201.

Luzon (Ilocos Norte, Apayao, Zambales, Camarines), Mindoro, *B. S.* 32883, 32728, 37150, 39766, 39767 Ramos, 28270 F'énix, *F. B.* 10439 Curran, 3659 Merritt, McGregor 209, Merrill 1813, Dec. For. Fl. 285. In forests at low altitudes. Endemic.

Local names: Doui-doui (Bik.); tíbig (Tag.).

**FICUS MIRABILIS** Merr. in Philip. Journ. Sci. 18 (1921) 58.

Luzon (Bontoc, Laguna, Camarines), *B. S.* 20395 Ramos, 33490 Ramos & Edaño, Vanoverbergh 1354, 3970. In damp forests at medium altitudes, ascending to 1,400 m. Endemic.

**FICUS MULTISTIPULARIS** Merr. in Philip. Journ. Sci. 18 (1921) 66.

Catanduanes, Samar, *B. S.* 24412, 30270 Ramos. In forests along small streams at low altitudes. Endemic.

**FICUS NERVOSA** Heyne in Roth Nov. Pl. Sp. (1821) 338; King in Ann. Bot. Gard. Calcutta 1 (1887) 53, t. 65; Elm. Leaf. Philip. Bot. 2 (1908) 537.

*Ficus apoensis* Elm. Leaf. Philip. Bot. 4 (1911) 1249, 7 (1914) 2414.

Luzon (Cagayan to Camarines), Mindoro, Samar, Negros, Mindanao, Merrill Phil. Pl. 1557, *F. B.* 26098 Barros, *B. S.* 13333, 1028, 24259 Ramos, 36930 Ramos & Edaño, Elmer 13620, 10264, 10877, 10708, Clemens 1072. In forests at low and medium altitudes, ascending to 1,500 m. India to southern China and Malaya.

Local names: Dalíkit (S. L. Bis.); dapásan (Bag.); kanápai (Tag.); pálai (Ting.); tábog (Mbo.); tagítig (Bik.); tapásan (Bag.).

**FICUS NOTA** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 10, 27 (1906) 79, Philip. Journ. Sci. 1 (1906) Suppl. 44, 3 (1908) Bot. 403, 5 (1910) Bot. 343, Fl. Manila (1912) 174, Sp. Blancoanae (1918) 125; Elm. Leaf. Philip. Bot. 1 (1906) 58, 198, (1907) 257, 4 (1911) 1262.

*Ficus aspera nota* Blanco Fl. Filip. (1837) 677.

*Ficus scabra* Blanco op. cit. ed. 2 (1845) 471, ed. 3, 3 (1879) 81, non Forst. f.

*Ficus gerontocarpa* Warb. in Perk. Frag. Fl. Philip. (1905) 201, p.p., quoad fruct.

Batan Islands, Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Culion, Palawan, Balabac, Samar, Biliran, Leyte, Panay. In thickets and forests at low and medium altitudes; common. Endemic.

Local names: Anraránúm (Iv.); basikong (Bag.); bubunga (Sub.); dáoai (Gad.); katinbog (Lan.); kik-kik (Ibn.); labái (Is.); labéi (Bon.); tábug (Ibn.); tebég (Ilk.); tébel (Pang.); tébig (Ilk.); tíbei (Tagb.); tíbig (Tag.); tíbug (Ibn.); túbug (Ig.); tugbúg (Ting.); tuyokai (S. L. Bis.).

**FICUS NUDA** Miq. in Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 288; F.-Vill. Novis. App. (1880) 200; King in Ann. Bot. Gard. Calcutta 1 (1887) 47, in nota; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 251.

*Urostigma nudum* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 584.

*Ficus umbrina* Elm. Leaf. Philip. Bot. 1 (1906) 49, 4 (1911) 1245, 7 (1914) 2409.

Northern Luzon to Mindanao, in most or all islands and provinces, Cuming 1932, Elmer 6415, 6609, Merrill 1383, 1401, 7570, Phil. Pl. 2047, 2054, Williams 516, Wenzel 1248, B. S. 27373, 7629, 22387 Ramos, 20903 Escritor, 17804, 18330 Otones, 28264 Fénix, 11229, 18909 McGregor, F. B. 23089 Pascual, 17716 Curran, 26354 Mabesa, 2192 Meyer, 2384 Borden, all or mostly distributed as *Ficus benjamina* Linn. In forests at low and medium altitudes. Endemic.

Reduced by King to *Ficus benjamina* Linn. Elmer's type of *Ficus umbrina* is identical with Cuming 1932, the type of *F. nuda* Miq. The species differs from *Ficus benjamina* Linn., as the latter is currently interpreted, in its receptacles being ebracteate and in their being narrowed into a distinct pseudostalk. The receptacles are smaller than in *Ficus comosa* Roxb. (*F. benjamina* Linn var. *comosa* King).

Local names: Anún̄ga (Ibn.); arún̄ga (Neg.); baléte (Ilk., Bik., Tag., Bis.); baléting-íbon (Tag.); gísi (Ibn.); kuliámat (Neg.); robútum (Bag.); salísi (Is.); sirísím (Ibn.); tíbi (Bik.).

**FICUS OBTUSA** Hassk. Cat. Hort. Bogor. (1844) 75; King in Ann. Bot. Gard. Calcutta 1 (1888) 130, t. 163; Merr. in Philip. Journ. Sci. 18 (1921) 61.

Luzon (Laguna), F. B. 26749 Mabesa, 20212 Villamil. In primary forests, ascending to 400 m altitude. Malay Peninsula and Archipelago.

**FICUS ODORATA** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 15, 27 (1905) 79; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 44, Fl. Manila (1912) 174, Sp. Blancoanae (1918) 126; Elm. Leaf. Philip. Bot. 1 (1906) 201, (1907) 258, 2 (1908) 546.

*Ficus hispida odorata* Blanco Fl. Filip. (1837) 686, ed. 2 (1845) 476, ed. 3, 3 (1879) 89, t. 358.

*Ficus arenata* Elm. Leaf. Philip. Bot. 4 (1911) 1263, 7 (1914) 2405.

Luzon (Tayabas, Zambales, Pampanga, Bataan, Laguna), Samar, Leyte, Panay, Negros, Mindanao, *Elmer 9368, 6652, 14564, 8300, 7172, 13321, 10505, Williams, 362, 2632, Merrill 1522, Phil. Pl. 203, Sp. Blancoanae 24*. In thickets and forests at low and medium altitudes; sometimes planted. The dried specimens are fragrant, hence the specific name. Endemic.

Local names: Agosáhis (P. Bis.); agósos (Tag.); agúpit (P. Bis.); aplás (If.); isis (P. Bis.); kapínit (P. Bis.); malapágang (Buk.); pakíling (Tag.); paysán (Bag.); pili (Mbo.).

**FICUS PACHYPHYLLA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 365.

Luzon (Cagayan, Abra, Laguna), Leyte, Negros, Mindanao, *Wenzel 209, 450, 1511, F. B. 4264 Everett, B. S. 26721 Fénix, 11950 Robinson*. In forests at low and medium altitudes. Endemic.

Local names: Baléte (Tag.); lúnug (P. Bis.); pasaklá (Ilk.).

**FICUS PALAWANENSIS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905)

11 (*palauanensis*); Elm. Leaf. Philip. Bot. 1 (1907) 245, 4 (1911) 1244, (1912) 1380, 7 (1914) 2393.

Luzon (Abra, Nueva Vizcaya, Tayabas, Cavite, Laguna, Camarines), Mindoro, Palawan, Mindanao, *Merrill 761, 4032, 5437, Phil. Pl. 1403, Elmer 7460, 9370, 13737, 11976, B. S. 33473, 37026 Ramos & Edaña, B. S. 7214 Ramos, F. B. 4127, 3835 Curran*. In forests at low and medium altitudes. Endemic.

Local names: Agámíid (It., Ilk.); agámít (Ting.); baléte (Mbo., Tag.); nonók (Sub.); ókob (Bag.).

**FICUS PAYAPA** Blanco Fl. Filip. (1837) 683, ed. 2 (1845) 475, ed. 3, 3 (1879) 86, t. 203; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 79.

*Ficus indica* Blanco Fl. Filip. (1837) 681, ed. 2 (1845) 473, ed. 3, 3 (1879) 85, non Linn.

*Ficus forstenii* Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 214, 285; King in Ann. Bot. Gard. Calcutta 1 (1887) 29, t. 29; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 46, 2 (1907) Bot. 435; Elm. Leaf. Philip. Bot. 1 (1906) 189.

*Ficus pilosa* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 203, non Reinw.

*Ficus microcarpa* F.-Vill. Novis. App. (1880) 199, non Linn. f.

*Ficus vidaliana* Warb. in Perk. Frag. Fl. Philip. (1905) 197.

*Ficus saxophila* F.-Vill. Novis. App. (1880) 199, non Blume.

Luzon (Ilocos Norte, Benguet, Lepanto, Abra, Zambales, Bataan, Batangas, Laguna, Rizal), Mindoro, Leyte, Negros, Mindanao, *Elmer 8506, 7168, 8470, F. B. 14469, 14542 Darling, Merrill Phil. Pl. 2077, Sp. Blancoanae 82, B. S. 27675, 1366 Ramos*. In forests at low and medium altitudes; allied to *Ficus pilosa* Reinw. Borneo, Celebes, Timor.

Local names: Baléte (Ig. Tag.); basákla (Ilk.); dalágít (Bis.); dalákít (C. Bis.); laṅgában (Mag.); nonók (Bis., Yak.); payápa (Tag.); puós (It.); puspús (Ilk.).

**FICUS PEABODYI** Elm. Leaf. Philip. Bot. 4 (1911) 1267.

Mindanao (Davao), *Elmer 10494*. In forests, altitude about 1,200 m. Endemic.

Local name: Basikong (Bag.).

**FICUS PEDUNCULOSA** Miq. in Hook. Lond. Journ. Bot. 7 (1848) 442, t. 7, A, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 316, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 294; King in Ann. Bot. Gard. Calcutta 1 (1888) 145, t. 133; F.-Vill. Novis. App. (1880) 201; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 252.

Palawan, Sulu, Mindanao (?), *Cuming 1941, F. B. 25845 Natividad, Wester 27*. In thickets near the seashore. Endemic.

Local name: Gambit-gambit (Sul.).

**FICUS PERFULVA** Elm. in herb. nom. nov.

*Ficus fulva* Elm. Leaf. Philip. Bot. 7 (1914) 2407, non Reinw.

Luzon (Ilocos Norte, Laguna), Mindanao (Agusan), *Elmer 14090, 17857, 18271, B. S. 33139 Ramos*. In forests at medium altitudes, ascending to 1,400 m. Endemic.

Local name: Sumbái (Mbo.).

**FICUS PHILIPPINENSIS** Miq. in Hook. Lond. Journ. Bot. 7 (1848) 435, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 311, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 293; F.-Vill. Novis. App. (1880) 201; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 252.

*Ficus magnífica* Elm. Leaf. Philip. Bot. 1 (1906) 51, (1907) 250.

*Ficus decaisneana* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 312; King in Ann. Bot. Gard. Calcutta 1 (1887) 6, t. 3.

Luzon (Cagayan to Sorsogon), Leyte, Panay, Siargao, Mindanao, *Cuming 1937, Elmer 6109, 8005, 8724, 8524, 9378, 7515, 17505, Merrill Phil. Pl. 1734, 1402, B. S. 12633 Félix, 10930 Ramos, 34982, 34890 Ramos & Pascasio, Loher 6942*. In forests at low and medium altitudes, ascending to 1,500 m. Timor, Celebes, Moluccas, New Guinea, New Caledonia, Marianne Islands.

Local names: Diákit (C. Bis.); káuis (Ig.); liuliu (If.); magulípid (Bag.); tayábas (P. Bis.).

**FICUS PISIFERA** Wall. Cat. (1831) No. 4505, *nomen nudum*; Miq. in Hook. Lond. Journ. Bot. 7 (1848) 427; King in Ann. Bot. Gard. Calcutta 1 (1887) 3, t. 1; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 17; Elm. Leaf. Philip. Bot. 1 (1906) 187, (1907) 239, 2 (1908) 534, 4 (1911) 1312, (1912) 1385, 7 (1914) 2395.

Luzon (Cagayan to Sorsogon), Catanduanes, Mindoro, Palawan, Balabac, Samar, Leyte, Panay, Mindanao, Basilan, *Elmer 15357, 17525, 12664, Merrill 9326, Phil. Pl. 1561, Wenzel 583, 1897, B. S. 21607 Escritor*. In thickets and forests at low and medium altitudes. Malay Peninsula and Archipelago.

Local names: Isís (Tag.); isís ligau (Tag.); koyoyóbang (Tagb.); lala-ñgíg (Sub.); líso (Mbo.); nonók (P. Bis.); oplás (Ilk.); pakiling labúyo (Tag.); pilig (C. Bis.).

**FICUS PRODUCTA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 270.

Leyte, Mindanao (Butuan), *Weber 1132, 1131, Wenzel 1764*. In thickets and clearings at low altitudes; an ally of *F. ulmifolia* Lam. Endemic.

**FICUS PROPINQUA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 8; Elm. Leaf. Philip. Bot. 1 (1906) 60, (1907) 259, 2 (1908) 546, 7 (1914) 2399.

Luzon (Benguet, Tayabas, Laguna), Mindanao (Agusan), *Elmer 6521, 7437, 9369, 13565, Baker 4109*. In forests at medium altitudes, ascending to 1,500 m. Endemic.

Local names: Hagnóg-lalágon (C. Bis.); sauód (Mbo.).

**FICUS PRUNIFORMIS** Blume Bijdr. (1825) 451; King in Ann. Bot. Gard. Calcutta 1 (1887) 24, t. 21; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 17.

*Ficus johnsoni* Elm. Leaf. Philip. Bot. 1 (1906) 190.

Luzon (Ilocos Norte to Sorsogon), Leyte, Mindanao, Basilan. In forests at low and medium altitudes. Malay Peninsula, Sumatra, Java, Borneo.

Local names: Baléte (Tag.); gasigma (Sub.).

**FICUS PSEUDOPALMA** Blanco Fl. Filip. (1837) 680, ed. 2 (1845) 473, ed. 3, 3 (1879) 84, t. 356; F.-Vill. Novis. App. (1880) 202; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 9, 27 (1905) 80, Philip. Journ. Sci. 1 (1906) Suppl. 44, 5 (1910) Bot. 343, Fl. Manila (1912) 173, Sp. Blancoanae (1918) 127; Elm. Leaf. Philip. Bot. 1 (1906) 202, (1907) 257, 2 (1908) 540, 4 (1911) 1316, 7 (1914) 2387.

*Ficus haenkei* Warb. in Perk. Frag. Fl. Philip. (1905) 195.

*Ficus palmifolia* Usteri Beitr. Ken. Philip. Veg. (1904) 127 sphalm.

*Ficus blancoi* Elm. Leaf. Philip. Bot. 1 (1908) 283.

Luzon (Benguet, Bontoc, Pangasinan, Tayabas, Bataan, Rizal, Laguna, Albat, Sorsogon), Mindoro, Panay, Leyte, Samar, Negros, Guimaras, Mindanao. In thickets at low and medium altitudes, ascending to 1,200 m. A remarkable species; erect, unbranched, and palmlike in aspect. Endemic.

Local names: Adiági (Ig.); banañgál (Mbo.); ikik (Ilk.); kadiábung (Ig.); kamiling (Bon.); kamiring (Bon., Ilk.); lanióg (P. Bis.); lubi-lubí (Bik.); niog-nióg (Bik., Tag.); niog-niógan (Tag.); sulamióg (P. Bis.); tabatabá (Man.); tagnánam (Buk.); tarabáng (Ig.).

**FICUS PUBINERVIS** Blume Bijdr. (1825) 452; King in Ann. Bot. Gard. Calcutta 1 (1887) 54, t. 66.

*Ficus similis* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 47; Elm. Leaf. Philip. Bot. 1 (1907) 243, 4 (1911) 1313.

*Ficus crassitor*a Elm. Leaf. Philip. Bot. 2 (1908) 548, 4 (1912) 1397.

Luzon (Ilocos Norte, Ilocos Sur, Benguet, Tayabas, Cavite, Laguna, Sorsogon), Alabat, Sibuyan, Mindoro, Palawan, Samar, Negros, Mindanao, *Elmer 6866, 10032, 8849, 7716, 16890, 14411, 16769, Merrill 1065, 2364, 9379, 10440, Phil. Pl. 1012*. In forests at low and medium altitudes. Sumatra, Java, Borneo, Timor, Celebes.

Local names: Deudéu (Ig.); duugó (Tag.).

**FICUS PUNCTICULATA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 131; Elm. Leaf. Philip. Bot. 2 (1908) 547.

Leyte, Negros, Mindanao (Lanao), *Clemens 1164*, *Wenzel 418, 167, 1237*, *B. S. 15270 Ramos*, *Elmer 9689*. In forests at low and medium altitudes. Endemic.

**FICUS PUSTULATA** Elm. Leaf. Philip. Bot. 4 (1912) 1389.

Palawan, Dumarán, *Elmer 12874*, *Merrill 9381*, *Phil. Pl. 1394*, *B. S. 21640, 21626 Escritor*, *B. S. 914 Foxworthy*. In thickets at low altitudes. Endemic.

**FICUS RECURVA** Blume Bijdr. (1825) 457; King in Ann. Bot. Gard. Calcutta 1 (1888) 131, *t. 165*; Elm. Leaf. Philip. Bot. 4 (1912) 1386.

Palawan, Leyte, *Merrill Phil. Pl. 1376*, *Elmer 13072*, *Wenzel 1123*. In thickets at low altitudes, ascending to 500 m. Malay Peninsula and Archipelago.

**FICUS RELIGIOSA** Linn. Sp. Pl. (1753) 1059; King in Ann. Bot. Gard. Calcutta 1 (1887) 55, *t. 67A*; F.-Vill. Novis. App. (1880) 199.

Cultivated in Manila, Cebu, and perhaps in other large towns; a very recent introduction from India.

**FICUS REPANDIFOLIA** Elm. Leaf. Philip. Bot. 1 (1906) 58, (1907) 256, 4 (1911) 1321, 7 (1914) 2392.

*Ficus rostrata* Blanco Fl. Filip. (1837) 697, ed. 2 (1845) 472, ed. 3, 3 (1879) 83, non Lam.

*Ficus radicans* F.-Vill. Novis. App. (1880) 201, non Roxb.

*Ficus rubrovenia* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 44, 2 (1907) 270, *Sp. Blancoanae* (1918) 127.

Luzon (Cagayan to Sorsogon), Polillo, Mindoro, Catanduanes, Samar, Biliran, Leyte, Sibuyan, Panay, Negros, Mindanao, Basilan. Common in primary forests at low and medium altitudes. Endemic.

Local names: Basikóng (Mbo.); kamahíuan (P. Bis.); libtúhan (Mbo.); sabók (Ibn.); siau (Bik.); tabúyog (P. Bis.); talóbog (P. Bis.); tíbig (Tag.); uloykáloi (P. Bis.).

**FICUS RETUSA** Linn. Mant. 1 (1767) 129; King in Ann. Bot. Gard. Calcutta 1 (1887) 50, *t. 61, 62*; F.-Vill. Novis. App. (1880) 199; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 18, Philip. Journ. Sci. 1 (1906) Suppl. 47; Elm. Leaf. Philip. Bot. 4 (1911) 1245.

*Ficus nitida* Thunb. Ficus (1786) 14; Vidal Cat. Pl. Prov. Manila (1880) 201.

Northern Luzon to Mindanao, *Merrill 7369*, *Phil. Pl. 1742, 2024*, *Elmer 5872, 8966, 17703, 11612*, *Baker 995*, *B. S. 130 Foxworthy*, *12894 Fénix*. In thickets and forests at low and medium altitudes, ascending to 1,500 m; confused with *F. indica* Linn. India to southern China, Formosa, through Malaya to Australia and New Caledonia.

Local names: Baléte (Tag.); marabútan (Bag.).

**FICUS RIBES** Blume Bijdr. (1825) 463; King in Ann. Bot. Gard. Calcutta 1 (1888) 110, *t. 144*; F.-Vill. Novis. App. (1880) 201; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 253; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 44.

*Covellia ribes* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 325.

*Covellia microcarpa* Miq. in Hook. Lond. Journ. Bot. 7 (1848) 466.

*Ficus cuneata* Miq. in Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 297;  
King in Ann. Bot. Gard. Calcutta 1 (1887) 110, t. 145, A; F.-Vill.  
Novis. App. (1880) 202; Vidal Phan. Cuming. Philip. (1885) 146,  
Rev. Pl. Vasc. Filip. (1886) 253.

*Covellia cuneata* Miq. in Lond. Journ. Bot. 7 (1848) 466, t. 8 B, Fl.  
Ind. Bat. 1<sup>2</sup> (1858-59) 326.

Luzon (Cagayan to Albay), Mindoro, Panay, Camiguin de Misamis, Mindanao. Common in forests at low and medium altitudes. Malay Peninsula to New Guinea.

Local names: Adagei (Ig.); duñgarúg (Bis.); tibeg (Ilk.); tìbig (Tag.).

**FICUS RIVULARIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 272.

Luzon (Cagayan, Apayao, Tayabas), *F. B. 17806, 10134 Curran, B. S. 7399 Ramos, 28177 Fénix, 28875 Ramos & Edaña, Adduru 14.* Along streams on rocks, cliffs, etc. Endemic.

**FICUS RUDIS** Miq. Ann. Mus. Bot. Lugd.-Bat. 2 (1865-66) 222, 291;  
King in Ann. Bot. Gard. Calcutta 1 (1888) 85, t. 108.

Mindanao (Lanao), *Clemens*. In thickets and forests, altitude about 750 m. Celebes.

**FICUS RUFICAULIS** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 13,  
Philip. Journ. Sci. 1 (1906) Suppl. 44; Elm. Leaf. Philip. Bot. 1  
(1906) 60, 202, (1907) 258.

*Ficus gerontocarpa* Warb. in Perk. Frag. Fl. Philip. (1905) 201 p.p.,  
excl. fruct.

*Ficus paloensis* Elm. Leaf. Philip. Bot. 2 (1908) 547, 4 (1911) 1322.

*Ficus ruficaulis* Merr. var. *paloensis* Elm. Leaf. Philip. Bot. 1  
(1906) 203.

Luzon (Abra to Sorsogon), Polillo, Catanduanes, Mindoro, Culion, Palawan, Sibuyan, Samar, Leyte, Mindanao. In thickets and forests, sea level to an altitude of 1,500 m. Endemic.

Local names: Biri (Kuy.); datbáng (Ig.); handadáyug (C. Bis.); lag-lág (S. L. Bis.); lampiso (Sub.); malatiki (Tag.); pulot-pulot (Bik.); tabgúng (Bik.); tábong (Ig.); talóbog (P. Bis.); túbai (Tagb.).

**FICUS SAMARENSIS** Merr. in Philip. Journ. Sci. 18 (1921) 60.

Samar, Catanduanes, *B. S. 30290 Ramos, Merrill Phil. Pl. 1606.* In forests at low altitudes. Endemic.

**FICUS SARGENTII** Merr. in Philip. Journ. Sci. 18 (1921) 63.

Samar, *Sablaya 10.* In damp forests at low altitudes. Endemic.

**FICUS SATTERTHWAITEI** Elm. Leaf. Philip. Bot. 1 (1906) 199, 2  
(1908) 543, 4 (1911) 1264, 1320, 7 (1914) 2392.

Luzon (Laguna, Camarines, Sorsogon), Biliran, Panay, Sibuyan, Guimaras, Negros, Camiguin de Misamis, Mindanao, *Elmer 17899, 15074, 12263, 9863, 13899, 10898, B. S. 22106 Ramos, 36588, 36695 Ramos & Edaña, 18935 McGregor, 31040 Ramos & Edaña.* In forests at low and medium altitudes, ascending to 1,100 m. Endemic.

Local names: Basikong (Bag.); katibog (Sub.); tabog (Mbo.); tábos (Man.); tabúgui (C. Bis.); tabúyog (P. Bis.); talóbog (P. Bis.).



**FICUS SAXOPHILA** Blume Bijdr. (1825) 437; King in Ann. Bot. Gard. Calcutta 1 (1887) 17, *t.* 12; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 47; Elm. Leaf. Philip. Bot. 2 (1908) 537.

Luzon (Benguet, Laguna, Bataan, Sorsogon), Cebu, Negros, *Elmer 14427, 9644, F. B. 2588 Meyer, 26370 Catalan, B. S. 11045 Ramos*. In forests at low and medium altitudes; very local. Java, Buru, Timor, Christmas Island.

Local name: Balitarhan (C. Bis.).

**FICUS SERICEA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 319.

Mindanao, Davao, *Williams 2383*. In forests. Endemic.

Local name: Maidóng (Bag.).

**FICUS SIBULANENSIS** Elm. Leaf. Philip. Bot. 4 (1911) 1266.

Samar, Mindanao (Davao), *Elmer 11154, B. S. 17398 Ramos*. In forests at low altitudes; allied to *Ficus pubinervis* Blume. Endemic.

Local name: Dapásan (Bag.).

**FICUS SIBUYANENSIS** Elm. Leaf. Philip. Bot. 4 (1911) 1319, 7 (1914) 2406.

Luzon (Cagayan to Albay), Sibuyan, Samar, Leyte, *Elmer 17470, 12236, F. B. 24845 Barros, B. S. 22355, 22346, 24567, 30248 Ramos*. In thickets and forests at low and medium altitudes; not satisfactorily distinguishable from *Ficus irisana* Elm. Endemic.

Local names: Bili (P. Bis.); hagopitán (Mbo.); uplás (Ilk.).

**FICUS SORDIDISSIMA** Elm. Leaf. Philip. Bot. 4 (1911) 1268.

Mindanao (Davao), *Elmer 11218*. In forests, altitude about 1,150 m. Endemic.

Local name: Basíkong (Bag.).

**FICUS SPARSIFOLIA** Merr. in Philip. Journ. Sci. 18 (1921) 64.

Luzon (Nueva Ecija), *B. S. 26492 Ramos & Edaño*. In thickets along streams at low altitudes. Endemic.

**FICUS STIPULOSA** Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 289; F.-Vill. Novis. App. (1880) 199; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 254; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 402, Fl. Manila (1912) 175.

*Urostigma stipulosa* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 567, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 334.

*Urostigma caulocarpum* Miq. l. cc. 568, 334.

*Ficus caulocarpa* F.-Vill. Novis. App. (1880) 199; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 46; Elm. Leaf. Philip. Bot. 1 (1907) 244, non Miq.

*Ficus infectoria* Roxb. var. *caulocarpa* King in Ann. Bot. Gard. Calcutta 1 (1887) 63, *t.* 75; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 18; Elm. Leaf. Philip. Bot. 4 (1911) 1246, 313, 7 (1914) 2409.

*Ficus infectoria* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 18; Elm. Leaf. Philip. Bot. 4 (1912) 1393, vix Roxb.

*Ficus caulobotrya* Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 251, non Miq. (vel Miq. p. p.).

Batan Islands, Luzon (Cagayan to Sorsogon), Palawan, Biliran, Leyte, Panay, Mindanao. Common in thickets and forests at low and medium altitudes; doubtfully distinct from *Ficus infectoria* Roxb., to which it was reduced by King. Endemic.

Local names: Baléte (Ibn., Bon., Sbl., P. Bis., Tag.); botgo (Bik.); bubúlung (Sbl.); kúba (Ting.); magamáno (Bag.); nonok (P. Bis.); pa-sápla (Ilk.); puspús (Ting.); sangláu (Ilk.).

**FICUS STRANGULARIS** Elm. Leaf. Philip. Bot. 4 (1912) 1382.

Palawan, *Elmer 12956*. In forests. Endemic.

**FICUS SUBINTEGRA** (Merr.) Elm. Leaf. Philip. Bot. 1 (1906) 56.

*Ficus elmeri* Merr. var. *subintegra* Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 10.

Luzon (Bontoc, Benguet, Nueva Vizcaya, Sorsogon), *Elmer 6317, 16527, B. S. 17512, 23654 Ramos, 31845 Santos*. In forests and forested ravines, altitude 1,100 to 2,100 m. Endemic.

Local names: Aplás (Ilk.); dugnái (Ig.).

**FICUS SUBULATA** Blume Bijdr. (1825) 461; King in Ann. Bot. Gard. Calcutta 1 (1887) 8, t. 6; Usteri Beitr. Ken. Philip. Veg. (1905) 127.

*Ficus confusa* Elm. Leaf. Philip. Bot. 1 (1906) 47, 187, (1907) 240, 2 (1908) 535, 4 (1911) 1239, (1912) 1387, 7 (1914) 2398.

*Ficus setibracteata* Elm. op. cit. 7 (1914) 2411.

*Ficus driveri* Elm. op. cit. 7 (1914) 2397.

*Ficus inaequifolia* Elm. op. cit. 1 (1907) 242, 2 (1908) 535, 4 (1911) 1240, 7 (1914) 2411.

*Ficus insularis* Miq. in Lond. Journ. Bot. 7 (1848) 435, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 293, quoad *Cuming 1943*, in nota.

Throughout the Philippines at low and medium altitudes, ascending to 1,500 m. India to southern China and Malaya.

Local names: Baléting báging (Tag.); dalákit (P. Bis.); gigatgítmon (Mbo.); hagosós (Tag.); kalápot (Buk.); magulápi (Bag.); makabotoai (Mbo.); malaisís (Tag.); nanlobóyon (Mbo.); nusó (Iv.); nusú (Iv.).

**FICUS SULCATA** Elm. Leaf. Philip. Bot. 4 (1912) 1377.

Palawan, *Elmer 12686*. In thickets and forests at low altitudes. Endemic.

Local name: Nududalug (Tagb.).

**FICUS TAYABENSIS** Elm. Leaf. Philip. Bot. 1 (1907) 255, 4 (1912) 1387.

Luzon (Tayabas, Nueva Vizcaya, Bataan, Rizal, Laguna, Sorsogon), Palawan, *Elmer 7541, 7632, 14919, 13045, B. S. 20210 McGregor, 13592 Ramos, 20897 Escritor, Copeland 2043*. In forests at medium altitudes. Endemic.

**FICUS TINCTORIA** Forst. f. Prodr. (1786) 76; Miq. in Hook. Lond. Journ. Bot. 7 (1848) 436, t. 6, B; Elm. Leaf. Philip. Bot. 4 (1911) 1314.

Batan Islands and northern Luzon to Mindanao and the Sulu Archipelago, *B. S. 10165 McGregor, 27234, 11098, 17430 Ramos, Merrill 5400, 9443, 9439, Phil. Pl. 217*. Near the sea in thickets, on cliffs, etc. Formosa, Marianne and Caroline Islands, and Polynesia.

Local names: Baléting-bató (Tag.); birí (P. Bis.); labán (P. Bis.); loník (P. Bis.); nusú (Iv.).

**FICUS TODAYENSIS** Elm. Leaf. Philip. Bot. 4 (1911) 1261, 7 (1914) 2403.

Mindanao (Davao, Agusan), *Elmer 11129, 10810, 13879*. In thickets and forests up to 900 m altitude; to be compared with *Ficus irisana* Elm. and *F. sibuyanensis* Elm. Endemic.

Local names: Hagosihis (Mbo.); ropít (Mbo.); rupít (Bag.).

**FICUS ULMIFOLIA** Lam. Encycl. 2 (1788) 499; Willd. Sp. Pl. 4<sup>2</sup> (1805) 1152; Miq. in Hook. Lond. Journ. Bot. 7 (1848) 234, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 299, Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 291; King in Ann. Bot. Gard. Calcutta 1 (1888) 185; F.-Vill. Novis. App. (1880) 200; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 403, Fl. Manila (1912) 174, Sp. Blancoanae (1918) 128.

*Ficus difformis* Lam. Encycl. 2 (1788) 500; Miq. in Hook. Lond. Journ. Bot. 7 (1848) 234, Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 298; F.-Vill. Novis. App. (1880) 200; King. in Ann. Bot. Gard. Calcutta 1 (1888) 181.

*Ficus sinuosa* Miq. in Hook. Lond. Journ. Bot. 7 (1848) 232 (incl. var. *integrifolia* Miq.), Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 291; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1885) 145, Rev. Pl. Vasc. Filip. (1886) 254; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 45; Elm. Leaf. Philip. Bot. 1 (1907) 251.

*Ficus heterophylla* Blanco Fl. Filip. (1837) 685, ed. 2 (1845) 476, ed. 3, 3 (1879) 89; F.-Vill. Novis. App. (1880) 200; Vidal Synopsis Atlas (1883) 39, t. 87, f. A; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 79, non Linn.

*Ficus hispida* Blanco (incl. var. *linearis* Blanco et var. *hastata* Blanco) Fl. Filip. (1837) 685, ed. 2 (1845) 476, ed. 3, 3 (1879) 88, non Forst.

*Ficus quercifolia*, F.-Vill. Novis. App. (1880) 200; Usteri Beitr. Ken. Philip. Veg. (1905) 127; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 18, non Roxb.

? *Ficus asperrima* Elm. Leaf. Philip. Bot. 1 (1906) 53, non Roxb.

? *Ficus obscura* Elm. loc. cit., non Blume.

? *Ficus quercifolia* Roxb. var. *humilis* Elm. op. cit. 1 (1906) 192, 2 (1908) 541, non King.

Throughout the Philippines in thickets at low and medium altitudes, ascending to 1,500 m; very common and exceedingly variable, intergrading with *Ficus cumingii* Miq. and *F. blepharostoma* Warb. Endemic.

Local names: Agupit (Bik.); agusáhis (C. Bis.); alasás (Pamp.); ápas (Ig.); aplás (Ting.); apúlas (Bon., Ilk.); ásis (Tag.); bérís (P. Bis.); gisgís (Sbl.); hagupit (Tag., Bik.); isís (Tag.); katol (Bik.); kikíg (Ibn.); kuplás (Ig.); oplás (Ig.); pangísís (Tag.); plás (Ibn.); uplás (Ilk.); usíu (Tag.); yayasi (Iv.).

**FICUS UMBO-BRACTEATA** Elm. Leaf. Philip. Bot. 4 (1911) 1247, 7 (1914) 2394.

Mindanao (Agusan, Davao), *Elmer 11956, 14117*. In forests, altitude 800 to 1,300 m; closely allied to *Ficus palawanensis* Merr. Endemic.

Local name: Úkong (Bag.).

- FICUS VARIEGATA** Blume Bijdr. (1825) 459; King in Ann. Bot. Gard. Calcutta 1 (1888) 169, *t.* 212; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 13, Philip. Journ. Sci. 1 (1906) Suppl. 45, Sp. Blancoanae (1918) 125; Elm. Leafl. Philip. Bot. 2 (1908) 549, 4 (1911) 1270. *Ficus laebigata* Blanco Fl. Filip. (1837) 682, ed. 2 (1845) 474, ed. 3, 3 (1879) 86, non Vahl. *Ficus latsoni* Elm. Leafl. Philip. Bot. 1 (1906) 204, (1907) 260, 4 (1911) 1270, 1324.

Luzon (Cagayan to Sorsogon) to Palawan and Mindanao. Common in primary forests at low and medium altitudes. Malay Peninsula and Archipelago and southern China.

Local names: Agí (Yak.); banákal (Bag.); basíkong (Bag.); duóyog (P. Bis.); dudang (Sul.); dúdu (Ig.); laptái (Tag.); laptíng (Ilk.); lig-tug (Bon.); lita (Ibn.); payahan (Sbl.); rayaraya (Tag.); tabgón (Bik.); tangisang bayáuak (Sbl., Tag.); tuból (Pang.).

- FICUS VILLOSA** Blume Bijdr. (1825) 441; Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 294; King in Ann. Bot. Gard. Calcutta 1 (1888) 137, *t.* 172; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 44; Elm. Leafl. Philip. Bot. 1 (1906) 201, 4 (1911) 1263.

Luzon (Bataan), Leyte, Mindanao, *Elmer* 7170, 10566, *Clemens* 402, *F. B.* 2833 *Meyer*, *B. S.* 38591, 38799 *Ramos & Edaña*. In primary forests at medium altitudes. Malay Peninsula and Archipelago.

Local name: Katáupi (Bag.):

- FICUS VIRIDIFOLIA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 366.

Leyte, *Wenzel* 145. In forests at low altitudes. Endemic, unless referable to *Ficus pisifera* Wall. as a form or variety.

- FICUS WARBURGII** Elm. Leafl. Philip. Bot. 1 (1907) 247.

Luzon (Tayabas, Laguna, Sorsogon), *Elmer* 9376, 15850, 17879, 18042. On forested slopes, altitude about 900 m. Endemic.

- FICUS WENZELII** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 367.

*Ficus weberi* Merr. op. cit. 9 (1914) Bot. 274.

Luzon (Camarines, Sorsogon), Leyte, Mindanao, Zamboanga (Butuan), *Weber* 1002, *Wenzel* 48, *B. S.* 15898 *Fénix*, 23566 *Ramos*, 33873, 36894, 36644 *Ramos & Edaña*. In forests at low and medium altitudes. Endemic.

Local name: Tambóg (Sub.).

- FICUS WILLIAMSHII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 177; Elm. Leafl. Philip. Bot. 7 (1914) 2396 (var. *epiphytica* Elm.).

Mindanao (Bukidnon, Agusan, Misamis, Lanao, Zamboanga, Basilan), *Williams* 2355, *Elmer* 13829, *Clemens* 1175, *Copeland* 1618, *B. S.* 16134 *Reillo*, 38723 *Ramos & Edaña*, 26064 *Fénix*, *F. B.* 25243 *Alvarez*. In forests, altitude 800 to 1,700 m. Endemic.

Local names: Baléte (Sul.); dahónon (Mbo.); nonók (Sub.).

- FICUS WORCESTERI** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 274.

Samar, Mindanao (Bukidnon), small islands in the Sulu Sea (Cavilli, Arena), *Merrill* 7178, *B. S.* 24309, 24513 *Ramos*, 38635 *Ramos & Edaña*. In thickets and forests at low altitudes. Endemic.

Local names: Kagaskás-bató (S. L. Bis.); kalápak (Buk.).

**FICUS XAVIERI** Merr. in Philip. Journ. Sci. 20 (1922) 369.

Luzon (Laguna), *F. B. 28480 Salvosa*, *F. X. Williams*. In forests at low altitudes. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

**FICUS ALBA** Reinw.; *F.-Vill. Novis. App.* (1880) 200.

**FICUS ALBINERVA** Miq.; *F.-Vill. op. cit.* 201.

**FICUS ANGULIDENS** Miq.; *F.-Vill. l. c.*

**FICUS ASPERA VOLUBILIS** Blanco *Fl. Filip.* (1837) 676, ed. 2 (1845) 472, ed. 3, 3 (1879) 82; *Merr. Sp. Blancoanae* (1918) 129.

This is practically a *nomen nudum*; undeterminable.

**FICUS BIGLANDULOSA** Blume; *F.-Vill. op. cit.* 200.

**FICUS CALOPHYLLA** Blume; *F.-Vill. l. c.*

**FICUS CALLOSA** Merr. in Philip. Bureau Forestry Bull. 1 (1903) 18, non Willd.

The record was based on a sterile specimen which clearly does not represent Willdenow's species.

**FICUS CONOCARPA** Miq.; *F.-Vill. l. c.*

**FICUS CONSOCIATA** Blume; *F.-Vill. op. cit.* 199.

**FICUS DICARPA** Blanco *Fl. Filip.* (1837) 682 = *Ficus nepalensis* Blanco *op. cit.* ed. 2 (1845) 474, ed. 3, 3 (1879) 85, non Spreng.

The status of this species is entirely unrecognizable from Blanco's very imperfect description; see Merrill, *Sp. Blancoanae* (1918) 128.

**FICUS GIBBOSA** Blume *Bijdr.* (1825) 466; King in *Ann. Bot. Gard. Calcutta* 1 (1887) 4, *t. 2, 2a*; *Ceron Cat. Pl. Herb. Manila* (1892) 158.

The Philippine record is based on *Vidal 3791, 3804*; not seen.

**FICUS GLOMERATA** Roxb.; *F.-Vill. Novis. App.* (1880) 201.

**FICUS HEDERACEA** Roxb.; *F.-Vill. l. c.*

**FICUS HIRTA** Vahl; *F.-Vill. op. cit.* 200.

**FICUS HUNTERI** Miq.; *F.-Vill. l. c.*

**FICUS IRREGULARIS** Miq.; *Usteri Beitr. Ken. Philip. Veg.* (1905) 127.

**FICUS LOBBII** Miq.; *F.-Vill. Novis. App.* (1880) 201.

**FICUS OBTUSIDENS** Miq.; *F.-Vill. op. cit.* 201.

**FICUS PILOSA** Reinw.; *F.-Vill. op. cit.* 200.

**FICUS POLITORIA** Lam.; *F.-Vill. l. c.*

**FICUS POMIFERA** Kurz; *F.-Vill. op. cit.* 201.

**FICUS PROCERA** Reinw.; *F.-Vill. op. cit.* 199.

**FICUS PUBESCENS** Spreng; *Llanos ex F.-Vill. & Naves in Blanco Fl. Filip.* ed. 3, 4<sup>1</sup> (1880) 103.

- FICUS PUNGENS* Reinw.; F.-Vill. Novis. App. (1880) 200.  
*FICUS PYRIFOLIA* Burm. f.; F.-Vill. op. cit. 199.  
*FICUS RACEMIFERA* Roxb.; F.-Vill. op. cit. 201.  
*FICUS RADICANS* Roxb.; F.-Vill. l. c.  
*FICUS SUBOBLIQUA* Miq.; Usteri Beitr. Ken. Philip. Veg. (1905) 127.  
*FICUS SUBRACEMOSA* Blume; F.-Vill. Novis. App. (1880) 201.  
*FICUS SUPERBA* Miq.; F.-Vill. op. cit. 199.  
*FICUS TADJAN* Miq.; F.-Vill. op. cit. 201.  
*FICUS TONDANA* Miq.; F.-Vill. op. cit. 200.  
*FICUS VENOSA* Willd.; F.-Vill. op. cit. 202.  
*FICUS WASSA* Roxb.; F.-Vill. op. cit. 200.

#### 16. CONOCEPHALUS Blume

**CONOCEPHALUS ACUMINATUS** Tréc. in Ann. Sci. Nat. Bot. III 8 (1847) 91; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 284; F.-Vill. Novis. App. (1880) 203; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 255; Barg.-Petr. in Nuov. Giorn. Bot. Ital. II 9 (1902) 221.

Luzon (Bontoc to Sorsogon), Catanduanes, *Cuming 755, Elmer 7832, 8725, 15296, Merrill Phil. Pl. 1710, B. S. 20585 Ramos, 12627 Félix, 23714, 30444 Ramos*. In the Mountain Province mostly in thickets, farther south in the mossy forest on the higher mountains. Endemic.

Local names: Anapúl (Ig.); anopál (Bik.); anopó (Ig.); pongáu (Bon.).

**CONOCEPHALUS DIFFUSUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 355.

Leyte, *Wenzel 176, 857*. In forests at medium altitudes. Endemic.

Var. **OBTUSUS** Merr. op. cit. 356.

Leyte, *Wenzel 908*, with the type. This species is perhaps not sufficiently distinct from *Conocephalus acuminatus* Tréc. Endemic.

**CONOCEPHALUS ERECTUS** (Blanco) F.-Vill. Novis. App. (1880) 203; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 80, Sp. Blancoanae (1918) 129 (excl. syn. *C. grandifolius* Warb.); Barg.-Petr. in Nuov. Giorn. Bot. Ital. II 9 (1902) 230.

*Procris erecta* Blanco Fl. Filip. (1837) 707, ed. 2 (1845) 490, ed. 3, 3 (1879) 111.

*Conocephalus canescens* Warb. in Perk. Frag. Fl. Philip. (1905) 167.

Luzon (Cagayan, Isabela, Rizal, Cavite, Laguna, Tayabas), *Warburg 12479, Merrill Sp. Blancoanae 871, 960, B. S. 8035, 13949 Ramos, F. B. 19605 Curran, 28370 Mabesa*. In forests at low and medium altitudes. Endemic.

Local name: Hanopól (Tag., Bis.).

**CONOCEPHALUS GRANDIS** (Wedd.) comb. nov.

*Procris grandis* Wedd. in Arch. Mus. Paris 8 (1855-56) 337, DC. Prodr. 16<sup>1</sup> (1869) 193; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 249; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 256, Phan. Cuming. Philip. (1885) 146.

Babuyan Islands, Luzon (Apayao, Tayabas, Bataan, Rizal, Laguna, Camarines), Panay, *B. S.* 3928, 4148, 28035 *Fénix*, *Elmer* 9227, *F. B.* 6513 *Curran*, *B. S.* 27855 *McGregor*, 29747 *Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

The type of Weddell's species is *Cuming* 1730 in Herb. Kew., which he erroneously indicates as "In Nova Guinea? \* \* \* V. S. in Hb. Kew."

Local names: Anopól (Bik.); anukól (Ibn.); hanopól (Tag.); litik (S. L. Bis.).

**CONOCEPHALUS GRANDIFOLIUS** Warb. in *Perk. Frag. Fl. Philip.* (1904) 167.

Northern Luzon to Mindanao, *Haenke*, *F. B.* 11602 *Curran*, 14221 *Whitford*, *B. S.* 38651 *Ramos & Edaño*, *Merrill* 7315, *Elmer* 13901, 10651, 15250. In forests at low and medium altitudes. Endemic.

Local names: Bukól (Buk.); opól (Bag.).

**CONOCEPHALUS MOLLIS** Merr. in *Philip. Journ. Sci.* 18 (1921) 51.

Samar, *B. S.* 17582 *Ramos*. In damp forests at low altitudes. Endemic.

**CONOCEPHALUS PIPERI** Elm. *Leaf. Philip. Bot.* 8 (1915) 2770.

Mindanao (Agusan, Lanao, Davao, Zamboanga), Basilan, *Piper* 450, *Elmer* 13653, *Clemens* 67, *F. B.* 13393 *Foxworthy*. In forests at low and medium altitudes. Scarcely distinct from *Conocephalus suaveolens* Blume. Endemic.

Local name: Hanopól (Mbo.).

**CONOCEPHALUS SUAVEOLENS** Bume Bijdr. (1825) 483; Tréc. in *Ann. Sci. Nat. Bot.* III 8 (1847) 87; F.-Vill. *Novis. App.* (1880) 203; Vidal *Sinopsis Atlas* (1883) 40, t. 88, f. D; Barg.-Petr. in *Nuov. Giorn. Bot. Ital.* II 9 (1902) 218.

*Urtica naucleiflora* Roxb. *Hort. Beng.* (1814) 67, *nomen nudum*, *Fl. Ind.* ed. 2, 3 (1832) 592.

*Conocephalus naucleiformis* Lindl. *Bot. Reg. t.* 1203.

*Conocephalus ovatus* Tréc. in *Ann. Sci. Nat. Bot.* III 8 (1847) 88; Rolfe in *Journ. Bot.* 23 (1885) 215; Vidal *Phan. Cuming. Philip.* (1885) 146, *Rev. Pl. Vasc. Filip.* (1886) 255.

*Procris violacea* Blanco *Fl. Filip.* (1837) 706, ed. 2 (1845) 490, ed. 3, 3 (1879) 110.

*Conocephalus violaceus* Merr. in *Govt. Lab. Publ. (Philip.)* 27 (1905) 80, *Philip. Journ. Sci.* 1 (1906) *Suppl.* 47, *Sp. Blancoanae* (1918) 129.

*Conocephalus microphyllus* Tréc. in *Ann. Sci. Nat. Bot.* III 8 (1847) 92; Walp. *Ann.* 1 (1849) 654; F.-Vill. *Novis. App.* (1880) 203; Barg.-Petr. in *Nuov. Giorn. Bot. Ital.* II 9 (1902) 222.

Northern Luzon to Mindanao; common in forests at low and medium altitudes. India to Malaya.

Local names: Anapól (Ig., Bik.); anapúl (Ig.); anopó (Bon.); buburúbad (Sub.); hanapúl (Tag.); hanopól (Tag.); hanopul (Tag.); hanupól (Bik.); kanupúl (Tag.); lagná (Tag.); napúl (Sul.); pañgau (Tag.); tagimi (Yak.); tobáyan (Tag.).

**CONOCEPHALUS WARBURGII** Elm. Leaf. Philip. Bot. 1 (1908) 278.

Luzon (Benguet), *Elmer 8973*. In forests at medium altitudes. Endemic. In the original description of the leaves the statement "obovately lanceolate" should be corrected to ovate-lanceolate.

Local name: Anoból (Ig.).

EXCLUDED GENUS

**CECROPIA PALMATA** Willd.

This is a recent introduction from tropical America and is in cultivation at Lamao, in Bataan Province, and in Manila.

URTICACEAE

1. **URTICA** Tournefort

**URTICA BULLATA** Blume Mus. Bot. Lugd.-Bat. 2 (1856) 145; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 474; Merr. op. cit. 344; Elm. Leaf. Philip. Bot. 3 (1910) 876.

Luzon (Benguet, Bontoc), Mindanao (Davao, Mt. Apo), *F. B. 16049 Curran, Zschokke, & Merritt, B. S. 37725 Ramos & Edaña, Elmer 11583*. On more or less open slopes, altitude about 2,000 m. Java.

Local name: Latóng (Bag.).

EXCLUDED SPECIES

**URTICA HORRIDA** HBK.; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 422.

"Ex horto (?) Manillensi" Walpers. The species is considered by Weddell to be a variety of *Urtica baccifera* (Linn.) Gaudich., of tropical America.

2. **LAPORTEA** Gaudichaud

**LAPORTEA AGUSANENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2860.

Mindanao (Agusan), *Elmer 14019*. In shaded ravines, altitude about 230 m. Endemic.

Local names: Buñgábung (Mbo.); sagái (Mbo.).

**LAPORTEA ANACARDIOIDES** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 478.

Mindanao (Davao), *Williams 2766*. At low altitudes, near Santa Cruz. Endemic.

**LAPORTEA BATANENSIS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 481.

Batan Islands (Batan), *B. S. 3719 Féris*. On slopes at low altitudes. Endemic.

Local name: Hateng (Iv.).

**LAPORTEA BRUNNEA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 298.

Luzon (Bataan), Samar, *B. S. 17559 Ramos, F. B. 2850 Meyer*. In damp forests, ascending to 800 m. Endemic.

Local name: Lingaton (S. L. Bis.).



**LAPORTEA CRASSIFOLIA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 480.

Mindanao (Misamis, Lanao), *F. B. 3925 Hutchinson, Clemens 177*. In thickets, altitude 400 to 800 m.

Local name: Sagái (Lan.).

**LAPORTEA DENSIFLORA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 479.

Mindoro, Mindanao (Zamboanga), Camiguin de Misamis, *Merrill 998, B. S. 16446 Reillo, 14677 Ramos*. In thickets at low altitudes. Endemic.

**LAPORTEA DIFFUSA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 482.

Luzon (Tarlac), *F. B. 5149 Curran*. In sandy river bottoms. Endemic. Perhaps a form of *Laportea meyeniana* Warb.

**LAPORTEA GRACILIPES** Elm. Leaf. Philip. Bot. 3 (1910) 876; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 483.

*Laportea lanaensis* C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 483.

Luzon (Laguna, Sorsogon), Mindanao (Agusan, Lanao, Davao), *Elmer 10499, 15547, 15548, 17340, 14516, 13966, Clemens 462, F. B. 23125 Acuña, B. S. 36649 Ramos & Edaña, Baker 3215*. In thickets and forests, 700 to 1,200 m altitude. Borneo. This species is near if not identical with the Javan *Laportea stimulans* Miq.

Local names: Anuling (Lan.); lingatong (Sub.); sagái (Buk., Mbo.); saygadan (Mbo.); sigmit (Bag.).

**LAPORTEA LEYTENSIS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 484.

Leyte, *Elmer 7351*. At low altitudes. Endemic.

**LAPORTEA LUZONENSIS** (Wedd.) Warb. in Perk. Frag. Fl. Philip. (1905) 168; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 48; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 478.

*Laportea crenulata* Gaudich. var. *luzonensis* Wedd. in Arch. Mus. Paris 9 (1856) 133, DC. Prodr. 16<sup>1</sup> (1869) 85; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 230; Vidar Sinopsis Atlas (1883) t. 89, f. A, Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 255.

*Laportea crenulata* F.-Vill. Novis. App. (1880) 204; Vidal Rev. Pl. Vasc. Filip. (1886) 255; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 48, non Gaudich.

Luzon (Ilocos Norte, Benguet, Bataan, Laguna, Tayabas, Sorsogon), Mindoro, *Baker 3668, Merrill 4838, F. B. 2631 Meyer, B. S. 24061 Ramos, Cuming 522, Elmer 15206 (L. latilanceolata Elm.)*. In forests and forested ravines, at low and medium altitudes, ascending to 1,700 m. Endemic.

Local names: Lipá (Tag.); lupá (Ilk.).

**LAPORTEA MEYENIANA** (Walp.) Warb. in Perk. Frag. Fl. Philip. (1905) 168; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 481, 6 (1911) Bot. 320; Merr. Fl. Manila (1912) 181, Sp. Blancoanae (1918) 130. *Urtica* (?) *meyeniana* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 422.

*Urera gaudichaudiana* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 177.

*Laportea gaudichaudiana* Wedd. in Arch. Mus. Paris 9 (1856) 137,

DC. Prodr. 16<sup>1</sup> (1869) 86; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 232; F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 255; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 80.

*Urtica umbellata* Blanco Fl. Filip. (1837) 696, non Bory.

*Urtica ferox* Blanco op. cit. ed. 2 (1845) 484, ed. 3, 3 (1879) 102, non Forst.

Northern Luzon to Mindoro and Guimaras, *B. S. 12142 Ramos, Elmer 6464, 18235, Merrill Sp. Blancoanae 401, Phil. Pl. 438*. In thickets at low and medium altitudes. Endemic.

Local names: Adalateng (Ig.); alalatang (Ibn.); alalupá (Gad.); aparíagua (Bis.); bulanbúlan (P. Bis.); lasngaton (Bis.); lingaton (S. L. Bis.); lipá (Tag.); lipai (Tag., Bis.); lipáng-kalabáú (Tag.); lipáng-laláki (Neg.); lipang-dóton (Pamp.); lopá (Pang.) lupá (Ilk.); tokbo (Bon.); tubo (Is.).

**LAPORTEA MINDANAENSIS** Warb. in Perk Frag. Fl. Philip. (1905) 168; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 484.

*Laportea stimulans* Stapf in Trans. Linn. Soc. Bot. 4 (1894) 227, non Miq.

Mindoro, Panay, Mindanao, *Warburg 14702, Elmer 13324, B. S. 31101 Ramos & Edaña, Merrill 8148*. In thickets and forests at low and medium altitudes. Borneo.

Local name: Sagái (Mbo.).

**LAPORTEA MONTICOLA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 299.

Luzon (Ifugao, Mt. Polis), *B. S. 19765 McGregor, Sandkuhl 298*. In the mossy forest, altitude about 2,000 m. Endemic.

**LAPORTEA PENDULA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 270.

Catanduanes, *B. S. 30229 Ramos*. In damp forests along small streams at low altitudes. Endemic.

**LAPORTEA PLATYPHYLLA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 176.

Luzon (Ilocos Norte, Sorsogon), Samar, *B. S. 24274, 33001, 24406 Ramos, Elmer 15608, 17262 (L. irosinensis Elm.)*. In damp forests along small streams at low altitudes. Endemic.

Local names: Liñgaton (S. L. Bis.); liñgaton-dagko (S. L. Bis.).

**LAPORTEA RIGIDIFOLIA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 483, 6 (1911) 30.

Luzon (Benguet), *Williams 991, B. S. 12748 Fénix, F. B. 15801 Curran*. In the mossy forest, altitude about 2,000 m, and along mountain streams at lower altitudes. Endemic.

Local names: Adalateng (Ig.); lupá-a-nalabága (Ilk.).

**LAPORTEA SUBCLAUSA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 486.

Luzon (Laguna, Camarines, Sorsogon), Panay, *Merrill 6290, Phil. Pl. 294, Elmer 17972, 14974, B. S. 30876 Ramos & Edaña, 22906 McGregor*. In damp forests, ascending to 800 m. Endemic.

Local names: Lipáng-kalabáú (Tag.); sagái (Bik.).

**LAPORTEA SUBPELTATA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 485.

Mindanao (Misamis), *F. B. 4586 Mearns & Hutchinson*. In forests, altitude about 1,000 m. Endemic. Perhaps referable to *Laportea mindanaensis* Warb.

Local name: Sagí (Sub.).

**LAPORTEA TRIPLINERVIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 300.

Luzon (Tayabas, east coast, Sorsogon), *B. S. 19462 Ramos, 25532 Yates, Elmer 17300, 17152 (L. conduplicata Elm.)*. On forested slopes, altitude about 400 m. Endemic.

Local names: Lipáng-laláki (Tag.); manaplí (Tag.).

**LAPORTEA VENOSA** Elm. Leaf. Philip. Bot. 3 (1910) 878; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 486.

Mindanao (Davao), *Elmer 11948*, altitude about 1,200 m. Endemic.

Local name: Sigmít (Bag.).

#### EXCLUDED SPECIES

*LAPORTEA DECUMANA* Wedd.; F.-Vill. Novis. App. (1880) 204.

*LAPORTEA PELTATA* Gaudich.; F.-Vill. l. c.

### 3. FLEURYA Gaudichaud

**FLEURYA INTERRUPTA** (Linn.) Gaudich. Bot. Freyc. Voy. (1826) 497; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 228; Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 74; F.-Vill. Novis. App. (1880) 203; Vidal Phan. Cuming. Philip. (1885) 146; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 476; Merr. Fl. Manila (1912) 182, Sp. Blancoanae (1918) 130.

*Urtica interrupta* Linn. Sp. Pl. (1753) 985.

*Bbehmeria interrupta* Willd. Sp. Pl. 4<sup>1</sup> (1805) 342; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 423.

*Urtica elongata* Link Enum. Hort. Berol. 2 (1822) 385, non Gmel.

*Urtica sessiliflora* Blanco Fl. Filip. (1837) 696, non Sw.

*Urtica capitata* Blanco op. cit. ed. 2 (1845) 483, ed. 3, 3 (1879) 101, non Linn.

*Urtica sessilifolia* Wedd. in Arch. Mus. Paris 9 (1856) 105, sphalm.

*Schychowskyia interrupta* W. F. Wight in Contr. U. S. Nat. Herb. 9 (1905) 371.

In cultivated areas, chiefly in disturbed soil in and about towns throughout the Philippines at low altitudes; a weed, probably introduced. Abyssinia to Australia and Polynesia.

Local names: Dalámo (Bis.); damóro (Bis.); daudaúa (Bis.); langála (Bis.); lipáng-áso (Tag.); lipáng-kastíla (Tag.); lopá (Pamp.).

**FLEURYA RUDERALIS** Gaudich. Bot. Freyc. Voy. (1826) 497; Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 74; F.-Vill. Novis. App. (1880) 203; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 476.

Cavilli and other small islands in Sulu Sea, *Merrill Phil. Pl. 402*. In sandy soil near the sea. Java to New Guinea and Polynesia.

4. *PILEA* Lindley

**PILEA APOENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 882; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 492.

Mindanao (Davao, Bukidnon), *Elmer 11551, B. S. 38697 Ramos & Edaño*. In forests, altitude about 1,700 m. Endemic.

Local name: Sogalum (Bag.).

**PILEA BENGUETENSIS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 488.

Luzon (Benguet, Bontoc, Nueva Vizcaya), *Merrill 9696, Phil. Pl. 801, Elmer 6304, B. S. 37678 Ramos & Edaño*. In damp shaded ravines, on cliffs, limestone boulders, etc., altitude 1,300 to 2,000 m. Endemic.

**PILEA CALCICOLA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 493, 6 (1911) Bot. 30

Luzon (Rizal, Bulacan), *Loher 6902, B. S. 13596, 29763 Ramos, 9529 Robinson, Merrill Phil. Pl. 51*. On limestone cliffs in forests and gorges at low and medium altitudes. Endemic.

**PILEA DATAENSIS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 494.

Luzon (Lepanto, Ifugao), *Merrill 4002, B. S. 19719 McGregor*. In the mossy forest, altitude about 2,100 m. Endemic.

**PILEA HUMILIS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 488.

Luzon (Bontoc, Lepanto, Benguet), Negros (Canlaon Volcano), *Merrill 6912, 6510, 4457, Phil. Pl. 273, Vanoverbergh 761, 1361*. In ravines, in the mossy forest, and on open peaks of the higher mountains, altitude 1,200 to 2,800 m. Endemic.

**PILEA INTUMESCENS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 492.

Panay, Mindanao, *B. S. 31050 Ramos & Edaño, Clemens 1223*. In damp shaded ravines, altitude about 700 m. Endemic.

**PILEA LUZONENSIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 48; C. B. Rob. op. cit. 5 (1910) Bot. 492.

Luzon (Benguet, Bataan, Rizal), Mindanao, *Merrill 8262, Whitford 279, 1129, Elmer 13707, B. S. 29718 Ramos & Edaño*. In damp shaded ravines along streams at medium altitudes, ascending to 1,400 m. Endemic.

Local names: Momogasag (Mbo.); ñgálui (Ig.).

**PILEA MELASTOMOIDES** (Poir.) Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 186; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 344; C. B. Rob. op. cit. 490.

*Urtica melastomoides* Poir. in Lam. Encycl. Suppl. 4 (1816) 223.

Luzon (Lepanto, Kalinga, Ifugao, Bontoc, Benguet, Laguna), *Merrill 9664, 7632, 4784, 4579, 4498, Elmer 6533, B. S. 19718 McGregor, 37539 Ramos & Edaño*. In the mossy forest, altitude 1,800 to 2,300 m. India, Ceylon, Java.

**PILEA MICROPHYLLA** (Linn.) Liebm. in Vidensk. Selsk. Skr. 5<sup>2</sup> (1851) 302; C. B. Rob. in Philip Journ. Sci. 5 (1910) Bot. 487; Merr. Fl. Manila (1912) 182.

*Parietaria microphylla* Linn. Syst. ed. 10 (1759) 1308.

*Pilea muscosa* Lindl. Coll. Bot. (1821) t. 4; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 35; Usteri Beitr. Ken. Philip. Veg. (1904) 127.

Throughout the Philippines in and about towns, on damp walls, etc. A native of tropical America, now in most tropical countries.

Local name: Alabóng (Ig.).

**PILEA MONTICOLA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 489.

Luzon (Bontoc, Benguet), *B. S. 31655 Santos, 5553 Ramos, Vanoverbergh 736, 1772*. In the mossy forest, in damp shaded ravines, etc., altitude 1,200 to 2,300 m. Endemic.

Local name: Ngalasiñgan (Ig.).

**PILEA RIGIDA** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 491.

Luzon (Ifugao, Nueva Vizcaya), *B. S. 8181 Ramos, 19722 McGregor*. Altitude about 1,500 m. Endemic.

**PILEA ROBINSONII** Elm. Leaf. Philip. Bot. 3 (1910) 880; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 490.

Mindanao (Bukidnon, Davao), *Elmer 10487, 11758, B. S. 15754 Félix*. In damp forests, altitude about 1,000 m. Endemic.

Local names: Buás (Bag.); salimbágum (Bag.).

**PILEA SYLVATICA** Elm. Leaf. Philip. Bot. 3 (1910) 879; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 494.

Mindanao (Bukidnon, Davao), *Elmer 11547, 11698, B. S. 39089, 38661 Ramos & Edaño*. In damp forests and on wet cliffs, altitude 1,200 to 1,800 m. Endemic.

Local names: Hagalungyahong (Buk.); kalambolámbo (Buk.); román (Bag.); sigbút-tála (Bag.).

##### 5. LECANTHUS Weddell

**LECANTHUS PEDUNCULARIS** (Wall.) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 164, p.p.; Elm. Leaf. Philip. Bot. 3 (1910) 883; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 345; C. B. Rob. op. cit. 495.

*Procris peduncularis* Wall. Cat. (1831) no. 4634; Royle Ill. Bot. Himal. (1839) t. 83, f. 2.

*Lecanthus wallichii* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 187.

*Lecanthus wightii* Wedd. l. c.; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 30.

*Elatostema ovatum* Wight Ic. 6 (1853) 11, t. 1985.

Luzon (Benguet, Ifugao), Mindanao (Davao), on the higher mountains (Pulog, Pauai, Polis, Apo). India to China and Java.

Local name: Palauai (Bag.).

##### 6. POLYCHROA Loureiro

(*Pellionia* Gaudichaud)

**POLYCHROA FERRUGINEA** Merr. in Philip. Journ. Sci. 20 (1922) 381.

Mindanao (Bukidnon), *B. S. 37881 Ramos & Edaño*. In forests, altitude 1,000 m. Endemic.

**POLYCHROA MINDANAENSIS** (C. B. Rob.) comb. nov.

*Pellionia mindanaensis* C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 496.

Mindanao (Bukidnon, Lanao, Davao), *Copeland 900, Elmer 10466, Clemens 407, 430, Williams 2634*. In damp forested ravines at medium altitudes. Endemic.

Local names: Dadar (Bag.); kalambolámbo (Buk.).

**POLYCHROA MULTINERVIA** Merr. in Philip. Journ. Sci. 20 (1922) 380.

Mindanao (Bukidnon), *B. S. 39137 Ramos & Edaño*. On trees in damp forests, altitude 900 m. Endemic.

**POLYCHROA REPENS** Lour. Fl. Cochinch. (1790) 559!

*Pellionia daveauana* N. E. Br. in Gard. Chron. (1880) 2: 262!

This is the type of the genus *Polychroa*; it is occasionally cultivated in Manila gardens. It is a native of Burma and Indo-China. *Elatostema repens* Hall. f. is a synonym, and *E. pulchrum* (N. E. Br.) Hall. f., judging from sterile specimens ex Hort. Bogor., is very closely allied to Loureiro's species.

**POLYCHROA SINUATA** (Blume) Merr. in Philip. Journ. Sci. 20 (1922) 382.

*Procris sinuata* Blume Bijdr. (1825) 511.

*Pellionia sinuata* Boerl. Handl. Kenn. Fl. Nederl. Ind. 3 (1900) 375;

C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 497.

*Elatostema sinuatum* Hassk. Cat. Hort. Bogor. (1844) 79.

*Elatostema laciniatum* Elm. Leafl. Philip. Bot. 1 (1908) 287.

*Pellionia sordida* Elm. l. c.

Central Luzon to Mindanao. In damp forests at low and medium altitudes, exceedingly variable in vegetative characters; *Pellionia platyphylla* Elm. in herb. (*Elmer 14465*) does not appear to be distinct. Java, Celebes, Moluccas.

Local names: Lulumed (Sub.); malatúbas (S. I. Bis.).

**POLYCHROA VOLUBILIS** (Elm.) comb. nov.

*Procris volubilis* Elm. Leafl. Philip. Bot. 8 (1915) 2867.

Polillo, Samar, Leyte, Camiguin, Mindanao (Agusan, Zamboanga, Bukidnon), *Elmer 13856, 13898, Merrill 5196, Wenzel 1202, B. S. 10335 McGregor, 15737 Fénix, 14487 Ramos, 39119, 36817, 36581 Ramos & Edaño*.

In damp forests at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Nonái (Mbo.).

## 7. ELATOSTEMA Forster

**ELATOSTEMA ACROPHILUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 523, 6 (1911) Bot. 320.

Luzon (Tayabas, Laguna, Camarines), *B. S. 6577 Robinson, 22065 Ramos, 25422 Yates, Merrill 7493, Baker 849*. In the mossy forest on the higher mountains. Endemic.

**ELATOSTEMA ACUMINATISSIMUM** Merr. in Philip. Journ. Sci. 14 (1919) 375.

Luzon (Tayabas, east coast), *B. S. 29015 Ramos & Edaña*. In damp forests along streams at low altitudes; allied to *Elatostema contiguum* C. B. Rob. Endemic.

**ELATOSTEMA AGUSANENSE** Elm. Leaf. Philip. Bot. 8 (1915) 2845.

Luzon (Laguna, Sorsogon), Mindanao (Agusan), *Elmer 14250, 16331, 17728, 16628*. In forested ravines along small streams at medium altitudes. Endemic.

**ELATOSTEMA ANGUSTATUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 523.

*Elatostema camiguinense* Elm. Leaf. Philip. Bot. 8 (1915) 2849.

Luzon (Rizal, Laguna), Camiguin de Misamis, Mindanao, *F. B. 3266 Ahern's collector, B. S. 13788, 14485 Ramos, 6614 Robinson, Elmer 14227*. Along streams in shaded ravines at low and medium altitudes. Endemic.

**ELATOSTEMA ANTONII** Elm. Leaf. Philip. Bot. 8 (1915) 2847.

Mindanao (Agusan), *Elmer 13894*. On bowlders in densely shaded ravines along streams, altitude about 900 m. Endemic.

Local name: Kalang-boau (Mbo.).

**ELATOSTEMA APOENSE** Elm. Leaf. Philip. Bot. 3 (1910) 885; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 534.

Mindanao (Davao), *Elmer 11793*. In dense forests, altitude about 1,200 m; near *E. hookerianum* Wedd. Endemic.

Local name: Rader (Bag.).

**ELATOSTEMA APPENDICULATUM** Merr. in Philip. Journ. Sci. 14 (1919) 379.

Luzon (Tayabas, east coast), *B. S. 29129 Ramos & Edaña*. In damp forests along small streams at low altitudes. Endemic.

**ELATOSTEMA BANAHAENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 526, 6 (1911) Bot. 307.

*Elatostema carinoi* W. R. Shaw ex C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 532, 6 (1911) Bot. 307.

Northern Luzon to Mindanao. In damp forests at medium and higher altitudes, ascending to 2,100 m in the mossy forest on high mountains. The Philippine representative of *Elatostema sessile* Forst. *Elatostema bulusanense* Elm. in herb. is not distinct. Endemic, unless referable to *E. sessile* Forst.

Local names: Maratúbong (Neg.); ñgalui (Ig.); pio (If.).

**ELATOSTEMA BARURINGENSE** Elm. Leaf. Philip. Bot. 3 (1910) 890; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 541.

Mindanao (Davao), *Elmer 10916*. In dense forests, altitude about 1,200 m. Endemic.

Local name: Pamagtiñgan (Bag.).

**ELATOSTEMA BENGUETENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 539.

Luzon (Ifugao, Bontoc, Benguet). On the higher mountains in the mossy forest, altitude 1,800 to 2,300 m. Endemic.

**ELATOSTEMA BONTOCENSE** Merr. in Philip. Journ. Sci. 20 (1922) 371.

Luzon (Bontoc), *B. S. 37660 Ramos & Edaña*. In the mossy forest, altitude 1,800 m. Endemic.

**ELATOSTEMA BRONGNIARTIANUM** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 190; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 242; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 538.

*Elatostema sessile* Forst. var. *minus* Wedd. in Arch. Mus. Paris 9 (1856) 294.

*Elatostema sessile* Forst. var. *brongniartianum* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 173; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 256.

*Elatostema sessile* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 48, non Forst.

Northern Luzon to Mindanao. On rocks, cliffs, and banks of shaded ravines at medium altitudes, in Luzon ascending to 1,400 m; *E. rupicolum* Elm. in herb. is not distinct. Endemic.

Local name: Imbís (Mbo.).

**ELATOSTEMA CAPIZENSE** Merr. in Philip. Journ. Sci. 20 (1922) 372.

Panay, *B. S. 30748 Ramos & Edaña*. Along small streams in forests at low altitudes. Endemic.

**ELATOSTEMA CATANDUANENSE** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 271.

Catanduanes, *B. S. 30555 Ramos*. On stones along small streams in dense forests at low altitudes. Endemic.

**ELATOSTEMA CHEIROPHYLLUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 518.

Negros, Mindanao (Zamboanga), *Whitford 1595, Merrill 8211, 8217*. On banks and boulders along streams in shaded ravines at medium altitudes. Endemic.

**ELATOSTEMA CONTIGUUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 536.

Luzon (Laguna, Tayabas, Camarines), Mindoro, *B. S. 9479 Robinson, 22021, 39387 Ramos, 28725 Ramos & Edaña, 23118 McGregor, Elmer 17729*. On shaded banks along streams at medium altitudes. Endemic.

**ELATOSTEMA DELICATULUM** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 190; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 520.

*Elatostema glaucescens* Wedd. var. *delicatulum* Wedd. in Arch. Mus. Paris 9 (1856) 325.

*Elatostema obtusum* Wedd. var. *delicatulum* Wedd. in DC. Prodr. 16<sup>1</sup> (1859) 187.

*Elatostema obtusum* Wedd. l. c. quoad Philip.; F.-Vill. Novis. App. (1880) 204.

*Elatostema delicatum* Elm. Leaf. Philip. Bot. 2 (1908) 467.



Luzon (Cagayan, Isabela, Laguna, Rizal), Panay, Negros. On rocks and ledges in shaded stream beds at low and medium altitudes. Endemic.

**ELATOSTEMA DISCOLOR** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 301.

Luzon (Ifugao, Benguet), *B. S. 13475 Ramos, 19728 McGregor*. In forests at or above 1,400 m altitude. Endemic.

**ELATOSTEMA DIVERSILIMBUM** Merr. in Philip. Journ. Sci. 14 (1919) 378.

Mindanao (Zamboanga), *Merrill 9127, B. S. 36645 Ramos & Edaño*. On banks and ledges in damp, shaded ravines, altitude 200 to 400 m. Endemic.

Local name: Gayatayat (Sub.).

**ELATOSTEMA EDANOII** Merr. in Philip. Journ. Sci. 20 (1922) 374.

Luzon (Kalinga), *B. S. 37603 Ramos & Edaño*. In forests, altitude 1,300 m. Endemic.

**ELATOSTEMA EDULE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) 531.

*Elatostema platyphyllum* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 404, non Wedd.

Batan Islands (Batan), *B. S. 3609 Fénix*. Formosa.

Local name: Reirei (Iv.).

**ELATOSTEMA ELMERI** nom. nov.

*Elatostema pictum* Elm. Leaf. Philip. Bot. 8 (1915) 2850, non Hall. f.

Luzon (Tayabas, east coast), Mindanao (Agusan), *Elmer 13484, B. S. 28611 Ramos & Edaño*. About boulders in forests, altitude about 1,200 m. Endemic.

Local name: Yogáyod (Mbo.).

**ELATOSTEMA EUPHLEBIUM** Merr. in Philip. Journ. Sci. 20 (1922) 375.

Luzon (Bontoc), *B. S. 37765 Ramos & Edaño*. On forested slopes, altitude 1,800 m. Endemic.

**ELATOSTEMA FILICAULE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 516, 6 (1911) Bot. 302.

Luzon (Ifugao, Benguet), *Merrill 6621, 7627, Phil. Pl. 802, B. S. 19715 McGregor*. In the mossy forest, altitude 1,900 to 2,300 m. Endemic.

**ELATOSTEMA GITINGENSE** Elm. Leaf. Philip. Bot. 8 (1915) 2852.

Sibuyan, Panay, *Elmer 12421, B. S. 32468 McGregor*. On cliffs and in wet soil along small streams in shaded ravines, altitude 250 to 500 m. Endemic.

Local name: Ulmian (P. Bis.).

**ELATOSTEMA GLAUCESCENS** Wedd. in Arch. Mus. Paris 9 (1856) 325, DC. Prodr. 16<sup>1</sup> (1869) 187; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 245; F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 256; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 521.

Luzon (Benguet, Bulacan, Bataan, Rizal, Laguna), Panay. Chiefly on mossy boulders and cliffs in shaded stream beds at low and medium altitudes; in places ascending to 1,200 m. Endemic.

**ELATOSTEMA GLOMERATUM** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 302.

Luzon (Benguet), *Merrill 7641, 7642, Phil. Pl. 810*. On wet ledges, in shaded ravines, and in the mossy forest; altitude 1,400 to 1,900 m. Endemic.

**ELATOSTEMA GRACILIFOLIUM** Merr. in Philip. Journ. Sci. 13 (1908) Bot. 8.

Luzon (Nueva Ecija), *B. S. 26428 Ramos & Edaño*. On rocks in forests. Endemic.

**ELATOSTEMA HALCONENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 540.

Mindoro (Mt. Halcon), *Merrill 5786*. On forested ridges, altitude about 750 m. Endemic.

**ELATOSTEMA HASTATUM** Elm. Leaf. Philip. Bot. 2 (1908) 466; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 525.

Panay, Negros, Mindanao (Agusan), *Elmer 9829, 13791 McGregor*. In damp forests, altitude about 1,200 m. Endemic.

Local name: Koyonap (C. Bis.).

**ELATOSTEMA HETEROPHYLLUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 517.

Negros (Canlaon Volcano), *Merrill 6911*. In forests on cliffs and in damp ravines, altitude 900 to 1,320 m. Endemic.

**ELATOSTEMA HOLOPHYLLUM** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 5.

Luzon (Nueva Ecija, Sorsogon), Catanduanes, *B. S. 23329, 30190, 30203, 23546 Ramos*. On trees in the mossy forest and on boulders in shaded ravines at medium altitudes. Endemic.

Local name: Garubato (Neg.).

**ELATOSTEMA INAEQUIFOLIUM** Elm. Leaf. Philip. Bot. 3 (1910) 887; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 516.

Mindanao (Davao), *Elmer 11545*. On wet rocks along streams, altitude about 1,800 m. Endemic.

Local name: Rader (Bag.).

**ELATOSTEMA INTEGRIFOLIUM** (Don) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 179; Ceron Cat. Pl. Herb. Manila (1892) 162; Elm. Leaf. Philip. Bot. 3 (1910) 889; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 542.

*Procris integrifolia* Don Prodr. Fl. Nepal. (1825) 61.

*Elatostema sesquifolium* Hassk. Cat. Hort. Bogor. (1844) 79.

*Procris sesquifolia* Reinw. ex Blume Bijdr. (1825) 511.

*Elatostema pulgarensis* Elm. Leaf. Philip. Bot. 5 (1913) 1846.

Palawan, Leyte, Mindanao, *Merrill 813, 7248, 9512, Wenzel 49, Elmer 10514, 13088, 13206*. In damp forests at medium altitudes. India to Java.

**ELATOSTEMA KALINGAENSE** Merr. in Philip. Journ. Sci. 20 (1922) 376.

Luzon (Kalinga), *B. S.* 37493 Ramos & Edaña. On boulders along streams, altitude about 1,200 m. Endemic.

**ELATOSTEMA LAGUNENSE** Merr. ex C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 527.

Luzon (Laguna, Tayabas, Bataan), Mindanao, *Merrill* 5118, 7133, *Phil. Pl.* 262, *Elmer* 17529, 18136, 9203, 8313, *B. S.* 6735, 9907 *Robinson*. In damp shaded ravines along small streams at low and medium altitudes, ascending to 1,000 m in wet forests. Endemic.

Local name: Pagmagtinang (Bag.).

**ELATOSTEMA LANAENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 528.

Mindanao (Lanao), *Clemens* 405. In shaded ravines, altitude about 700 m. Endemic.

**ELATOSTEMA LIGNOSUM** Merr. in Philip. Journ. Sci. 20 (1922) 377.

Luzon (Benguet), *Merrill* 9697. In shaded places about limestone boulders, altitude 1,400 m. Endemic.

**ELATOSTEMA LONGIFOLIUM** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 189, DC. Prodr. 16<sup>1</sup> (1869) 184; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 249; F.-Vill. Novis App. (1880) 204; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 256; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 534, 6 (1911) Bot. 303.

Luzon (Laguna, Tayabas, Nueva Vizcaya), Mindanao, *Cuming* 456, *B. S.* 16466 *Reillo*, *F. B.* 25391 *Mabesa*. In forests at medium altitudes. Endemic.

Local names: Handalamog (C. Bis.); kagógko (Mbo.).

**ELATOSTEMA LONGIPEDUNCULATUM** Elm. Leaf. Philip. Bot. 3 (1910) 886; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 515.

Mindanao (Davao), *Elmer* 11593. On seepage slopes and ledges, altitude about 1,800 m. Endemic.

Local name: Rader (Bag.).

**ELATOSTEMA LUTESCENS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 304.

Luzon (Benguet, Ilocos Norte), *Merrill* 7643, *Phil. Pl.* 811, *B. S.* 31907 *Santos*, 33120 *Ramos*, 11975, 14004 *Robinson*. On shaded cliffs, in thickets, and in the mossy forest; altitude 1,000 to 1,900 m. Endemic.

Local name: Ngalúi-a-dadakkél (Ig.).

**ELATOSTEMA LUZONENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 512; Merr. Fl. Manila (1912) 183, Sp. Blancoanae (1918) 130.

*Dorstenia pubescens* Blanco Fl. Filip. (1837) 692; ed. 2 (1845) 481, ed. 3, 3 (1879) 98, non Forst.

Luzon (Bontoc to Camarines), Panay, *B. S.* 6135 *Robinson*, *Merrill* Sp. Blancoanae 158, *Phil. Pl.* 264. Common on wet cliffs, banks of ravines, etc., from sea level to at least 1,200 m altitude. Endemic.

**ELATOSTEMA MACGREGORII** Merr. in Philip. Journ. Sci. 14 (1919) 373.

Panay, *B. S.* 32396, 32538, 32438, 32407 *McGregor*. In damp forests, altitude 800 to 1,300 m. Endemic.

**ELATOSTEMA MERRILLII** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 305.

Luzon (Benguet), *Merrill 7647*. In forests, altitude 1,800 m. Endemic.

**ELATOSTEMA MICROPHYLLUM** Elm. Leaf. Philip. Bot. 1 (1908) 286; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 523.

Luzon (Tayabas, Laguna), Panay, *Elmer 9149, 17636, 18361 (E. maki-lingense Elm.)*, *B. S. 9777 Robinson, 30855 Ramos & Edaño*. On boulders in damp shaded ravines along streams at medium altitudes. Endemic.

**ELATOSTEMA OBLANCEOLATUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 524.

Negros (Canlaon Volcano), *Merrill 6909*. On shaded mossy stream banks, altitude 900 m. Endemic.

**ELATOSTEMA OBOVATUM** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 190, Arch. Mus. Paris 9 (1856) 326, DC. Prodr. 16<sup>1</sup> (1869) 188; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 246; F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip. (1883) 146, Rev. Pl. Vasc. Filip. (1886) 256; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 520, 6 (1911) Bot. 31.

Luzon (Laguna), *Cuming 628, B. S. 12370 McGregor*. In shaded ravines at low altitudes. Endemic.

**ELATOSTEMA OBTUSIUSCULUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 537, 6 (1911) Bot. 31.

Luzon (Cagayan to Camarines), Leyte, Mindanao, *B. S. 9480 Robinson, 12755 Félix, 39284 Ramos & Edaño, Elmer 17752*. On rocks and banks in shaded ravines at low and medium altitudes. Endemic.

**ELATOSTEMA PALAWANENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 526.

Palawan, *B. S. 677 Foxworthy*. On damp forested slopes, altitude about 1,100 m. Endemic.

**ELATOSTEMA PANAYENSE** Merr. in Philip. Journ. Sci. 14 (1919) 372.

Panay, *B. S. 31057, 31032, 30921, 30924, 30925, 31082, 31083, 31084 Ramos & Edaño*. In damp forests along small streams at medium altitudes. Endemic.

**ELATOSTEMA PHILIPPINENSE** Elm. Leaf. Philip. Bot. 3 (1910) 888; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 524, 6 (1911) Bot. 199.

Luzon (Cagayan, Rizal, Sorsogon), Polillo, Negros, Mindanao, *Elmer 11751, Weber 1539, B. S. 13409 Ramos, 38656, 38691 Ramos & Edaño, 6841 Robinson, Merrill 6907, Elmer 16325, 15576 (E. glabratum Elm.)* are scarcely distinct. Endemic.

Local names: Piadar (Bag.); rader (Bag.).

**ELATOSTEMA PILOSUM** Merr. in Philip. Journ. Sci. 14 (1919) 376.

Luzon (Nueva Vizcaya), *B. S. 20060 McGregor*. In forests at medium altitudes. Endemic.

- ELATOSTEMA PINNATINERVIUM** Elm. Leafl. Philip. Bot. 1 (1908) 286;  
C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 515.  
Luzon (Tayabas), *Elmer 9173, B. S. 9323 Robinson*. On mossy boulders  
in shaded ravines, altitude 30 to 750 m. Endemic.
- ELATOSTEMA PLUMBEUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910)  
Bot. 535, 6 (1911) Bot. 31.  
Luzon (Benguet), *B. S. 3495 Mearns, 12757 Fénix, Merrill 7634, 7635,*  
*Phil. Pl. 809*. In shaded ravines on cliffs and in the mossy forest, altitude  
1,000 to 1,900 m. Endemic.  
Local name: Ñgalúí (Ig.).
- ELATOSTEMA PODOPHYLLUM** Wedd. in Ann. Sci. Nat. IV 1 (1854)  
189, DC. Prodr. 16<sup>1</sup> (1869) 186; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 245;  
F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip.  
(1885) 146, Rev. Pl. Vasc. Filip. (1886) 256; C. B. Rob. in Philip.  
Journ. Sci. 5 (1910) Bot. 540.  
Luzon (Ifugao to Sorsogon), Mindoro, *Cuming 789, B. S. 19714 McGregor,*  
*27921 Ocampo, 23315 Ramos, Merrill 6171, Elmer 16589*. In the mossy  
forest on higher mountains, up to an altitude of 2,300 m. Endemic.
- ELATOSTEMA PULCHELLUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910)  
Bot. 522.  
Luzon (Tayabas, Laguna), Mindanao, *B. S. 9824, 9835 Robinson, 19570*  
*Ramos, Elmer 11343*. In the mossy forest on higher mountains, altitude  
1,800 to 2,475 m. Endemic.
- ELATOSTEMA PURPUREUM** C. B. Rob. in Philip. Journ. Sci. 6 (1911)  
Bot. 306.  
Luzon (Ifugao, Bontoc, Benguet), *Merrill 7644, Phil. Pl. 812, B. S.*  
*19713, 19717, 20000 McGregor, 37782 Ramos & Edaña*. In the mossy forest,  
altitude about 1,800 m. Endemic.
- ELATOSTEMA ROBINSONII** Merr. in Philip. Journ. Sci. 14 (1919) 376.  
Luzon (Ifugao, Mt. Polis), *B. S. 19727 McGregor*. Apparently from  
the mossy forest at or above 1,500 m altitude. Endemic.
- ELATOSTEMA SAMARENSE** Merr. in Philip. Journ. Sci. 20 (1922) 378.  
Samar, *B. S. 34117 Ramos*. In damp forests at low altitudes. Endemic.
- ELATOSTEMA SCAPIGERUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910)  
Bot. 542, 6 (1911) Bot. 307.  
Luzon (Bontoc, Benguet), *Vanoverbergh 587, 1236, Merrill 4378, 7882,*  
*7637, 7645, 7648*. On damp cliffs and in the mossy forest, altitude 1,100 to  
2,000 m. Endemic.
- ELATOSTEMA SCRIPTUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910)  
Bot. 529.  
Luzon (Laguna, Mt. Banahao), *B. S. 9766 Robinson*. On rocks in for-  
ests, altitude about 800 m; doubtfully distinct from *E. banahaense* C. B.  
Rob. Endemic.

**ELATOSTEMA SIMULANS** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 519, 6 (1911) Bot. 30.

Luzon (Benguet to Sorsogon), *B. S.* 8145, 13779, 21972 Ramos, 12753 Fénix, 12442, 12357 McGregor, Elmer 16173, 16968, 14613 (*E. pacificum* Elm.). On damp cliffs and in forests at low and medium altitudes. Endemic.

**ELATOSTEMA SPINULOSUM** Elm. Leaf. Philip. Bot. 2 (1908) 468; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 530.

Negros, Panay, Elmer 9776, Merrill Phil. Pl. 233, *B. S.* 30817 Ramos. In damp forests, altitude 600 to 1,600 m. Endemic.

Local name: Handalúmog (C. Bis.).

**ELATOSTEMA SUBLIGNOSUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 541.

Luzon (Laguna, Mt. Banahao), *B. S.* 9754, 9859, 6040 Robinson, Baker 2416. In forests, altitude 600 to 800 m. Endemic.

**ELATOSTEMA SUBORBICULARE** Merr. in Philip. Journ. Sci. 14 (1919) 377.

Luzon (Ifugao, Mt. Polis), *B. S.* 19729 McGregor. Apparently in the mossy forest. Endemic.

**ELATOSTEMA SURIGAOENSE** Elm. Leaf. Philip. Bot. 8 (1915) 2854.

Mindanao (Agusan), Elmer 13637. In forests, altitude about 1,000 m. Endemic.

Local name: Teóí (Mbo.).

**ELATOSTEMA TOMENTOSUM** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 189.

*Elatostema subincanum* Wedd. in Arch. Mus. Paris 9 (1856) 295.

Luzon (probably Benguet), Callery. A species of doubtful status which Weddell later reduced to *Elatostema sessile* Forst. var. *tomentosum* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 173. Weddell's type is in the herbarium of the Paris Museum.

**ELATOSTEMA UMBRINUM** Elm. Leaf. Philip. Bot. 8 (1915) 2855.

*Elatostema urdanetense* Elm. op. cit. 2857.

Mindanao (Agusan), Elmer 13831, 14249. In dense forests, altitude about 1,600 m. Endemic.

Local name: Namankoyong (Mbo.).

**ELATOSTEMA VARIABILE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 514, 6 (1911) Bot. 307, t. 1.

Luzon (Bontoc), Vanoverbergh 828, 1226. In forests, altitude about 1,650 m. Endemic.

**ELATOSTEMA VARIEGATUM** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 538, 6 (1911) Bot. 31.

Luzon (Benguet, Laguna), *B. S.* 9767 Robinson, 12756 Fénix, Elmer 17949. On rocks in shaded stream beds altitude about 800 m. Endemic.

**ELATOSTEMA VIRIDESCENS** Elm. Leaf. Philip. Bot. 1 (1908) 285; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 525, 6 (1911) Bot. 31.

Luzon (Laguna, Tayabas, Cavite, Bataan, Sorsogon), Panay, *Elmer 8076, 17476, 17491, 15371, Merrill Phil. Pl. 263, B. S. 32569, 32467, 32353 McGregor*. Along streams in damp forests at low and medium altitudes. Endemic.

**ELATOSTEMA WHITFORDII** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 48; Elm. Leaf. Philip. Bot. 3 (1910) 884; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 530.

Luzon (Bataan), Mindanao (Davao), *Whitford 254, F. B. 1234 Borden, Elmer 10709*. In densely shaded ravines along streams, altitude at and above 600 m. Endemic.

Local name: Rader (Bag.).

**ELATOSTEMA ZAMBOANGENSE** Merr. in Philip. Journ. Sci. 14 (1919) 374.

Mindanao (Zamboanga), *Merrill 8228*. In damp shaded ravines, altitude about 200 m. Endemic.

#### 8. ELATOSTEMATOIDES C. B. Robinson

**ELATOSTEMATOIDES GRACILIPES** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 503.

Bucas, *Merrill 5269*. On cliffs in shaded ravines at low altitudes. Endemic.

**ELATOSTEMATOIDES LAXUM** (Elm.) C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 502.

*Elatostema laxum* Elm. Leaf. Philip. Bot. 2 (1908) 465.

*Elatostematoides sublaxum* Elm. op. cit. 8 (1915) 2858.

Luzon (Tayabas, Sorsogon), Samar, Panay, Leyte, Mindanao, *Elmer 7270, 10337, 13493, 14842, 17079, B. S. 19397, 15321, 24291 Ramos, 18085, 18135 Robinson, Wenzel 59, 68*. In damp forests at low and medium altitudes. Endemic.

Local names: Handulúmog (C. Bis.); katko (Mbo.).

**ELATOSTEMATOIDES MANILLENSE** (Wedd.) C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 501, 6 (1911) Bot. 30, 200.

*Elatostema manillense* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 189; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 243.

*Elatostema rostratum* Miq. var. *manillense* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 179; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 256.

*Elatostema rostratum* F.-Vill. Novis. App. (1880) 204, non Miq.

Batan Islands to Mindanao, *Cuming 786, Elmer 14112, B. S. 13923, 7495 Ramos, 20006, 22791, 23108, 22770, 23116 McGregor, Wenzel 66, 1457*. In forests at low and medium altitudes. Endemic.

Local names: Ayup (Buk.); bagáboñ. (Mbo.).

**ELATOSTEMATOIDES MINDANAENSE** C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 502.

Mindanao (Davao), *Copeland 935, 936*. In forests at medium altitudes. Endemic.

**ELATOSTEMATOIDES RIGIDUM** (Wedd.) C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 503.

*Elatostema rigidum* Wedd. in Arch. Mus. Paris 9 (1856) 320, DC. Prodr. 16<sup>1</sup> (1869) 185; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 245; F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 256.

Samar, Leyte, Panay, Negros, Mindanao (Agusan, Zamboanga), *Cuming 1674, B. S. 24764 Edaño, 32350, 32464 McGregor, Elmer 13915, Wenzel 541, 1256*. In forests at low and medium altitudes. Endemic.

Local names: Malatúbas (S. L. Bis.), mahindóg (Mbo.).

**ELATOSTEMATOIDES SAMARENSE** Merr. in Philip. Journ. Sci. 14 (1919) 380.

Samar, *B. S. 17468 Ramos*. In primary forests along streams at low altitudes. Endemic.

#### 9. PROCRIS Commerson

**PROCRIS BRUNNEA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 5.

Luzon (Sorsogon), *B. S. 23705 Ramos*. Epiphytic in the mossy forest. Perhaps not sufficiently distinct from *Procris frutescens* Blume. Endemic.

**PROCRIS DOLICHOPHYLLA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 369.

Panay, Negros, Leyte, Mindanao (Agusan), *Wenzel 98, Merrill 7284, B. S. 31362 Ramos & Edaño*. Epiphytic in damp forests at low and medium altitudes. Endemic.

**PROCRIS FRUTESCENS** Blume Bijdr. (1825) 510; Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 192.

*Procris pseudostrigosa* Elm. Leaf. Philip. Bot. 1 (1908) 284, 3 (1910) Bot. 883; C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 506.

*Procris frutescens* Blume var. *nervosa* Elm. Leaf. Philip. Bot. 8 (1915) 2863.

Central Luzon (Laguna) to Mindanao, *B. S. 16856 Serriñas, 10949 Ramos, 17067 Robinson, 16081 Reillo, 15752 Fénix, Elmer 7500, 17490, 10746, 16906*. In damp forests at low and medium altitudes, extending to the summits of some mountains to an altitude of 1,200 m. Malay Peninsula, Sumatra, Java.

Local names: Asin-asín (Buk.); marayháí (Mbo.); ráder (Bag.).

**PROCRIS LAEVIGATA** Blume Bijdr. (1825) 508; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 49.

*Procris lagunensis* C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 506, 6 (1911) Bot. 31.

*Procris philippinensis* C. B. Rob. in Philip. Journ. Sci. 5 (1910) 505, 6 (1911) Bot. 200.



Northern Luzon to Mindanao. In forests, usually epiphytic, sometimes on ledges; sea level to an altitude of 1,000 m or more, widely scattered. Tropical Asia, Africa, and Malaya.

Local name: Kamagtíg (Mbo.).

**PROCRIS URDANETENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2865.

Mindanao (Agusan), *Elmer 13792, 13708*. In the mossy forest, altitude 1,600 to 1,800 m. Endemic. Closely allied to *Procris frutescens* Blume.

Local names: Kauing-káuing (Mbo.); pering (Mbo.).

**PROCRIS WIGHTIANA** Wall. Cat. (1831) no. 4638, *nomen nudum*, Wedd. Monogr. (1856) 336.

*Elatostema wightianum* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 188.

*Procris crenata* C. B. Rob. in Philip. Journ. Sci. 5 (1910) Bot. 507.

Luzon (Bontoc), *Vanoverbergh 635*. Epiphytic, altitude about 1,400 m. India to China and Formosa; reduced by some authors to *Procris laevigata* Blume.

#### 10. BOEHMERIA Jacquin

**BOEHMERIA BEYERI** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 309.

Luzon (Ifugao, Benguet), *B. S. 13540 Beyer, Merrill 7630*. In the mossy forest, altitude up to 1,900 m. Endemic.

**BOEHMERIA BLUMEI** Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 204; F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip. (1885) 146, Rev. Pl. Vasc. Filip. (1886) 257; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 49; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 2; Elm. Leaf. Philip. Bot. 3 (1910) 891.

*Margarocarpus heterophyllus* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 204.

*Boehmeria heterophylla* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 204, non Wedd. 1854.

*Pouzolzia heterophylla* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 260.

Northern Luzon to Mindanao. In thickets, damp ravines, and forests; sea level to an altitude of about 1,000 m. Endemic.

Local names: Alalási (Ilk., Bon.); alibágid áloi (If.); dapsík (Ig.); kagóng (Bag.); kolokolót (Ilk.); laplúi (If.); manadláu (Mbo.); ñgáloi (If.); parapantái (Neg.).

**BOEHMERIA CELEBICA** Blume Mus. Bot. Lugd.-Bat. 2 (1856) 217; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 5; Elm. Leaf. Philip. Bot. 3 (1910) 891.

*Urtica celebica* Blume Bijdr. (1825) 492.

*Boehmeria platyphylla* Don var. *celebica* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 211.

Mindanao (Bukidnon, Davao), *B. S. 15789 Félix, 38857, 39190 Ramos & Edaño, Elmer 11306*. In thickets along streams up to 1,200 m altitude. Celebes, Java.

Local names: Alamái (Buk.); páhid (C. Bis.); rami-rámi (Bag.); tamasí (Buk.).

**BOEHMERIA CYPHOLOPHOIDES** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 368.

Leyte, *Wenzel 35*. In forests at low altitudes. Endemic.

**BOEHMERIA DENSIFLORA** Hook. & Arn. Bot. Beechy's Voy. (1841) 217; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 5.

*Boehmeria platyphylla* Don var. *lochooensis* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 213.

*Boehmeria weddelliana* Vidal Rev. Pl. Vasc. Filip. (1886) 256.

Luzon (Ilocos Norte, Ifugao, Bontoc, Benguet), *B. S. 33015, 7003 Ramos, 38084 Ramos & Edaña, 19723, 20002 McGregor, Vanoverbergh 269, Vidal 1784*. On open slopes, altitude 500 to 1,200 m. China, Riu Kiu Islands, Formosa.

Local name: Ngáluí (Ig., Bon.).

**BOEHMERIA HETEROPHYLLA** Wedd. in Arch. Mus. Paris 9 (1856) 351, DC. Prodr. 16<sup>1</sup> (1869) 204; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 250; F.-Vill. Novis. App. (1880) 204; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 257; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 2, non Blume, 1856.

*Boehmeria cumingiana* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 199.

Northern Luzon to Mindanao, *B. S. 13849, 13850, 39749 Ramos, 28029 Féñis, Merrill 5468*. In thickets, ravines, and forests at low and medium altitudes; scarcely distinguishable from *Boehmeria blumei* Wedd. Endemic.

**BOEHMERIA MULTIFLORA** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 179, 6 (1911) Bot. 4.

Luzon (Ilocos Norte, Kalinga, Bontoc, Nueva Vizcaya, Nueva Ecija). In thickets and on open slopes, altitude 600 to 2,000 m. Endemic.

Local names: Kalalásbi (If.); karusán̄gi (Neg.); lábsu (Ig.); námi (If.); ngáliu (If.); sumsumánai (Klg.).

**BOEHMERIA NIVEA** (Linn.) Gaudich. Bot. Freyc. Voy. (1826) 499; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 253; Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 206; F.-Vill. Novis. App. (1880) 205; Vidal Sinopsis Atlas (1883) 40, t. 89, f. C; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 404, Fl. Manila (1912) 181, Sp. Blancoanae (1918) 130; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 4.

*Urtica nivea* Linn. Sp. Pl. (1753) 985; Blanco Fl. Filip. (1837) 697, ed. 2 (1845) 484, ed. 3, 3 (1879) 102, t. 385.

Batan and Babuyan Islands, native or naturalized, occasionally planted in other parts of the Philippines. The ramie plant, a native of southern China, now cultivated in many tropical and subtropical countries.

Local names: Amírai (Tag.); arímai (Ilk.); damí (If.); hásu (Iv.); lipang áso (Tag.), lapnís (Ibn.); labnís (Ilk.).

Var. **TENACISSIMA** (Roxb.) Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 253; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 4.

*Urtica tenacissima* Roxb. Fl. Ind. ed. 2, 3 (1832) 590.

*Boehmeria tenacissima* Gaudich. Bot. Freyc. Voy. (1826) 500.

Range of the species and scarcely distinguishable from it.

**BOEHMERIA PLATYPHYLLA** Don Prodr. Fl. Nepal. (1825) 60; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 4.

Luzon (Apayao, Laguna), *B. S.* 28030 *Fénix*, 6086, 6539 *Robinson*, *Merrill* 7482. In thickets, open places, etc., at low and medium altitudes. India to Africa, China, Japan, Malaya, and tropical Australia.

**BOEHMERIA RUPESTRIS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 5.

Luzon (Benguet), *B. S.* 5542 *Ramos*. On rocks along streams, altitude about 1,300 m. Endemic.

**BOEHMERIA VILLOSA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 3.

Batan Islands, *B. S.* 3754 *Fénix*, 3227 *Mearns*, 10176 *McGregor*. Endemic.

Local name: Tangáu (Iv.).

**BOEHMERIA ZOLLINGERIANA** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 201, DC. Prodr. 16<sup>1</sup> (1869) 208; C. H. Wright in Journ. Linn. Soc. Bot. 26 (1899) 488; Merr. in Philip. Journ. Sci. 14 (1919) 381.

Luzon (Ilocos Norte, Pangasinan). In ravines and on open slopes at low and medium altitudes. Java, Formosa.

#### EXCLUDED SPECIES

**BOEHMERIA CYLINDRICA** Willd.; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 423.

This is an American species, the Luzon specimen referred here by Walpers doubtless being erroneously identified with Willdenow's species.

**BOEHMERIA MALABARICA** Wedd.; F.-Vill. Novis. App. (1880) 204.

#### 11. CHAMABAINIA Wight

**CHAMABAINIA CUSPIDATA** Wight Ic. 6 (1853) 11, *t.* 1981; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 344; C. B. Rob. op. cit. 6 (1911) Bot. 11; Elm. Leaf. Philip. Bot. 3 (1910) 893.

*Urtica squamigera* Wall. Cat. (1831) No. 4592, *nomen nudum*.

*Boehmeria squamigera* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 203, *nomen nudum*.

*Chamabainia squamigera* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 218; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 184.

Luzon (Benguet), Mindanao (Davao, Mt. Apo), *Merrill* 4556, 7631, *Clemens* 9198, *Elmer* 11541. On cliffs, in the mossy forest, and on grassy summits of the higher mountains; altitude 1,700 to 2,800 m. India and Ceylon to southwestern China.

Local name: Paláuai (Bag.).

#### 12. POUZOLZIA Gaudichaud

**POUZOLZIA ARACHNOIDEA** (Walp.) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 228; F.-Vill. Novis. App. (1880) 205; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 257; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 6.

*Boehmeria arachnoidea* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 423.

*Stachyocnide luzonica* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 228, t. 55.

*Pouzolzia macrura* Wedd. in Arch. Mus. Paris 9 (1856) 396; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 257.

Luzon (Ilocos Sur, Batangas, Rizal), Mindoro, *Cuming 1492*, *Merrill Phil. Pl. 30, 1801*, *B. S. 1439 Ramos*. On boulders and cliffs and in thickets and thin forests at low and medium altitudes. Endemic.

Local names: Lagónoi (Tag.); maladalúnót (Tag.); ramai-rámai (Ilk.); tuiá (Tag.).

**POUZOLZIA RUBRICAULIS** (Blume) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 229; C. B. Rob. in Philip. Journ. Sci. 6 (1910) 8.

*Leptocnide rubricaulis* Blume Mus. Bot. Lugd.-Bat. 2 (1856) 194, t. 57.

Luzon (Benguet), *Merrill 4390*. On damp shaded banks, altitude about 1,400 m. Java.

**POUZOLZIA ZEYLANICA** (Linn.) Benn. Pl. Jav. Rar. (1838) 67; C. B. Rob. in Philip. Journ. Sci. 6 (1911) 8; Merr. Fl. Manila (1912) 183, Sp. Blancoanae (1918) 131.

*Parietaria zeylanica* Linn. Sp. Pl. (1753) 1052.

*Parietaria indica* Linn. Mant. 1 (1767) 128.

*Pouzolzia indica* Gaudich. Bot. Freyc. Voy. (1826) 503; Miq. Fl.

Ind. Bat. 1<sup>2</sup> (1858-59) 257; Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 221

(var. *angustifolia* Wedd.); F.-Vill. Novis. App. (1880) 205; Vidal

Phan. *Cuming. Philip.* (1885) 147, *Rev. Pl. Vasc. Filip.* (1886)

257; *Elm. Leaf. Philip. Bot.* 3 (1910) 894; Merr. in Philip. Journ.

Sci. 3 (1908) Bot. 404.

*Urtica villosa* Blanco Fl. Filip. (1837) 695, ed. 2 (1845) 483, ed. 3, 3 (1879) 99, non Salzm.

*Urtica japonica* Blanco op. cit. 694, 482, 99, non Thunb.

*Pouzolzia viminea* F.-Vill. Novis. App. (1880) 205, non Wedd.

Throughout the Philippines at low and medium altitudes, in open, usually damp grasslands. A polymorphous species of wide Indo-Malayan distribution.

Local names: Apoyapoyán (Tag.); kayutkóran (Bag.); tuiá (Tag.).

#### EXCLUDED SPECIES

**POUZOLZIA QUINQUENERVIS** Benn.; F.-Vill. Novis. App. (1880) 205.

### 13. GONOSTEGIA Turczaninow

**GONOSTEGIA HIRTA** (Blume) Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1869) 303; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 9; Merr. op. cit. 5 (1910) Bot. 344; *Elm. Leaf. Philip. Bot.* 3 (1910) 893.

*Urtica hirta* Blume *Bijdr.* (1825) 495.

*Memorialis hirta* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235.<sup>a</sup>

*Pouzolzia hirta* Hassk. *Cat. Hort. Bogor.* (1844) 80.

*Gonostegia integrifolia* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 10, non Miq.

Luzon (Benguet, Bontoc, Rizal), Mindanao (Lanao, Davao). Common in ravines, thickets, and in some open grasslands, altitude 1,000 to 2,300 m. Malaya to Australia.

Local names: Alotót (Bon.); alulúi (Bon.); bagbágel (Bon.); laluaeí (Bon.); nañgul (Ig.); sakati (Bag.); tungayau (Buk.).

**GONOSTEGIA PENTANDRA** (Roxb.) Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1869) 302; Elm. Leaf. Philip. Bot. 3 (1910) 893; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 9.

*Urtica pentandra* Roxb. Fl. Ind. ed. 2, 3 (1832) 583.

*Pouzolzia pentandra* Benn. Pl. Jav. Rar. (1832) 64, t. 14; F.-Vill. Novis. App. (1880) 205; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 257.

*Memoralis pentandra* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235.<sup>2</sup>

*Hyrtanandra pentandra* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 261.

*Gonostegia alternifolia* Turcz. in Bull. Soc. Nat. Mosc. 19<sup>2</sup> (1846) 510; Walp. Ann. 1 (1849) 558.

*Gonostegia oppositifolia* Turcz. l. c.; Walp. l. c.

Luzon to Mindanao. In cultivated lands along streams and in swampy places at low and medium altitudes, ascending to 1,400 m. India, Java.

Local name: Kayutkoran (Bag.).

**GONOSTEGIA REPTANS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 10.

Luzon (Ifugao, Benguet, Nueva Ecija), *Elmer 6140, 5828, B. S. 20005* *McGregor, 26236 Ramos & Edaña*. In damp open places and in thickets, altitude 1,000 to 1,400 m. Endemic.

#### 14. DISTEMON Weddell

**DISTEMON INDICUS** Wedd. in Arch. Mus. Paris 9 (1857) 551, t. 20, A;

C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 11.

*Distemon grossum* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235.<sup>62</sup>

*Urtica grossa* Wall. Cat. (1831) No. 4651, *nomen nudum*.

Luzon (Rizal), *B. S. 1430 Ramos, 11857 Robinson & Ramos*. On open slopes at low altitudes. India to Burma and Java.

#### 15. CYPHOLOPHUS Weddell

**CYPHOLOPHUS BRUNNEOLUS** Elm. Leaf. Philip. Bot. 3 (1910) 896;

C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 12.

Luzon (Benguet, Bontoc), Panay, Negros, Mindanao, *Merrill 6913, Phil. Pl. 1767, 806, Elmer 11641, B. S. 31915 Santos, 30815, 30814, 37572, 37681, 38754 Ramos & Edaña*. In shaded ravines, mossy forests, etc., altitude 600 to 2,400 m. Borneo. Closely allied to *Cypholophus lutescens* Wedd.

Local names: Báai (Ig.); magsáing (Mbo.); ñgalui (Ig.); rami-rami (Bag.); salabogan (Bag.).

**CYPHOLOPHUS MICROPHYLLUS** Elm. Leaf. Philip. Bot. 3 (1910) 895;

C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 12.

Mindanao (Davao, Mt. Apo), *Elmer 11588*. Altitude about 1,800 m. Endemic.

Local name: Ramí-rámi (Bag.).

**CYPHOLOPHUS MOLUCCANUS** (Blume) Miq. Ann. Mus. Bot. Lugd.-Bat.

4 (1869) 305; Elm. Leaf. Philip. Bot. 3 (1910) 895; C. B. Rob.

in Philip. Journ. Sci. 6 (1911) Bot. 11.

*Urtica moluccana* Blume Bijdr. (1825) 491.

*Cypholophus macrocephalus* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 198, DC. Prodr. 16<sup>1</sup> (1869) 235<sup>10</sup>; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 262; F.-Vill. Novis. App. (1880) 205; Vidal Sinopsis Atlas (1883) 40, t. 89, f. B, Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 257.

*Boehmeria mollis* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 203.

Luzon (Bontoc to Sorsogon), *Elmer 16042* (*C. obliquifolium* Elm.), Mindoro, Panay, Leyte, Negros, Mindanao. In damp forested ravines at low and medium altitudes, ascending to 1,500 m. Sumatra to Hawaii.

Local names: Anadúng (Bon.); handalúmai (C. Bis.); hológ (Mbo.); libása (Lan.); salabúgan (Bag.).

#### EXCLUDED SPECIES

CYPHOLOPHUS PROSTRATUS Wedd.; F.-Vill. Novis. App. (1880) 205.

#### 16. PIPTURUS Weddell

PIPTURUS ANGUSTIFOLIUS Merr. in Philip. Journ. Sci. 20 (1922) 379.

Leyte, *B. S. 15320 Ramos*. In thickets along streams at low altitudes. Endemic.

PIPTURUS ARBORESCENS (Link) C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 13; Merr. Fl. Manila (1912) 180; Sp. Blancoanae (1918) 131.

*Urtica arborescens* Link Enum. Hort. Berol. 2 (1822) 386; Blanco Fl. Filip. ed. 2 (1845) 483, ed. 3, 3 (1879) 100, t. 371.

*Urtica baccifera* Blanco Fl. Filip. (1837) 695, non Linn.

*Pipturus asper* Wedd. in Ann. Sci. Nat. IV 1 (1854) 197; DC. Prodr. 16<sup>1</sup> (1869) 235<sup>17</sup>; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 269; F.-Vill. Novis. App. (1880) 205; Vidal Sinopsis Atlas (1883) 40, t. 89, f. D, Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 257; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 81; Philip. Journ. Sci. 1 (1906) Suppl. 49, 3 (1908) Bot. 404, 5 (1910) Bot. 344.

Very common and widely distributed in the Philippines from the Batan Islands to Mindanao and Palawan, chiefly in thickets and second-growth forests at low and medium altitudes; in Benguet ascending to 2,000 m altitude. Borneo, Botel Tobago.

Local names: Agandóng (Ilk.); agdalámai (Tag.); alaṅṅísi (Bis.); alalatang (Ap.); alúdig (Ilk.); aṅgaṅṅéu (Bon.); arámai (Iv.); arandóng (Ilk.); dalónot (Tag.); dalonótan (Bis.); dalúnót (Tag.); damáian (Ig.); daṅṅét (Bon.); duái (Ig.); gimas-gímas (P. Bis.); gúnoi (Mag.); gutgutú (If.); handalámai (C. Bis.); himarámai (Bis.); hindalúmai (Bis.); hindarámai (P. Bis.); kandámai (Tagb.); lái (Bon.); lámái (Mbo., Sub.); moliungol (Ig.); ṅgáliu-gutgutú (If.); ṅgúṅgoi (Ig.); sámái (Sul.); takóptakóp (Ilk.); taktakóp (Ilk.).

PIPTURUS ARGENTEUS (Forst. f.) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235<sup>19</sup>; F.-Vill. Novis. App. (1880) 205; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 16.

*Urtica argentea* Forst. f. Prodr. (1784) 65.

Balabac, Lumbucan, Mindanao (Surigao), *B. S. 15331 Félix, Merrill 7185, Phil. Pl. 401*. In sandy soil, open forests near the sea. Sumatra to Australia and Polynesia.

**PIPTURUS DENTATUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 311.

*Pouzolzia dentata* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 7.

Luzon (Benguet, Ifugao), *B. S. 31698 Santos, 19726 McGregor, Elmer 6531, Merrill 4741, 6561, Phil. Pl. 807*. On open slopes, thin pine forests, etc., altitude 1,900 to 2,300 m. Endemic.

Local names: Nálui (Ig.); ñgálui (Ig.).

**PIPTURUS DISCOLOR** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 15.

Panay, Mindanao (Lanao, Bukidnon, Agusan, Davao), *B. S. 30866, 39045 Ramos & Edaña, Elmer 11776, 13859, Clemens 676*. In forests, altitude 700 m and above. Endemic.

Local names: Rami-rámi (Bag.); silisilis (Mbo.); tapuál (Buk.).

**PIPTURUS MINDANAENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 898; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 14.

Mindanao (Davao), *Elmer 10520*. On open slopes, altitude about 1,125 m. Endemic.

Local name: Amirámi (Bag.).

**PIPTURUS REPANDUS** (Blume) Wedd. in Arch. Mus. Paris 9 (1856) 448, DC. Prodr. 16<sup>1</sup> (1869) 235<sup>29</sup>; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 269; F.-Vill. Novis. App. (1880) 206; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 258; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 15.

*Urtica repanda* Blume Bijdr. (1825) 501.

*Pipturus ellipticus* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 197.

Luzon (Bontoc to Sorsogon), Mindoro, Panay, Leyte. In damp forested ravines near streams, at low and medium altitudes; in the Mountain Province, sprawling over ledges and boulders up to an altitude of 1,600 m. Sumatra to the Moluccas.

Local names: Duái (Ig.); sabsábui (Ig.).

**PIPTURUS SUCCULENTUS** Elm. Leaf. Philip. Bot. 3 (1910) 897; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 15.

Mindanao (Davao), *Elmer 10739*. In thickets along Baruring River, altitude about 1,000 m. Endemic.

Local name: Rámi (Bag.).

#### 17. DEBREGEASIA Gaudichaud

**DEBREGEASIA LONGIFOLIA** (Burm. f.) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235<sup>24</sup>; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 258; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 344.

*Urtica longifolia* Burm. f. Fl. Ind. (1768) 297.

*Debregeasia angustifolia* C. B. Rob. in Philip. Journ. Sci. 6 (1910) Bot. 18.

*Debregeasia luteocarpa* Elm. Leaf. Philip. Bot. 3 (1915) 2843.

Luzon (Abra, Bontoc, Ifugao, Lepanto, Benguet), Mindanao (Agusan). Common in thickets, ravines, and in damp forests, altitude 1,000 to 2,300 m. India to China, Sumatra, Borneo, and Java. The Luzon form closely matches the Javan type, while *D. luteocarpa* Elm. is distinguishable only by the yellowish rather than red fruits.

Local names: Anamúi (Bon.); damái (Mbo.); damáyan (Ig.); gomáyan (Ig.); lamái (Ig.); lamáyon (Ig.); nam-éi (Bon.); nam-úi (Ig.); nanúi (Ig.).

#### 18. OREOCNIDE Miquel

(*Villebrunea* Gaudichaud)

**OREOCNIDE RUBESCENS** (Blume) Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1869) 306; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 16.

*Urtica rubescens* Blume Bijdr. (1825) 506.

*Villebrunea rubescens* Blume Ann. Mus. Bot. Lugd.-Bat. 2 (1856) 167; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 258.

*Villebrunea frutescens* Merr. in Philip. Bureau Forest. Bull. 1 (1903) 19, non Blume.

Central Luzon (Laguna, Tayabas) to Mindanao. In damp shaded ravines, near streams at low and medium altitudes. Java, Celebes, and the Moluccas.

Local names: Alamáng (Sul.); alipásio (Bik.); bagid-bágid (C. Bis.); kalúlit (Bag.); liásim (Bik.); malabúgna (Buk.); malaugkági (Mbo.); salingúbud (Buk.); sunoaglang (C. Bis.).

**OREOCNIDE TRINERVIS** (Wedd.) Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 270; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 17.

*Villebrunea trinervis* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 196, DC. Prodr. 16<sup>1</sup> (1869) 235<sup>2</sup>; F.-Vill. Novis. App. (1880) 206; Vidal Sinopsis Atlas (1883) 40, t. 89, f. E.; Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 258; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 49, 3 (1908) Bot. 404.

Batan Islands to Mindanao. In thickets and forests, especially along streams at low and medium altitudes. Formosa, Borneo.

Local names: Alilaua (Neg.); gendéranon (Ilk.); kasúy (Iv.).

#### EXCLUDED SPECIES

**VILLEBRUNEA CRENULATA** Gaudich.; Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 196.

"Ins. Philip.?" Weddell l. c. This is the Hawaiian *Urera sandwicensis* Wedd.

#### 19. LEUCOSYKE Moritzi

**LEUCOSYKE ASPERA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 23.

Luzon (Camarines, Albay), Sibuyan, Panay, *B. S. 2915 Mearns, 22109 Ramos, 30744 Ramos & Edaño, Elmer 12261*. In forests, altitude about 1,000 m. Endemic.

**LEUCOSYKE BRUNNESCENS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 25.

Luzon (Cagayan, Ilocos Sur, Pangasinan, Nueva Vizcaya), *B. S. 7821 Ramos, 11388, 11386, 11387, 11499, 11385 McGregor, 17718 Otones, 26214 Ramos & Edaño*. In thickets at low and medium altitudes. Endemic.

**LEUCOSYKE CAPITELLATA** (Poir.) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235<sup>2</sup>; F.-Vill. Novis. App. (1880) 206; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 258; Merr. in Philip. Bur. Forestry Bull. 1 (1903) 19, Philip. Journ. Sci. 1 (1906) Suppl.



- 49, 3 (1908) Bot. 405; Elm. Leaf. Philip. Bot. 3 (1910) 900 (var. *villosa* Wedd.); C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 27.  
*Urtica capitellata* Poir. in Lam. Encycl. Suppl. 4 (1816) 227.  
*Leucosyke alba* Zoll. & Mor. Syst. Verz. Ind. Arch. (1845) 100; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 265; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 19.  
*Missiessya fagifolia* Gaudich. Bot. Voy. Bonite (1844) t. 93; Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 195.

Throughout the Philippines in thickets, second-growth forests, etc., at low and medium altitudes; common. Formosa to Java and New Guinea.

Local names: Alagási (Bis., Tag.); alangási (Bis.); amagási (Bik., Tag.); anagau (Bik.); anugas (Bik.); alalási (Bon., Ilk.); aragási (Bik., S. L. Bis.); ararási (Bon.); arası (Bon.); bahibáhi (P. Bis.); bauáua (S. L. Bis.); bilanbilan (Sub.); bunkilan (Yak.); damakadiós (P. Bis.); gasi-gási (Sul.); ginagási (Tag.); gugútu (Ig.); haganási (Bik.); hanlagási (Tag.); hilagási (Tag.); hinagási (Tag.); hinlagási (P. Bis.); isís ñgípin (Tag.); karikasin (Neg.); lagási (Tag., C. Bis.); laglág (P. Bis.); lalási (Ig.); lañgási (Bis.); lapsík (Ig.); layásin (Tag.); liásin (Tag.); manóbila (Buk.); sagombibilan (Mbo.); salagíso (Bik.); salási (Bon.); tinagási (Bik.).

Var. **CELTIDIFOLIA** (Gaudich.) Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235<sup>2</sup>; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 28.

*Missiessya celtidifolia* Gaudich. Bot. Voy. Bonite (1844) t. 93, f. 12-20; Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 195; Blume Ann. Mus. Bot. Lugd.-Bat. 2 (1856) 163.

*Missiessya aspera* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 195; Blume l. c.

*Leucosyke celtidifolia* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 266.

Luzon (Ilocos Norte south to Cavite, Batangas, and Laguna), Panay. In thickets and on exposed ridges at medium altitudes, in Benguet ascending to at least 2,000 m. Intermediate forms connect it with the type. Endemic.

**LEUCOSYKE HISPIDISSIMA** (Wedd.) Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 265; Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235<sup>2</sup>; F.-Vill. Novis. App. (1880) 206; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 258; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 24.

*Missiessya hispidissima* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 195.

Luzon (Bontoc, Benguet, Nueva Ecija), *Elmer 5906, 6083, 8974, Williams 1017, B. S. 30005 Fénix*. In thickets up to an altitude of 1,400 m. Endemic.

Local names: Dai (Ig.); lapli (If.).

**LEUCOSYKE LEYTENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 269.

Leyte, *Wenzel 1061, B. S. 15306 Ramos*. In forests at low and medium altitudes. Endemic.

**LEUCOSYKE MAGALLANENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 677; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 25.

Sibuyan, *Elmer 12282*. On forested river banks, altitude about 1,000 m. Endemic. Very close to *Leucosyke hispidissima* Miq.

**LEUCOSYKE MINDORENSIS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 22.

Mindoro, *F. B. 11461 Merritt*. In forests, altitude about 600 m. Endemic.

**LEUCOSYKE NEGROSENSIS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 27.

Panay, Negros, Palawan, Mindanao (Butuan), *F. B. 4316 Everett, B. S. 32516, 32587 McGregor, 15897 Félix, Merrill 9211*. In forests at low and medium altitudes. Endemic.

**LEUCOSYKE NIVEA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 21.

*Leucosyke candidissima* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 130, non Wedd.

Leyte, Mindanao (Lanao), *Wenzel 872, B. S. 15250 Ramos, Clemens 1142*. In forests, altitude 500 to 800 m. Endemic.

**LEUCOSYKE OVALIFOLIA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 26.

Luzon (Zambales), Culion, Palawan, *Merrill 481, 706, 9455, Elmer 12598*. In dry thickets and open forests at low altitudes. Endemic.

Local name: Andarása (Tagb.).

**LEUCOSYKE QUADRINERVIA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 28.

Batan and Babuyan Islands, *B. S. 3752, 3653, 4134 Félix*. Along streams at low altitudes. Endemic. Closely allied to *Leucosyke capitellata* Wedd.

Local name: Vuhuan (Iv.).

## 20. MAOUTIA Weddell

**MAOUTIA SETOSA** Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 194, DC. Prodr. 16<sup>1</sup> (1868) 235<sup>∞</sup>; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 274; F.-Vill. Novis. App. (1880) 206; Vidal Sinopsis Atlas (1883) 40, t. 89. f. F, Rev. Pl. Vasc. Filip. (1886) 259; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 20; Elm. Leaf. Philip. Bot. 3 (1910) 900.

*Maoutia platystigma* Wedd. in Ann. Sci. Nat. Bot. IV 1 (1854) 194, Arch. Mus. Paris 9 (1857) 481, t. 16, B, f. 10, DC. Prodr. 16<sup>1</sup> (1869) 235<sup>∞</sup>; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 274; F.-Vill. Novis. App. (1880) 206; Vidal Phan. Cuming. Philip. (1885) 147, Rev. Pl. Vasc. Filip. (1886) 258.

Northern Luzon to Mindanao. In forests and thickets, in some regions at low and medium altitudes; ascending to 2,200 m in Benguet. Bote Tobago.

Local names: Alayan (Bag.); danlásan (C. Bis.); labái (Bon.); lai (Ig.); lai-i (If.); marasiñgáu (Neg.); patikán (Ig.); pinúan (Ig.); tab-tabáku (Ig.).

## 21. ASTROTHALAMUS C. B. Robinson

**ASTROTHALAMUS RETICULATUS** (Wedd.) C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 19.

*Maoutia reticulata* Wedd. in DC. Prodr. 16<sup>1</sup> (1869) 235<sup>∞</sup>; F.-Vill. Novis. App. (1880) 206; Vidal Rev. Pl. Vasc. Filip. (1886) 259.

*Maoutia ? planitora* C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 180.

Mindanao (Zamboanga), *Copeland, Williams 2079, B. S. 36774 Ramos & Edaño*. In thickets at low altitudes. Borneo, Marianne Islands. A monotypic genus.

Local name: Lapnái (Sub.).

## PROTEACEAE

### 1. HELICIA Loureiro

**HELICIA ARTOCARPOIDES** Elm. Leaf. Philip. Bot. 5 (1913) 1826.

Palawan, Mindanao (Zamboanga), *Elmer 12946, B. S. 37448 Ramos & Edaño*. On forested ridges, altitude about 600 m. A remarkable species, allied to *Helicia incisa* Koord. & Val., of Java. Endemic.

Local name: Gunsíli (Sub.).

**HELICIA CUMINGIANA** Presl Epim. (1851) 246; Meisn. in DC. Prodr. 14 (1857) 440; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 986; F.-Vill. Novis. App. (1880) 182; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 229; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 49.

*Helicia philippinensis* Meisn. in DC. Prodr. 14 (1857) 441; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 987; F.-Vill. Novis. App. (1880) 182; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 229, Synopsis Atlas (1883) 37, t. 79; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 49.

Throughout the Philippines in forests at medium altitudes, on some mountains ascending to 1,800 m altitude. With a very large series of specimens from all parts of the Philippines, I fail to find any constant distinguishing characters between *Helicia cumingiana* Presl and *H. philippinensis* Meisn. Endemic.

Local names: Apápid (Klg.); biskóng (Ig.); chamosíl (Ig.); lákot (Tag.); lóban (Bon.); malaantígau (S. L. Bis.); manlúab (Tag.); olét (Ig.); olitan (Ig.); putólán (Tag.); tarangisia (Bag.); uátan (Ig.); uátén (Ig.); ulátén (Ig.).

Var. **PARVIFOLIA** var. nov.

A typo differt foliis minoribus, 5 ad 12 cm longis, 1.5 ad 3 cm latis.

Luzon (Bontoc, Lepanto, Benguet, Laguna, Zambales), Mindoro, *F. B. 18375 Alvarez, 5028 Curran, B. S. 31713 Santos*. On exposed ridges, altitude 1,700 to 2,400 m. Endemic.

**HELICIA GRACILIFLORA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 132.

Mindanao (Lanao), *Clemens*. Altitude about 700 m. Endemic.

**HELICIA INTEGRATA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 301.

Luzon (Laguna, Bataan), *B. S. 15127 Ramos, Merrill Phil. Pl. 1128, Whitford 171, 476, 460*. In damp forests at medium altitudes, on Mt. Mariveles, occurring on exposed ridges, altitude 950 to 1,100 m. Endemic.

**HELICIA INTEGRIFOLIA** Elm. Leaf. Philip. Bot. 8 (1915, March 27) 2798.

*Helicia longiflora* Merr. in Philip. Journ. Sci. 10 (1915, Sept. 18) Bot. 300.

Luzon (Tayabas, Laguna, Rizal, Bataan), Mindanao (Agusan), *Elmer 13392, Whitford 982, B. S. 29351 Ramos & Edaño, Merrill Phil. Pl. 305,*

*F. B.* 23472 Villamil, Williams 426. In forests at medium altitudes. Endemic.

Local names: Salímai (Mbo.); salimaysímai (Mbo.).

**HELICIA LORANTHOIDES** Presl Epim. (1851) 247; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1858) 984; Meisn. in DC. Prodr. 14 (1857) 438; F.-Vill. Novis. App. (1880) 182; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 229.

Luzon (Nueva Vizcaya, Tayabas, Sorsogon, Albay), Catanduanes, Mindoro, Mindanao, *Cuming* 850, *B. S.* 23660, 30202, 38969, 38715, 38879 Ramos & Edaña, 8203, 39591 Ramos, *Elmer* 9223, 11840. In forests at medium altitudes. Endemic.

Local names: Anaping-labláb (Buk.); tarangisi (Bag.).

**HELICIA OLIGOPHLEBIA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 6.

Luzon (Sorsogon), Leyte, *B. S.* 23320, 23632, 15285 Ramos. In forests at medium altitudes. Closely allied to *Helicia cumingiana* Presl. Endemic.

**HELICIA PAUCINERVIA** Merr. in Philip. Journ. Sci. 17 (1920) 247.

Mindanao (Surigao), *B. S.* 34610 Ramos & Pascasio. On river banks, altitude about 300 m. Endemic.

#### EXCLUDED SPECIES

**HELICIA CASTANAEAFOLIA** Meisn. in DC. Prodr. 14 (1857) 441; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1858) 986; F.-Vill. Novis. App. (1880) 182.

The type of this species, *Cuming* 2338, was from Malacca, not from the Philippines.

**HELICIA ROBUSTA** Wall.; F.-Vill. Novis. App. (1880) 182.

**HELICIA SERRATA** R. Br.; F.-Vill. l. c.

#### LORANTHACEAE

##### 1. ELYTRANTHE Blume

**ELYTRANTHE ACUÑA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 279.

Mindanao (Lanao), *F. B.* 23386 Acuña. In forests at low altitudes. Endemic.

**ELYTRANTHE COCHINCHINENSIS** (Lour.) G. Don Gen. Syst. 3 (1834) 425.

*Loranthus cochinchinensis* Lour. Fl. Cochinch. (1790) 195.

*Loranthus globosus* Roxb. Fl. Ind. 2 (1824) 206; F.-Vill. Novis. App. (1880) 184; Vidal Rev. Pl. Vasc. Filip. (1886) 230.

*Loranthus ampullaceus* Roxb. Fl. Ind. 2 (1824) 209; DC. Prodr. 4 (1830) 296; Hook. f. Fl. Brit. Ind. 5 (1886) 220; F.-Vill. Novis. App. (1880) 184; Vidal Phan. Cuming. Philip. (1885) 141; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 145.

*Elytranthe globosa* G. Don Gen. Syst. 3 (1834) 426; Gamble in Journ. As. Soc. Beng. 75<sup>a</sup> (1914) 377.

*Elytranthe ampullacea* Engl. Nat. Pflanzenfam. 3<sup>1</sup> (1889) 188; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 50, Merr. Sp. Blancoanae (1918) 132.

*Hillia longiflora* Blanco Fl. Filip. (1837) 235, ed. 2 (1845) 165, ed. 3, 1 (1877) 297, t. 444.

Luzon (Zambales, Nueva Ecija, Bataan, Rizal, Laguna, Cavite), Palawan, Mindanao, *Merrill Sp. Blancoanae 1033, Cuming 1951, 1963, B. S. 26206, 22568 Ramos, Elmer 17508, 17745*. On trees at low and medium altitudes. India to Indo-China and Malaya.

Local names: Dalápun (Sbl.); magaupanga (Buk.).

**ELYTRANTHE ELMERI** (Merr.) comb. nov.

*Loranthus elmeri* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 285.

Palawan, *Elmer 12749, 13138*. On trees in forests. Endemic.

## 2. LEPEOSTEGERES Blume

**LEPEOSTEGERES ALTERNIFOLIUS** (Merr.) comb. nov.

*Loranthus alternifolius* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 283.

Mindanao (Zamboanga), *F. B. 13295 Foxworthy, De Mesa, & Villamil*. In forests at low altitudes. Endemic.

**LEPEOSTEGERES AMPLIFOLIUS** (Merr.) comb. nov.

*Loranthus amplifolius* Merr. in Philip. Journ. Sci. 13 (1918) Bot. 277.

Samar, *B. S. 17448 Ramos*. In damp forests at low altitudes. Endemic.

**LEPEOSTEGERES BANAHAENSIS** (Elm.) comb. nov.

*Loranthus banahaensis* Elm. Leaf. Philip. Bot. 1 (1908) 288, 3 (1911) 1075, 6 (1913) 1960; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 145.

*Loranthus lagunensis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 281.

Luzon (Tayabas, Laguna), Mindanao (Agusan, Davao), *Elmer 9115, 14065, 10479, B. S. 15064 Ramos*. In forests up to an altitude of 750 m. Endemic.

Local names: Kandaian (Mbo.); manago (Bag.).

**LEPEOSTEGERES CAPITULIFERUS** (Merr.) comb. nov.

*Loranthus capituliferus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 264.

Mindanao (Zamboanga), *Merrill 8270*. In damp forests, altitude about 1,100 m. Endemic.

**LEPEOSTEGERES CONGESTIFLORUS** (Merr.) comb. nov.

*Loranthus congestiflorus* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 147, 5 (1910) Bot. 345; Elm. Leaf. Philip. Bot. 3 (1911) 1076.

Luzon (Benguet), Mindoro, Negros, Mindanao, *F. B. 5037, 10833 Curran, B. S. 8888, 8833 McGregor, Merrill 6597, Phil. Pl. 221, Loker 4459, Elmer 10634*. In the mossy forest on the higher mountains, ascending to 2,300 m. Endemic.

Local names: Alsibaét (Ig.); manágo (Bag.).

**LEPEOSTEGERES OVATIBRACTEUS** (Merr.) comb. nov.

*Loranthus ovatibracteus* Merr. in Philip. Journ. Sci. 13 (1918) Bot. 278.

Samar, *B. S. 24135 Ramos*. In damp forests at low altitudes. Endemic.

**LEPEOSTEGERES TETRANTHUS** (Merr.) comb. nov.

*Loranthus tetranthus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 79.

Luzon (Bontoc), *Vanoverbergh 1294*. On trees, altitude 1,650 m. Endemic.

**LEPEOSTEGERES WILLIAMSII** (Merr.) comb. nov.

*Loranthus williamsii* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 148.

Luzon (Benguet), *Williams 973, Merrill Phil. Pl. 1784*. On *Ficus* and other trees, altitude about 1,300 m. Endemic.

**3. LORANTHUS** Linnaeus**LORANTHUS ACUMINATISSIMUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 143.

Luzon (Benguet), *B. S. 5700 Ramos*. Endemic.

**LORANTHUS ACUTUS** (Van Tiegh.) Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 128; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 135.

*Stemmatophyllum acutum* Van Tiegh. in Bull. Soc. Bot. France 41 (1894) 546.

Luzon (Ifugao, Bontoc, Benguet, Nueva Ecija), *Cuning 1973, Merrill 4377, 9701, B. S. 31867 Santos, Elmer 5809, Williams 1021, Vanoverbergh 221, 1782*. On trees, altitude 1,000 to 2,200 m. Endemic.

Local names: Bayánag (Tag.); saga (Ig.); takín (Bon.); takí-talakitag (Bon.); takták (Ig.); talakitak (Bon.).

**LORANTHUS AGUSANENSIS** Elm. Leaf. Philip. Bot. 6 (1913) 1962.

Mindanao (Agusan), *Elmer 13405*. In dense forests, altitude about 150 m. Endemic.

Local name: Kasandígan (Mbo.).

**LORANTHUS AHERNIANUS** Merr. in Philip. Journ. Sci. 1 (1908) Suppl. 184, 4 (1909) Bot. 143.

Luzon (Rizal, Zambales), *B. S. 5115 Ramos, F. B. 2140 Ahern's collector*. Endemic.

**LORANTHUS ANGULATUS** Elm. Leaf. Philip. Bot. 3 (1911) 1074.

Mindanao (Davao), *Elmer 10804*. On *Grewia* in forests, altitude about 800 m. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS APOENSIS** Elm. Leaf. Philip. Bot. 3 (1911) 1073.

Mindanao (Davao), *Elmer 11454*. On trees in the mossy forest, altitude about 2,100 m. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS APPENDICULATUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 78:

*Cleistoloranthus verticillatus* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 150, 5 (1910) Bot. 345, non *Loranthus verticillatus* Ruiz & Pav.

Luzon (Bontoc, Benguet), *F. B. 16229 Curran, Merritt, & Zschokke, Vanoverbergh 1293*. On trees, altitude 1,600 to 2,400 m. Endemic.

**LORANTHUS AURANTIACUS** Elm. Leaf. Philip. Bot. 6 (1913) 1967.

Mindanao (Agusan), *Elmer 13774*. On trees in forested ravines, altitude about 900 m. Endemic.

Local name: Tagdóan (Mbo.).

**LORANTHUS BASILANENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 134.

Mindanao, Basilan, *F. B. 3447 Hutchinson, Hallier, Copeland, 376*. On trees at low altitudes. Endemic.

**LORANTHUS BENGUETENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 134, 5 (1910) Bot. 345.

Luzon (Bontoc, Benguet), *F. B. 6064 Curran, Merritt, & Zschokke, B. S. 2712 Mearns, Vanoverbergh 1098, 3641*. On *Pinus insularis* Endl., altitude 1,200 to 1,600 m. Endemic.

Local name: Taki-ti-talakíttag (Bon.).

**LORANTHUS BICOLORATUS** Elm. Leaf. Philip. Bot. 2 (1908) 470; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 137.

Negros, Mindanao (Butuan), *Elmer 9950, Weber 1033*. On *Leucosyke* and other trees at low and medium altitudes. Endemic.

Local name: Manoag (P. Bis.).

**LORANTHUS BOHOLENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 141. Bohol, *B. S. 1277 McGregor*. On trees near the seashore. Endemic.

**LORANTHUS CAULIFLORUS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 185, 4 (1909) Bot. 136; Elm. Leaf. Philip. Bot. 6 (1913) 1960.

Mindanao (Agusan, Bukidnon, Lanao), *Clemens 55, Elmer 13773, B. S. 21380 Escritor*. On trees at medium altitudes. Endemic.

Local names: Kasili (Buk.); tagdóan (Mbo.).

**LORANTHUS CLEMENTIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 185, 4 (1909) Bot. 140.

Mindanao (Lamao), *Clemens*. On trees, altitude about 700 m. Endemic.

**LORANTHUS CONFERTIFLORUS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 273.

Leyte, *Wenzel 1249*. On trees in forests. Endemic.

**LORANTHUS CONFUSUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 261.

Luzon (Ilocos Norte, Union, Benguet, Pangasinan, Tarlac), *Cuming 1959, B. S. 12951 Fénix, 4977, 27202 Ramos, Elmer 5711*. On trees in thickets and thin forests at low and medium altitudes. Endemic.

Local name: Tagaslíng (Ilk.).

**LORANTHUS COPELANDII** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 186, 4 (1909) 140, 5 (1910) Bot. 345.

Luzon (Benguet), *Merrill 4407, F. B. 16232, 18176 Curran, Merritt, & Zschokke*. On trees, altitude 1,100 to 1,600 m. Endemic.

**LORANTHUS CRASSILIMBUS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 274.

Luzon (Nueva Ecija, Rizal), Panay, *B. S. 26409, 30724, 29654 Ramos & Edaña*. On trees in forests at medium altitudes. Endemic.

**LORANTHUS CUERNOSENSIS** Elm. Leaf. Philip. Bot. 2 (1908) 469; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 138.

Luzon (Tayabas, Laguna, Camarines, Albay), Samar, Biliran, Leyte, Negros, Mindanao. *Elmer 9525, 15292 (L. sorsogonensis Elm.), 14984 (L. ficii Elm.), Merrill 6996, Phil. Pl. 1136, B. S. 28998, 28800 Ramos & Edaña, 10965, 22179, 17394 Ramos*. In forests at low and medium altitudes. Endemic.

Local names: Hinti-hinti (Tag.); magaupañga (Buk.); manau (Sul.); manóog (S. L. Bis.).

**LORANTHUS CURRANII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 144, 5 (1910) Bot. 345.

Luzon (Benguet), *F. B. 5035 Curran, 18143 Curran, Merritt, & Zschokke*. On *Podocarpus*, in the mossy forest, at an altitude of about 2,250 m. Endemic.

**LORANTHUS CURTIFLORUS** Elm. Leaf. Philip. Bot. 6 (1913) 1964.

Mindanao (Agusan), *Elmer 14089*. In the mossy forest on exposed peaks, altitude about 1,800 m. Endemic.

Local name: Imbái (Mbo.).

**LORANTHUS DEMESAE** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 280.

Mindanao (Zamboanga), *F. B. 13788 Foxworthy, De Mesa, & Villamil*. On trees in forests at low altitudes. Endemic.

**LORANTHUS EDANOII** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 275.

Luzon (Nueva Ecija), *B. S. 26241 Ramos & Edaña*. On trees in forests at low altitudes; closely allied to *Loranthus cuernosensis* Elm. Endemic.

**LORANTHUS EUCALYPTIPHYLLUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 444.

Luzon (Bontoc), *Vanoverbergh 1505*. On trees, altitude about 900 m. Endemic.

**LORANTHUS FALCATIFOLIUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 286.

Mindanao (Bukidnon), *B. S. 15746 Fénix*. On trees in forests. Endemic.

Local name: Magopango (Buk.).

**LORANTHUS FENICIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 281.

Mindanao (Davao), *B. S. 15852 Fénix*. On trees at low altitudes. Endemic.

**LORANTHUS FERRUGINEUS** Roxb. Fl. Ind. 2 (1824) 188; DC. Prodr. 4 (1830) 299; Jack in Hook. Bot. Miscel. 1 (1830) 279, t. 49; Hook. f. Fl. Brit. Ind. 5 (1886) 210; Usteri Beitr. Ken. Philip. Veg. (1905) 125; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 140.

Palawan, *Merrill 705, 9262, Elmer 12905, B. S. 15534 Fénix, 203 Bermejós*. On trees in thickets and open forests at low altitudes. Malay Peninsula, Sumatra, Java, Borneo.

**LORANTHUS FORMICARIUS** Elm. Leaf. Philip. Bot. 3 (1911) 1069.

Mindanao (Davao), *Elmer 10304*. On trees in forests, altitude about 900 m. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS GEMINATUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 146.

Mindanao (Surigao), *Merrill 5444*. On trees along tidal streams. Endemic.

**LORANTHUS HAENKEANUS** Presl ex Schultes Syst. 7 (1829) 113; DC. Prodr. 4 (1830) 304; F.-Vill. Novis. App. (1880) 184; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 231; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 144, Fl. Manila (1912) 184.



*Loranthus malifolius* Presl ex Schultes l. c.; DC. l. c.; F.-Vill. l. c.; Vidal Sinopsis Atlas (1883) 38, t. 81, f. B, Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 232; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 459.

*Scurrula haenkeana* G. Don Gen. Syst. 3 (1834) 423.

*Scurrula malifolia* G. Don l. c.

*Dendrophthoe haenkeana* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 822.

*Dendrophthoe malifolia* Miq. l. c.

*Candollina haenkeana* Van Tiegh. in Bull. Soc. Bot. France 42 (1895) 269.

*Candollina malifolia* Van Tiegh. l. c.

*Candollina barthei* Van Tiegh. l. c.

*Loranthus barthei* Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 129.

Northern Luzon to Mindanao, on trees in open country, thickets, and forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local name: Kanónong (Ilk.).

**LORANTHUS HALCONENSIS** Merr. in Philip. Journ. Sci. 2 (1907) Bot. 271, 4 (1909) Bot. 143, 5 (1910) Bot. 345.

Luzon (Benguet), Mindoro, *Merrill 5664, F. B. 16230 Currán, Merritt, & Zschokke*. In wet forests, altitude 100 m in Mindoro, at higher altitudes in Benguet. Endemic.

**LORANTHUS HALLIERI** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 140.

Mindanao (Zamboanga), Basilan, *Hallier, Merrill 8141, Elmer 12035, B. S. 16490 Reillo, 37455 Ramos & Edaña*. On trees at low altitudes. Endemic.

**LORANTHUS HEXANTHUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 137; Elm. Leaf. Philip. Bot. 3 (1911) 1073.

Mindanao (Lanao, Davao), *Clemens, Williams 2565, Elmer 10462*. On trees at medium altitudes. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS HOPEAE** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 279.

Mindanao (Zamboanga), *F. B. 13297 Foxworthy, De Mesa, & Villamil*. On *Hopea* in forests at low altitudes. Endemic.

**LORANTHUS HUTCHINSONII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 138.

Mindanao, Palawan, *F. B. 4554 Mearns & Hutchinson, Merrill 9586*. On trees in forests, altitude 400 to 1,600 m. Endemic.

Local name: Dumbisa (Sub.).

**LORANTHUS INCARNATIFLORUS** Elm. Leaf. Philip. Bot. 6 (1913) 1970. *Loranthus incarnatus* Elm. op. cit. 3 (1911) 1070, non Jack.

Mindanao (Davao), *Elmer 11817*. On trees in forests, altitude about 1,400 m. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS LANAENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 136.

Mindanao (Lanao), *Clemens 777*. On trees overhanging Lake Lanao. Endemic.

- LORANTHUS LEYTENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 278.  
Leyte, *B. S. 15243 Ramos*. On trees in forests. Endemic.
- LORANTHUS LOHERI** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 140.  
*Loranthus curvatus* F.-Vill. Novis. App. (1880) 184; Vidal Phan. Cuming. Philip. (1885) 141, Rev. Pl. Vasc. Filip. (1886) 230, non Blume.  
Luzon (Cagayan, Isabela, Ilocos Norte, Zambales, Rizal), Palawan, *Cuming 1955, 1965, Loher 4481, B. S. 22744 Castillo, 27482 Ramos, Merrill 9432, 9437*. On trees at low altitudes. Endemic.  
Local names: Afuú (Ibn.); dáto (Neg.); kanónong (Ibn., Ilk.).
- LORANTHUS LONGITUBUS** Elm. Leaf. Philip. Bot. 6 (1913) 1961.  
Mindanao (Agusan), *Elmer 14053*. On trees on exposed forested ridges, altitude about 1,000 m. Endemic.  
Local name: Pisauan (Mbo.).
- LORANTHUS LUCIDUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 277.  
Luzon (Laguna), *B. S. 16647 Ramos*. In damp forests at medium altitudes. Endemic.
- LORANTHUS LUZONENSIS** Presl ex Schultes f. Syst. 7 (1829) 104; DC. Prodr. 4 (1830) 295; F.-Vill. Novis. App. (1880) 183; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 232; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 135.  
*Dendrophthoë luzonensis* G. Don Gen. Hist. 3 (1834) 421; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 818.  
*Stemmatophyllum luzonense* Van Tiegh, in Bull. Soc. Bot. France 41 (1894) 505.  
? *Stemmatophyllum sessilifolium* Van Tiegh, in Bull. Soc. Bot. France 41 (1894) 506.  
? *Loranthus sessilifolius* Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 128.  
Luzon (Ilocos Norte, Ilocos Sur, Abra, Benguet, Zambales, Bataan), *Cuming 1964, B. S. 27650, 32878, 7665, 7250 Ramos, Elmer 5693*. On *Eugenia*, *Buchanania*, and other trees in thickets and open forests at low and medium altitudes. Endemic.  
Local names: Kanónong (Ilk.); sumalin (Ting.).
- LORANTHUS MACGREGORII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 146.  
Bohol, *B. S. 1266 McGregor*. On trees at low altitudes. Endemic.
- LORANTHUS MARITIMUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 282.  
Mindanao (Surigao), *B. S. 15824 Féñix*. On trees along the seashore. Endemic.
- LORANTHUS MEARNsii** Merr. in Philip. Journ. Sci. 2 (1907) Bot. 271, 4 (1909) Bot. 136.  
Mindoro, *Merrill 5733*. On trees in forests, altitude about 1,800 m. Endemic.
- LORANTHUS MEDINILLICOLA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 287.  
Luzon (Ifugao, Mt. Polis), *B. S. 19842 McGregor*. On *Medinilla* in the mossy forest. Endemic.

**LORANTHUS MERRILLII** Elm. Leafl. Philip. Bot. 3 (1911) 1068.

Luzon (Sorsogon), Mindanao (Davao), *Elmer 10617, 17328 (L. vulcanicus* Elm.). On trees (*Eurya* sp.) in forests, altitude about 1,800 m. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS MERRITTII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 134, Fl. Manila (1912) 184.

*Stemmatophyllum nodosum* Van Tiegh. in Bull. Soc. Bot. France 41 (1894) 506.

*Loranthus nodosus* Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 128, non Desr.

Luzon (Ilocos Norte, Pangasinan, Zambales, Bataan, Laguna, Rizal, Tayabas), Mindoro, Lubang, Sibuyan, *Merrill 960, 3494, Elmer 12412, Cuming 1952, 1958, Loher 4463, B. S. 33296 Ramos, F. B. 28365 Mabesa*. On trees (*Eugenia, Buchanania, Bruguiera*, etc.) at low altitudes. Endemic.

Local name: Lolóloi (P. Bis.).

**LORANTHUS MINDANAENSIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 186, 4 (1909) Bot. 142; Elm. Leafl. Philip. Bot. 3 (1911) 1070.

Leyte, Guimaras, Negros, Mindanao, *F. B. 101 Gammill, Clemens 545, Elmer 11995, 11996, Williams 2580, Weber 1460*. On trees at low and medium altitudes. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS MINIATUS** Elm. Leafl. Philip. Bot. 6 (1913) 1966.

Mindanao (Agusan), *Elmer 13276*. On *Canarium*, forested ridges, altitude about 650 m. Endemic.

Local name: Payan (Mbo.).

**LORANTHUS MIRABILIS** Van Huerck & Muell.-Arg. in Act. Soc. Helv. Sci. Nat. 55 (1872) 47; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 187, 4 (1909) Bot. 135.

*Stemmatophyllum cumingii* Van Tiegh. in Bull. Soc. Bot. France 41 (1894) 505.

*Loranthus cumingianus* Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 128.

Luzon (Bataan, Rizal, Laguna), *Cuming 1966, Copeland, B. S. 16212, 15108 Ramos, 22862 McGregor*. On trees in forests. Endemic.

**LORANTHUS OVATIFOLIUS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 133, 4 (1909) Bot. 143.

Mindanao (Lanao, Cotabato), *Clemens 1195, B. S. 11578 Robinson*. On trees at low altitudes. Endemic.

Local name: Magau (Mag.).

**LORANTHUS PACHYCLADUS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 276.

Luzon (Ilocos Norte), *B. S. 27323, 32836 Ramos*. On trees in forests at low and medium altitudes. Endemic.

**LORANTHUS PALAWANENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 279.

*Loranthus fragilis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 278, non Sprague.

Palawan, *Merrill 9248*. On *Vernonia* in forests at sea level. Endemic.

**LORANTHUS PARASITICUS** (Linn.) Merr. in Philip. Journ. Sci. 15 (1919) 232.

*Scurrula parasitica* Linn. Sp. Pl. (1753) 110 excl. syn. Camell et Petiver.

*Loranthus scurrula* Linn. Sp. Pl. ed. 2 (1762) 472, non auct. plur.

*Loranthus estipitatus* Stapf in Trans. Linn. Soc. Bot. 4 (1894) 221; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 139.

Luzon (Laguna, Tayabas, Rizal), Sibuyan, Palawan, *Cuming 1970*, *Elmer 7911, 17546 Merrill 1826, 9396, Phil. Pl. 1020, B. S. 13517, 16526 Ramos*. In forests at low altitudes. Southern China to the Malay Peninsula and Borneo.

**LORANTHUS PENTAGONUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 80.

Luzon (Bontoc), *Vanoverbergh 1254*. On trees in forests, altitude about 1,650 m. Endemic.

**LORANTHUS PENTANDRUS** Linn. Mant. 1 (1767) 63; DC. Prodr. 4 (1830) 305; Blume Fl. Jav. Loranth. (1828) 33, t. 10; Hook. f. Fl. Brit. Ind. 5 (1886) 216; F.-Vill. Novis. App. (1880) 184; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 141.

*Loranthus shawianus* Elm. Leaf. Philip. Bot. 5 (1913) 1807.

Luzon (Zambales), Palawan, *Cuming 1962, B. S. 283 Bermejos, Elmer 12610*. On trees at low and medium altitudes. India to southern China, southward to Sumatra, Java, and Borneo.

Local names: Agoago (Tagb.); bogto (Tagb.).

**LORANTHUS PENTAPETALUS** Roxb. Fl. Ind. 2 (1824) 211; DC. Prodr. 4 (1830) 295; Blume Fl. Jav. Loranth. (1828) 39, t. 14, 23A; Hook. f. Fl. Brit. Ind. 5 (1886) 206; F.-Vill. Novis. App. (1880) 183; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 231; Rolfe in Journ. Bot. 23 (1885) 215; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 50, 4 (1909) Bot. 133, 5 (1910) Bot. 345.

*Lanthorus spicifer* Presl Epim. (1851) 257; Walp. Ann. 2 (1852) 727; Van Tiegh. in Bull. Soc. Bot. France 41 (1894) 487.

*Loranthus spicifer* F.-Vill. Novis. App. (1880) 183; Vidal Phan. Cuming. Philip. (1885) 140, Rev. Pl. Vasc. Filip. (1886) 231; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 405.

*Lanthorus cumingii* Van Tiegh. in Bull. Soc. Bot. France 41 (1894) 488.

*Loranthus cumingii* Engl. Nat. Pflanzenfam Nachtr. 1 (1897) 128. *Helixanthera parasitica* Lour. Fl. Cochinch. (1790) 142, non *Loranthus parasiticis* (Linn.) Merr.

Babuyan Islands to Mindanao. In forests at low and medium altitudes, ascending to 1,400 m. India to southern China, southward to Sumatra, Java, and Borneo.

Local names: Atoling (Ig.); dalamimo (Tag.); galamino (Tag.); katungau (Ig.); taki-ti-talakitag (Bon.).

**LORANTHUS PHILIPPENSIS** Cham. & Schlecht. in Linnæa 3 (1828) 204; DC. Prodr. 4 (1830) 302; Blanco Fl. Filip. ed. 2 (1845) 164, ed. 3, 1 (1877) 296; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 741; F.-Vill. Novis. App. (1880) 183; Vidal Rev. Pl. Vasc. Filip.

(1886) 231, Phan. Cuming. Philip. (1885) 140; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 84, 4 (1909) Bot. 139, Sp. Blancoanae (1918) 131.

*Lonicera symphoricarpus* Blanco Fl. Filip. (1837) 161, non Linn.

*Loranthus pauciflorus* Blanco Fl. Filip. (1837) 235, non Sw.

? *Loranthus tomentosus* Blanco op. cit. ed. 2 (1845) 164, ed. 3, 1 (1877) 296; F.-Vill. Novis. App. (1880) 184; Merr. Sp. Blancoanae (1918) 132, non Heyne.

*Scurrula philippensis* G. Don Gen. Syst. 3 (1834) 423.

*Dendrophthoe philippensis* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 817.

*Cichlanthus philippensis* Van Tiegh. in Bull. Soc. Bot. France 42 (1895) 253.

*Loranthus scurrula* Linn. Sp. Pl. ed. 2 (1862) 472 p.p. quoad syn. Camell; Schultes f. Syst. 7 (1829) 96 p.p. quoad syn. Camell.

Northern Luzon to Mindanao, on trees at low and medium altitudes; in Benguet ascending to 2,200 m, locally abundant. Endemic.

Local names: dápo, dápo káhoi (Tag.); komúnung (Ilk.); taká (Ig.).

**LORANTHUS POLILLENSIS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 200.

Polillo, *B. S.* 10384 *McGregor*. On trees in forests. Endemic.

**LORANTHUS PRESII** Elm. Leaf. Philip. Bot. 6 (1913) 1969.

Mindanao (Agusan), *Elmer* 13741. In the mossy forest on exposed peaks, altitude about 1,600 m. Endemic.

Local name: Matauanuns (Mbo.).

**LORANTHUS REVOLUTUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 142.

Luzon (Ifugao, Zambales), *B. S.* 4785 *Ramos*, 19688 *McGregor*, *F. B.* 3252 *Curran & Merritt*. On trees in the mossy forest, altitude 1,800 to 2,100 m. Endemic.

**LORANTHUS SACCATUS** Elm. Leaf. Philip. Bot. 3 (1911) 1072.

Mindanao (Davao), *Elmer* 11747. On *Litsea* in forests, altitude about 1,200 m. Endemic.

Local name: Manágo (Bag.).

**LORANTHUS SAMARENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 276.

Samar, Mindanao (Bukidnon), *B. S.* 24265 *Ramos*, 39159, 39188 *Ramos & Edaña*. In forests at low altitudes. Endemic.

**LORANTHUS SECUNDIFLORUS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 187, 4 (1909) Bot. 142.

Luzon (Camarines) to Mindanao, *Merrill Phil. Pl.* 2053, *B. S.* 30442, 30535 *Ramos*, *Williams* 2695. On trees in forests at medium altitudes. Endemic.

Local names: Manágo (Bag.); mingagau (C. Bis.),

Var. **BOLSTERI** Elm. Leaf. Philip. Bot. 3 (1911) 1967.

Mindanao (Davao), *Elmer* 11701. In forests. Endemic.

**LORANTHUS SERIATUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 285.

Mindanao (Zamboanga), *B. S.* 16424 *Reillo*. On trees at medium altitudes; allied to *Loranthus cauliflorus* Merr. Endemic.

**LORANTHUS SESSILIFLORUS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 188, 4 (1909) Bot. 133.

Luzon (Bontoc, Benguet, Tayabas, Laguna), Mindoro, *Elmer 6057, 7845, Merrill 1242, 4041, B. S. 28470, 28734, 37901 Ramos & Edaña*. On trees in forests at low and medium altitudes, ascending to 1,000 m in Bontoc. Endemic.

**LORANTHUS SIMILIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 262.

Luzon (Benguet), *Williams 984*. On trees; allied to *Loranthus confusus* Merr. Endemic.

**LORANTHUS SPHENOIDEUS** Blume Fl. Jav. Loranth. (1828) 23, t. 4: F.-Vill. Novis. App. (1880) 184; Vidal Phan. Cuming. Philip. (1885) 140 p.p., Rev. Pl. Vasc. Filip. (1886) 231; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 139.

Northern Luzon to Mindanao. On trees at low and medium altitudes. *Elmer 15252 (L. nervosus Elm.)* is probably not distinct. Java, Celebes, and probably other parts of Malaya.

Local names: Kanúnung (Ilk.); loloilóloi (P. Bis.); taká (Ig.).

**LORANTHUS SPRAGUEI** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 279.

*Loranthus pubiflorus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 263, non Sprague.

Luzon (Tayabas), *F. B. 13086 Curran*. On trees in forests at low altitudes. Endemic.

**LORANTHUS SUBALTERNIFOLIUS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 188, 4 (1909) Bot. 141.

*Amylothea cumingii* Vaan Tiegh. in Bull. Soc. Bot. France 41 (1894) 264, non *Loranthus cumingii* Engl.

*Elytranthe cumingii* Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 126.

Luzon (Benguet, Sorsogon), *Cuming 1969, Elmer 6191*. On trees at medium altitudes. Endemic.

**LORANTHUS SUBSESSILIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 263.

Mindanao (Zamboanga), *Williams 2425, Merrill 8315*. On trees in damp forests, altitude 300 to 900 m. Endemic.

**LORANTHUS SURIGAOENSIS** Elm. Leaf. Philip. Bot. 6 (1913) 1966.

Mindanao (Agusan), *Elmer 14098*. On *Quercus* in wet forests, altitude about 2,000 m. Endemic.

**LORANTHUS TENUIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 136.

Luzon (Bataan), *F. B. 6287 Curran*. On *Diospyros* in forests, altitude about 800 m. Endemic.

**LORANTHUS TERMINALIFLORUS** Elm. Leaf. Philip. Bot. 6 (1913) 1970.

Mindanao (Agusan), *Elmer 14156*. On trees in dense damp forests, altitude about 1,500 m. Endemic.

Local name: Anting-ánting (Mbo.).

**LORANTHUS URDANETENSIS** Elm. Leaf. Philip. Bot. 6 (1913) 1963.

Mindanao (Agusan), *Elmer 14092*. In the mossy forest on exposed peaks, altitude about 1,800 m. Endemic.

Local name: Sinangáan (Mbo.).

**LORANTHUS VIRIDIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 189, 4 (1909) Bot. 145.

Luzon (Bataan), *Cuming* 1953, *F. B.* 816, 1814, 2938 *Borden*, 6318 *Curran*. In forests, altitude 200 to 650 m. Endemic.

**LORANTHUS WENZELII** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 370.

Leyte, *Wenzel* 24, 1739. In forests at low altitudes. Endemic.

**LORANTHUS WORCESTERI** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 284.

Mindanao (Bukidnon), *B. S.* 15673 *Fénié*. In forests at low and medium altitudes. Endemic.

#### DOUBTFUL AND EXCLUDED SPECIES

**LORANTHUS BICOLOR** Roxb.; F.-Vill. Novis. App. (1880) 184.

**LEPIDARIA BIFLORA** Van Tiegh. in Bull. Soc. Bot. France 42 (1895) 441.

This was based on *Cuming* 1174; there is no proper description. It may prove to be the same as *Lepeostegeres williamsii* Merr.

**LORANTHUS BLANCOANUS** F.-Vill. Novis. App. (1883) 355; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 148.

*Brabejum* ? *caliculatum* Blanco Fl. Filip. ed. 2 (1845) 39, ed. 3, 1 (1877) 72; Merr. Sp. Blancoanae (1918) 383.

F.-Villar's binomial was based entirely on Blanco's description of *Brabejum caliculatum*. The species is unrecognizable except that it cannot possibly be a *Loranthus*.

**LORANTHUS CARINULATUS** Wall.; F.-Vill. Novis. App. (1880) 184.

**LORANTHUS COCCINEUS** Jack; F.-Vill. op. cit. 183.

**LORANTHUS FASCICULATUS** Blume; F.-Vill. op. cit. 184.

**LORANTHUS FORMOSUS** Blume; F.-Vill. l. c.

**LORANTHUS FORSTERIANUS** Schultes f.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 102.

**LORANTHUS FUSCUS** Blume; F.-Vill. Novis. App. (1880) 184.

**LORANTHUS HETERANTHUS** Wall.?.; Vidal Sinopsis Atlas (1883) 37, t. 81, f. A.

The exact identity of the species figured by Vidal is indeterminable; it is not Wallich's species.

**DENDROPHTHOË INCARNATA** Blume; Vidal Cat. Pl. Prov. Manila (1880) 40 = *Loranthus incarnatus* Jack.

This species does not extend to the Philippines; Vidal's specimen in all probability was *Loranthus haenkeanus* Presl.

**LORANTHUS PALLENS** Wall.; F.-Vill. Novis. App. (1880) 184.

**LORANTHUS PULCHER** DC.; F.-Vill. op. cit. 183.

**LEPIDARIA QUADRIFLORA** Van Tiegh. in Bull. Soc. Bot. France 42 (1895) 441.

This is based on *Cuming* 1171; I do not know its status, as Van Tieghem's description is entirely insufficient. It is some species of *Lepeostegeres*.

LORANTHUS RETUSUS Jack; F.-Vill. Novis. App. (1880) 184; Vidal Rev. Pl. Vasc. Filip. (1886) 232; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 149.

This was credited to Luzon on the basis of a specimen collected by Lobb and so labeled in the Kew Herbarium; Lobb's specimen certainly came from Singapore or the Malay Peninsula, not from the Philippines.

LORANTHUS SPHAEROCARPUS Blume; F.-Vill. Novis. App. (1880) 184.

LORANTHUS WALLICHIANUS Schultes f.; F.-Vill. op. cit. 183.

#### 4. PHRYGILANTHUS Eichler

PHRYGILANTHUS OBTUSIFOLIUS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 189, 4 (1909) Bot. 151.

Luzon (Bataan), Mindanao (Agusan), *F. B. 1813 Borden, 6284 Curran, Whitford 134, 1081, Elmer 14192*. On trees in forests at medium altitudes. Endemic.

An American genus except for this species and a few in New Guinea, Australia, and New Zealand.

Local name: Lipuason (Mbo.).

#### 5. GINALLOA Korthals

GINALLOA CUMINGIANA (Presl) F.-Vill. Novis. App. (1880) 185; Vidal Phan. Cuming. Philip. (1885) 141, Rev. Pl. Vasc. Filip. (1886) 232; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 153, 5 (1910) Bot. 345.

*Viscum cumingianum* Presl Epim. (1851) 255.

Luzon (Cagayan, Apayao, Nueva Vizcaya, Rizal), *Cuming 1968, B. S. 7829 Ramos, 11329 McGregor, 28258 Félix, 29376 Ramos & Edaña (forma latifolia)*. On trees in forests at low and medium altitudes. Endemic.

Var. **ANGUSTIFOLIA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 153.

Luzon (Ilocos Norte, Benguet, Nueva Vizcaya, Tayabas, Laguna), Negros, *Merrill Phil. Pl. 1150, B. S. 11324 McGregor, 27262 Ramos, F. B. 26780 Mabesa, 20680 Tamesis*. On various trees at low and medium altitudes, ascending to 1,200 m. Endemic.

GINALLOA LANCEOLATA C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 200.

Polillo, Luzon (Sorsogon), *B. S. 10429 McGregor, Elmer 15690*. On trees in forests at medium altitudes. Endemic.

#### 6. NOTOTHIXOS Oliver

NOTOTHIXOS CURRANII Merr. in Philip. Journ. Sci. 4 (1909) Bot. 152.

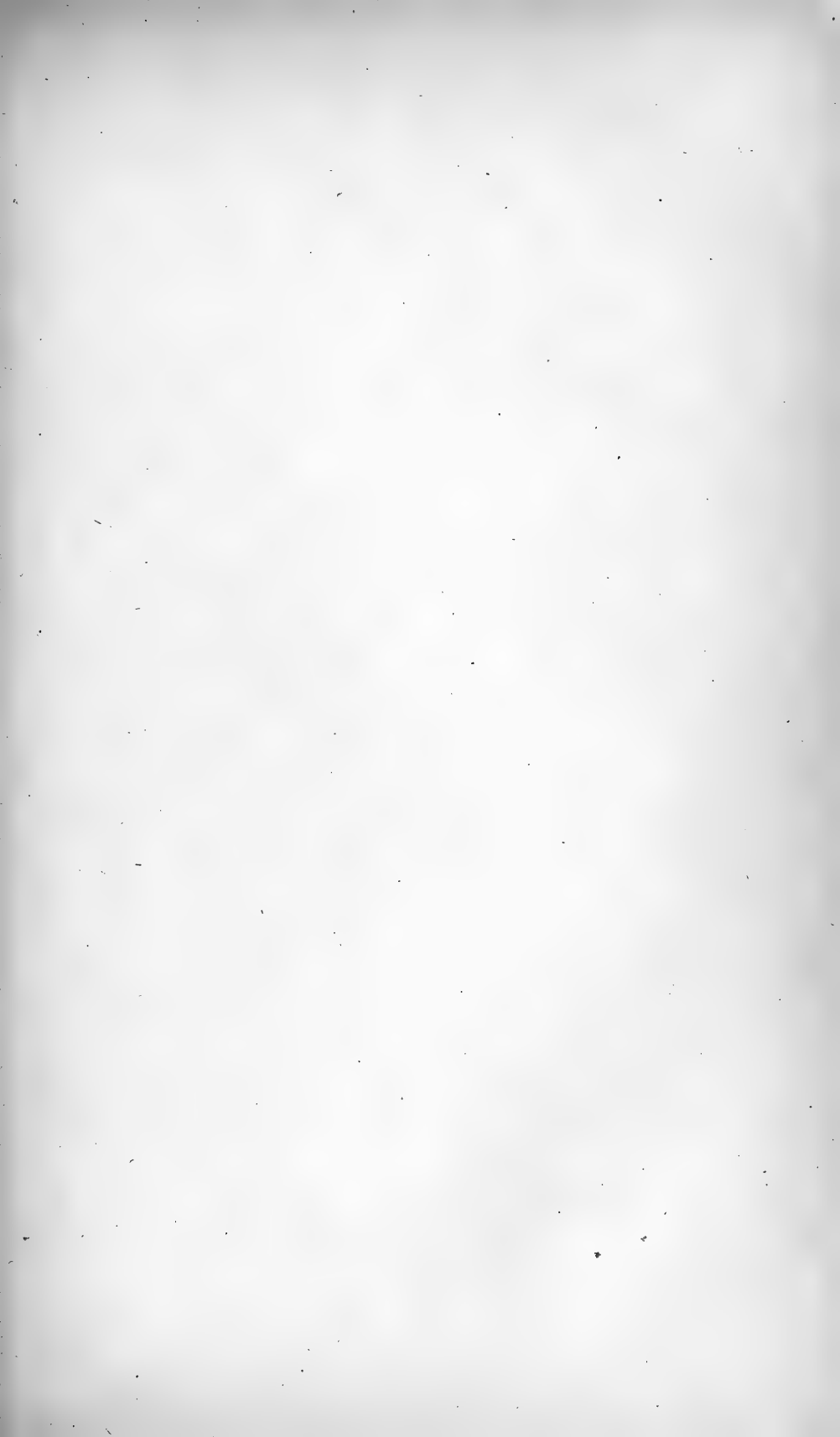
Luzon (Ilocos Norte, Bataan, Rizal), Sibuyan, Mindanao, *F. B. 12402 Curran & Merritt, Loher 6735, Elmer 12467, 14071, B. S. 29662 Ramos & Edaña, 32837 Ramos*. On trees in forests at medium altitudes. Endemic.

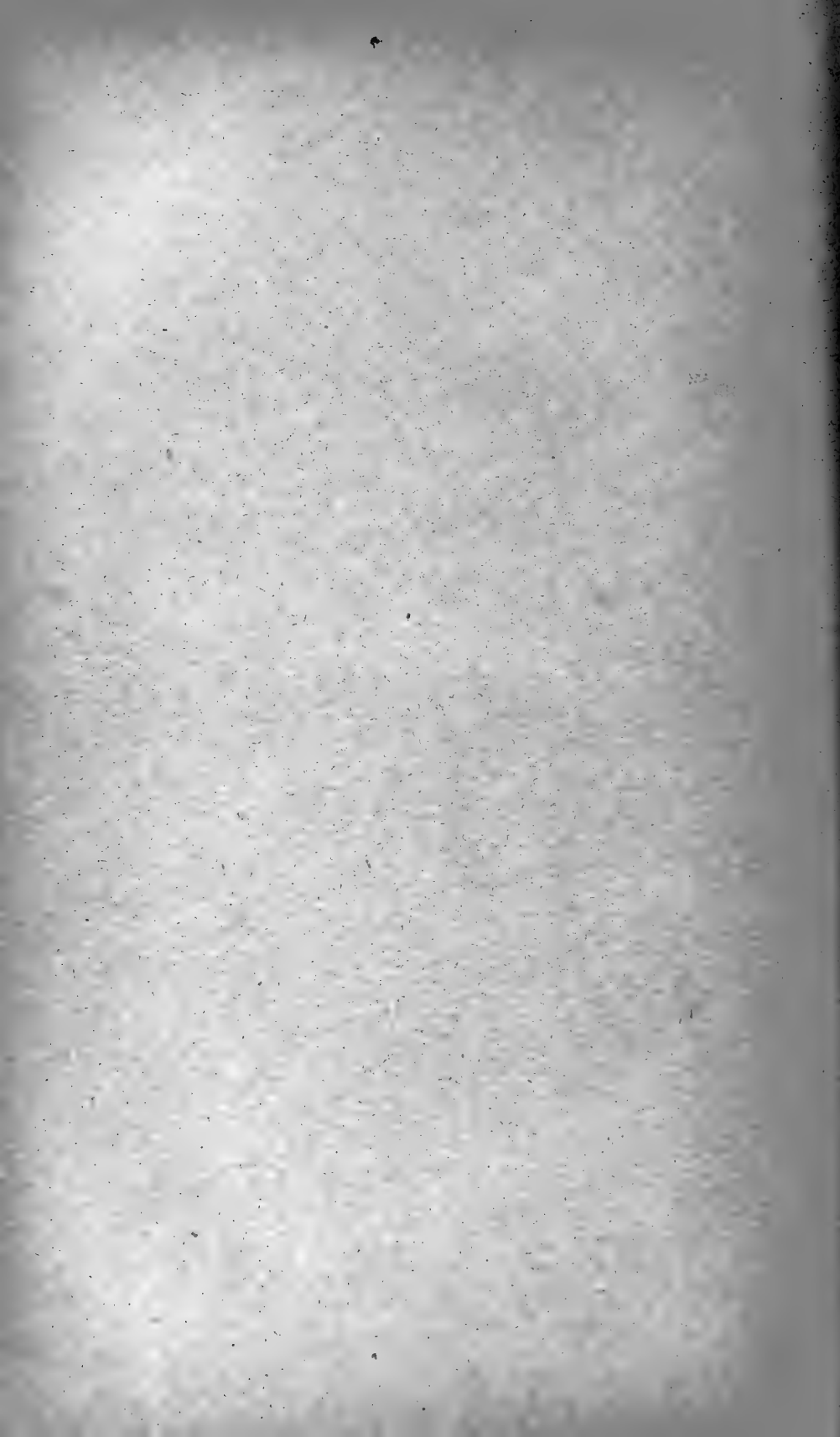
Local names: Anonúmpai (Mbo.); tabígit (P. Bis.).

NOTOTHIXOS PHILIPPINENSIS Elm. Leaflet. Philip. Bot. 2 (1908) 471; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 153.

Negros, Mindanao (Bukidnon), *Elmer 10114, F. B. 26541 Rola*. In forests, altitude 300 to 700 m. Endemic.







# AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

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EXPLANATORY NOTE

The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., *August 25, 1921.*

**NOTOTHIXOS SULPHUREUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 152.

Mindanao (Zamboanga), *F. B. 9132 Whitford & Hutchinson, 13773 Foxworthy, De Mesa, & Villamil*. On trees in forests at low altitudes. Endemic.

#### 7. BIFARIA Van Tieghem

**BIFARIA OPUNTIA** (Thunb.) comb. nov.

*Viscum opuntia* Thunb. Fl. Jap. (1784) 64; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 152.

*Viscum japonicum* Thunb. in Trans. Linn. Soc. 3 (1794) 329; Hook. f. Fl. Brit. Ind. 5 (1886) 228.

*Bifaria japonica* Van Tiegh. in Bull. Soc. Bot. France 43 (1896) 173.

*Korthalsella japonica* Engl. Nat. Pflanzenfam. Nachtr. 1 (1897) 138; Gamble in Journ. As. Soc. Beng. 75<sup>3</sup> (1914) 384.

*Pseudixus japonicus* Hayata Ic. Pl. Formosa 5 (1915) 189, f. 64, Bot. Mag. Tokyo 30 (1916) 69.

*Korthalsella bifaria* Merr. in Bot. Mag. Tokyo 30 (1916) 68.

Luzon (Benguet, Zambales, Negros, *Merrill 9675, Loher 4475, B. S. 3403 McGregor, F. B. 8080, 16074 Curran & Merritt*. On various trees (*Adinandra, Eurya, Ilex, Eugenia, and Polyosma*), on exposed ridges and summits of the higher mountains. India to Japan southward to Malaya and Australia.

#### 8. VISCUM Tournefort

**VISCUM ANGULATUM** Heyne ex DC. Prodr. 4 (1830) 283; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 806; Hook. f. Fl. Brit. Ind. 5 (1886) 225; F.-Vill. Novis. App. (1880) 184; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 151, Sp. Blancoanae (1918) 133.

*Viscum capense* Llanos Frag. Pl. Filip. (1851) 53; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 38, non Linn. f.

*Viscum oxycedri* Llanos ex F.-Vill. & Naves l. c., non DC.

Luzon (Ilocos Norte, Zambales, Bulacan), *Merrill Sp. Blancoanae 695, B. S. 7616, 27255 Ramos, F. B. 6943 Curran*. On trees in thickets and open forests at low altitudes. India to Malaya and northeastern Australia.

**VISCUM ARTICULATUM** Burm. f. Fl. Ind. (1768) 311; DC. Prodr. 4 (1830) 284; Hook. f. Fl. Brit. Ind. 5 (1886) 226; F.-Vill. Novis. App. (1880) 185; Ceron Cat. Pl. Herb. Manila (1892) 146; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 151, Sp. Blancoanae (1918) 133. *Viscum philippense* Llanos Frag. Pl. Filip. (1851) 52, p. p.; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 38 pp. *Viscum falcatum* Llanos in Mem. Acad. Cienc. Madr. 4 (1858) 501; F.-Vill. & Naves op. cit. 102, non Wall.

Northern Luzon to Mindanao. On trees at low and medium altitudes, ascending to 1,200 m in some regions. India to Formosa and Malaya.

Local names: Logólai (Bag.); taká (Ig.).

**VISCUM LORANTHI** Elm. Leaf. Philip. Bot. 8 (1919) 3089.

Luzon (Laguna), *Elmer 17777*. On *Loranthus* in secondary forests at low altitudes. Endemic.

**VISCUM ORIENTALE** Willd. Sp. Pl. 4 (1805) 224; DC. Prodr. 4 (1830) 278; Blume Fl. Jav. Loranth. (1828) t. 24, 25; F.-Vill. Novis. App. (1880) 184; Vidal Phan. Cuming. Philip. (1885) 141, Rev. Pl. Vasc. Filip. (1886) 232; Hook. f. Fl. Brit. Ind. 6 (1886) 224; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 151, Sp. Blancoanae (1918) 132. *Fusanus* ? *parasitus* Blanco Fl. Filip. ed. 2 (1845) 53, ed. 3, 1 (1877) 100; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 75. *Viscum philippense* Llanos Frag. Pl. Filip. (1851) 52 p. p.; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 38 p. p. *Viscum monoicum* Presl Epim. (1851) 251, non Roxb. *Viscum opuntoides* Cav. Ic. 6 (1801) 3, in nota, non Linn.

Luzon (Benguet to Tayabas), Lubang, Palawan. On various species of trees at low and medium altitudes. India to southern China southward to Australia.

Local name: Bogto (Tagb.).

## SANTALACEAE

### 1. EXOCARPUS Labillardière

**EXOCARPUS LATIFOLIA** R. Br. Prodr. (1810) 356; A. DC. Prodr. 14 (1857) 688; Blume Mus. Bot. Lugd.-Bat. 1 (1850) 181, f. 37; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 781; F.-Vill. Novis. App. (1880) 184; Vidal Phan. Cuming. Philip. (1885) 141, Rev. Pl. Vasc. Filip. (1886) 232, Synopsis Atlas (1883) 38, t. 81, f. E.

*Canopus luzonensis* Presl Epim. (1851) 248.

*Exocarpus luzonensis* A. DC. Prodr. 14 (1857) 688; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1096; Vidal Rev. Pl. Vasc. Filip. (1886) 232.

*Henslowia heterantha* Vidal Synopsis Atlas (1883) 38, t. 81, f. F, non Hook. f.

Luzon (Ilocos Norte, Zambales, Pangasinan), Culion, Palawan, Basilan, Jolo, Sibutu. *Merrill 613, B. S. 5033, 7749, 27291 Ramos, F. B. 21576 Danao, 3801, 6952 Curran, 17890 Miranda*. In dry forests and thickets at low altitudes; of very local occurrence. Java to New Guinea and Australia.

Local names: Agsum (Tagb.); kamiing (Pang.); magdaraláyap (Sbl.); suasua (Yak.); tulisán (Sul.); uksúr (Ilk.).

**EXOCARPUS ROLFEANUS** (O. Kuntze) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 253.

*Xylophyllos rolfeana* O. Kuntze Rev. Gen. Pl. (1891) 589 (*rolfsiana*).

Palawan, *Vidal 3647, F. B. 3852 Curran*. In forests up to 300 m altitude. Endemic, unless identical with the Moluccan *Exocarpus epiphyllanthus* (Linn.) Merr. Interpret. Herb. Amb. (1917) 208.

### EXCLUDED SPECIES

**EXOCARPUS PHYLLANTHOIDES** Endl.; F.-Vill. Novis. App. (1880) 185.

### 2. HENSLOWIA Blume

**HENSLOWIA LOBBIANA** A. DC. in DC. Prodr. 14 (1857) 631; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 50.

Luzon (Benguet, Bataan), Mindanao, *Elmer 8987, 11296, 14063, Merrill 8269, F. B. 1200 Borden*. On trees in forests, usually at medium altitudes but ascending to 1,400 m. Malay Peninsula, Penang.

Local names: Agotagot (Mbo.); kamiin (Sbl.); sigbut (Bag.); taka (Ig.).

**HENSLOWIA PALAWANENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1834.

Palawan, *Elmer 12752*. In thickets at low altitudes. Endemic.

#### DOUBTFUL AND EXCLUDED SPECIES

**HENSLOWIA BUXIFOLIA** Blume; Usteri Beitr. Ken. Philip. Veg. (1905) 125.

To this species Usteri refers a specimen from Cebu; I have seen no Philippine material that I consider referable to Blume's species.

**HENSLOWIA PHILIPPINENSIS** A. DC. Prodr. 14 (1857) 631; Rolfe in Journ. Bot. 21 (1884) 287.

*Dendrotrophe philippinensis* Miq. Fl. Ind. Bat. 1<sup>a</sup> (1858) 1096.

The type of this is *Cuming 2255*, from Malacca, not from the Philippines.

### 3. THESIUM Linnaeus

**THESIUM PSILOTOIDES** Hance in Journ. Bot. 6 (1868) 48; C. B. Rob. in Bull. Torr. Bot. Club. 35 (1908) 65.

Luzon (Bontoc, Benguet), *Williams 1310*, *Merrill 4347*, *Phil. Pl. 370*, *Vanoverbergh 408*. On open grassy slopes, altitude 1,200 to 1,500 m. Southern China.

#### EXCLUDED GENUS

**SANTALUM ALBUM** Linn.; Vidal Sinopsis Atlas (1883) t. 81, f. C.

Vidal's figure was drawn from Beddome; however, he states that he had received specimens of sandalwood from Balabac. No botanical material representing the genus has ever been collected in the Philippines.

## OPILIACEAE

### 1. OPILIA Roxburgh

**OPILIA AMENTACEA** Roxb. Pl. Coromandel 2 (1798) 31, t. 158; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 583; F.-Vill. Novis. App. (1880) 45; Vidal Sinopsis Atlas (1883) 20, t. 30, f. B, Rev. Pl. Vasc. Filip. (1886) 86; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 50.

*Opilia fragrans* Elm. Leaf. Philip. Bot. 5 (1913) 1824.

Luzon (Lepanto, Pangasinan, Rizal, Bataan, Camarines), Polillo, Culion, Palawan, *Merrill 596*, *Elmer 12691*, *B. S. 17826 Otanes, 19294 Reillo, F. B. 23513 Alvarez*. In dry thickets and open forests at low and medium altitudes, especially near the sea. India, through Malaya to northeastern Australia.

Local names: Agaroiroi (P. Bis.); aratig (Tagb.).

### 2. CANSJERA Jussieu

**CANSJERA RHEEDII** Gmel. Syst. 1 (1791) 280; Mast. in Hook. f. Fl. Brit. Ind. 1 (1875) 582; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 265.

*Cansjera scandens* Roxb. Pl. Coromandel 2 (1798) 2, t. 103.

*Cansjera malabarica* Lam. Encycl. 3 (1791) 433.

Cebu, Basilan, Sulu Archipelago (Sibutu), *Merrill 5291*, *B. S. 11092, F. B. 18999 Miranda*. In thickets chiefly near the seashore, rare. India to southern China through Malaya to Australia.

## 3. CHAMPEREIA Griffith

**CHAMPEREIA MANILLANA** (Blume) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 233, 11 (1916) Bot. 268, Fl. Manila (1912) 185, Sp. Blancoanae (1918) 133.

*Cansjera manillana* Blume Mus. Bot. Lugd.-Bat. 1 (1850) 246; Hallier f. in Meded. Rijks Herb. 1 (1911) 14.

*Opilia manillana* Baill. Adansonia 3 (1862) 124.

*Opilia cumingiana* Baill. l. c.

*Govantesia malalucban* Llanos in Rev. Progr. Cienc. 15 (1865) 191; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 44.

*Champereia griffithii* Kurz Forest. Fl. Brit. Burma 2 (1877) 330; F.-Vill. Novis. App. (1880) 185; Vidal Sinopsis Atlas (1883) t. 81, f. D, Phan. Cuming. Philip. (1885) 141, Rev. Pl. Vasc. Filip. (1886) 232.

*Champereia griffithiana* Planch. ex Kurz in Journ. As. Soc. Beng. 44<sup>2</sup> (1875) 154; Hook. f. Fl. Brit. Ind. 5 (1886) 236.

*Champereia cumingiana* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 50.

Batan Islands to Mindanao and Palawan. In thickets and dry second-growth forests at low and medium altitudes; common. Formosa to the Moluccas, and, including *C. griffithiana*, which is scarcely distinct, Burma and Tenasserim, Penang, and the Malay Peninsula.

Local names: Garimo (Tag.); ichikamanok (Tagb.); liongliong (Tag.); luingluing (Tag.); malakabuan (Tag.); malalukbán (Tag.); malaráyap (Tag.); marispáris (Tag.); panalayápin (Ilk.); panalayápon (Sbl.); sulanmanok (Sub.); talaminuk (Iv.).

**CHAMPEREIA OBLONGIFOLIA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 177.

Samar, *B. S.* 17565, 24382, 24847 Ramos. In damp forests at low altitudes. Endemic.

**CHAMPEREIA PLATYPHYLLA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 177.

Samar, *B. S.* 24248 Ramos. In damp forests at low altitudes. Endemic.

## OLACACEAE

## 1. OLAX Linnaeus

**OLAX IMBRICATA** Roxb. Hort. Beng. (1814) 5, *nomen nudum*, Fl. Ind. 1 (1820) 169; DC. Prodr. 1 (1824) 532; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 785; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 305; F.-Vill. Novis. App. (1880) 45; Vidal Sinopsis Atlas (1883) 20, t. 30, f. A, Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 85; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 32, Philip. Journ. Sci. 1 (1906) Suppl. 51, 3 (1908) Bot. 80, Fl. Manila (1912) 185, Sp. Blancoanae (1918) 134.

*Fissilia psittacorum* Blanco Fl. Filip. (1837) 28, ed. 2 (1845) 20, ed. 3, 1 (1877) 38, t. 311, non Linn.

Northern Luzon to Mindanao. In thickets and thin forests at low and medium altitudes; rather common. India to Malaya.

Local names: Balagon (P. Bis.); bitón (Tag.); labnót (P. Bis.); mala-bágo (Tag.); malabútong (Tag.); ubet-ubet (Ilk.).



## 2. XIMENIA Plumier

**XIMENIA AMERICANA** Linn. Sp. Pl. (1753) 1193; DC. Prodr. 1 (1824) 533; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1856-57) 786; F.-Vill. Novis. App. (1880) 45; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 190, Interpret. Herb. Amb. (1917) 209.

*Zizyphus littorea* Teysm. ex Hassk. in Abh. Naturf. Gesellsch. Halle (1866) 176.

Luzon (Tayabas), Palawan, Biliran, Mindanao, Sulu Archipelago. In thickets immediately back of the beach along the seashore. A pantropic strand plant.

Local names: Pañguñgán (Yak.); paniuñgán (Sul.); sulo-súlo (Bag.).

## 3. STROMBOSIA Blume

**STROMBOSIA PHILIPPINENSIS** (Baill.) Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 86; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 51.

*Lavallea philippinensis* Baill. Adansonia 2 (1862) 361.

*Strombosia dubia* Vidal Sinopsis Atlas (1883) 20, t. 30, f. D; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 15.

Northern Luzon to Mindanao. In forests at low and medium altitudes, common. *Strombosia minor* Elm. (*Elmer 17538*) is merely a small-leaved form. Endemic, but apparently closely allied to the Javan *Strombosia lucida* Teysm.

Local names: Kamauyán (Tag.); kamayuán (Tag., S. L. Bis.); larág (Ilk.); larák (Ibn.); samayónan (Bik.); sumayuán (Tag.); tamahuyán (Bik., S. L. Bis.); tamaoyán (Neg., Tag.); tamaúan (Tag.); tamauyán (Ibn., Neg., Tag.); tamayuán (Tag., Bik.); tamayuón (Bik., Tag.).

## 4. WORCESTERIANTHUS Merrill

**WORCESTERIANTHUS MAGALLANENSIS** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 270.

*Flacourtia magallanensis* Elm. Leaflet. Philip. Bot. 4 (1912) 1519.

*Worcesterianthus casearioides* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 288.

Luzon (Cagayan, Tayabas, Laguna), Sibuyan, *Elmer 12079, 12323, 12142, F. B. 18436 Alvarez, 24257 Bernardo, 21629 Lopez, B. S. 19528, 20607, 16541, 14943, 33898 Ramos*. In forests at low and medium altitudes. A monotypic endemic genus.

Local names: Alipápat (Ibn.); sagípat (Ibn., Neg.).

## 5. ANACOLOSA Blume

**ANACOLOSA LUZONIENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 253.

Luzon (Cagayan, Ifugao, Benguet, Nueva Vizcaya, Bataan, Cavite, Batangas, Laguna, *Merr. Phil. Pl. 1417* as *A. multiflora* Merr.), Mindoro, Masbate, Panay, Mindanao. In forests at low and medium altitudes, ascending to 1,200 m in Benguet. Endemic.

Local names: Aluloi (Tag.); gálo (Tag.); matoboto (S. L. Bis.); yu-pa (Gad.).

## 6. ERYTHROPALUM Blume

**ERYTHROPALUM SCANDENS** Blume Bijdr. (1826) 921; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 704; Mast. in Hook. f. Fl. Brit. Ind. 1 (1875) 578.

*Erythropalum vagum* Vidal Phan. Cuming. Philip. (1886) 85; Ceron Cat. Pl. Herb. Manila (1892) 45, non ? Mast.

*Erythropalum grandifolium* Elm. Leafl. Philip. Bot. 8 (1915) 2788.

Northern Luzon to Palawan and Mindanao. In forests at low and medium altitudes. Somewhat variable in the size and shape of its leaves, but all intermediate stages occur. India to Indo-China, Malay Peninsula, Sumatra, and Java.

Local names: Balingáyo (Tag.); barak-báarak (Mbo.); pulipis (Sub.); saynát (Tag.).

## BALANOPHORACEAE

## 1. BALANOPHORA Forster

**BALANOPHORA DECURRENS** Fawcett in Trans. Linn. Soc. Bot. 2 (1886) 234, t. 33, f. 1-4; Elm. Leafl. Philip. Bot. 5 (1913) 1659.

Luzon, without definite locality, *Azaola* in Herb. Mus. Brit. Endemic.

**BALANOPHORA FUNGOSA** Forst. Char. Gen. (1776) 99, t. 50; Richard Elem. Bot. (1833) t. 15; Hook. f. in Trans. Linn. Soc. 22 (1859) 46, t. 8.

Luzon (Rizal, Bulacan), Palawan, *B. S. 545 Foxworthy, 13067 Ramos, Yoder*. In forests at medium altitudes. New Hebrides, Australia.

**BALANOPHORA INCARNATA** Elm. Leafl. Philip. Bot. 5 (1913) 1661.

*Balanophora decurrens* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 51, non Fawc.

Luzon (Benguet, Pampanga, Bataan), Mindoro, Camiguin de Misamis, Mindanao, *Merrill 4078, 4603, 3947, 5022, Elmer 13674, 10870, Whitford 1113, B. S. 15700 Fénix, 14613 Ramos, F. B. 3649 Curran, Copeland 1420, 1230, Clemens 1066*. On roots of trees in forests at medium and higher altitudes, extending to 2,100 m. Endemic.

Local names: Kabokadkadtana (Bag.); magodaya (Mbo.).

**BALANOPHORA MICRANTHA** Warb. in Perk. Frag. Fl. Philip. (1905) 169; Elm. Leafl. Philip. Bot. 5 (1913) 1659.

*Balanophora trimera* Van Tiegh. in Ann. Sci. Nat. Bot. IX 6 (1907) 147; Fedde Repert. 7 (1909) 265.

*Balanophora alutacea* Hook. f. in Trans. Linn. Soc. 22 (1856) 47 (quoad Philip.); Elm. Leafl. Philip. Bot. 5 (1913) 1659, non Jungh.

*Balanophora abbreviata* Eichl. in DC. Prodr. 17 (1873) 148 (quoad Philip.); F.-Vill. Novis. App. (1880) 185, non Blume.

*Balanophora fawcettii* Elm. Leafl. Philip. Bot. 5 (1913) 1659.

Luzon (Tayabas, Laguna), Mindanao (Lanao), *Loher 5161, Elmer 7613, Baker 1802, Gates 7753, Clemens 1145*. In forests at medium altitudes, in Luzon growing on the roots of *Ficus nota* Merr. Endemic.

**BALANOPHORA SUBGLOBOSA** Elm. Leafl. Philip. Bot. 5 (1913) 1660.

Leyte, *Elmer 7197*. In hill forests, rare. Endemic.

## DOUBTFUL SPECIES

**CYNOMORIUM PHILIPPENSE** Blanco Fl. Filip. (1837) 665, ed. 2 (1845) 464, ed. 3, 3 (1879) 72; Eichl. in DC. Prodr. 17 (1873) 123; Merr. Sp. Blancoanae (1918) 134.

The description apparently refers to a *Balanophora*, but its status is otherwise entirely indeterminable from the very imperfect description.

## ARISTOLOCHIACEAE

## 1. ARISTOLOCHIA Tournefort

**ARISTOLOCHIA ELEGANS** Mast. in Gard. Chron. (1885) 2: 301; Merr. Fl. Manila (1912) 186.

Luzon (Cagayan, Manila), *Merrill, F. B. 18597 Alvarez*. A native of tropical America, introduced in the Philippines and cultivated only.

**ARISTOLOCHIA FOVEOLATA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 280.

Catanduanes, *B. S. 30370 Ramos*. In damp forests along small streams at low altitudes. Endemic.

**ARISTOLOCHIA HUMILIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 9.

Luzon (Tayabas, east coast), *B. S. 19423 Ramos, 28838, 28480 Ramos & Edaño*. In damp forests along streams at low altitudes. Endemic.

Local name: Tangotong-gúbat (Tag.).

**ARISTOLOCHIA LEYTENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 4.

Leyte, Samar, *B. S. 15201, 24558 Ramos, Wenzel 376*. In thickets and forests near streams at low altitudes. Endemic.

Local name: Maraburakán (S. L. Bis.).

**ARISTOLOCHIA MACGREGORII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 174.

Babuyan Islands (Dalupiri), *B. S. 10656 McGregor*. Endemic.

**ARISTOLOCHIA MEMBRANACEA** Merr. in Philip. Journ. Sci. 14 (1919) 381.

Luzon (Ilocos Norte), *B. S. 33338 Ramos*. On dry slopes, altitude about 350 m. Endemic.

**ARISTOLOCHIA MINDANAENSIS** Warb. in Perk Frag. Fl. Philip. (1905) 169.

Mindanao, *Warburg 14772, Williams 2692, Weber 1074*. In open forests at low altitudes; very closely allied to *Aristolochia tagala* Cham. Endemic.

**ARISTOLOCHIA PHILIPPINENSIS** Warb. in Perk. Frag. Fl. Philip. (1905) 170.

Luzon (Cagayan, Isabela, Ilocos Norte, Ifugao, Benguet, Pangasinan, Zambales, Rizal, Tayabas, Laguna, Sorsogon), Palawan, Bancalan, Negros. In thickets at low and medium altitudes, ascending to about 900 m in Benguet. Endemic.

Local name: Barubó (Neg.).

**ARISTOLOCHIA SAMARENSIS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 178.

Samar, *B. S. 24410 Ramos*. In damp forests at low altitudes. Endemic.

**ARISTOLOCHIA SERICEA** Blanco Fl. Filip. (1837) 283, ed. 2 (1845) 198, ed. 3, 1 (1877) 350; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 72, Sp. Blancoanae (1918) 134.

*Aristolochia imbricata* Mast. in Journ. Linn. Soc. Bot. 14 (1875) 494.

*Eragantia corymbosa* F.-Vill. Novis. App. (1880) 174, non Griff.

Luzon (Cagayan, Ilocos Norte, Union, Batangas), *Cuming 1247, Merrill Sp. Blancoanae 1049, B. S. 12962 Fenix, 22325 Ramos, 22725 Castillo*. In dry thickets at low and medium altitudes. Endemic.

Local names: Bañgísi (Ilk.); pañgísi (Ilk.).

**ARISTOLOCHIA TAGALA** Cham. in Linnaea 7 (1832) 207, t. 5, f. 3; Klotz. in Monatsber. Akad. Wissensch. Berlin (1859) 597; Duch. in DC. Prodr. 15<sup>1</sup> (1864) 480; F.-Vill. Novis. App. (1880) 174; Vidal Phan. Cuming. Philip. (1885) 138, Rev. Pl. Vasc. Filip. (1886) 218; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 72, Fl. Manila (1912) 186, Sp. Blancoanae (1918) 135.

*Aristolochia subsagittata* Blanco Fl. Filip. (1837) 283, ed. 2 (1845) 197, ed. 3, 1 (1877) 350, t. 104.

*Aristolochia indica* Blanco op. cit. 282, 197, 349; F.-Vill. Novis. App. (1880) 174, non Linn.

*Aristolochia roxburghiana* Klotz. in Monatsber. Akad. Wissensch. Berlin (1859) 596; F.-Vill. Novis. App. (1880) 174.

Throughout the Philippines at low and medium altitudes, in thickets; the type was from Cavite Province, Luzon. India to Malaya.

Local names: Altán (Tag.); goan-goan (Bis.); kamkamaulau (Ig.); malaubi (Tag.); nagerús (Ilk.); parolparulan (Tag.); talatalarum (Tag.); taoin-taoin (Ilk.); timbangan (Tag.); timbang-timbangan (Tag.).

## 2. BRAGANTIA Loureiro

**BRAGANTIA AFFINIS** Planch. ex Rolfe in Kew Bull. (1913) 265.

Samar, Panay, *Cuming 1689, Merrill 6700, B. S. 31120 Ramos & Edaño*. In damp forests along small streams at low and medium altitudes. Endemic.

**BRAGANTIA BREVIPES** Merr. in Philip. Journ. Sci. 17 (1920) 248.

Luzon (Tayabas), Alabat, Mindanao (Surigao), *B. S. 34811, 34369 Ramos & Pascasio, 13370 Ramos, Merrill 10490*. In damp forests along small streams at low altitudes. Endemic.

## RAFFLESIACEAE

### 1. RAFFLESIA R. Brown

**RAFFLESIA MANILLANA** Teschem. in Boston Journ. Nat. Hist. 4 (1841) 63, t. 6; Ann. Mag. Nat. Hist. 9 (1842) 381; Solms in Ann. Jard. Bot. Buitenz. 9 (1891) 241, t. 26, f. 7-10, Engl. Pflanzenreich 5 (1901) 9; W. H. Brown in Philip. Journ. Sci. 7 (1912) Bot. 209, t. 12-21; Merr. Sp. Blancoanae (1918) 135; Koord. Bot. Overzicht Raffl. Nederl.-Ind. (1918) 75.

*Rafflesia philippensis* Blanco Fl. Filip. ed. 2 (1845) 565.

*Rafflesia lagascae* Blanco op. cit. 595, ed. 3, 3 (1879) 231.

*Rafflesia cumingii* R. Br. in Trans. Linn. Soc. 19 (1845) 243; Hook. f. in DC. Prodr. 17 (1873) 112; F.-Vill. Novis. App. (1880) 174; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 684.

Luzon (Kalinga, Laguna), Samar, Leyte, *B. S. 25353 Yates, Elmer 17895, Merrill Sp. Blancoanae 535*. Parasitic on roots of *Cissus* in forests at medium altitudes; very local. Endemic.

**RAFFLESIA SCHADENBERGIANA** Göppert ex Hieron. in Gartenflora 34 (1885) 3, t. 1177; Solms in Ann. Jard. Bot. Buitenz. 9 (1891) 239, t. 26, f. 1-6, 17, Engl. Pflanzenreich 5(1901) 9; Koord. Bot. Overzicht Raffl. Nederl.-Ind. (1918) 81.

Mindanao (Davao), *Schadenberg & Koch*. On roots of *Cissus* in forests, altitude about 800 m. Endemic.

Local name: Bó-o (Bag.).

#### EXCLUDED SPECIES

**RAFFLESIA PATMA** Blume; F.-Vill. Novis. App. (1880) 174.

**BRUGMANSIA ZIPPELLII** Blume; F.-Vill. l. c.

### POLYGONACEAE

#### 1. RUMEX Linnaeus

**RUMEX ACETOSELLA** Linn. Sp. Pl. (1753) 538; F.-Vill. Novis. App. (1880) 173.

Luzon (Benguet). Introduced and thoroughly naturalized at Pauai, altitude about 2,400 m; it is very doubtful if F.-Villar saw actual Philippine specimens. A temperate country weed, native of Europe.

**RUMEX CRISPUS** Linn. Sp. Pl. (1753) 335.

Luzon (Benguet), *Merrill 4295, B. S. 32017 Santos, 3527 Mearns*. A native of Europe, now a widely distributed weed in temperate countries; in Benguet a recent introduction, but sparingly naturalized, altitude 1,400 to 2,200 m.

#### DOUBTFUL AND EXCLUDED SPECIES

**RUMEX CHINENSIS** Champ.; F.-Vill. Novis. App. (1880) 173.

**RHEUM MURICATUM** Blanco Fl. Filip. (1837) 327 = *Rumex muricatus* Blanco op. cit. ed. 2 (1845) 195, ed. 3, 1 (1877) 346; Merr. Sp. Blancoanae (1918) 136.

This was described by Blanco from cultivated specimens, and was reduced by F.-Villar, Novis. App. (1880) 173, to *Rumex maritimus* Linn. which is probably the correct disposition of it. The species, however, apparently no longer occurs in the Philippines, cultivated or otherwise.

#### 2. POLYGONUM Tournefort

**POLYGONUM APOENSE** Elm. Leaf. Philip. Bot. 8 (1915) 2796.

Mindanao (Davao, Lanao), *Elmer 10754, F. B. 25230 Alvarez*. In open glens in dense forests, altitude 1,000 to 2,000 m; an ally of *Polygonum virginianum* Linn. Endemic.

Local name: Karikút (Bag.).

**POLYGONUM BARBATUM** Linn. Sp. Pl. (1753) 362; Meisn. in DC. Prodr. 14 (1857) 104 (var. *vulgare* Meisn.); F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217; Merr. Fl. Manila (1912) 187, Sp. Blancoanae (1918) 135.

*Polygonum stoloniferum* Blanco Fl. Filip. (1837) 314, ed. 2 (1845) 219, ed. 3, 2 (1878) 45.

*Polygonum persicaria* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 407; F.-Vill. Novis. App. (1880) 172; Meisn. in DC. Prodr. 14 (1857) 117 quoad "Manila?", non Linn.

Northern Luzon to Mindanao, in open, usually wet places at low and medium altitudes, ascending to 1,400 m in some regions. India to Africa and Malaya.

Local names: Bukákau (Bik.); kanubsúban (Pamp.); kaykáyú (If.); saimbangan-tubig (Sul.); sigan-lúpa (Tag.); subsúban (Tag.).

**POLYGONUM BENGUETENSE** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 301.

Luzon (Benguet), *Merrill 8008, 9682, Phil. Pl. 768, B. S. 13483 Ramos, 14120 Robinson*. In open wet places, altitude 1,200 to 1,500 m.

The alliance of this species is apparently with *Polygonum strigosum* R. Br. It is represented by *Faurie 751, 765* from Formosa and *Levine 20, 218, 1647* from Kwangtung Province, China.

**POLYGONUM CHINENSE** Linn. Sp. Pl. (1753) 363; Meisn. in DC. Prodr. 14 (1856) 131 (var. *ovalifolium* Meisn.); Miq. Fl. Ind. Bat. 1<sup>1</sup> (1859) 1008; F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 272, 3 (1908) Bot. 405, 5 (1910) Bot. 346.

Batan Islands to Mindanao, in thickets and forests at medium and higher altitudes, 1,200 to 2,400 m. India to Japan southward to Malaya.

Local names: Bota-bota (Ig.); daynon (Ig.); kulangkúlang (Neg.); lang-gigit (If.); lutudan (Bon.); vonó (Iv.).

**POLYGONUM CONVULVULUS** Linn. Sp. Pl. (1753) 364; Meisn. in DC. Prodr. 14 (1857) 135; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 302.

Luzon (Benguet), *Merrill 9698*, a weed in gardens, altitude about 1,400 m. A widely distributed weed in temperate countries, a recently introduced plant in the Philippines.

**POLYGONUM GLABRUM** Willd. Sp. Pl. 2 (1799) 447; Meisn. in DC. Prodr. 14 (1857) 114; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 97.

Luzon (Benguet), *Elmer 5970, Merrill 7783, Loher 4595*, near rice paddies and in open swampy places, altitude 1,200 to 1,800 m. Tropical and subtropical parts of Asia, Africa, and America.

**POLYGONUM HYDROPIPER** Linn. Sp. Pl. (1753) 361; Meisn. in DC. Prodr. 14 (1857) 109; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 407; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 97.

Luzon (Benguet), *B. S. 31811 Santos, 14127 Robinson, Merrill 4428, Phil. Pl. 744, 1712, Williams 998 bis*. In open wet places, along streams, in old rice paddies, etc., altitude 1,200 to 2,000 m. Warmer parts of the world.

Local names: Agagat (Bon.); buding (Ig.); tuba (Bon.).

**POLYGONUM LANIGERUM** R. Br. Prodr. (1810) 419; Meisn. in DC. Prodr. 14 (1857) 117 (var. *indica* Meisn.); F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217.

Luzon (Cagayan, Ilocos Norte, Ifugao), *Cuming 1377, B. S. 7902 Ramos, 2262 Mearns, Topping 875*. In open wet lands, near streams, etc., at low and medium altitudes. India to Africa, China, and Formosa, southward to Australia.

**POLYGONUM MEARNsii** Elm. Leaf. Philip. Bot. 1 (1908) 289.

Luzon (Benguet), *Elmer 8357, Williams 1355*. In thickets, damp forests, altitude about 2,200 m. An endemic species of which the fruits are unknown; it is apparently very closely allied to *Polygonum posumbu* Ham. but has very narrow leaves.

**POLYGONUM MINUS** Huds. Fl. Angl. (1762) 148; Meisn. in DC. Prodr. 14<sup>1</sup> (1856) 111; Gage ex King & Gamble in Journ. As. Soc. Beng. 75<sup>1</sup> (1912) 19.

Luzon (Bontoc, Benguet), *Merrill 9679, Phil. Pl. 745, Vanoverbergh 80, 2206, B. S. 6000 Ramos, 14121 Robinson*. In open wet places, altitude 1,200 to 1,500 m. Europe, temperate and tropical Asia southward to Australia; introduced in North America.

**POLYGONUM ORIENTALE** Linn. Sp. Pl. (1753) 343; Meisn. in DC. Prodr. 14 (1857) 123.

Luzon (Pampanga, Rizal), Mindanao (Lanao, Bukidnon), *B. S. 26100 Félix, Merrill Phil. Pl. 310, Parker 49*. In open wet places along streams at low and medium altitudes. India to Japan southward to Australia.

**POLYGONUM PEDUNCULARE** Wall. Cat. (1829) No. 1718, *nomen nudum*; Meisn. in DC. Prodr. 14 (1857) 133; Gage ex King & Gamble in Journ. As. Soc. Beng. 75<sup>1</sup> (1912) 23.

*Polygonum strigosum* F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217, non R. Br.

Luzon (Benguet, Laguna), Mindoro, Mindanao, *Cuming 484, Elmer 7729, 18313, McGregor 173, Clemens 196, B. S. 24997*. In open wet lands, swamps, etc., at low and medium altitudes, in Benguet ascending to 1,400 m. India to China southward to Australia.

**POLYGONUM PERFOLIATUM** Linn. Syst. ed. 10 (1759) 1005; Meisn. in DC. Prodr. 14 (1857) 132; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 217; Ceron Cat. Pl. Herb. Manila (1892) 138.

Luzon (Lepanto, Bontoc, Benguet), Mindanao (Bukidnon), *Elmer 5793, Merrill Phil. Pl. 747, B. S. 5897 Ramos, 39020 Ramos & Edaño*. Sprawling

over thickets in ravines, altitude 1,300 to 1,600 m. India to Japan southward to Malaya.

Local name: Kan̄gigit (Ig.).

**POLYGONUM PLEBEIUM** R. Br. Prodr. (1810) 420; F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217.

*Polygonum roxburghii* Meisn. var. *spathulatum* Meisn. in DC. Prodr. 14 (1857) 93.

Luzon (Cagayan, Isabela, Benguet), *Cuning 1289, B. S. 7811, 7866 Ramos, Elmer 5968, Merrill Phil. Pl. 825*. In open places along streams at low altitudes, ascending to 1,400 m in Benguet. Tropical and subtropical Asia, Africa, and Australia.

**POLYGONUM POSUMBU** Ham. in D. Don Prodr. Fl. Nepal. (1823) 71; Meisn. in DC. Prodr. 14 (1857) 105; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 98; Merr. op. cit. 5 (1910) Bot. 346.

Luzon (Benguet, Bontoc), Mindanao (Davao), *Merrill 6575, 4805, Phil. Pl. 7681, Williams 1450, Elmer 5776*. In open wet places, along trails, etc., altitude 1,400 to 1,800 m. India to Japan southward to Java.

Local names: Karosros (Bag.); tugtugilang (Bon.).

**POLYGONUM PRAETERMISSUM** Hook. f. Fl. Brit. Ind. 5 (1886) 47; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 98.

Luzon (Benguet), *Merrill 4521, 7749, 7705, Phil. Pl. 1713*. In open swamps, along small streams, etc., altitude 1,400 to 2,000 m. India to China; also in Tasmania.

**POLYGONUM PUNCTATUM** Ham. in D. Don Prodr. Fl. Nepal. (1825) 72; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 346.

*Polygonum punctatum* Ham. var. *alatum* Ham. in D. Don Prodr. Fl. Nepal. (1825) 72.

*Polygonum alatum* Ham. ex Spreng Syst. Veg. Cur. Post. (1827) 154; Hook. f. Fl. Brit. Ind. 5 (1886) 39; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 97.

*Polygonum nepalense* Meisn. Monogr. (1826) 128; DC. Prodr. 14 (1857) 128.

Luzon (Bontoc, Benguet), *Merrill 9681, Phil. Pl. 717, Williams 1147, Elmer 6603, Lohr 5207*. In open damp places, on hills, etc., altitude 1,300 to 1,800 m. Southern Asia to Japan, southward to Java and New Guinea.

**POLYGONUM ROETTLERI** Roth Nov. Pl. Sp. (1821) 205.

*Polygonum flaccidum* Meisn. in DC. Prodr. 14<sup>1</sup> (1857) 107; Gage in Journ. As. Soc. Beng. 75<sup>1</sup> (1912) 21; F.-Vill. Novis. App. (1880) 172.

Luzon (Cagayan), *F. B. 11609 Curran*. In swampy places at low altitudes. India to China, Formosa, and Malaya.

**POLYGONUM TOMENTOSUM** Willd. Sp. Pl. 2 (1799) 447; Meisn. in DC. Prodr. 14 (1857) 124; F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 218; Merr. Fl. Manila (1912) 187, Sp. Blancoanae (1918) 136.



*Polygonum bellardi* Blanco Fl. Filip. (1837) 314, ed. 2 (1845) 219, ed. 3, 2 (1878) 45, non All.

*Polygonum orientale* F.-Vill. Novis. App. (1880) 172, non Linn.

Northern Luzon to Palawan and Mindanao, in shallow-water swamps, etc., at low and medium altitudes. India to Africa, southern China, and Malaya.

Local names: Kabakbák (Mag.); mandianag (Sub.); subsúban (Tag.).

### 3. CORCULUM Stuntz

(*Antigonon* Endlicher)

**CORCULUM LEPTOPUS** (Hook. & Arn.) Stuntz in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 282 (1913) 86.

*Antigonon leptopus* Hook. & Arn. Bot. Beechy's Voy. (1841) 308, t. 69; Meisn. in DC. Prodr. 14 (1857) 184; Ceron Cat. Pl. Herb. Manila (1892) 138; Merr. Fl. Manila (1912) 188.

*Antigonon cordatum* F.-Vill. Novis. App. (1880) 171; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 462, non Mart. & Gal.

A native of tropical America, probably introduced into the Philippines about 1870, now in common cultivation throughout the Archipelago for ornamental purposes. Widely known as *cadena de amor* (Sp.).

Stuntz in proposing the new generic term *Corculum* notes that *Antigonon* is not technically published by Endlicher, and is, moreover, antedated by *Antigonon* Velloso.

### 4. MUEHLENBECKIA Meisner

**MUEHLENBECKIA PLATYCLADA** Meisn. in Bot. Zeit. 22 (1865) 313; F.-Vill. Novis. App. (1882) 354; Vidal Rev. Pl. Vasc. Filip. (1886) 218; Merr. Fl. Manila (1912) 188.

*Exocarpus ceramicus* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 317, non DC.

A native of Polynesia, probably introduced into the Philippines about 1870, now widely cultivated in gardens.

Local name: Alupihan (Tag.).

## CHENOPODIACEAE

### 1. CHENOPODIUM Linnaeus

**CHENOPODIUM ACUMINATUM** Willd. in Ges. Nat. Fr. Neue Schr. 2 (1799) 124, t. 5, f. 2; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 405.

Batan Islands, *B. S. 3807 Fénic*. In waste places. An introduced weed; of wide distribution in temperate and subtemperate regions.

**CHENOPODIUM AMBROSIOIDES** Linn. Sp. Pl. (1753) 219; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1857) 1017; F.-Vill. Novis. App. (1880) 171; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 25; Philip. Journ. Sci. 5 (1910) Bot. 346, Fl. Manila (1912) 189, Sp. Blancoanae (1918) 136.

Throughout the Philippines in the settled areas, cultivated and spontaneous; at medium and higher altitudes (Benguet) often very abundant. A native of Mexico, now of pantropic distribution.

Local names: Adlabón (Ig.); alpasóte, alpasótis, aposótis, pasótis (Tag., Bis., Ilk., all corruptions of the Mexican *apazotl*); bulbúla (Bon.); libug (If.).

**CHENOPODIUM POLYSPERMUM** Linn. Sp. Pl. (1753) 220; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 145.

Luzon (Benguet), *Guerrero*. In waste places, altitude about 1,300 m. A casual weed, introduced; widely distributed in temperate and subtemperate regions.

EXCLUDED SPECIES

**CHENOPODIUM ALBUM** Linn.; F.-Vill. Novis. App. (1880) 171.

I have seen no Philippine material representing this widely distributed weed. Two other representatives of the family are reported from the Philippines, the common beet (*Sp. remolacha*), *Beta vulgaris* Linn., and *Spinacia oleracea* Mill. The beet is fairly common in cultivation but its occurrence is dependent on annually imported seeds; I have seen no spinach in the Philippines.

AMARANTHACEAE

1. **DEERINGIA** R. Brown

**DEERINGIA AMARANTHOIDES** (Lam.) Merr. Interpret. Herb. Amb. (1917). 211, Sp. Blancoanae (1918) 136.

*Achyranthes amaranthoides* Lam. Encycl. 1 (1785) 548.

*Celosia baccata* Retz. Obs. 5 (1789) 23; Blanco Fl. Filip. (1837) 193.

*Deeringia celosioides* R. Br. Prodr. (1810) 413; Blanco Fl. Filip. ed. 2 (1845) 135, ed. 3, 1 (1877) 244, t. 236; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1025; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 215; F.-Vill. Novis. App. (1880) 167.

*Deeringia baccata* Moq. in DC. Prodr. 13<sup>2</sup> (1849) 236; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 51, Fl. Manila (1912) 190.

*Deeringia indica* Retz. ex Blume Bijdr. (1825) 542; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 407.

Luzon (Ilocos Norte to Batangas), Mindoro. Common in thickets at low and medium altitudes. India to China southward to Australia.

Local names: Aribugbúg (Ilk.); aribukbúk (Ilk.); ditiran (Tag.); hagarilis (Tag.); hanlilimókan (Bis.); sili-silihan (Tag.); suni-súni (Ilk.).

**DEERINGIA POLYSPERMA** (Roxb.) Moq. in DC. Prodr. 13<sup>2</sup> (1849) 236. *Celosia polysperma* Roxb. Fl. Ind. 2 (1824) 511.

*Deeringia indica* Zoll. ex Moq. in DC. Prodr. 13<sup>2</sup> (1849) 236; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1026; F.-Vill. Novis. App. (1880) 167; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 215; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 51, 3 (1908) Bot. 405, non Retz.

*Lestibudesia latifolia* Blume Bijdr. (1825) 541.

Batan Islands to Mindanao and Palawan, common in thickets at low and medium altitudes, in Benguet ascending to 1,800 m. Malay Peninsula to the Moluccas.

Local names: Aditít (Iv.); babanat (Is.); bauañgán (Ig.); bayambáng (Tag.); bitoan (Mbo.); chaksil (Ig.); hagarilis (Tag.); paparangan (Mag.); sipsíp (Ig.); tagamtam (Bik.); talakták (Pamp.).

Var. **PUBESCENS** (Schinz) comb. nov.

*Deeringia indica* Zoll. var. *pubescens* Schinz in Bull. Herb. Boiss. II 3 (1903) 3.

Northern Luzon. *Warburg 11703*. Endemic.

## EXCLUDED SPECIES

DEERINGIA ALTISSIMA F. Muell.; F.-Vill. Novis. App. (1880) 167.

## 2. CELOSIA Linnaeus

CELOSIA ARGENTEA Linn. Sp. Pl. (1753) 205; Blanco Fl. Filip. (1837) 192, ed. 2 (1845) 135, ed. 3, 1 (1877) 243; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 407; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1028; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 216; F.-Vill. Novis. App. (1880) 167; Merr. Fl. Manila (1912) 190, Sp. Blancoanae (1918) 137.

Throughout the Philippines at low and medium altitudes in the settled areas; an introduced weed. Pantropic.

Local names: Kadayohan (Tag.); kindayohan (Tag.); kudiapa (Bis.); lofói (Ilk.); sansandók (Ilk.); taguhug (P. Bis.).

CELOSIA CRISTATA Linn. Sp. Pl. (1753) 205; Blanco Fl. Filip. (1837) 191; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1027; F.-Vill. Novis. App. (1880) 167; Merr. Sp. Blancoanae (1918) 137.

*Celosia coccinea* Linn. Sp. Pl. ed. 2 (1762) 297; Blanco Fl. Filip. ed. 2 (1845) 134, ed. 3 1 (1877) 241, t. 64.

In fairly common cultivation for ornamental purposes, rarely spontaneous or subsontaneous; the cockscomb, introduced. All warm countries.

Local names: Daling-manuk (Sul.); padong-padóngan (Bis.); palong-manók (Tag.); palong-paluñgan (Bik., Tag.); papaknoñgon-manók (Bik.); taptapiñgár (Ilk.).

## DOUBTFUL AND EXCLUDED SPECIES

CELOSIA PHILIPPICA Steud. Nomencl. ed. 2, 1 (1841) 316; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 241; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1027; F.-Vill. Novis. App. (1880) 168.

*Lestibudesia philippica* Weinm. in Syll. Ratisb. 1 (1828) 118.

"In ins. Lucon prope Manillam" Moquin. I do not recognize the species, which may not have been from the Philippines.

CELOSIA CERNUA Juss.; F.-Vill. Novis. App. (1880) 168.

CELOSIA PHYTOLOCCAEOFOLIA Juss.; F.-Vill. l. c.

CELOSIA BICOLOR Blanco Fl. Filip. (1837) 191; Merr. Sp. Blancoanae (1918) 383.

*Celosia glauca* Blanco op. cit. ed. 2 (1845) 135, ed. 3, 1 (1877) 242, non Rottl.

Fernandez-Villar referred this to *Celosia philippica* Steud., but Blanco's description presents nothing in common with that of the latter species. The form described by Blanco was certainly no amarantaceous plant, and may possibly have been a species of *Ammannia* of the Lythraceae; I cannot determine its status from the imperfect description.

## 3. ALLMANIA R. Brown

ALLMANIA ALBIDA R. Br. in Wall. Cat. (1832) No. 6981, *nomen nudum*; F.-Vill. Novis. App. (1880) 168, Rev. Pl. Vasc. Filip. (1886) 216, Phan. Cuming. Philip. (1885) 137.

*Chamissoa albida* Moq. in DC. Prodr. 13<sup>2</sup> (1849) 248, non Mart.

Mindoro, *Cuming 1567, Merrill 3358*. In sandy soil along the seashore. India and Ceylon to Java.

#### 4. AMARANTHUS Linnaeus

**AMARANTHUS PANICULATUS** Linn. Sp. Pl. ed. 2 (1763) 1406; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 257; F.-Vill. Novis. App. (1880) 168; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 430; Usteri Beitr. Ken. Philip. Veg. (1905) 124.

*Amaranthus caudatus* Merr. Fl. Manila (1912) 193, non Linn.

Northern Luzon to Mindanao, in open waste places at low and medium altitudes, sometimes cultivated; certainly introduced. Tropical Asia, Africa, and Malaya.

Local names: Halon (Tag.); kadiapa (Bik.); kalúnai (Ilk.); koyapa (C. Bis.); kudiapa (Bis.); kuliapa (P. Bis.); urai (Tag.).

**AMARANTHUS SPINOSUS** Linn. Sp. Pl. (1753) 991; Blanco Fl. Filip. (1837) 710, ed. 2 (1845) 491, ed. 3, 3 (1879) 113; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 260; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1031; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 405; F.-Vill. Novis. App. (1880) 168; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 216; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 71, Philip. Journ. Sci. 5 (1910) Bot. 346, Fl. Manila (1912) 192, Sp. Blancoanae (1918) 137.

Throughout the Philippines, a weed in open waste places, gregarious and abundant along sand bars and margins of streams; probably introduced in the Philippines. Pantropic.

Local names: Akum (Mag.); alayon (If.); ayantoto (Pamp.); báoon (Bon.); bayambáng (Tag.); gitin-gítng (Sul.); harum (Bis.); kalítis (Bis.); kalúnai (Ilk.); kilitis (Tag., Bik.); kuantón (Ilk.); kuantúng (Ilk.); kulítis (P. Bis.); oort (Tag.); orái (Tag.); tadtád (Bon.); tai-kuda (Sul.); tilítis (Bis.); urái (Tag.); uri (Tag.).

**AMARANTHUS TRICOLOR** Linn. Sp. Pl. (1753) 989; Merr. Interpret. Herb. Amb. (1918) 213.

*Amaranthus gangeticus* Linn. Syst. ed. 10 (1759) 1268; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 261; F.-Vill. Novis. App. (1880) 168; Merr. Fl. Manila (1912) 193, Sp. Blancoanae (1918) 137.

*Amaranthus cruentus* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 289, non Linn.

*Amaranthus mangostanus* Blanco Fl. Filip. (1837) 711, ed. 2 (1845) 492, ed. 3, 3 (1879) 114, non Linn.

*Amaranthus melancholicus* F.-Vill. Novis. App. (1880) 168, non ? Linn.

Northern Luzon to Mindanao; an occasional weed in waste places, more commonly cultivated, both typical *tricolor*, the upper leaves bright red, and a form with uniformly brownish purple leaves. Introduced. Pantropic.

Local names: Halon (Tag.); kolítis (Tag.).

**AMARANTHUS VIRIDIS** Linn. Sp. Pl. ed. 2 (1763) 1405; F.-Vill. Novis. App. (1880) 169; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 405, Fl. Manila (1912) 193.

*Euxolus caudatus* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 262, non Moq.

*Euxolus viridis* Moq. in DC. Prodr. 13<sup>1</sup> (1849) 273.

Throughout the Philippines at low and medium altitudes; a common weed, probably introduced. All warm countries.

Local names: Báuan (Bon.); halom (Tag., Bis.); halunapa (Sul.); ka-diapa (Mbo.); kalúnai (Ilk.); kilitis (Bik.); kolites (Tag.); kulitis (Tag.); nási (It.); siitán (Ilk.); sitán (Ib.).

## DOUBTFUL AND EXCLUDED SPECIES

AMARANTHUS BLITUM Linn.; F.-Vill. Novis. App. (1880) 168.

AMARANTHUS LIVIDUS Linn.; F.-Vill. l. c.

AMARANTHUS MANGOSTANUS Linn. F.-Vill. l. c.

AMARANTHUS OLERACEUS Linn.; F.-Vill. l. c.

AMARANTHUS TRISTIS Linn.; F.-Vill. l. c.

AMARANTHUS SALICIFOLIUS Hort. in Gard. Chron. (1871) 1550, f. 331.

"It was, we are informed, introduced from the Philippines." I do not recognize the species, which was, in all probability, not of Philippine origin. The figure is of a leafy branch only.

## 5. CYATHULA Loureiro

CYATHULA LANCIFOLIA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 179.

Luzon (Sorsogon), Samar, *Elmer 15753*, *B. S. 24514, 24553 Ramos*. In damp forests at low altitudes. Endemic.

Local name: Rukot-dúkot (S. L. Bis.).

CYATHULA PROSTRATA (Linn.) Blume Bijdr. (1825) 549; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 326; F.-Vill. Novis. App. (1880) 169; Vidal Phan. Cuming. Philip. (1885) 137; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 51, Manila (1912) 194.

*Achyranthes prostrata* Linn. Sp. Pl. ed. 2 (1762) 296.

*Cyathula geniculata* Lour. Fl. Cochinch. (1790) 102; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1045; Vidal Rev. Pl. Vasc. Filip. (1886) 216.

Throughout the Philippines at low and medium altitudes, in waste places, thickets, etc. Pantropic.

Local names: Bakbáka (Ilk.); dayáng (Tag.); dokat-dókat (Bis.); sait-sait (Sul.); tuhod-manók (Tag.).

## 6. PUPALIA Jussieu

PUPALIA LAPPACEA (Linn.) Juss. in Ann. Mus. Paris 2 (1803) 132; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 331; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1046; F.-Vill. Novis. App. (1880) 169; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 269.

*Achyranthes lappacea* Linn. Sp. Pl. (1753) 204.

*Achyranthes atropurpurea* Lam. Encycl. 1 (1785) 546.

*Desmochaeta flavescens* DC. Cat. Hort. Monsp. (1813) 102; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 405.

*Pupalia atropurpurea* Moq. in DC. Prodr. 13<sup>2</sup> (1849) 331; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1046; F.-Vill. Novis. App. (1880) 169; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 216; Merr. Fl. Manila (1912) 193.

Luzon (Ilocos Norte, Ilocos Sur, Bontoc, Union, Pangasinan, Rizal, Laguna), Panay, Guimaras. In dry thickets at low and medium altitudes; not common. India to Madagascar, the Malay Peninsula, and Java.

Local names: Dokot-dókot (Bis.); igadígad (Ilk.); taguyupyúp (Ilk.).

#### 7. AERUA Forskål

**AERUA LANATA** (Linn.) Juss. in Ann. Mus. Paris 11 (1808) 131; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 1039; Moq. in DC. Monog. Phan. 13<sup>2</sup> (1849) 303; F.-Vill. Novis. App. (1880) 169; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 216; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 52, Fl. Manila (1912) 194, Sp. Blancoanae (1918) 138.

*Achyranthes lanata* Linn. Sp. Pl. (1753) 204.

*Illecebrum lanatum* Linn. Mant. 2 (1771) 344; Blanco Fl. Filip. (1837) 190.

*Celosia lanata* Blanco Fl. Filip. ed. 2 (1845) 134, ed. 3, 1 (1877) 241, t. 354, non Linn.

*Aerua brachiata* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 405, non Mart.

Iuzon (Union to Batangas), Mindoro, Marinduque, Panay. Common in open dry waste places at low and medium altitudes, in regions subject to a prolonged dry season; probably introduced. India to tropical Africa and Malaya (Sumatra, Java).

Local names: Apugapúgan (Tag.); karlátan (Ilk.); pamaynap (Tag.); taba-áhas (Tag.).

**AERUA SCANDENS** (Roxb.) Wall. Cat. (1832) No. 6911; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 302; F.-Vill. Novis. App. (1880) 169; Ceron Cat. Pl. Herb. Manila (1892) 137; Usteri Beitr. Ken. Philip. Veg. (1905) 124.

*Achyranthes scandens* Roxb. Fl. Ind. 2 (1824) 509.

*Aerua velutina* Moq. in DC. Prodr. 13<sup>2</sup> (1849) 301; F.-Vill. Novis. App. (1880) 169; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 216.

*Desmotheca velutina* Wall. Cat. (1832) No. 6935, *nomen nudum*.

Luzon (Cagayan, Batangas, Ilocos Norte), Guimaras, Mindoro, Palawan. In dry thickets at low and medium altitudes. India to China and Formosa, southward to Java.

Local name: Samsam (Tagb.).

#### EXCLUDED SPECIES

**AERUA JAVANICA** Juss.; F.-Vill. Novis. App. (1880) 169.

**AERUA SANGUIOLENTA** Blume; F.-Vill. l. c.

**AERUA TIMORENSIS** Moq.; F.-Vill. l. c.

#### 8. PSILOTRICHUM Blume

**PSILOTRICHUM TRICHOTOMUM** Blume Bijdr. (1825) 545; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 280; F.-Vill. Novis. App. (1880) 169; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 216.

Luzon (Bontoc, Nueva Vizcaya, Laguna), Samar, Leyte, Mindanao, Cuming 658, B. S. 11485 McGregor, 24172 Ramos, 37379 Ramos & Edaña,

*Merrill 7302*. In open wet places at low and medium altitudes; rare. India to the Malay Peninsula, Sumatra, Java, and Borneo.

Local name: Katiangkas (Sub.).

#### 9. ACHYRANTHES Linnaeus

**ACHYRANTHES ASPERA** Linn. Sp. Pl. (1753) 204; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 314; Blanco Fl. Filip. (1837) 188, ed. 2 (1845) 133, ed. 3, 1 (1877) 239; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1042; F.-Vill. Novis. App. (1880) 170; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217; Merr. Fl. Manila (1912) 195, Sp. Blancoanae (1918) 138.

*Desmochaeta repens* Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 105, non R. & S.

Throughout the Philippines at low and medium altitudes, a weed in open waste places; a pantropic weed, probably introduced in the Philippines.

Local names: Angud (Pamp.); deket-déket (Ilk.); dokot-dókot (Tag.); garém (Ilk.); guéla (Neg.); hañgód (Tag.); hañgór (Tag.); hañgót (Tag.); higad-hígad (Ilk.); líbai (Tag.); lopo-lópo (Bis.); nīknīkītan (Bon.); ragragádi (Ilk.); saramo (Bis.).

**ACHYRANTHES BIDENTATA** Blume Bijdr. (1825) 545; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 312.

Mindanao (Bukidnon, Lanao), *Clemens, B. S. 38877 Ramos & Edaño*. In old clearings, altitude 600 to 1,000 m. India to Japan southward to Java. This is probably better treated merely as a variety of *Achyranthes aspera* Linn. as O. Kuntze has done, Rev. Gen. Pl. (1891) 535.

Local name: Masiya (Buk.).

#### EXCLUDED SPECIES

**ACHYRANTHES AQUATICA** R. Br.; F.-Vill. Novis. App. (1880) 170.

**ACHYRANTHES FRUTICOSA** Lam.; F.-Vill. l. c.

**ACHYRANTHES GRANDIFOLIA** Moq.; F.-Vill. l. c.

**ACHYRANTHES JAVANICA** Moq.; F.-Vill. l. c.

#### 10. ALTERNANTHERA Forskål

**ALTERNANTHERA FICOIDES** (Linn.) R. Br. ex Roem. & Schultes Syst. 5 (1819) 555; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 404.

*Gomphrena ficoidea* Linn. Sp. Pl. (1753) 225.

*Gomphrena polygonoides* Linn. l. c.

*Teleianthera manillensis* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 404.

*Telanthera ficoides* Moq. in DC. Prodr. 13<sup>2</sup> (1849) 363; F.-Vill. Novis. App. (1880) 170.

*Telanthera polygonoides* Moq. l. c.

*Telanthera frutescens* Moq. var. *manillensis* Moq. in DC. Prodr. 13<sup>2</sup> (1849) 366.

*Alternanthera frutescens* Merr. Fl. Manila (1912) 192, non ? R. Br.

Common in low lands about Manila, especially within the influence of brackish water; also in Negros, *Merrill 8, 3418, Phil. Pl. 1508*. Introduced from tropical America.

Local name: Lupug-lupug (P. Bis.).

**ALTERNANTHERA SESSILIS** (Linn.) R. Br. ex R. & S. Syst. 5 (1819) 554; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1048; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 357; F.-Vill. Novis. App. (1880) 170; Merr. Fl. Manila (1912) 191, Sp. Blancoanae (1918) 138.

*Gomphrena sessilis* Linn. Sp. Pl. (1753) 225.

*Illecebrum sessile* Linn. Sp. Pl. ed. 2 (1762) 300.

*Achyranthes villosa* Blanco Fl. Filip. (1837) 189, ed. 2 (1845) 134, ed. 3, 1 (1877) 240, non Forsk.

*Illecebrum triandrum* Llanos Frag. Pl. Filip. (1851) 61; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>2</sup> (1880) 43, non Ham.

*Alternanthera denticulata* F.-Vill. Novis. App. (1880) 170; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217, non R. Br.

Throughout the Philippines in the settled areas at low and medium altitudes; a common weed in open usually wet places. Pantropic.

Local names: Bilanamanut (Mag.); boñga-bóñga (Tag.); gogoát (Bon.); sákit (Bon.); tagtágu (Bon.).

**ALTERNANTHERA VERSICOLOR** Hort. ex Regel in Gartenfl. (1869) 101; Merr. Fl. Manila (1912) 192.

*Telanthera versicolor* Regel Ind.-Sem. Hort. Petrop. (1868) 83.

Commonly cultivated as a border plant in gardens on account of its colored leaves, where native uncertain. Pantropic in cultivation. In the Philippines it is sometimes known as *San Diego*.

#### 11. GOMPHRENA Linnaeus

**GOMPHRENA GLOBOSA** Linn. Sp. Pl. (1753) 224; Blanco Fl. Filip. (1837) 198, ed. 2 (1845) 139, ed. 3, 1 (1877) 251, *t. 63*; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1050; F.-Vill. Novis. App. (1880) 170; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 22, 27 (1905) 71, Fl. Manila (1912) 191, Sp. Blancoanae (1918) 138.

Throughout the settled areas of the Philippines in cultivation, often occurring as an escape; introduced. All warm countries.

Local names: Bokíñgan (Tag.); botbotónes (Ilk.); botoncillo (Sp.); botones-botonésan (Tag.); bukiñgan (Tag.); bulah (Bag.); butíñgan (S. L. Bis.).

#### 12. IRESINE P. Browne

**IRESINE HERBSTII** Hook. in Gard. Chron. (1864) 654, 1206.

Luzon (Bontoc, Laguna, Manila), Leyte, occasional in cultivation. A native of Brazil, a recently introduced plant in the Philippines.

#### EXCLUDED GENERA

DIGERA ARVENSIS Forsk.; F.-Vill. Novis. App. (1880) 168.

NOTHOSAERUA BRACHIATA Wight; F.-Vill. op. cit. 169.

#### NYCTAGINACEAE

##### 1. MIRABILIS Linnaeus

**MIRABILIS JALAPA** Linn. Sp. Pl. (1753) 177; Choisy in DC. 13<sup>2</sup> (1849) 428; F.-Vill. Novis. App. (1880) 166; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 988; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 70, Fl. Manila (1912) 197, Sp. Blancoanae (1918) 139.



*Mirabilis longiflora* Blanco Fl. Filip. (1837) 77, ed. 2 (1845) 57, ed. 3, 1 (1877) 109, non Linn.

Throughout the Philippines in the settled areas in cultivation and frequently spontaneous in the vicinity of towns. Introduced from Mexico by the Spaniards at an early date, now pantropic.

Local names: A las cuatro, maravilla (Sp.); gilála (Tag.); oración (Sp.); suspiros (Sp.); tallang (Sul.).

## 2. BOERHAAVIA Linnaeus

**BOERHAAVIA DIFFUSA** Linn. Sp. Pl. (1753) 3; Choisy in DC. Prodr. 13<sup>2</sup> (1849) 452; Blanco Fl. Filip. (1837) 8, ed. 2 (1845) 6, ed. 3, 1 (1877) 11, t. 93; F.-Vill. Novis. App. (1880) 166; Merr. Fl. Manila (1912) 197, Sp. Blancoanae (1918) 139.

*Boerhaavia repens* Linn. Sp. Pl. (1753) 3; Usteri Beitr. Ken. Philip. Veg. (1905) 134.

Throughout the Philippines in open places in the settled areas at low and medium altitudes; a common weed in and about towns. Pantropic.

Local names: Katkátud (Ilk.); paanbalíbis (Tag.); tatabókol (Ilk.).

### EXCLUDED SPECIES

**BOERHAAVIA REPANDA** Willd.; F.-Vill. Novis. App. (1880) 167.

## 3. BOUGAINVILLEA Commerson

**BOUGAINVILLEA SPECTABILIS** Willd. Sp. Pl. 2 (1799) 348 (*Buginvillaea*); F.-Vill. Novis. App. (1880) 167; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 32, Fl. Manila (1912) 196.

A native of tropical America, now widely cultivated for ornamental purposes in the larger towns of the Philippines.

## 4. PISONIA Plumier

**PISONIA ACULEATA** Linn. Sp. Pl. (1753) 1026; Blanco Fl. Filip. (1837) 195, ed. 2 (1845) 137, ed. 3, 1 (1877) 247, t. 394; Choisy in DC. Prodr. 13<sup>2</sup> (1849) 440; F.-Vill. Novis. App. (1880) 167; Vidal Sinopsis Atlas (1883) 36, t. 76, f. A, Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 215; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 70, Fl. Manila (1912) 196, Sp. Blancoanae (1918) 139.

Northern Luzon to Mindanao, in thickets and open forests at low and medium altitudes. Pantropic.

Local names: Digkit (Tag.); kabai (Mbo.); kolifafo (Ibn.); mankit (Tag.); marinoai (Mbo.); paang-tikling (Tag.); pakat-áso (Tag.); pana-kla (Tag.); puriket (Ilk.); puriket-ti-bákir (Ilk.).

**PISONIA ALBA** Spanoghe in Linnaea 15 (1841) 342; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 990; Merr. Fl. Manila (1912) 196, Interpret. Herb. Amb. (1917) 216, Sp. Blancoanae (1918) 140.

*Cordia olitoria* Blanco Fl. Filip. (1837) 123, ed. 2 (1845) 88, ed. 3, 1 (1877) 159, t. 44, non *Pisonia olitoria* Zoll.

*Pisonia inermis* Vidal Sinopsis (1883) 36, t. 76, f. C., non Forst. f.

In towns cultivated for ornamental purposes, not a native of the Philippines. It very seldom produces flowers in the Archipelago and is perhaps

not specifically distinct from the Malayan *Pisonia sylvestris* Teysm. & Binn. Tropical Asia and Malaya, in cultivation.

Local names: Koles-malúko (Tag.); malúko (Tag.).

**PISONIA LONGIROSTRIS** Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 25 (1863) 401; Valetton in Ic. Bogor. 1 (1897) t. 21 sub nom. *P. cauliflora* cf. errata p. 149; C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 65.

*Calpidia longirostris* Heimerl. in Oester. Bot. Zeitschr. 63 (1913) 287.

Jolo, Williams 3125. A very characteristic species, otherwise known only from the Moluccas (Buru) and New Guinea.

**PISONIA GRANDIS** R. Br. Prodr. (1810) 422.

*Pisonia inermis* Forst. f. Prodr. (1786) 75; Choisy in DC. Prodr. 13<sup>2</sup> (1849) 441; Seem. in Journ. Bot. 1 (1863) 246; F.-Vill. Novis. App. (1880) 167, non Jacq.

*Pisonia brunoniana* Endl. Prodr. Fl. Norf. (1833) 43; Choisy in DC. Prodr. 13<sup>2</sup> (1849) 441.

Bancoran (Sulu Sea), Merrill 7156, the enormous trees forming a gregarious forest entirely covering the island to the exclusion of all other trees. Moluccas, northeastern Australia, and across Polynesia to the Palmyra Islands.

**PISONIA UMBELLIFERA** (Forst.) Seem. in Bonplandia 10 (1862) 154, Journ. Bot. 1 (1863) 244; F.-Vill. Novis. App. (1880) 167; Vidal. Sinopsis Atlas (1883) 36, t. 76, f. B; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 19.

*Ceodes umbellifera* Forst. Char. Gen. (1776) 71, t. 71.

*Ceodes umbellata* Forst. f. Prodr. (1786) 93.

*Pisonia excelsa* Blume Bijdr. (1825) 735; Choisy in DC. Prodr. 13<sup>3</sup> (1849) 441; F.-Vill. Novis. App. (1880) 167; Vidal Phan. Cuming. Philip. (1885) 136, Rev. Pl. Vasc. Filip. (1886) 215; Merr. Sp. Blancoanae (1918) 139.

*Buginvillea racemosa* Blanco Fl. Filip. (1837) 307, ed. 2 (1845) 214, ed. 3, 2 (1878) 36.

*Cedrota guianensis* Blanco Fl. Filip. ed. 2 (1845) 213, ed. 3, 2 (1878) 33, non Raesch.

*Pisonia gammillii* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 175.

*Calpidia excelsa* Heimerl. in Oester. Bot. Zeitschr. 63 (1913) 287.

*Pisonia villosa* Vidal Cat. Pl. Prov. Manila (1880) 41, non Poir.

Northern Luzon to Palawan and Mindanao, in damp forests and in thickets at low and medium altitudes, locally abundant. Formosa, Java, and Malaya to Australia and Polynesia.

Local names: Anilin (Tagb.); anúling (Ting., Tagb., Tag., Bik., P. Bis.); anuring (P. Bis.); balagasáha (Tag.); budubud (C. Bis.); maktás (Ilk.); malagasáha (Bik.); malasá-a (Tag.); malaságing (C. Bis.); obod-óbod (Mbo.); patdang-labúyo (Tag.); tagkúling (C. Bis.); takan (C. Bis.); tampa (P. Bis.).

## PHYTOLACCACEAE

### 1. RIVINIA Linnaeus

**RIVINIA HUMILIS** Linn. Sp. Pl. (1753) 121, var. **GLABRA** (Linn.) H. Walt. in Engl. Pflanzenreich 39 (1909) 105.

*Rivinia laevis* Linn. Mant. 1 (1767) 41; F.-Vill. Novis. App. (1880) 172; Ceron Cat. Pl. Herb. Manila (1892) 137.

Luzon, Merrill 8499, B. S. 19126 Graff. Occasional in waste places about Manila; a recent introduction which may not persist. Pantropic.

## AIZOACEAE

### 1. MOLLUGO Linnaeus

**MOLLUGO LOTOIDES** (Linn.) C. B. Clarke in Hook. f. Fl. Brit. Ind. 2 (1879) 662, 776; Merr. Fl. Manila (1912) 199, Sp. Blancoanae (1918) 140.

*Glinus lotoides* Linn. Sp. Pl. (1753) 463; Blanco Fl. Filip. (1837) 413, ed. 2 (1845) 288, ed. 3, 2 (1878) 169.

*Mollugo hirta* Thunb. Prodr. Fl. Cap. (1794) 24; F.-Vill. Novis. App. (1880) 100; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 144.

Luzon (Ilocos Norte to Rizal), in open waste places about towns, rice paddies, etc., at low and medium altitudes. Pantropic.

Local names: Amargóso-bábi (Pamp.); lobio (Tag.); pápait-ti-nuáng (Ilk.).

**MOLLUGO OPPOSITIFOLIA** Linn. Sp. Pl. (1753) 89; DC. Prodr. 1 (1824) 391; Merr. Fl. Manila (1912) 199, Sp. Blancoanae (1918) 141.

*Mollugo spergula* Linn. Syst. ed 10 (1759) 881; DC. Prodr. 1 (1824) 391; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 144; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 405.

*Mollugo subserrata* Blanco Fl. Filip. (1837) 51, ed. 2 (1845) 34, ed. 3, 1 (1877) 63.

*Polycarpaea frankenioides* Presl Rel. Haenk. 2 (1830) 6; F.-Vill. Novis. App. (1880) 15, fide spec. in herb. Prag.!

Batan Islands to southern Luzon, Palawan. A common weed in and about towns at low and medium altitudes. India to tropical Africa and Australia.

Local names: Amargóso-bábi (Pamp.); malagóso (Tag.); margóso-damúlag (Pamp.); pápait (Ilk.); sarsalída (Tag.).

**MOLLUGO PENTAPHYLLA** Linn. Sp. Pl. (1753) 89; DC. Prodr. 1 (1824) 391; Merr. Sp. Blancoanae (1918) 141.

*Mollugo stricta* Linn. Sp. Pl. ed. 2 (1762) 131; Blanco Fl. Filip. (1837) 52, ed. 2 (1845) 35, ed. 3, 1 (1877) 64; F.-Vill. Novis. App. (1880) 100; Vidal Phan. Cuming. Philip. (1885) 116, Rev. Pl. Vasc. Filip. (1886) 144; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 52.

*Mollugo sumatrana* Gandog. in Bull. Soc. Bot. France 65 (1918) 29.

Throughout the Philippines as a weed in cultivated areas, in open grasslands, etc., at low and medium altitudes. India to Japan southward to Malaya.

Local names: Lepouo (Bon.); malagóso (Tag.); malugóso (Tag., Bis.); pisig-pisig (Bag.); salsalída (Bis.); sudlai (Sub.); sulangkang (Sub.).

### 2. SESUVIUM Linnaeus

**SESUVIUM PORTULACASTRUM** Linn. Syst. ed. 10 (1759) 1058, Amoen. Acad. 4 (1759) 136; Blanco Fl. Filip. (1837) 426, ed. 2 (1845) 297, ed. 3, 2 (1878) 187; F.-Vill. Novis. App. (1880) 99; Merr. in

- Govt. Lab. Publ. (Philip.) 27 (1905) 50, Fl. Manila (1912) 198, Sp. Blancoanae (1918) 141.  
*Portulaca portulacastrum* Linn. Sp. Pl. (1753) 446.  
*Sesuvium indicum* Linn. Ceron Cat. Pl. Herb. Manila (1892) 88, sphalm.  
*Sesuvium distylum* Usteri Beitr. Ken. Philip. Veg. (1905) 118, non ?Ridl.

Along sandy seashores, throughout the Philippines. A pantropic strand plant.

Local names: Bilang-bílang (Bis.); dampálit (Tag., Pamp., Bis.); karampálit (Pamp.); tarumpálit (Tag.).

### 3. TRIANTHEMA Linnaeus

- TRIANTHEMA PORTULACASTRUM** Linn. Sp. Pl. (1753) 223; Merr. Fl. Manila (1912) 198, Sp. Blancoanae (1918) 141.  
*Trianthema monogyna* Linn. Mant. 1 (1767) 69; F.-Vill. Novis. App. (1880) 100; Ceron Cat. Pl. Herb. Manila (1892) 88.  
*Portulaca toston* Blanco Fl. Filip. (1837) 408.  
*Portulaca axilliflora* Blanco op. cit. ed. 2 (1845) 285, ed. 3, 2 (1878) 163, t. 165, non Pers.

A weed of cultivation throughout the Philippines at low and medium altitudes, locally abundant in recently distributed soil. Pantropic.

Local names: Ayam (Bis.); toston (Tag.); ulisúman (P. Bis.).

## PORTULACACEAE

### 1. PORTULACA Linnaeus

- PORTULACA OLERACEA** Linn. Sp. Pl. (1753) 445; Blanco Fl. Filip. (1837) 407, ed. 2 (1845) 284, ed. 3, 2 (1878) 162, t. 164; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1061; F.-Vill. Novis. App. (1880) 15; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 406, Fl. Manila (1912) 200, Sp. Blancoanae (1918) 142.

A common weed throughout the Philippines in the settled areas; purslane. All warm countries.

Local names: Alusíman (Bik.); ausíman (Bik.); bakbakad (If.); dup-dupil (Bon.); golasíman (Tag.); gulasíman (Bik.); kantatába (Pang.); kolasíman (Tag.); luñgum (If.); makabling (Tag.); ñgalug (Ilk.); olasíman (Bik., Tag.); sahíkan (Bik., Tag.); ulisíman (Bik., Tag.).

- PORTULACA PILOSA** Linn. Sp. Pl. (1753) 445; F.-Vill. Novis. App. (1880) 15; Merr. Fl. Manila (1912) 199; Philip. Journ. Sci. 7 (1912) Bot. 234.

Luzon (Union, Pangasinan, Rizal, Cavite), in dry open places. Introduced from tropical America.

Local name: Romromkú (Ilk.).

- PORTULACA PACHYRRHIZA** Gagnep. in Bull. Soc. Bot. France 56 (1909) 41; Lecomte Fl. Gén. Indo-Chine 1 (1909) 275, t. 19, f. C.

Luzon (Ilocos Norte, Pangasinan), *B. S. 27600 Ramos, F. B. 8408 Curran & Merritt*. On sandy seashores. Indo-China.

- PORTULACA QUADRIFIDA** Linn. Mant. 1 (1767) 73; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1061; F.-Vill. Novis. App. (1880) 15; Merr. in Philip.

Journ. Sci. 3 (1908) Bot. 406, Fl. Manila (1912) 200, Sp. Blancoanae (1918) 142.

*Portulaca meridiana* Blanco Fl. Filip. (1837) 408, ed. 2 (1845) 285, ed. 3, 2 (1878) 163, non Linn.

Batan Islands, Luzon (Cagayan to Rizal), a weed in and about towns, probably introduced. Tropical Asia and Africa to Malaya, Marianne, and Caroline Islands.

Local names: Marañgalog (Ilk., Ib.); sayikan (Tag.).

#### EXCLUDED SPECIES

PORTULACA TERETIFOLIA Linn.; F.-Vill. Novis. App. (1880) 15.

#### BASELLACEAE

##### 1. BASELLA Linnaeus

**BASELLA RUBRA** Linn. Sp. Pl. (1753) 272; Blanco Fl. Filip. (1837) 215, ed. 2 (1845) 151, ed. 3, 1 (1877) 272, t. 74; Moq. in DC. Prodr. 13<sup>2</sup> (1849) 222; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1023; F.-Vill. Novis. App. (1880) 171; Merr. Fl. Manila (1912) 200, Sp. Blancoanae (1918) 142.

*Basella alba* Linn. Sp. Pl. (1753) 272; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1023; F.-Vill. Novis. App. (1880) 171; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 71.

*Basella lucida* Linn. Syst. ed. 10 (1759) 966; Blanco Fl. Filip. (1837) 216, ed. 2 (1845) 151, ed. 3, 1 (1877) 273; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1024; F.-Vill. Novis. App. (1880) 171, Moq. in DC. Prodr. 13<sup>2</sup> (1849) 224.

*Basella cordifolia* Lam. Encycl. 1 (1783) 382; F.-Vill. Novis. App. (1880) 171.

Throughout the Philippines in the settled areas, in hedges, old cultivated areas, etc.; often planted. Certainly not a native of the Archipelago but of prehistoric introduction. Tropical Asia, Africa, and Malaya, often cultivated.

Local names: Alugbáti (Bis.); arogbáti (Bik.); dundula (Sul.); grána (Tag.); ilaibákir (Ilk.); libáto (Tag.).

##### 2. ANREDERA Jussieu

**ANREDERA SCANDENS** (Linn.) Moq. in DC. Prodr. 13<sup>2</sup> (1849) 230; F.-Vill. Novis. App. (1880) 172; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 217; Merr. Fl. Manila (1912) 201, Sp. Blancoanae (1918) 142.

*Anredera spicata* Pers. Syn. 1 (1805) 297; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 24.

*Gomphrena volubilis* Blanco Fl. Filip. (1837) 199, ed. 2 (1845) 140, ed. 3, 1 (1877) 252.

*Anredera cumingii* Hassk. in Flora 48 (1865) 401.

Luzon (Laguna, Cavite, Rizal, Batangas), abundant in thickets at low and medium altitudes. Introduced from tropical America.

Local name: Olibato (Tag.).

#### EXCLUDED GENUS

BOUSSINGAULTIA BASSELLOIDES HBK.; F.-Vill. Novis. App. (1880) 172; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 24.

The second reference, and probably the first, was based on *Anredera scandens* Moq. erroneously identified.

## CARYOPHYLLACEAE

### 1. STELLARIA Linnaeus

**STELLARIA LAXA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 12.

*Stellaria stellato-pilosa* Hayata in Journ. Coll. Sci. Tokyo 25<sup>19</sup> (1908) 58, t. 2.

Luzon (Benguet), *Elmer 6612, Loher 1623, Merrill 4806, 4423, B. S. 32004 Santos, 4440, 4457 Mearns, F. B. 15975 Bacani*. On banks, cliffs, and in margins of thickets, altitude 1,600 to 2,300 m. I cannot distinguish the Formosan form from this (*Faurie 541, 1385*). The species is variable in size and in its pubescence, and is closely allied to the Indo-Chinese *Stellaria saxatilis* Ham. Formosa.

Local name: Budbúd (Ig.).

**STELLARIA MEDIA** (Linn.) Cyr. Char. Comm. (1784) 36; Edgw. & Hook. f. in Hook. f. Fl. Brit. Ind. 1 (1874) 230.

*Alsine media* Linn. Sp. Pl. (1753) 272.

Luzon (Benguet) *Merrill 9699, B. S. 31861 Santos*. In waste places, altitude 1,500 to 2,300 m. A universally distributed weed in the north temperate regions, a native of Asia; unquestionably a recently introduced plant in Benguet.

### 2. CERASTIUM Dillenius

**CERASTIUM VULGATUM** Linn. Sp. Pl. ed. 2 (1762) 627; Edgw. & Hook. f. in Fl. Brit. Ind. 1 (1874) 228.

Luzon (Benguet), *Merrill 4326*. A weed in gardens, altitude about 1,400 m. A universally distributed weed in the North Temperature Zone, extending southward to the mountains of India, introduced in many other regions, and a recently introduced plant in Benguet.

### 3. SAGINA Linnaeus

**SAGINA PROCUMBENS** Linn. Sp. Pl. (1753) 128; Edgw. in Hook. f. Fl. Brit. Ind. 1 (1874) 242; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 97, 5 (1910) Bot. 346.

Luzon (Benguet), *Loher 1622, Merrill 7713, B. S. 32020 Santos*. On wet cliffs, seepage slopes, etc., altitude 1,800 to 2,700 m. North and South Temperate Zones of both hemispheres.

Local name: suñgau (Ig.).

### 4. ARENARIA Linnaeus.

**ARENARIA SERPYLLIFOLIA** Linn. Sp. Pl. (1753) 423; DC. Prodr. 1 (1824) 411; Edgw. in Hook. f. Fl. Brit. Ind. 1 (1874) 239; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 97; Merr. op. cit. 5 (1910) Bot. 346.

Luzon (Benguet), *Loher 1621, Merrill 7712, B. S. 31860 Santos*. On wet cliffs, open seepage slopes, etc., altitude 1,300 to 2,400 m. Europe, northern Africa, temperate and subtemperate Asia, naturalized in other countries, apparently indigenous in Benguet.

## 5. SPERGULA Linnaeus

**SPERGULA ARVENSIS** Linn. Sp. Pl. (1753) 440; Edgw. & Hook. f. in Hook. f. Fl. Brit. Ind. 1 (1874) 243.

Luzon (Benguet), Merrill 4760, B. S. 4294, 4380, 31859 Santos. Recently introduced and thoroughly naturalized at Pauai, altitude about 2,400 m. A native of Europe, now a cosmopolitan weed in the North Temperate Zone, and also introduced into Australia.

## 6. DRYMARIA Willdenow

**DRYMARIA CORDATA** (Linn.) Willd. ex R. & S. Syst. 5 (1819) 406; DC. Prodr. 1 (1824) 395; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 1053; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 122; Hook. f. Fl. Brit. Ind. 1 (1874) 244; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77, 5 (1910) Bot. 346.

*Holosteum cordatum* Linn. Sp. Pl. (1753) 88.

Northern Luzon to Mindanao. In rice paddies, on open damp slopes, in damp thickets, abacá plantations, etc., locally abundant. Pantropic; probably a native of tropical America.

Local name: Bakalaŋga (Buk.).

## 7. POLYCARPON Loeffling

**POLYCARPON INDICUM** (Retz.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 302, Sp. Blancoanae (1918) 143.

*Loeflingia indica* Retz. Obs. 4 (1786) 38.

*Pharnaceum depressum* Linn. Mant. 2 (1771) 564, non *Polycarpon depressum* Nutt.

*Polycarpaea depressa* DC. Prodr. 3 (1828) 357.

*Polycarpon loeflingiae* Benth. & Hook. f. ex. Edgw. in Hook. f. Fl. Brit. Ind. 1 (1874) 245; F.-Vill. Novis. App. (1880) 15; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 19.

*Polycarpon polyphyllum* Blanco Fl. Filip. (1837) 53, ed. 2 (1845) 36, ed. 3, 1 (1877) 66.

Luzon (Pampanga), Merrill 1462. Apparently very rare and local in the Philippines. Tropical Asia and Africa.

## 8. POLYCARPAEA Lamarck

**POLYCARPAEA CORYMBOSA** (Linn.) Lam. Tabl. Encycl. 2 (1797) 129; Hook. f. Fl. Brit. Ind. 1 (1874) 245; F.-Vill. Novis. App. (1880) 15; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 347.

*Achyranthes corymbosa* Linn. Sp. Pl. (1753) 205.

Luzon (Ilocos Norte, Lepanto, Bontoc, Benguet, Zambales). In open, dry, sandy places, dry slopes, etc., from near sea level to an altitude of 1,300 m; locally abundant. Pantropic.

## EXCLUDED GENUS

**DIANTHUS CHINENSIS** Linn. Sp. Pl. (1753) 411; F.-Vill. Novis. App. (1880) 14; Naves in Blanco Fl. Filip. (1877-83) t. 94.

This species is occasionally cultivated in gardens and is locally known as *clavel* (Sp.).

## NYMPHAEACEAE

## 1. NELUMBIUM Jussieu

- NELUMBIUM NELUMBO (Linn.) Druce Bot. Exch. Club (1914) 421; Merr. Interpret. Herb. Amb. (1917) 218, Sp. Blancoanae (1918) 143. *Nymphaea nelumbo* Linn. Sp. Pl. (1753) 511. *Nelumbium speciosum* Willd. Sp. Pl. 2 (1799) 1258; Blanco Fl. Filip. ed. 2 (1845) 318, ed. 3, 2 (1878) 223, *t. 158*; DC. Prodr. 1 (1824) 113; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 91; F.-Vill. Novis. App. (1880) 9; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 46. *Nelumbium turbinatum* Blanco Fl. Filip. (1837) 458. *Nelumbium transversum* Presl Rel. Haenk. 2 (1835) 83.

Northern Luzon to Mindanao, in shallow lakes, locally very abundant, as in parts of Lake Bay; probably an introduced plant in the Philippines, but if so of prehistoric introduction; a native of Asia, now widely distributed in cultivation. The lotus.

Local names: Baíno (Tag.); liñgáling (Ibn.); saua (Mag.); súkau (Ilk.).

## 2. NYMPHAEA Tournefort

- NYMPHAEA NOUCHALI Burm. f. Fl. Ind. (1768) 120; Merr. in Philip. Journ. Sci. 19 (1921) 350. *Nymphaea pubescens* Willd. Sp. Pl. 2 (1799) 1154; DC. Prodr. 1 (1824) 15; Conard in Carnegie Inst. Publ. 4 (1905) 198, *t. 17*; Merr. Interpret. Herb. Amb. (1917) 219, Sp. Blancoanae (1918) 143. *Nymphaea lotus* Blanco Fl. Filip. (1837) 456, ed. 2 (1845) 317, ed. 3, 2 (1878) 222; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 89; F.-Vill. Novis. App. (1880) 9; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 46; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 17, Philip. Journ. Sci. 2 (1907) Bot. 430, non Linn. *Castalia pubescens* Blume Bijdr. (1825) 48; Merr. Fl. Manila (1912) 202.

Northern Luzon to Mindanao, in shallow lakes, locally very abundant. Tropical Asia to Malaya.

Local names: Lábas (Tag.); laúas (Tag.); pulau (Tag.); talailo (Bis.); tunas (Bis.).

- NYMPHAEA STELLATA Willd. Sp. Pl. 2 (1799) 1153; DC. Prodr. 1 (1824) 115; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 90; F.-Vill. Novis. App. (1880) 9; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 46; Conard in Carnegie Inst. Publ. 4 (1905) 140. *Castalia stellata* Blume Bijdr. (1825) 49; Merr. Fl. Manila (1912) 201.

Luzon (Lake Bay), Merrill 5013, Baker 650, Quisumbing. In shallow water along the margins of the lake; much less common than the preceding species. Tropical Asia, Africa, and Malaya.



## CERATOPHYLLACEAE

## 1. CERATOPHYLLUM Linnaeus

**CERATOPHYLLUM DEMERSUM** Linn. Sp. Pl. (1753) 992; Hook. f. Fl. Brit. Ind. 5 (1888) 639; Merr. Fl. Manila (1912) 202, Sp. Blancoanae (1918) 144.

*Ceratophyllum submersum* Llanos Frag. Pl. Filip. (1851) 105; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 81; F.-Vill. Novis. App. (1880) 210, non ? Linn.

Northern Luzon to Palawan and Mindanao, in shallow lakes and slow streams. All warm countries.

Local names: Arigmán (Tag.); ináta (Tag.); linámun (Mag.).

## RANUNCULACEAE

## 1. ANEMONE Linnaeus

**ANEMONE VITIFOLIA** Ham. in DC. Syst. 1 (1818) 211; Hook. f. & Th. in Hook. f. Fl. Brit. Ind. 1 (1872) 8; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 99; Merr. op. cit. 5 (1910) Bot. 348.

*Anemone luzoniensis* Rolfe ex Hayata in Bot. Mag. Tokyo 20 (1906) 73, *nomen nudum*.

Luzon (Ifugao, Lepanto, Bontoc, Benguet). On slopes, in ravines, etc., 1,400 to 2,400 m altitude. Himalayan region to southern China and Formosa.

Local names: Baloi (Bon.); banata (Bon.); kabkabu (Ig.); omek (Bon.).

## 2. CLEMATIS Dillenius

**CLEMATIS GOURIANA** Roxb. Hort. Beng. (1814) 43, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 670; DC. Syst. 1 (1818) 138, Prodr. 1 (1824) 3; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 4; F.-Vill. Novis. App. (1880) 1; Vidal Sinopsis Atlas (1883) 11, t. 1, f. B, Phan. Cuming. Philip. (1885) 91, Rev. Pl. Vasc. Filip. (1886) 35.

*Clematis vitalba* Linn. subsp. *cumingii* O. Kuntze et *javanica* O. Kuntze in Verh. Bot. Verein Prov. Brandenb. 26 (1885) 100; Hallier f. in Ann. Jard. Bot. Buitenz. 14 (1897) 271, 272.

Northern Luzon to Mindanao, *B. S. 7631, 7670, 27597, 32790 Ramos, 38005 Ramos & Edaña, Merrill 7690, 4424, Phil. Pl. 1799, 1185, Elmer 5697, 17917, 18325, 13342, 11187*. In thickets and forests at low and medium altitudes, ascending to 1,500 m. India to Malaya, or, if considered as a variety of *Clematis vitalba* Linn., extending to Europe.

Local names: Alimbuñgábung (Bon.); bubug (Bon.); buklo (Mbo.); kalupad (Bis.); kamugna (Bag.); salingbuábong (Ig.); salingñuábong (Ig.); saliuábung (Ig.); umbuábong (Bon.).

**CLEMATIS LESCHENAUULTIANA** DC. Syst. 1 (1818) 151, Prodr. 1 (1824) 6; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 3; Rolfe in Journ. Bot. 23 (1885) 209; Vidal Rev. Pl. Vasc. Filip. (1886) 35; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 348.

*Clematis acuminata* DC. var. *leschenaultiana* O. Kuntze in Verh. Bot. Verein Prov. Brandenb. 26 (1885) 167.

Luzon (Benguet), Mindanao (Davao), *F. B. 25161 Garcia, 10907 Curran, B. S. 5842 Ramos, Williams 2535, Vanoverbergh 999, Elmer 5923, Loher 5*. In thickets, altitude 1,000 to 1,600 m.

Var. **SUBGLABRIFOLIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 303.

Luzon (Lepanto, Ifugao), *F. B. 14496 Darling, B. S. 19813 McGregor, 37809, 37638 Ramos & Edaño, Merrill Phil. Pl. 1348*. In thickets at or above 1,500 m altitude. Sumatra, Java, Moluccas, Formosa, Indo-China, southern China, the variety endemic.

Local names: Boakang (Ig.); dipig (Ig.); kamakang (Bon.).

**CLEMATIS MACGREGORII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 347.

Luzon (Benguet), *B. S. 8828 (not 9929!)*, *3372 McGregor, 4347 Mearns*. Lower borders of the mossy forest, altitude about 2,000 m. Endemic.

**CLEMATIS MEYENIANA** Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843)

Suppl. 1: 297; Hook. f. in Curtis's Bot. Mag. III 59 (1903) t. 7897; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 98.

Luzon (Bontoc, Benguet), *Clemens 9163, Vanoverbergh 1118, 404, Williams 1323, Merrill 4777, B. S. 31947 Santos, 37680, 38049 Ramos & Edaño*. In thickets, borders of forests, etc., altitude 1,600 to 2,200 m. Burma to central and southern China to the Riu Kiu Islands, Formosa, and Indo-China.

The Philippine form is var. *insularis* Sprague in Kew Bull. (1916) 46, extending from the Riu Kiu Islands to Formosa and northern Luzon.

Local names: Bubug (Bon.); kanei (Ig.); tiktik (Ig.).

**CLEMATIS SMILACIFOLIA** Wall. in As. Research. 13 (1820) 402; Hook.

f. Fl. Brit. Ind. 1 (1872) 2; F.-Vill. Novis. App. (1880) 1; Vidal Phan. Cuming. Philip. (1885) 91, Rev. Pl. Vasc. Filip. (1886) 35.

*Clematis smilacina* Blume Bijdr. (1825) 1; Hallier f. in Bull. Herb. Boiss. 6 (1898) 215.

Luzon (Benguet, Bontoc, Laguna, Tayabas, Rizal, Sorsogon), Polillo, Mindoro, Palawan, *Williams 1045, Elmer 6526, B. S. 10409, 10706 McGregor, 29000, 29595, 38138 Ramos & Edaño*. Usually in damp thickets of forests at medium altitudes, in some places at sea level; in Benguet ascending to 1,600 m altitude. India to southern China through Malaya to the Moluccas.

Hallier f. claims that the Malayan and Philippine form, *Clematis smilacina* Blume, is specifically distinct from the Indian *Clematis smilacifolia* Wall.

Local names: Amnok (Ig.); anatel (Ig.).

### 3. NARAVELIA de Candolle

**NARAVELIA ANTONII** Elm. Leaf. Philip. Bot. 8 (1915) 2800.

*Naravelia philippinensis* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 7.

Luzon (Sorsogon), Mindanao (Agusan), *B. S. 23459 Ramos, Elmer 13734, 17314*. In thickets and forests at medium altitudes, ascending to 1,000 m. Endemic.

Local name: Obanon (Mbo.).

**NARAVELIA LAURIFOLIA** Wall. Cat. (1831) No. 4685, *nomen nudum*; Hook. f. & Th. Fl. Ind. (1855) 3; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 2; F.-Vill. Novis. App. (1880) 2; Vidal Phan. Cuming. Philip. (1885) 91, Rev. Pl. Vasc. Filip. (1886) 35; Merr. Sp. Blancoanae (1918) 144.

*Atragene zeylanica* Blanco Fl. Filip. (1837) 461, ed. 2 (1845) 321, ed. 3, 2 (1878) 231, non Linn.

*Naravelia zeylanica* F.-Vill. Novis. App. (1880) 2; Vidal Sinopsis Atlas (1883) 11, t. 1, f. A, non Poir.

*Clematis zeylanica* Poir. var. *laurifolia* O. Kuntze et var. *filipetala* O. Kuntze in Verh. Bot. Verein Prov. Brandenb. 26 (1885) 122.

Northern Luzon to Mindanao, *B. S.* 27106, 7238, 5752 Ramos, 36735 Ramos & Edaña, 26719 Fénix, Elmer 5550, 13537, Wenzel 1482, Merrill 1338, *Phil. Pl.* 885. In thickets and forests at low and medium altitudes; rare or local. India (Eastern Peninsula) to Malaya.

Local names: Bubulo (Tag.); oái-ni-pangláu (Ilk.); puñgakon (Mbo.).

**NARAVELIA LOBATA** (Llanos) Merr. Sp. Blancoanae (1918) 144.

*Atragene lobata* Llanos Frag. Pl. Filip. (1851) 73; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 57.

*Naravelia loheri* Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 98; Merr. Fl. Manila (1912) 202.

Luzon (Pangasinan, Nueva Ecija, Bulacan, Rizal), *Merrill* 4101, *Phil. Pl.* 735, *Sp. Blancoanae* 656, *Loher* 6. In dry thickets at low altitudes. Endemic.

Local name: Parapit-hángin (Tag.).

#### 4. RANUNCULUS Tournefort

**RANUNCULUS LAXUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 445.

Luzon (Bontoc), *Vanoverbergh* 1780, 3647. Along small streams, altitude 1,650 to 1,750 m; allied to the Australian and New Zealand *R. plebeius* R. Br. and *R. hirtus* Banks & Sol. Endemic.

**RANUNCULUS PHILIPPINENSIS** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 99; Merr. op. cit. 5 (1910) Bot. 348.

Luzon (Bontoc, Lepanto, Benguet), *Merrill* 4508, 4750, 4570, 6608, *Phil. Pl.* 863, *B. S.* 31741 Santos, 8444 McGregor, 4295, 4387 Mearns, 7004 Ramos. In open swampy places and in mossy forests on the highest mountains, altitude 2,250 to 2,750 m; allied to the Australian-New Zealand *R. lappa-ceus* Sm. Endemic.

#### 5. THALICTRUM Tournefort

**THALICTRUM PHILIPPINENSE** C. B. Rob. in Bull. Torr. Bot. Club. 35 (1908) 65, 74.

Luzon (Benguet), *Williams* 957, 1137, *Merrill* 7767, *B. S.* 31972 Santos. On very steep slopes, cliffs, etc., in wet places, altitude 1,500 to 2,100 m; rare. Closely allied to *T. urbainii* Hayata (*T. fauriei* Hayata, non Lév.) of Formosa. Endemic.

### BERBERIDACEAE

#### 1. BERBERIS Tournefort

**BERBERIS BARANĐANA** Vidal Rev. Pl. Vasc. Filip. (1886) 45; Ceron Cat. Pl. Herb. Manila (1892) 402; Schneider in Bull. Herb. Boiss. II 5 (1904) 402; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 348.

Luzon (Bontoc, Lepanto, Benguet), *B. S.* 31749 Santos, 8864 *McGregor*, 37608 Ramos & Edaña, *Merrill* 4506, 4607, 6601, *Elmer* 8799, *Williams* 1347. In thickets, ravines, and in the mossy forest, altitude 1,600 to 2,300 m. Formosa. I fail to find any reason for distinguishing the Formosan *B. kawakamii* Hayata. The Philippine representative of *Berberis wallichiana* DC.

Local names: Bagis (Ig.); subit (Ig.).

## 2. MAHONIA de Candolle

**MAHONIA PHILIPPINENSIS** Takeda in Not. Bot. Gard. Edinburg 6 (Jan., 1917) 244, t. 32, 36, f. 218-222.

*Mahonia philippinensis* Schneider in Bot. Gaz. 63 (June, 1917) 520.

*Mahonia nepalensis* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 190, non DC.

Luzon (Benguet), *Elmer* 5929, *Merrill* 7659, *Topping* 18, *Williams* 1460, *F. B.* 10816 *Curran*, 14152 *Merritt*, 18315 *Alvarez*, 25150 *Leaña*. In damp thickets about limestone boulders, altitude 1,400 to 1,800 m. Endemic.

## MENISPERMACEAE

### 1. PYCNARRHENA Miers

**PYCNARRHENA CELEBICA** (Boerl.) Diels in Engl. Pflanzenreich 46 (1910) 53; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 266.

*Cocculus celebicus* Boerl. Cat. Hort. Bogor. (1899) 40.

Luzon (Cagayan, Nueva Ecija, Laguna, Tayabas), *B. S.* 13918 Ramos, 29188 Ramos & Edaña, 25452 Yates, *F. B.* 26831 *Catalan*, 22157 *Alvarez*. In forests at low and medium altitudes. Celebes.

Local name: Bagat (Bag.).

**PYCNARRHENA ELLIPTICA** Diels in Engl. Pflanzenreich 46 (1910) 54, Leaf. Philip. Bot. 4 (1911) 1163.

Palawan, *B. S.* 211 *Bermejós*. In forests at low altitudes. Endemic.

**PYCNARRHENA MANILLENSIS** Vidal Rev. Pl. Vasc. Filip. (1886) 45; Ceron Cat. Pl. Herb. Manila (1892) 14; Diels in Engl. Pflanzenreich 46 (1910) 52, Leaf. Philip. Bot. 4 (1911) 1163; Merr. Fl. Manila (1912) 203.

Luzon (Nueva Ecija, Rizal, Tayabas, Laguna, Batangas, Sorsogon), Alabat, Samar, Leyte, Negros, Mindanao (Zamboanga), *B. S.* 3346, 4826, 13416, 22395, 19411, 24407, 17562 Ramos, 25561 Yates, *Elmer* 15310, 17648, *Loher* 5744, *Merrill* 10504. In thickets and forests at low and medium altitudes. Endemic.

Local names: Ambal (Tag.); haluot (C. Bis.); huluot (Bis.); mamañgal (Tag.).

**PYCNARRHENA MEMBRANIFOLIA** Merr. in Philip. Journ. Sci. 20 (1922) 382.

Mindanao (Zamboanga), *B. S.* 37536 Ramos & Edaña. In forests at low altitudes.

Local name: Dalupat (Sub.).

**PYCNARRHENA MERRILLII** Diels in Engl. Pflanzenreich 46 (1910) 52, Leaf. Philip. Bot. 4 (1911) 1163.

Luzon (Ilocos Norte, Apayao, Laguna, Tayabas, Bataan), Polillo, Mindoro, Mindanao, *Merrill 1201, Elmer 11091, 12000, B. S. 27140, 23839, 16629 Ramos, 28218 Fénix, F. B. 1218 Borden*. In forests at low and medium altitudes. Endemic.

Local name: Basulai (Bag.).

## 2. HAEMATOCARPUS Miers

**HAEMATOCARPUS SUBPELTATUS** Merr. in *Philip. Journ. Sci.* 14 (1919) 383.

Luzon (Camarines), *B. S. 33750 Ramos & Edaña*. In forests at low altitudes. Endemic.

## 3. ARCANGELISIA Beccari

**ARCANGELISIA FLAVA** (Linn.) Merr. *Interpret. Herb. Amb.* (1917) 222.

*Menispermum flavum* Linn. in *Stickm. Herb. Amb.* (1754) 14, *Amoen. Acad.* 4 (1759) 128, *Syst. ed. 10* (1759) 992.

*Menispermum flavescens* Lam. *Encycl.* 4 (1797) 98.

*Anamirta flavescens* Miq. *Fl. Ind. Bat.* 1<sup>2</sup> (1858) 79.

*Cocculus flavescens* DC. *Syst.* 1 (1818) 520.

*Arcangelisia inchyta* Becc. *Malesia* 1 (1877) 147.

*Anamirta lemniscata* Miers in *Ann. Nat. Hist.* III 14 (1864) 51.

*Arcangelisia lemniscata* Becc. *Malesia* 1 (1877) 147; Merr. in *Philip.*

*Journ. Sci.* 3 (1908) Bot. 406; Diels in *Engl. Pflanzenreich* 46

(1910) 106, f. 38, *Leafl. Philip. Bot.* 4 (1911) 1163.

*Tuba flava* Rumph. *Herb. Amb.* 5 (1747) 38, t. 24.

Batan Islands to Palawan and Mindanao, scattered in thickets and forests at low and medium altitudes. Java and Borneo to New Guinea.

Local names: Abústra (Ilk.); abútra (Ilk.); albótra (S. L. Bis.); ali-bódra (P. Bis.); búti (Tag.); lágtal (S. L. Bis.); lágtan (P. Bis.); lágtang (Tag., Bik., Sul.); suma (Tag., Pamp.); taua (Bag.); uplíg (Ilk.).

## 4. ANAMIRTA Colebrooke

**ANAMIRTA COCCULUS** (Linn.) W. & A. *Prodr.* 1 (1834) 446; *Miq. Fl. Ind. Bat.* 1<sup>2</sup> (1858) 78; *F.-Vill. Novis. App.* (1880) 8; *Vidal Cat. Pl. Prov. Manila* (1880) 16; *Ceron Cat. Pl. Herb. Manila* (1892) 13; Merr. in *Govt. Lab. Publ. (Philip.)* 27 (1905) 17, *Philip. Journ. Sci.* 1 (1906) *Suppl.* 52, *Sp. Blancoanae* (1918) 145; Diels in *Engl. Pflanzenreich* 46 (1910) 108, f. 40, *Leafl. Philip. Bot.* 4 (1911) 1165.

*Menispermum cocculus* Linn. *Sp. Pl.* (1753) 340; *Blanco Fl. Filip.* (1837) 809, ed. 2 (1845) 557, ed. 3, 3 (1879) 216.

Northern Luzon to southern Mindanao. In thickets at low and medium altitudes, scattered. India, through Malaya to New Guinea.

Local names: Arai (Bag.); balasin (Tag., Bis.); bayáti (Tag.); bayatíng (Ilk.); labtáng (Ilk., Ig.); lágtal (Bis.); lágtang (Bis., Mbo., Sul.); lákdang (Bis.); láktang (Tag., Bis., Pamp.); lánta (Tag., Pamp.); lígtang (Tag.); líktang (Tag., Bis.); suma (Tag.).

The local names are greatly confused as between *Anamirta* and *Arcangelisia*; this species has white wood, and its fruits are used for poisoning fish, while *Arcangelisia* has yellow wood.

## 5. TINOMISCIUM Miers

**TINOMISCIUM MOLLE** Diels in Philip. Journ. Sci. 8 (1913) Bot. 157.

Luzon (Nueva Vizcaya), *B. S. 11359 McGregor*. Endemic.

**TINOMISCIUM PHILIPPINENSE** Miers in Engl. Pflanzenreich 46 (1910) 116, Leaf. Philip. Bot. 4 (1911) 1164.

Luzon (Pangasinan, Tayabas, Laguna), Biliran, Mindanao (Lanao, Davao), *Elmer 9090, 17223* as *Parabaena dielsii* Elm., *Whitford 824, F. B. 20984 Villamil, B. S. 18989, 18766, 18498 McGregor, Clemen 649, 1025*. In forests at low and medium altitudes. Endemic.

Local names: Bayáting (Pamp.); kalumpáñgi (Bag.).

## 6. FIBRAUREA Loureiro

**FIBRAUREA CHLOROLEUCA** Miers in Ann. Nat. Hist. III 13 (1864) 489; Diels in Engl. Pflanzenreich 46 (1910) 120, f. 43; Merr. in Philip. Journ. Sci. 17 (1920) 249.

Dinagat, *B. S. 35224, 35229 Ramos & Pascasio*. In forests along streams at low altitudes. Malay Peninsula, Sumatra, Java, Borneo.

## 7. TINOSPORA Miers

**TINOSPORA MERRILLIANA** Diels in Engl. Pflanzenreich 46 (1910) 137, Leaf. Philip. Bot. 4 (1911) 1164.

Mindanao (Lanao, Bukidnon, Davao, Misamis), *Clemens 525, Elmer 11639, 10895, 10882, F. B. 4748 Mearns & Hutchinson, B. S. 39171 Ramos & Edaño*. In thickets and forests at medium altitudes. Endemic.

Local names: Kalumpáñgi (Bag.); kari (Bag.); lagauat (Bag.).

**TINOSPORA NEGROTICA** Diels in Engl. Pflanzenreich 46 (1910) 137, Leaf. Philip. Bot. 4 (1911) 1164.

Negros, Panay, Catanduanes, Mindanao (Lanao), *B. S. 30238 Ramos, 30962, 31222, 31442 Ramos & Edaño, Elmer 9468*. In forests at medium altitudes. Endemic.

Local name: Balang-bátang (C. Bis.).

**TINOSPORA RETICULATA** Miers in Ann. Nat. Hist. III 13 (1864) 322, Contrib. Bot. 3 (1864) 36; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 44; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 52, 3 (1908) Bot. 406, Fl. Manila (1912) 204; Diels in Engl. Pflanzenreich 46 (1910) 143, Leaf. Philip. Bot. 4 (1911) 1164.

Batan Islands southward to Mindanao, *Merrill 2541, 7546, 8505, Elmer 18326, 15260, 16606, 11044, 11189, B. S. 3614 Félix, 17890 Otanes*. In dry thickets at low altitudes. Endemic.

Local names: Dapsuk (Ig.); kamibai (Iv.); kasopo (Bag.); makabúhaina-putí (Tag.).

**TINOSPORA RUMPHII** Boerl. Cat. Hort. Bogor. (1901) 116, excl. syn.

*Menispermum crispum* Linn.; Merr. Interpret. Herb. Amb. (1917) 220, Sp. Blancoanae (1918) 145.

*Menispermum rimosum* Blanco Fl. Filip. (1837) 810, ed. 2 (1845) 558, ed. 3, 3 (1879) 217, non Spreng.

*Tinospora crispa* F.-Vill. Novis. App. (1880) 7, non Miers.

*Tinospora cordifolia* F.-Vill. Novis. App. (1880) 8, non Miers.

? *Cocculus cordifolius* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 298, non DC.

Luzon, Culion, Basilan, *Merrill Sp. Blancoanae* 903, 1003. In and about towns in thickets, probably in most or all islands as it is frequently planted; perhaps introduced. Malaya.

Local names: Makabúhai (Tag., Bis., Ilk.); paliaban (Bis.); panauan (Bis.); pañgiauan (Bis.); pañgiauban (Bis.); sañgaunau (Bag.); ta-ganagtagua (Bis.).

#### 8. PARABAENA Miers

**PARABAENA DENUDATA** Diels in Engl. Pflanzenreich 46 (1910) 147, Leaf. Philip. Bot. 4 (1911) 1164.

Samar, Negros, Biliran, Mindanao (Zamboanga), Basilan, *F. B. 13718 Curran*, *B. S. 18965 McGregor*, *17408, 17547 Ramos*, *15467 Reillo*, *Elmer 9706*, *Williams 2137*. In thickets and forests at low and medium altitudes. Endemic.

**PARABAENA ECHINOCARPA** Diels in Philip. Journ. Sci. 8 (1913) Bot. 157.

Luzon (Sorsogon), Camiguin de Misamis, Samar, Leyte, *Elmer 16816, 15325, 14224*, *B. S. 14722, 17443 Ramos*. In thickets and forests at low and medium altitudes. Endemic.

**PARABAENA ELMERI** Diels in Engl. Pflanzenreich 46 (1910) 147, Leaf. Philip. Bot. 4 (1911) 1164.

Luzon (Cagayan, Union, Batangas), *Elmer 5633*, *F. B. Merrill Phil. Pl. 1844*, *Adduru 198*. In thickets and forests at low and medium altitudes. Endemic.

**PARABAENA PHILIPPINENSIS** Merr. ex Diels in Engl. Pflanzenreich 46 (1910) 148, Leaf. Philip. Bot. 4 (1911) 1164.

Luzon (Laguna, Rizal), *B. S. 1024 Ramos*, *F. B. 24877 Mabesa*, *Elmer 17791*. In thickets and forests at low and medium altitudes; closely allied to *P. elmeri* Diels. Endemic.

#### 9. HYP SERPA Miers

**HYP SERPA CUSPIDATA** (Wall.) Miers in Ann. Nat. Hist. II 7 (1851) 40, Contrib. Bot. 3 (1871) 102, t. 108; Diels in Engl. Pflanzenreich 46 (1910) 206, f. 71, Leaf. Philip. Bot. 4 (1911) 1165; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 303.

*Cocculus cuspidatus* Wall. Cat. (1832) No. 4960, *nomen nudum*.

*Limacia cuspidata* Hook. f. & Th. Fl. Ind. 1 (1855) 189; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 44; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 52, 3 (1908) Bot. 406.

*Zanthoxylum triplinerve* Turcz. in Bull. Soc. Nat. Mosc. 36<sup>1</sup> (1863) 597; F.-Vill. Novis. App. (1880) 35; Vidal Rev. Pl. Vasc. Filip. (1886) 74; Perk. Frag. Fl. Philip. (1905) 161.

*Hypserpa praevaricata* Miers Contrib. Bot. 3 (1871) 103.

Luzon (Ilocos Norte), Sibuyan, Negros, Palawan, Mindanao, *Cuming 1252*, *B. S. 27301 Ramos*, *36660, 37034 Ramos & Edaña*, *Merrill 9230, 9235*,

*Phil. Pl. 1220, Elmer 12101.* In thickets at low and medium altitudes. India and Ceylon to Sumatra, Java, and Borneo.

Local names: Lalapau (Sub.); mamana (Sub.).

**HYPSERPA JAGORII** Diels in Engl. Pflanzenreich 46 (1910) 211.

Northern Luzon (Ilocos Norte, Nueva Vizcaya, Bataan, Rizal), Negros, *B. S. 7610 Ramos, 19384 McGregor, F. B. 3112 Meyer, 451 Ahern's collector.* In thickets at low and medium altitudes. Endemic.

#### 10. LIMACIA Loureiro

**LIMACIA BLUMEI** (Boerl.) Diels in Engl. Pflanzenreich 46 (1910) 215; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 266.

*Cocculus blumei* Boerl. Cat. Hort. Bogor. (1899) 40.

*Cocculus umbellatus* Teysm. & Binn. Cat. Bogor. (1866) 173, non Steud.

Bancalan, Mindanao (Davao), *Weber, Piper 427.* In thickets and forests at low altitudes. Malaya, but definitely known as extra-Philippine only from specimens cultivated at Buitenzorg, Java.

**LIMACIA VELUTINA** (Wall.) Miers in Ann. Nat. Hist. II 7 (1851) 43, Contrib. Bot. 3 (1871) 110; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 80; F.-Vill. Novis. App. (1880) 8; Diels in Engl. Pflanzenreich 46 (1910) 215, Leaf. Philip. Bot. 4 (1911) 1165.

*Cocculus velutinus* Wall. Cat. (1832) No. 4970, *nomen nudum.*

Mindanao, (Zamboanga, Lanao), Basilan, *Clemens 961, 881, Hallier.* In thickets and forests at low and medium altitudes. Burma to the Malay Peninsula, Sumatra, and Celebes.

#### 11. PERICAMPYLUS Miers

**PERICAMPYLUS GLAUCUS** (Lam.) Merr. Interpret. Herb. Amb. (1917) 219.

*Menispermum glaucum* Lam. Encycl. 4 (1797) 100.

*Cocculus glaucus* DC. Syst. 1 (1818) 521.

*Cocculus incanus* Colebr. in Trans. Linn. Soc. 13 (1822) 57, t. 17.

*Pericampylus incanus* Miers in Ann. Nat. Hist. II 7 (1851) 40; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 83; Ceron Cat. Pl. Herb. Manila (1892) 13; Diels in Engl. Pflanzenreich 46 (1910) 217, f. 74, Leaf. Philip. Bot. 4 (1911) 1165.

Throughout the Philippines in open thickets at low and medium altitudes. India through Malaya to the Moluccas.

Local names: Botang-bótang (C. Bis.); gapísilid (Sub.); hah-ún (Yak.); ha-un (Sul.); lagauat (Bag.); pamago (Bik.); pisok (Ig.); silong-pugo (Tag.); tugiantugían (Tag.).

#### 12. DIPLOCLISIA Miers

**DIPLOCLISIA GLAUDESCENS** (Blume) Diels in Engl. Pflanzenreich 46 (1910) 225, f. 77, A-L, Leaf. Philip. Bot. 3 (1911) 1166.

*Cocculus glaucescens* Blume Bijdr. (1825) 25.

Mindanao (Lanao, Zamboanga), Bongao, *Clemens, F. B. 15217 Klemme, B. S. 36294 Yates.* In open forests at low and medium altitudes. India to southern China and Malaya.



## 13. COCCULUS de Candolle

**COCCULUS LAURIFOLIUS** DC. Syst. 1 (1818) 530, Prodr. 1 (1824) 100; Diels in Engl. Pflanzenreich 46 (1910) 239; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 81.

Luzon (Bontoc), Mindoro, *Vanoverbergh 1237, B. S. 39393, 39394 Ramos*. In thickets, altitude 700 to 1,200 m. India to China and Japan southward to Java.

**COCCULUS SARMENTOSUS** (Lour.) Diels in Engl. Pflanzenreich 46 (1910) 233, Leaf. Philip. Bot. 3 (1911) 1166.

*Nephroia sarmentosa* Lour. Fl. Cochinch. (1790) 692.

Babuyan Islands, Luzon (Ilocos Norte), Mindanao (Lanao), *B. S. 4034 Félix, 27213 Ramos, Clemens 749*. In thickets at low altitudes, in Mindanao ascending to 700 m. Southern China, Malay Peninsula, Java, Mascarene Islands.

Var. **STENOPHYLLUS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 10.

Luzon (Ilocos Norte), *B. S. 27231 Ramos*. Endemic.

**COCCULUS TRILOBUS** (Thunb.) DC. Syst. 1 (1818) 232, Prodr. 1 (1824) 98; Diels in Engl. Pflanzenreich 46 (1910) 232, Leaf. Philip. Bot. 3 (1911) 1166.

*Menispermum trilobum* Thunb. Fl. Jap. (1784) 194.

*Cocculus cynanchoides* Presl Rel. Haenk. 2 (1835) 79; F.-Vill. Novis. App. (1880) 8.

*Nephroica cynanchoides* Miers Contrib. Bot. 3 (1864-71) 267.

Batan Islands, northern Luzon, *B. S. 2763 Félix, Haenke*. Japan, northern to southeastern China.

## 14. STEPHANIA Loureiro

**STEPHANIA CATOSEPALA** Diels in Engl. Pflanzenreich 46 (1910) 268, f. 90, H-O, Leaf. Philip. Bot. 3 (1911) 1166.

Luzon (Benguet), *Elmer 5851, Merrill 9705, Phil. Pl. 828, B. S. 31806 Santos, B. S. 2511, 2725 Mearns*. Sprawling over limestone ledges and boulders, altitude 1,300 to 2,000 m. Endemic.

Local name: Itab (Ig.).

**STEPHANIA FORSTERI** (DC.) A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 36; Diels in Engl. Pflanzenreich 46 (1910) 278, Leaf. Philip. Bot. 3 (1911) 1167.

*Cocculus forsteri* DC. Syst. 1 (1818) 517.

*Stephania exigua* Miers Contrib. Bot. 3 (1871) 228.

Luzon (Pampanga), Mindoro, Marinduque, Mindanao, (*Cuming 1533*), *Bolster 71, De Vore & Hoover 214*. In thickets at low and medium altitudes. Java to Polynesia.

Local name: Ha-un (Sul.).

**STEPHANIA JAPONICA** (Thunb.) Miers in Ann. Nat. Hist. III 18 (1866) 14, Contrib. Bot. 3 (1871) 213; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 406; Diels in Engl. Pflanzenreich 46 (1910) 277, Leaf. Philip. Bot. 3 (1911) 1166.

*Menispermum japonicum* Thunb. Fl. Jap. (1784) 195.

*Cissampelos psilophylla* Presl Rel. Haenk. 2 (1835) 80; F.-Vill. Novis. App. (1880) 8.

*Stephania corymbosa* Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 281, non Blume.

*Stephania hermandifolia* F.-Vill. Novis. App. (1880) 8; Vidal Phan. Cuming Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 45, non Walp.

Batan Islands, Luzon (Cagayan, Ilocos Norte, Bontoc, Lepanto, Benguet, Batangas, Rizal, Laguna), Camiguin de Misamis, B. S. 5996, 16623, 23820, 13717, 33121 Ramos, Elmer 6412. In thickets and forests at low and medium altitudes. India to Japan, China, and Formosa.

Local names: Kureng (Iv.); lektan (Bon.); malabúta (Ig.); maratúgi (Ilk.).

**STEPHANIA MERRILLII** Diels in Engl. Pflanzenreich 46 (1910) 268, Leaf. Philip. Bot. 3 (1911) 1166.

Luzon (Sorsogon), Mindoro, Negros, Mindanao (Zamboanga, Davao). In thickets and forests at medium altitudes, ascending to 1,800 m in Mindoro. Endemic.

**STEPHANIA RAMOSII** Diels ex Merr. in Philip. Journ. Sci. 7 (1912) Bot. 265.

Luzon (Benguet), B. S. 13487 Ramos. Endemic.

#### 15. CISSAMPELOS Linnaeus

**CISSAMPELOS PAREIRA** Linn. Sp. Pl. (1753) 1031; DC. Prodr. 1 (1824) 101; Blanco Fl. Filip. (1837) 815, ed. 2 (1845) 563, ed. 3, 3 (1879) 227, t. 432; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 299; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 85; F.-Vill. Novis. App. (1880) 8; Vidal Sinopsis Atlas (1883) 11, t. 1, f. C, Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 45; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 17, Philip. Journ. Sci. 1 (1906) Suppl. 52, Fl. Manila (1912) 204, Sp. Blancoanae (1918) 144; Diels in Engl. Pflanzenreich 46 (1910) 286, f. 91, A-K, Leaf. Philip. Bot. 3 (1911) 1167.

*Cissampelos discolor* DC. Syst. 1 (1818) 534; Miers Contrib. Bot. 3 (1864-71) 191.

*Cissampelos discolor* DC., var. *cardiophylla* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 38; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77.

*Cissampelos cumingiana* Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 283; Miers Contrib. Bot. 3 (1864-71) 190.

Common throughout the Philippines in thickets at low and medium altitudes. Pantropic.

Local names: Abobo (C. Bis.); bangbángau (Ilk.); batang-bátang (Tag.); gulagulamánan (Tag.); hampapáre (Bis.); himpapára (Bis.); kaláad (Ilk.); kalakalamáyan (Tag.); kalkaláad (Ilk.); kauas (Sub.); kuskusípa (Ilk.); makabó-o (Tag.); malarúto (Ibn.); samang (Bon.); sampáre (Bis.); sansáu (Tag.); sincháo-sincháuan (Tag.); sinsau-sinsáuan (Tag.).

## 16. CYCLEA Arnott

**CYCLEA MERRILLII** Diels in Engl. Pflanzenreich 46 (1910) 312, Leaf. Philip. Bot. 3 (1911) 1167.

Luzon (Nueva Vizcaya, Pangasinan, Nueva Ecija, Bulacan, Rizal, Bataan, Laguna, Tayabas), Panay, *B. S.* 8149, 13578, 22428 Ramos, 29838 *Fénix*, 28836, 26349, 34136, 30891 Ramos & *Edaño*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Abiab (P. Bis.); malatúgi (Negr.).

## EXCLUDED SPECIES

**CYCLEA PELTATA** Hook. f. & Th., F.-Vill. Novis. App. (1880) 8 = *Cyclea wallichii* Diels.

## EXCLUDED GENERA

**COSCINIUM FENESTRATUM** Colebr.; F.-Vill. Novis. App. (1883) 347.

**TILIACORA RACEMOSA** Colebr.; F.-Vill. l. c.

## MAGNOLIACEAE

## 1. MAGNOLIA Linnaeus

**MAGNOLIA COCO** (Lour.) DC. Syst. 1 (1818) 459; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 270.

*Liriodendron coco* Lour. Fl. Cochinch. (1790) 347.

*Magnolia pumila* Andr. Bot. Rep. 4 (1802-03), t. 266.

*Talauma pumila* Champ. in Hook. Journ. Bot. Kew Miscel. 3 (1851) 256; F.-Vill. Novis. App. (1880) 3; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 198, non Blume.

Luzon, *Merrill, Castillo*. Occasionally cultivated in Manila and in other large towns for ornamental purposes. Introduced from southern China.

## 2. TALAUMA Jussieu

**TALAUMA ANGATENSIS** (Blanco) Fl.-Vill. Novis. App. (1880) 3; Vidal Cat. Pl. Prov. Manila (1880) 15, Sinopsis Atlas (1883) 11, t. 3, f. A, Rev. Pl. Vasc. Filip. (1886) 38; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 15, 35 (1906) 7, Sp. Blancoanae (1918) 146.

*Magnolia angatensis* Blanco Fl. Filip. (1837) 859, ed. 2 (1845) 328, ed. 3, 2 (1878) 243.

*Talauma gigantifolia* F.-Vill. Novis. App. (1880) 4, non Miq.

*Talauma luzonensis* Warb. in Perk. Frag. Fl. Philip. (1905) 170; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 8, Philip. Journ. Sci. 3 (1910) Bot. 406.

*Talauma grandiflora* Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 13, 35 (1906) 7.

*Talauma oblongata* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 8.

Babuyan Islands and northern Luzon to Mindanao and Palawan, *B. S.* 4070, 29902 *Fénix*, 14538, 20577 Ramos, *Merrill* 1003, 9456, *Phil. Pl.* 1378, *F. B.* 314 *Gammill*, 24124 *Velasco*, 23989 *Maneja*, 19995 *Tamesis*, 17370, 17757 *Curran*, 18721 *Darling*. In forests at low and medium altitudes, now represented by more than 30 collections. Endemic.

Local names: Alintátau (Tag.); anobling (Tag., Bis.); balikásan (Tag.); kumárong (Tagb.); kumárun (Tagb.); malalaskálas (Tag.); malapiña (P. Bis.); malikaskásan (Bis.); marapiña (Ilk.); pala-pála (Pang.); pañgi-pañgi (C. Bis.); patáñgis (Sul.); pulupiña (P. Bis.); tabhisan (P. Bis.).

**TALAUMA PULGARENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1809.

Palawan (Mt. Pulgar), *Elmer 13192*. On forested ridges, altitude about 600 m; rare. Especially characterized by its small flowers. Endemic.

**TALAUMA PUBESCENS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 133.

Mindanao (Bukidnon, Lanao, Davao), *Clemens 686, Elmer 10858, B. S. 15924 Fénix, F. B. 25187 Alvarez*. In forests, altitude at and above 700 m. Endemic.

Local name: Manaiyakut (Bag.).

**TALAUMA RETICULATA** Merr. in Philip. Journ. Sci. 17 (1920) 249.

Dinagat, *B. S. 35187 Ramos & Pascasio*. In forests at low altitudes. Endemic.

**TALAUMA VILLARIANA** Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 307; Vidal Rev. Pl. Vasc. Filip. (1886) 38; Merr. in Govt. Lab. Publ. (Philip) 35 (1906) 7, Philip. Journ. Sci. 1 (1906) Suppl. 52, 5 (1910) Bot. 348.

*Talauma mutabilis* F.-Vill. Novis. App. (1880) 4; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 148; Vidal Cat. Pl. Prov. Manila (1880) 15, non Blume.

*Talauma gitingensis* Elm. Leaf. Philip. Bot. 4 (1912) 1479.

Northern Luzon to Mindanao, locally common in hill forests at low and medium altitudes, ascending to 1,600 m. Endemic.

Local names: Anobling (Tag.); batangis (Tag.); makalaskalas (Bik.); malasapsáp (Tag.); paraup (Neg.); patánis (Tag.); patañgis (Tag.).

#### EXCLUDED SPECIES

**TALAUMA RUMPHII** Blume; F.-Vill. Novis. App. (1880) 4.

### 3. MICHELIA Linnaeus

**MICHELIA ALBA** DC. Syst. 1 (1818) 449; Merr. Interpret. Herb. Amb. (1917) 223.

*Michelia longifolia* Blume Bijdr. (1825) 7; Fl. Jav. Magn. (1828) 12, t. 2, 3; Merr. Fl. Manila (1912) 205.

Luzon (Manila). Cultivated for ornamental purposes; a native of Java. Local name: Champákang-putí (Tag.).

**MICHELIA CHAMPACA** Linn. Sp. Pl. (1753) 536; DC. Prodr. 1 (1824) 79; Blanco Fl. Filip. (1837) 462, ed. 2 (1845) 322, ed. 3, 2 (1878) 232, t. 191; F.-Vill. Novis. App. (1880) 4; Vidal Rev. Pl. Vasc. Filip. (1886) 38; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 15; Merr. Fl. Manila (1912) 205, Interpret. Herb. Amb. (1917) 223, Sp. Blancoanae (1918) 146.

Cultivated for ornamental purposes in Manila and in other towns; a native of India, now cultivated in most tropical countries.

Local names: Champáka (Tag.); champáka-laag (Sul.); champákang-pulá (Tag.); sampáka (Tag.).

**MICHELIA CUMINGII** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 100.

*Michelia parviflora* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 70, Philip. Journ. Sci. 1 (1906) Suppl. 53, non DC.

Luzon (Benguet, Bontoc, Zambales, Bataan, Rizal, Laguna, Tayabas, Batangas), Cebu, Mindanao (Misamis, Lanao), *Cuming 783, F. B. 2155, 3202 Ahern's collector, Merrill 2681, Phil. Pl. 364, 2000, B. S. 13682 Ramos*. In forests at medium altitudes, on some mountains ascending to 2,000 m. Very closely allied to and perhaps not distinct from the Japanese-Formosan *Michelia compressa* (Maxim.) Sargent. Endemic.

Local names: Bikbikan (Tag.); boga (Bag.); hindang (C. Bis.); margapále (Tag.); margapále bañgúhan (Tag.); rambirnan (Lan.); sudkad (C. Bis.); tara-tára (C. Bis.).

**MICHELIA PLATYPHYLLA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 11.

Leyte, Mindanao (Agusan, Zamboanga), *F. B. 26866 Tomeldan, 24338 Cortez & Fernandez, B. S. 37223 Ramos & Edaño*. In second-growth forests at low altitudes. Endemic.

Local names: Hañgilo (S. L. Bis., Mbo.); gunsili (Sub.).

#### 4. KADSURA Kaempfer

**KADSURA APOENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2748.

*Kadsura sulphurea* Elm. op. cit. 2750.

Mindanao (Bukidnon, Agusan, Davao), Palawan, *Elmer 13505, 11718, Merrill 9504, B. S. 38640 Ramos & Edaño*. In forests, altitude 75 to 1,200 m; closely allied to *Kadsura scandens* Blume. British North Borneo, Mt. Kinabalu, *Clemens 10394*.

Local names: Kanogon (Mbo.); lomabog (Bag.).

**KADSURA MAGGREGORII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 177.

Luzon (Benguet), *B. S. 8340 McGregor*. In the mossy forests at Pauai, altitude above 2,100 m. Closely allied to *Kadsura japonica* Juss. Endemic.

**KADSURA PAUCIDENTICULATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 176.

Luzon (Benguet), *B. S. 8498 McGregor*. In the mossy forest at Pauai above an altitude of 2,100 m; closely allied to the preceding species. Endemic.

**KADSURA PHILIPPINENSIS** Elm. Leaf. Philip. Bot. 1 (1908) 277.

Luzon (Benguet, Bontoc, Laguna, Sorsogon), Mindanao, (Davao, Bukidnon, Lanao), *B. S. 12629 Fénix, 27965 Ocampo, 38809 Ramos & Edaño, 23531 Ramos, Elmer 8700, 11498, 17032 (K. sorsogonensis Elm.), Clemens*. In thickets and forests, altitude 900 to 1,800 m. This seems to be very close to *Schizostigma axillare* (Blume) Hook. f. & Th. Endemic.

Local names: Banauan (Bag.); bitokaan (Ig.).

**KADSURA SCANDENS** Blume Fl. Jav. Schizand. (1828) 9, t. 1; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 422.

Mindanao (Lanao), *Clemens 683*. On forested slopes, altitude about 800 m. Malay Peninsula to Java and Borneo.

*Kadsura cauliflora* Blume op. cit. 11, t. 2, does not appear to be distinct.

5. *ILLICIUM* Linnaeus

*ILLICIUM MONTANUM* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 81.

Luzon (Bontoc), *Vanoverbergh 1048*. In forests, altitude 1,650 m. Endemic.

*ILLICIUM PHILIPPINENSE* Merr. in Philip. Journ. Sci. 4 (1910) Bot. 254.

Luzon (Zambales), Mindoro, *F. B. 9515 Curran & Merritt, 4411 Merritt, B. S. 5078 Ramos*. On exposed ridges and peaks of Mt. Tapulao and Mt. Halcon; altitude 1,600 to 2,100 m. Endemic.

## EXCLUDED SPECIES

*ILLICIUM ANISATUM* Linn.; F.-Vill. Novis. App. (1880) 3.

*ILLICIUM SAN-KI* Perr. in Mém. Soc. Linn. Paris 3 (1824) 121; C. B. Rob. in Philip. Journ. Sci. 3 (1908) 305.

Perrottet described the fruits of one form of the star anise, and the leaves of some other plant, possibly a *Clausena*. Neither *Illicium anisatum* Linn. nor *I. verum* Hook f. occurs in the Philippines, but the fruits of both are imported in considerable quantities by the Chinese, among whom it is known as *sanki*, whence Perrottet's specific name.

6. *DRIMYS* Forster

*DRIMYS PIPERITA* Hook. f. Ic. II 5 (1852) t. 396; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 128; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 53, 2 (1907) Bot. 272, 5 (1910) Bot. 349.

Northern Luzon to Mindanao, abundant on exposed ridges and peaks and in the mossy forests of the higher mountains of Luzon, Mindoro, Leyte, Negros, Panay, and Mindanao. Borneo to New Guinea.

Local names: Amutútin (Ig.); bauang (Mbo.); inotótan (Ig.); lupol (Bon.); malagus (Bag.).

## EXCLUDED GENUS

*SCHIZANDRA ELONGATA* Hook. f.; F.-Vill. Novis. App. (1880) 4.

## ANONACEAE

1. *GRIFFITHIANTHUS* Merrill

(*Griffithia* Maingay, non H. & H.)

*GRIFFITHIANTHUS MERRILLII* (C. B. Rob.) W. H. Brown ex Merr. in Philip. Journ. Sci. 10 (1915) Bot. 231.

*Mitrephora merrillii* C. B. Rob. in Bull. Torr. Bot. Club. 35 (1908) 67.

*Mitrephora ferruginea* Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 16, Philip. Journ. Sci. 1 (1906) Suppl. 54, non Boerl.

*Mitrephora viridifolia* Elm. Leaf. Philip. Bot. 5 (1913) 1716.

*Mitrephora maingayi* Vidal Sinopsis Atlas (1883) 12, t. 5, f. F; F.-Vill. Novis. App. (1882) 347, non Hook. f. & Th.

Northern Luzon to Mindanao. In forests at low and medium altitudes. Borneo.

Local names: Batag-ukai (Bik.); binahían (Tag.); binalíuan (Tag.); buan (Lan.); dalínas (Tag.); dalinhás (Tag.); lanután (Tag., P. Bis.); lapnísan (S. L. Bis.); pagiñgá (Ibn.); pamahogan (Mbo.); pañganan (Neg.).

## 2. SAGERAEA Dalzell

**SAGERAEA GLABRA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 12; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 203.

Luzon (Nueva Ecija, Tayabas, Camarines), Polillo, Samar, Biliran, Panay, Mindanao, Merrill 4021, Phil. Pl. 1633, B. S. 20808 Escritor, 9300 Robinson, 18547, 18781, 18814 McGregor, 31045 Ramos & Edaño, F. B. 25501 Labitag, 10462, 10572 Curran, 21176 Alvarez, 27002 Mallonga, 20530 Miranda, 28079 Alambra. In forests at low and medium altitudes. Endemic.

Local names: Aláhan (Sul.); aráhan (Bik.); homútom (Mbo.); lanután (Tag.); litúbau (Mag.); malimbató (Lan.); manálaw (Tag.); paloi (Bik.); palusai (S. L. Bis.).

## 3. UVARIA Linnaeus

**UVARIA ALBA** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 17, Philip. Journ. Sci. 1 (1906) Suppl. 65.

Luzon (Apayao, Pangasinan, Zambales, Bataan), B. S. 28140, 29922 Fénix, 26825, 26802 Edaño, F. B. 1924 Borden, 50 Barnes, Williams 328, 519, Merrill 3274, 3859, Baker 3565, Elmer 6637. In forests at low and medium altitudes. Endemic.

Local names: Kakausan (Sbl.); lalá (Ibn.); súsong-kalabáu (Tag.).

**UVARIA ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 229.

Luzon (Sorsogon), Biliran, Leyte, B. S. 18878 McGregor, Elmer 16039, F. B. 7331 Everett. In forests at low and medium altitudes. Endemic.

Local name: Sagin-ságin (P. Bis.).

**UVARIA LANCIFOLIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 228.

Luzon (Zambales, Tayabas), Mindoro, Mindanao (Zamboanga), Gates 5495, 6647, B. S. 25562 Yates, 16394 Reillo, F. B. 5379 Merritt. In thickets or forests at low and medium altitudes. Endemic.

Local name: Alalagát (Ilk.).

**UVARIA LEYTENSIS** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 230.

*Unona leytensis* Elm. Leaf. Philip. Bot. 5 (1913) 1744.

Luzon (Bataan, Laguna), Leyte, Mindanao (Agusan, Zamboanga), Merrill 3301, Elmer 7365, 13880, Wenzel 1761, F. B. 87 Barnes, 2051 Borden, 19781 Whitford, B. S. 24059 Ramos. In forests at low altitudes. Endemic.

Local names: Dugumatan (Mbo.); súsong-kalabáu (Tag.).

**UVARIA MACGREGORII** Merr. in Philip. Journ. Sci. 14 (1919) 394.

Panay, Mindanao (Misamis), B. S. 32249 McGregor, Cuming 1607. In thickets at low altitudes. Endemic.

**UVARIA MICRANTHA** (DC.) Hook. f. & Th. Fl. Ind. 1 (1855) 103; King in Ann. Bot. Gard. Calcutta 4 (1893) 26, t. 18; Finet & Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1907) 54; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 230.

*Gutteria micrantha* DC. Mém. Anon. (1832) 42.

Luzon (Batangas, Sorsogon), Mindoro, Panay, Palawan, Merrill 3345, 9271, Elmer 17397, B. S. 22403 Ramos, 21231 Escritor. In thickets and

open forests at low altitudes. Burma to Indo-China, Malay Peninsula, Sumatra, and Borneo.

**UVARIA MUSARIA** (Dunal) DC. Mém. Anon. (1832) 29; Merr. Interpret. Herb. Amb. (1917) 225.

*Unona musaria* Dunal Monogr. Anon. (1817) 100.

*Uvaria moluccana* Kostel. Allg. Med.-Pharm. Fl. 5 (1836) 1707.

*Funis musarius latifolius* Rumph. Herb. Amb. 5: 78, t. 42.

Luzon (Camarines), *F. B. 23722 Alvarez*. On forested slopes at low altitudes. Moluccas.

**UVARIA NUDISTELLATA** Elm. Leaf. Philip. Bot. 5 (1913) 1746.

Palawan, *Elmer 19015*. In dense forests at medium altitudes. Endemic.

**UVARIA PANAYENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 393.

Panay, *B. S. 31367 Ramos & Edaña*. In forests along small streams at low and medium altitudes. Endemic.

**UVARIA PURPUREA** Blume Bijdr. (1825) 11 Fl. Jav. Anon. (1828) 13, t. 1, 13A; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 22; F.-Vill. Novis. App. (1880) 4; Vidal Sinopsis Atlas (1883) 12, t. 4, f. C, Phan. Cuming. Philip. (1885) 92, Rev. Pl. Vasc. Filip. (1886) 39; King in Ann. Bot. Gard. Calcutta 4 (1893) 21, t. 12.

Luzon (Bontoc, Nueva Ecija, Rizal, Cavite), Palawan, *Cuming 1380, Vanoverbergh 3998, B. S. 11475 McGregor, 980 Ramos, 22500 Ramos & Derooy, 917 Foxworthy*. In thickets at low and medium altitudes. Southern China to the Malay Peninsula and Archipelago.

Local names: Banauak (Tag., Bis.); hinlalaki-ságing (Tag.); linas (Bag.); súsong-kalabáu (Tag., Bis.).

**UVARIA RUBRA** C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 68, 74.

*Uvaria cardinalis* Elm. Leaf. Philip. Bot. 5 (1913) 1748.

Central Luzon (Nueva Ecija) to Mindanao and Palawan, numerous collections from thickets and forests at low altitudes; closely allied to *Uvaria purpurea* Blume. Endemic.

Local names: Banauag (P. Bis.); batagkabalang (Bik.); bunǵálon (Lan.); hankoni (Lan.); klotai (Mbo.); sahing-sáhing (Sul.); tagaki (C. Bis.).

**UVARIA RUFÁ** Blume Fl. Jav. Anon. (1828) 19, t. 4; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 24; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 92; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 53, Fl. Manila (1912) 206, Sp. Blancoanae (1918) 147.

*Uvaria solanifolia* Presl Rel. Haenk. 2 (1835) 76; F.-Vill. Novis. App. (1880) 5.

*Unona setigera* Blanco Fl. Filip. (1837) 468.

*Uvaria setigera* Blanco op. cit. ed. 2 (1845) 323, ed. 3, 2 (1878) 234, t. 195.

*Uvaria ridleyi* King in Journ. As. Soc. Beng. 61<sup>2</sup> (1892) 19, Ann. Bot. Gard. Calcutta 4 (1893) 23, t. 24B.

Northern Luzon to Palawan and Mindanao. In thickets at low and medium altitudes; endemic. Malay Peninsula, Java.



Local names: Allagát (Ilk.); batag-kabalang (Bik.); hilagak (Tag.); hinlalogák (Tag.); iniu (Sbl.); pedpéd (Ilk.); súsung-damúlag (Pamp.); susung-kabáyo (Tag.); susung-kalabau (Tag.).

**UVARIA SCANDENS** C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 69, 74, Philip. Journ. Sci. 6 (1911) Bot. 204.

Luzon (Laguna, Nueva Ecija, Rizal), Polillo, Biliran, Mindanao (Agusan, Davao), *Williams 2764, Elmer 17640, 13273, 14212, Baker 402, Loher 5514, B. S. 9278 Robinson, 10389 McGregor, F. B. 22367 Alvarez, 8905 Curran*. In forests at low and medium altitudes. Endemic.

Local names: Amualung (Mbo.); saging-ságing (Mbo.); súsung-kalabáú (Tag.).

**UVARIA SORZOGONENSIS** Presl Rel. Haenk. 2 (1835) 76; F.-Vill. Novis. App. (1880) 5; Merr. Sp. Blancoanae (1918) 147.

*Unona camphorata* Blanco Fl. Filip. (1837) 468, ed. 2 (1845) 326, ed. 3, 2 (1878) 239.

*Unona susong calabao* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 434.

*Uvaria littoralis* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 204, non Blume.

*Uvaria dulcis* F.-Vill. Novis. App. (1880) 5; Vidal Cat. Pl. Prov. Manila (1880) 16, non Dunal.

*Uvaria ovalifolia* Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 92, Rev. Pl. Vasc. Filip. (1886) 39; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 19, Philip. Journ. Sci. 1 (1906) Suppl. 53, non Blume.

Northern Luzon (Cagayan), to Mindanao and Palawan. In thickets and forests at low and medium altitudes; common. Allied to *Uvaria littoralis* Blume, which Boerlage, Ic. Bogor. 1 (1899) 93, has shown to be identical with *U. ovalifolia* Blume, but an older name. Endemic.

Local names: Alalagát (Ilk.); bagin-tulagak (C. Bis.); balonságing (Tag.); baluganos (P. Bis.); bulagak (Bik.); butoan-pulá (C. Bis.); dalagánúm (Bik.); dalagau (Bik.); gilalagal-ságing (Tag.); hinlalogak-ságing (Tag.); imúnau (Ibn.); mamógen (Ibn.); pañgaguason (Bik.); súsung-kalabáú (Tag.); tagibalas (Tag.).

**UVARIA STELLATA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 14.

Luzon (Benguet), *Elmer 6322, Merrill 9666*. In thickets, 500 to 1,300 m altitude. Endemic.

**UVARIA ZSCHOKKEI** Elm. Leaf. Philip. Bot. 1 (1908) 292.

*Uvaria subverrucosa* Elm. Leaf. Philip. Bot. 5 (1913) 1745.

Luzon (Tayabas, Sorsogon), Mindoro, Biliran, Samar, Mindanao (Agusan, Surigao), *Elmer 7647, 13274, 7307, Wenzel 1826, McGregor 325*. In forests at low and medium altitudes. Endemic.

Local name: Panhopai (Mbo.).

#### EXCLUDED SPECIES

**UVARIA AURITA** Blume; F.-Vill. Novis. App. (1880) 5.

**UVARIA MACROPODA** Hook. f. & Th. F.-Vill. l. c.

**UVARIA NARUM** Wall.; F.-Vill. l. c.

**UVARIA TIMORIENSIS** Blume; F.-Vill. l. c.

## 4. CANANGIUM Baillon

**CANANGIUM ODORATUM** (Lam.) Baill. ex King in Journ. As. Soc. Beng. 61<sup>2</sup> (1892) 41, Ann. Bot. Gard. Calcutta 4 (1893) 51, t. 62; Koord. & Val. Bijdr. Boomsoort. Java 9 (1903) 279; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 16, Philip. Journ. Sci. 1 (1906) Suppl. 53, Fl. Manila (1912) 208, Sp. Blancoanae (1918) 148.

*Uvaria odorata* Lam. Encycl. 1 (1785) 595.

*Unona odorata* Dunal Monog. Anon. (1817) 108.

*Cananga odorata* Hook. f. & Th. Fl. Ind. 1 (1855) 130; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 40; F.-Vill. Novis. App. (1880) 5; Vidal Sinopsis Atlas (1883) 12, t. 4, f. B, Phan. Cuming. Philip. (1885) 92, Rev. Pl. Vasc. Filip. (1886) 40.

*Unona odoratissima* Blanco Fl. Filip. (1837) 467, ed. 2 (1845) 325, ed. 3, 2 (1878) 239, t. 221.

*Unona ossea* Blanco Fl. Filip. (1837) 467.

*Uvaria ossea* Blanco op. cit. ed. 2 (1845) 322, ed. 3, 2 (1878) 233.

Throughout the Philippines in cultivation, occurring in some forested areas up to an altitude of 800 m. Indigenous in Burma and Java, planted in most tropical countries.

Local names: Alaṅṅigan (Ilk.); alaṅṅilang (Tag.); anaṅṅilan (C. Bis.); anaṅṅiran (Mbo.); aṅṅilan (Sub., Sul.); aranigan (Ting.); burak (S. L. Bis.); danipo (Ig.); ilang-ilang (Ilk., If. Tag., Bis.); ṅṅiran (Mbo.); taṅṅid (Bik.); taṅṅit (Bik.).

## 5. ANAXAGOREA St. Hilaire

**ANAXAGOREA LUZONENSIS** A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 27; F.-Vill. Novis. App. (1880) 6; Vidal Sinopsis (1883) 12, t. 5, f. A, Phan. Cuming. Philip. (1885) 92, Rev. Pl. Vasc. Filip. (1886) 41; King in Ann. Bot. Gard. Calcutta 4 (1893) 84, t. 118A; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 20, Philip. Journ. Sci. 1 (1906) Suppl. 53, 3 (1908) Bot. 76; Boerl. in Ic. Bogor. 1 (1899) 108, t. 31.

*Anaxagorea zeylanica* Hook. f. & Th. Fl. Ind. 1 (1855) 144; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 49.

Luzon (Bataan, Laguna, Cavite, Batangas, Camarines), Mindoro, Bili-ran, Leyte, Negros, Mindanao. In forests, chiefly at medium altitudes, locally abundant. Ceylon, Burma, Sumatra, Malay Peninsula, Indo-China, and Java.

Local names: Bagang-áso (Bik.); bobonoyang (C. Bis.); dalaíro (Tag.); káhoi-dalága (Tag.); koles-taláno (Tag.); pauli (P. Bis.); sagaák (Tag.); taláylo (Tag.).

**ANAXAGOREA RADIATA** C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 66, 74.

Basilan, Jolo, *Williams 3108, B. S. 15484 Reillo, F. B. 18846 Miranda*. In forests at low altitudes. Endemic.

## 6. DESMOS Loureiro

**DESMOS COCHINCHINENSIS** Lour. Fl. Cochinch. (1790) 352.

*Desmos chinensis* Lour. l. c.; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 235.

*Unona chinensis* DC. Syst. 1 (1818) 495, Prodr. 1 (1824) 91; Merr. Fl. Manila (1912) 208.

*Unona desmos* Raeusch. Nomencl. ed. 3 (1797) 161; Dunal Monogr. Anon. (1817) 112; F.-Vill. Novis. App. (1880) 5.

*Unona discolor* Vahl Symb. 2 (1791) 63, t. 36; DC. Prodr. 1 (1824) 91; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 41; F.-Vill. Novis. App. (1880) 5; Vidal Sinopsis Atlas (1883) 12, t. 4, f. A, Rev. Pl. Vasc. Filip. (1886) 41 (var. *pubiflora* Hook. f. & Th.); King in Ann. Bot. Gard. Calcutta 4 (1893) 56, t. 74; Boerl. in Ic. Bogor. 1 (1899) 98; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 20.

Palawan, Basilan, Mindanao (Zamboanga), *Merrill 9279, F. B. 7425 Manalo, 20092 Miranda, B. S. 210 Bermejos, 37234 Ramos & Edaña*. In thickets and forests at low and medium altitudes. India to southern China, southward to Java and Borneo.

I believe, after examining a series of specimens from both Cochinchina and southern China, that Loureiro's two species are the same; in fact, he expresses the opinion that the Chinese form (from Canton) was probably only a variety of the Cochinchinese one.

#### DESMOS MINDORENSIS (Merr.) comb. nov.

*Unona mindorensis* Merr. in Philip. Journ. Sci. 2 (1907) Bot. 273.

*Desmos elegans* Elm. Leaflet. Philip. Bot. 8 (1919) 3070.

Luzon (Bataan, Laguna, Rizal, Batangas, Sorsogon), Mindoro, *Merrill 5568, 5656, 4060, Williams 512, B. S. 27862 McGregor, 4572, 13755, 26217, 39775 Ramos, F. B. 25720 Mabesa, 26466 Catalan, Elmer 15884 (Polyalthia irasinensis Elm.), 17649*. In forests at low and medium altitudes, ascending to 1,000 m. Endemic.

#### DESMOS PALAWANENSIS (Elm.) comb. nov.

*Unona palawanensis* Elm. Leaflet. Philip. Bot. 5 (1913) 1742.

Palawan; *Elmer 13125*. In forests at low altitudes. Endemic.

#### DESMOS RUBRA (Merr.) comb. nov.

*Unona rubra* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 224.

Balabac, *B. S. 480 Mangubat*. In forests at low altitudes. Endemic. Local name: Pirañgat (Sul.).

### 7. POLYALTHIA Blume

POLYALTHIA BARNESII Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 15, Philip. Journ. Sci. 1 (1906) Suppl. 53.

Luzon (Cagayan, Ilocos Sur, Bataan), Mindoro, *F. B. 596 Barnes, 760, 802, 3032 Borden, 9911 Merritt, Whitford 359, Adduru 108*. In forests at low altitudes. Endemic.

Local names: Dalinas-lalaki (Tag.); latáuan (Tag.); panaguiáten (Ilk.).

POLYALTHIA DOLICHOPHYLLA Merr. in Philip. Journ. Sci. 14 (1919) 391.

Panay, *B. S. 30983, 30873, Ramos & Edaña, 35428 Martelino & Edaña*. In forests along small streams at low altitudes. Borneo.

**POLYALTHIA ELMERI** nom. nov.

*Unona miniata* Elm. Leaf. Philip. Bot. 5 (1913) 1740, non *Polyalthia miniata* Teysm. & Binn.

Palawan, *Elmer 12718*. In thin forests near the seashore. Endemic.

**POLYALTHIA ELONGATA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 222.

Mindanao (Zamboanga), *F. B. 9456 Whitford & Hutchinson, 27038 Malana & Alviar*. In forests at low altitudes. Endemic.

**POLYALTHIA FLAVA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 12, Philip. Journ. Sci. 1 (1906) Suppl. 53.

Luzon (Rizal, Bataan), *Whitford 1068, F. B. 2052, 2544 Borden, 2514 Meyer, 2135 Ahern's collector*. In forests at low and medium altitudes. Endemic.

Local name: Lanután (Tag.).

**POLYALTHIA GIGANTIFOLIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 246.

Mindanao (Davao, Zamboanga), *F. B. 13763 Foxworthy, De Mesa, & Villamil, 28184 Elumir, B. S. 36966 Ramos & Edaña*. In forests at low altitudes. Endemic.

Local names: Mañgoso (Sub.); tába (Sul.).

**POLYALTHIA GLANDULOSA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 247.

Mindanao (Zamboanga), *B. S. 16460 Reillo*. In forests at low altitudes. Endemic.

**POLYALTHIA GLAUCA** (Hassk.) Boerl. in Ic. Bogor. 1 (1899) 104.

*Uvaria glauca* Hassk. Cat. Hort. Bogor. (1844) 175, Pl. Jav. Rar. (1848) 172.

*Monoon glaucum* Miq. in Ann. Mus. Bot. Lugd.-Bat. 2 (1865) 15.

*Guatteria glauca* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 49.

*Unona merrittii* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 190.

*Polyalthia merrittii* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 250.

Luzon (Nueva Vizcaya, Tayabas, Camarines), Mindoro, Sibuyan, Dinagat, Mindanao (Butuan), *Whitford 1447, Merrill 1031, Elmer 12449, B. S. 33919 Ramos & Edaña, F. B. 10475 Curran, 3712 Merritt, 24027 Razon, 28532 Cenabre*. In forests at low altitudes. Sumatra and Java to Celebes, New Guinea, and the Key Islands.

Local names: Dogan (P. Bis.); lanután (Tag., Bik.).

**POLYALTHIA GRACILIPES** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 248.

Luzon (Tayabas), *B. S. 20792, 20825 Escritor, 13177 Foxworthy & Ramos*. In forests at low altitudes. Endemic.

Local name: Pamanútan (Sul.).

**POLYALTHIA GRANDIFOLIA** Elm. Leaf. Philip. Bot. 1 (1908) 291; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 250.

*Polyalthia pinnatinervia* Elm. Leaf. Philip. Bot. 5 (1913) 1736.

*Polyalthia nickersonii* Elm. op. cit. 1733.

Northern Luzon (Cagayan) to Mindanao and Palawan, *Elmer 7358, 12854, 13611, 15467, F. B. 21630 Lopez, 15221 Klemme, 21328 Acuña, 20611 Miranda, B. S. 36681 Ramos & Edaña, 15180, 24566, 24219, 24316 Ramos*,

18879 *McGregor, Wenzel 92, 1652, Williams 2344*. In forests at low and medium altitudes. Endemic.

Local names: Bañgár (Neg.); labnisan (S. L. Bis.); lanután (P. Bis.); lanután-nga-puyá (P. Bis.); magataru (Lan.); mángso (Ibn.); múnat (Ibn.); ñgarau (S. L. Bis.); panantólan (Ilk.); taganing (Mbo.).

**POLYALTHIA KLEMMEI** Elm. Leaf. Philip. Bot. 5 (1913) 1735.

Sibuyan, Palawan, *Elmer 12565, 12644*. In forests at low altitudes; a species very closely allied to and possibly not distinct from *Polyalthia grandifolia* Elm., differing chiefly in its more-numerous lateral nerves. Endemic.

Local name: Alisnat (Tagb.).

**POLYALTHIA LUCIDA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 249.

Luzon (Tayabas), Alabat, Samar, Mindanao (Zamboanga), *B. S. 13338, 19416, 24416 Ramos, F. B. 9008, 9400 Whitford & Hutchinson, Merrill 10497*. In forests at low altitudes. Endemic.

Local name: Malangkalipáyan (S. L. Bis.).

**POLYALTHIA MINDANAENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1734.

Mindanao (Davao, Cotabato, Lanao, Zamboanga), *Elmer 11642, F. B. 23371 Ponce, 25267 Alvarez, 26657 Rola, 9112 Whitford & Hutchinson*. In forests at low and medium altitudes, ascending to 1,200 m.

Local names: Dulau (Lan.); hindang (C. Bis.); pugan (Bag.).

**POLYALTHIA MINDORENSIS** nom. nov.

*Phaeanthus acuminatus* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 11, Philip. Journ. Sci. 2 (1907) Bot. 273, non *Polyalthia acuminata* Thw.

Mindoro, *Merrill 4050, F. B. 4321, 6154, 6887, 11383 Merritt*. In forests at low altitudes. Endemic.

**POLYALTHIA OBLIQUA** Hook. f. & Th. Fl. Ind. 1 (1855) 138; F.-Vill. Novis. App. (1880) 6; King in Ann. Bot. Gard. Calcutta 4 (1893) 77, t. 100 B.

*Polyalthia similis* Merr. in Philip. Journ. Sci. 8 (1913) Bot. 371.

*Polyalthia pulgarensis* Elm. Leaf. Philip. Bot. 5 (1913) 1731.

*Polyalthia minutiflora* Elm. op. cit. 1730.

Palawan, Samar, Leyte, Mindanao, *B. S. 780 Foxworthy, 204 Bermejos, 15185 Ramos, F. B. 36767 Ramos & Edaña, 26601 Ceballos, 23375 Acuña, Elmer 13055, 13621, 13100, Wenzel 91, 1346*. In forests at low and medium altitudes, ascending to 450 m. Chittagong, Malay Peninsula, Sumatra, Celebes (*Koorders 15995* det. as *Polyalthia celebica* Miq.).

Local names: Balogo (Mbo.); banalutan (Lan.); kalai (Lan.); lalañgoi (Sub.).

**POLYALTHIA OBLONGIFOLIA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 202.

Luzon (Nueva Vizcaya, Tayabas, Camarines), Polillo, Samar, Leyte, Negros, Mindanao, Basilan, *B. S. 9259 Robinson, 24446 Ramos, Sablaya 101, F. B. 12752 Rosenbluth, 17473 Curran, 20083 Miranda, 28212 Elumir*. In forests at low and medium altitudes. Endemic.

Local names: Lanután (Bik., P. Bis., Tag.); lapnisan (P. Bis.).

**POLYALTHIA PALAWANENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 246.

Palawan, Merrill 9469. On dry forested slopes at low altitudes. Endemic.

**POLYALTHIA RAMIFLORA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 244.

Luzon (Cagayan, Laguna, Sorsogon), Samar, *F. B. 5160 Bridges, 20472 Barros, B. S. 21984 Ramos, Merrill Phil. Pl. 1660*. In forests at low and medium altitudes; closely allied to *Polyalthia zamboangensis* Merr. Endemic.

Local names: Lanután (Tag., Bik.); lasubán (Ilk.).

**POLYALTHIA RUMPHII** (Blume) comb. nov.

*Guatteria rumphii* Blume ex Henschel Vita Rumph. (1833) 153.

*Arbor nigra parvifolia* Rumph. Herb. Amb. 5: 10, t. 4, f. 2; t. 5.

*Guatteria jenkinsii* Hook. f. & Th. Fl. Ind. 1 (1855) 141, quoad spec. Malacca.

*Polyalthia jenkinsii* King in Journ. As. Soc. Beng. 61<sup>2</sup> (1892) 56, Ann. Bot. Gard. Calcutta 4 (1893) 70, t. 96.

*Guatteria canangioides* Reichb. f. & Zoll. ex Miq. Fl. Ind. Bat. Suppl. (1860-61) 378.

*Monoon canangioides* Miq. in Ann. Mus. Bot. Lugd.-Bat. 2 (1865) 18.

*Polyalthia canangioides* Boerl. in Ic. Bogor. 1 (1899) 105.

*Guatteria parveana* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 48.

*Polyalthia cumingiana* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 71.

*Unona agusanensis* Elm. Leaflet. Philip. Bot. 5 (1913) 1743.

*Polyalthia agusanensis* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 250.

Luzon (Tayabas, Laguna, Camarines), Masbate, Samar, Leyte, Mindanao, *Cuming 827, Wenzel 798, Elmer 13654, F. B. 24870, 25376 Mabesa, 20164 Aguilar, 23704, 24633 Alvarez, B. S. 24233 Ramos, Merrill Phil. Pl. 1537*. In forests at low and medium altitudes. Malay Peninsula, Sumatra, Borneo, Java, Celebes, and the Moluccas.

Local names: Lanután (Tag.); lanután-lain (S. L. Bis.).

**POLYALTHIA SUBEROSA** (Roxb.) Thwaites Enum. Pl. Zeyl. (1864) 398;

Hook. f. Fl. Brit Ind. 1 (1872) 65; F.-Vill. Novis. App. (1880)

6; Vidal Phan. Cuming. Philip. (1885) 92, Rev. Pl. Vasc. Filip.

(1886) 41; Boerl. in Ic. Bogor. 1 (1899) 145, t. 50; King in Ann.

Bot. Gard. Calcutta 4 (1893) 64, t. 77 B; Merr. in Philip. Journ.

Sci. 1 (1906) Suppl. 54, Fl. Manila (1912) 209.

*Uvaria suberosa* Roxb. Pl. Coromandel 1 (1795) t. 34.

*Phaeanthus cumingii* Vidal Sinopsis Atlas (1883) 12, t. 5, f. D, non Miq.

Luzon (Cagayan to Laguna), Mindanao (Cotabato). Rather common in thickets at low and medium altitudes. India to southern China and Malaya.

Local names: Baling-manók (Tag.); duhat-duhátan (Tag.); dúhat-matsíng (Tag.); dúyat-nasi (Pamp.); lanután (Tag.); tagputagpúan (Tag.).

**POLYALTHIA VENOSA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 222.

Mindanao (Zamboanga, Misamis), *F. B. 9108, 9232 Whitford & Hutchinson, 17975 Miranda, 13277 Foxworthy, De Mesa, & Villamil, B. S. 11790 Robinson, 36558, 36769, 37332 Ramos & Edaño*. In forests at low altitudes. Endemic.

Local name: Subangsubang (Sul.).

**POLYALTHIA WILLIAMSII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 181.

Mindanao (Zamboanga), *Williams 2306, F. B. 9279 Whitford & Hutchinson, B. S. 37440, 36574 Ramos & Edaño*. In dipterocarp forests at low altitudes. Endemic.

**POLYALTHIA ZAMBOANGENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 245.

Mindanao (Zamboanga), *F. B. 13276 Foxworthy, De Mesa, & Villamil*. In forests at low altitudes. Endemic.

Local name: Malakayang-lupo (Sul.).

#### DOUBTFUL SPECIES

**POLYALTHIA** sp.; Merr. Sp. Blancoanae (1918) 148.

*Unona cabog* Blanco Fl. Filip. (1837) 466.

*Unona odorata* Blanco op. cit. ed. 2 (1845) 325, ed. 3, 2 (1878) 237, non Dunal.

Blanco's species cannot be determined with certainty beyond the genus from his imperfect description.

#### 8. PAPUALTHIA Diels

**PAPUALTHIA HETEROPETALA** Merr. in Philip. Journ. Sci. 14 (1919) 389.

Luzon (Ilocos Norte), *B. S. 32853 Ramos*. In dry forests at low altitudes. Endemic.

**PAPUALTHIA LANCEOLATA** (Vidal) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 242.

*Polyalthia lanceolata* Vidal Phan. Cuming. Philip. (1885) 170, Rev. Pl. Vasc. Filip. (1886) 41.

*Papualthia bakeri* Elm. Leaf. Philip. Bot. 8 (1919) 3070.

Luzon (Cagayan, Ilocos Norte, Nueva Ecija, Laguna, Batangas, Sorsogon), *Cuming 450, B. S. 33052, 24062 Ramos, Baker 603, 5986, Elmer 15166, 16045, 17775, 18327*. In forests at low and medium altitudes. Endemic.

Local name: Anólang (Tag.).

**PAPUALTHIA LOHERI** (Merr.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 242.

*Polyalthia loheri* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 268.

*Polyalthia romblonensis* Elm. Leaf. Philip. Bot. 5 (1913) 1729.

Luzon (Cagayan, Isabela, Rizal, Nueva Ecija, Tayabas, Rizal, Sorsogon), Alabat, Romblon, *Cuming 1846, F. B. 14780 Darling, 18437 Alvarez, 6641 Klemme, 26071 Barros, Loher 5531, B. S. 26438, 26364, 29399 Ramos & Edaño, Merrill 10457, Elmer 12170*. Endemic.

Local names: Gibal (Tag.); lanután (Tag.); oasóasan (Klg.); puñga-náoan (Ibn.).

**PAPUALTHIA RETICULATA** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 242.

*Polyalthia reticulata* Elm. Leaflet. Philip. Bot. 1 (1908) 292.

*Polyalthia loheri* Merr. var. *cagayanensis* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 269.

Luzon (Cagayan, Isabela, Apayao), Samar, Leyte, *Elmer 7272, Wenzel 1777, B. S. 7999, 17417, 24398 Ramos, 28413 Fénix*. In forests at low and medium altitudes. Endemic.

Local name: Maladilang-bogsog (S. L. Bis.).

**PAPUALTHIA SAMARENSIS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 180.

Samar, *B. S. 24180 Ramos*. In damp forests at low altitudes. Endemic.

**PAPUALTHIA SYMPETALA** (C. B. Rob.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 242.

*Unona sympetala* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 203.

Luzon (Laguna, Tayabas), Polillo, *B. S. 10352 McGregor, 20515 Ramos*. In forests at low and medium altitudes. Endemic.

**PAPUALTHIA TENUIPES** (Merr.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 243.

*Polyalthia tenuipes* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 269.

Luzon (Tayabas), *B. S. 13472 Foxworthy & Ramos*. In forests at low altitudes. Endemic.

**PAPUALTHIA URDANETENSIS** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 243.

*Polyalthia urdanetensis* Elm. Leaflet. Philip. Bot. 5 (1913) 1738.

Mindanao (Agusan), *Elmer 13931*. In forests, altitude about 1,050 m. Endemic.

Local name: Kaiti-iti (Mbo.).

The genus is otherwise known only from New Guinea.

#### 9. POPOWIA Endlicher

**POPOWIA LANCEOLATA** Merr. in Philip. Journ. Sci. 17 (1920) 252.

Dinagat, *B. S. 35186 Ramos & Pascasio*. In forests at low altitudes. Endemic.

**POPOWIA PISOCARPA** (Blume) Endl. in Walp. Repert. 1 (1842) 74; Koord. & Val. in Meded. Lands Plantent. 61 (1903) 339.

*Gutteria pisocarpa* Blume Bijdr. (1825) 21.

*Bocagea pisocarpa* Blume Fl. Jav. Anon. (1828) 90, t. 45.

*Gutteria ramosissima* Wall. Cat. (1832-47) No. 7294, 8006, *nomen nudum*.

*Popowia ramosissima* Hook. f. & Th. Fl. Ind. 1 (1855) 105; King in Ann. Bot. Gard. Calcutta 4 (1893) 117, t. 159B.

*Bocagea polyandra* Presl Rel. Haenk. 2 (1835) 77.

*Popowia polyandra* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 224.

Luzon (Camarines, Sorsogon), Polillo, Samar, Leyte, Negros, Panay, Mindanao), *Presl, B. S. 22100, 23377, 17506, 24164 Ramos, 15683 Fénix*,



33593, 33749 Ramos & Edaña, Merrill Phil. Pl. 1530, 1169, Wenzel 1164, 371, Williams 2315, Elmer 13544, 14035, Clemens 1007, F. B. 17485, 17489 Curran. In forests at low and medium altitudes. Malay Peninsula, Sumatra, Java, and Borneo.

Local names: Bulanütan (Buk.); deyending (S. L. Bis.); palang-pálang (Mbo.).

#### 10. ALPHONSEA Hooker f. and Thomson

**ALPHONSEA ARBOREA** (Blanco) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 233, Sp. Blancoanae (1918) 146.

*Macanea arborea* Blanco Fl. Filip. (1837) 431.

*Monodora myristica* Blanco op. cit. ed. 2 (1845) 300, ed. 3, 2 (1878) 193, non Dunal.

*Monocarpia blancoi* F.-Vill. Novis. App. (1880) 6.

*Alphonsea philippinensis* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 9.

Luzon (Laguna, Rizal, Tayabas, Camarines), Mindoro, Masbate, Ticao, Leyte, Cebu, Mindanao, F. B. 20288, 22020 Villamil, 10499 Curran, 12710, 12729 Rosenbluth, 1015 Clark, 6439 Espinosa, Merrill 1075, 2062, 2591, 1925, 1988, Sp. Blancoanae 838. In forests at low and medium altitudes. Endemic.

Local names: Bolon (Bik.); kálai (Tag.); lanotán (S. L. Bis.); lanután (Tag., Bik.); malatambón (Bik.); palo-kálai (Tag.); sapiro (C. Bis.).

**ALPHONSEA SESSILIFLORA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 233.

Luzon (Rizal, Nueva Ecija), F. B. 22118 Alvarez, B. S. 13617 Ramos. In forests at low and medium altitudes. Endemic.

#### 11. SACCOPETALUM Bennett

**SACCOPETALUM ARBOREUM** Elm. Leaf. Philip. Bot. 5 (1913) 1739.

Palawan, Elmer 12677. In forests at low altitudes. Endemic.

Local name: Ubaran (Tagb.).

**SACCOPETALUM LONGIPES** Vidal Rev. Pl. Vasc. Filip. (1886) 43; Ceron Cat. Pl. Herb. Manila (1892) 12.

Luzon (Ilocos Norte, Ilocos Sur, Zambales, Laguna, Bataan, Rizal, Cavite), Cuming 1198, Merrill 1728, 2965, F. B. 7105 Klemme, 20293, 20987 Villamil, 23854, 25475, 13254 Paraiso. In dry forests at low and medium altitudes. Endemic.

Local names: Dangluk (Tag.); lanután (Tag.); takúlau (Ilk.); takú-lau-puráu (Ilk.).

#### 12. PHAEANTHUS Hooker f. and Thomson

**PHAEANTHUS EBRACTEOLATUS** (Presl) Merr. in Philip. Journ. Sci. 3 (1908) Bot. 225, 406, Sp. Blancoanae (1918) 148.

*Uvaria ebracteolata* Presl Rel. Haenk. 2 (1835) 77; F.-Vill. Novis. App. (1880) 5.

*Uvaria tripetala* Blanco Fl. Filip. (1837) 465, non Roxb.

*Unona tripetala* Blanco op. cit. ed. 2 (1845) 324, ed. 3, 2 (1878) 236.

*Phaeanthus cumingii* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 51; Vidal Phan.

Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 42; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 20, Govt. Lab. Publ.

(Philip.) 27 (1905) 16, Philip. Journ. Sci. 1 (1906) Suppl. 54, 2 (1907) Bot. 273.

*Phacanthus nutans* F.-Vill. Novis. App. (1880) 6, non Hook. f. & Th.

Babuyan Islands and northern Luzon to Mindanao. Common in forests at low and medium altitudes. Endemic.

Local names: Alataúan (Tag.); banátan (Tag.); banítan (Tag.); bat-nítang (Tag.); dalínas (Tag.); kalimatás (Tag.); kalumatás (Tag.); katinatáu (Tag.); langlañgás (Ilk.); lanotán (Tag.); lanótang-itím (Tag.); lanután (Tag.); marasiagiát (Gad.); oyoí (Tag.); purópúgai (Neg.); takúlau (Ilk.); yamban (Sbl.).

**PHAEANTHUS NIGRESCENS** Elm. Leaf. Philip. Bot. 5 (1913) 1728.

*Phaeanthus nitidus* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 8.

Luzon (Camarines, Sorsogon), Samar, Mindanao, *Elmer 13727, 15168* (*P. vinosus* Elm.), *B. S. 23477, 22092, 24169 Ramos, 33891, 33590, 33550 Ramos & Edaño, F. B. 26100 Oliveros*. In forests, ascending to 1,050 m. Endemic.

Local names: Dagaua (Mbo.); titis (Bik.).

**PHAEANTHUS PUBESCENS** Merr. in Philip. Journ. Sci. 14 (1919) 390.

Luzon (Cagayan, Isabela, Ilocos Norte, Nueva Vizcaya), *B. S. 27333, 32815 Ramos, F. B. 23272 Velasco, 24091 Barros, 14850, 14695 Darling, 25099, 22092 Paraiso, 28525 Cenabre*. In forests at low and medium altitudes. Endemic.

Local names: Langlañgés (Ilk.); takúlau (Ilk.); tuklang (Klg.).

**PHAEANTHUS VILLOSUS** Merr. in Philip. Journ. Sci. 14 (1919) 391.

Panay, *B. S. 30775 Ramos & Edaño, 35469 Martelino & Edaño*. In damp forests along small streams at low and medium altitudes. Endemic.

#### EXCLUDED SPECIES

**PHAEANTHUS MALABARICUS** Bedd.; F.-Vill. Novis. App. (1880) 7.

### 13. OROPHEA Blume

**OROPHEA AVERSA** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 10.

*Mitrephora aversa* Elm. Leaf. Philip. Bot. 5 (1913) 1719.

Luzon (Sorsogon), Mindanao (Agusan), *Elmer 13985, 16208, 15197, F. B. 24434 Miras*. In forests up to 400 m altitude; closely allied to *Orophea cumingiana* Vid. Endemic.

Local names: Kondi (Mbo.); pamohogan (Mbo.).

**OROPHEA BRACTEOLATA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 223.

Luzon (Cagayan, Ilocos Norte), *F. B. 7055 Klemme, 13107 Bernardo, B. S. 27471 Ramos*. In forests at low altitudes. Endemic.

Local name: Pañganáuin (Ibn.).

**OROPHEA CUMINGIANA** Vidal Phan. Cuming. Philip. (1885) 93, 170, Rev. Pl. Vasc. Filip. (1886) 44; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 54.

*Orophea erythrocalyx* Vidal Sinopsis Atlas (1883) 12, t. 5, f. G; F.-Vill. Novis. App. (1883) 347, non Bedd.

Luzon (Cagayan, Nueva Vizcaya, Nueva Ecija, Rizal, Bataan, Laguna, Tayabas, Sorsogon, Camarines, Albay), Mindoro, Samar, Leyte, Mindanao,

*Cuming 854, 1412, 1705, 1741, Merrill Phil. Pl. 1545, Elmer 16688, 10498, 17601, F. B. 10309 Curran, Loher 5528, 5527, 5519.* In forests at low and medium altitudes. Endemic.

Local names: Amúnat (Ibn.); karasákat (Is.); lanután (Tag.); lo-banti (Bag.); poagan (Bag.).

**OROPHEA ELLIPANTHOIDES** (Elm.) comb. nov.

*Mitrephora ellipanthoides* Elm. Leaf. Philip. Bot. 5 (1913) 1715.

*Orophea unguiculata* Elm. op. cit. 5 (1913) 1724.

Samar, Mindanao (Agusan), Zamboanga, *Elmer 13987, 13286, Merrill Phil. Pl. 1661, B. S. 36636 Ramos & Edaño.* In forests at low and medium altitudes. Endemic.

Local names: Pagaion (Mbo.); papaon (Mbo.); tulang-manók (Sub.).

**OROPHEA ENTEROCARPOIDEA** Vidal Phan. *Cuming. Philip. (1885) 93, 171, Rev. Pl. Vasc. Filip. (1886) 44.*

*Orophea enterocarpa* F.-Vill. *Novis. App. (1883) 347, non Maingay.*

Luzon (Tayabas), Mindoro, Palawan, *Cuming 1586, B. S. 19443 Ramos, F. B. 6797 Merritt, Merrill 4037, 1815, 9212, McGregor 185, Whitford 1456.* In forests at low altitudes. Endemic.

Local name: Makitarin (Tag.).

**OROPHEA GLABRA** Merr. in *Govt. Lab. Publ. (Philip.) 29 (1905) 14, 35 (1906) 71.*

Luzon (Cagayan, Apayao, Ilocos Norte, Nueva Ecija, Tayabas, Sorsogon), Ticao, Samar, *Cuming 1277, Merrill 3996, Phil. Pl. 1672, Elmer 16690, B. S. 33172 Ramos, 28249 Fénix, 26377 Ramos & Edaño.* In forests at low altitudes. Endemic.

Local names: Batúno (Neg.); lanután (Bik.).

**OROPHEA LEYTENSIS** Merr. in *Philip. Journ. Sci. 11 (1916) Bot. 181.*

Luzon (Tayabas, east coast), Samar, Leyte, *Wenzel 1711, 1723, B. S. 24292, 24468 Ramos, 28802 Ramos & Edaño.* In forests at low altitudes. Endemic.

**OROPHEA LUZONENSIS** Merr. in *Philip. Journ. Sci. 3 (1908) Bot. 224.*

*Orophea maculata* Merr. in *Govt. Lab. Publ. (Philip.) 35 (1906) 11, Philip. Journ. Sci. 1 (1906) Suppl. 54, non Scort.*

Luzon (Bataan, Tayabas), *F. B. 25305 Bawan, 2389 Borden, 2418 Meyer, Ahern 745, Williams 510, 735.* In forests at low and medium altitudes. Endemic.

**OROPHEA PALAWANENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1721.

Palawan, *Elmer 12858, 12645, Merrill 9227.* In forests at low and medium altitudes. Endemic.

Local name: Tabiñgalang (Tagb.).

**OROPHEA POLYANTHA** Merr. in *Philip. Journ. Sci. 10 (1915) Bot. 257.*

Samar, *B. S. 24166 Ramos, Merrill Phil. Pl. 1673.* In forests at low altitudes. Endemic.

**OROPHEA SUBMACULATA** Elm. Leaf. Philip. Bot. 5 (1913) 1723.

Palawan, *Elmer 13018, 13099.* In forests, altitude 200 to 450 m. Endemic.

**OROPHEA TARROSAE** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 258.  
Mindanao (Cotabato), *F. B. 14927 Tarrosa & Almagro*. In forests at low altitudes. Endemic.

Local name: Lanután (Sul.).

**OROPHEA WENZELII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 356.

Leyte, Samar, *B. S. 24225 Ramos, Wenzel 682*. In forests, altitude up to 500 m. Endemic.

**OROPHEA WILLIAMSII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 259.

Mindanao (Zamboanga), *Williams 2311, F. B. 25341 Franco, 25331 Ceballos & Tecson*. In forests at low altitudes. Endemic.

#### 14. PSEUDUVARIA Miquel

**PSEUDUVARIA CAUDATA** Merr. in Philip. Journ. Sci. 17 (1920) 251.

Luzon (Camarines), *F. B. 25533 Cenabre*. In primary forests at low altitudes. Endemic.

**PSEUDUVARIA GRANDIFLORA** Merr. in Philip. Journ. Sci. 14 (1919) 392.

Luzon (Ilocos Norte), *B. S. 27514 Ramos*. In forests at low altitudes. Endemic.

Local name: Apnít (Ilk.).

**PSEUDUVARIA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 256.

Luzon (Cagayan, Tayabas), Palawan, Samar, *Merrill 9213, Sablaya 51, B. S. 24449 Ramos, F. B. 12987 Bernardo, 20182 Aguilar*. In forests at low and medium altitudes. Endemic.

Local names: Dangloi (S. L. Bis.); lanután (Tag.).

#### 15. MITREPHORA Hooker f. and Thomson

**MITREPHORA BASILANENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 251.

Basilan, *F. B. 20060 Miranda*. In forests near mangrove swamps. Endemic.

**MITREPHORA CAGAYANENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 387.

Luzon (Cagayan), *B. S. 22733 Castillo, Adduru 143*. In thickets and forests at low altitudes. Endemic.

**MITREPHORA FRAGRANS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 252.

Palawan, *Merrill 9217, F. B. 25755 Natividad*. In forests at low altitudes. Endemic.

**MITREPHORA LANOTAN** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 71, Philip. Journ. Sci. 1 (1906) Suppl. 54, 2 (1907) Bot. 430, Sp. Blancoanae (1918) 149.

*Uvaria lanotan* Blanco Fl. Filip. (1837) 464.

*Unona latifolia* Blanco op. cit. ed. 2 (1845) 324, ed. 3, 2 (1878) 236, non Dunal.

Luzon (Apayao, Ilocos Norte, Ilocos Sur, Pangasinan, Nueva Ecija, Zambales, Bulacan, Rizal, Bataan, Laguna, Tayabas), Polillo, Mindoro, Palawan. In dry forests at low and medium altitudes. Endemic.

Local names: Banítan (Tag.); dalínas (Tag.); dalinas-laláki (Tag.); daliñgas (Tag.); lanotán (Tag.); malausá (Sbl.); pagiñgá (Ibn.); pañgananan (Neg.).

**MITREPHORA PICTIFLORA** Elm. Leaf. Philip. Bot. 5 (1913) 1718.

Mindanao (Agusan), *Elmer 13731*. In forests, altitude about 750 m. Endemic.

Local name: Babayokan (Mbo.).

**MITREPHORA REFLEXA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 10.

Luzon (Cagayan, Rizal, Tayabas), Mindoro, Samar, *F. B. 2882 Ahern's collector, 24256 Bernardo, B. S. 28847 Ramos & Edaña, Adduru 63, 96, Loher 5517, Merrill Phil. Pl. 1674*. In forests at low and medium altitudes. Endemic.

Local names: Lanotán (Tag.); pañgananan (Neg.).

**MITREPHORA SAMARENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 253.

Samar, Biliran, *Merrill Phil. Pl. 1666, B. S. 18550 McGregor*. In forests, altitude about 300 m. Endemic.

**MITREPHORA WEBERI** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 266.

Busuanga, *Weber 1550*. In forests at low altitudes. Endemic.

**MITREPHORA WILLIAMSII** C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 68, 74.

Mindanao (Zamboanga), *Williams 2188, F. B. 13783 Foxworthy, De Mesa, & Villamil*. In forests at low altitudes.

#### EXCLUDED SPECIES

**MITREPHORA RETICULATA** Hook. f.; F.-Vill. Novis. App. (1883) 347.

#### 16. GONIOTHALAMUS Hooker f. and Thomson

**GONIOTHALAMUS AMUYON** (Blanco) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 264, Sp. Blancoanae (1918) 149.

*Uvaria amuyon* Blanco Fl. Filip. (1837) 463.

*Unona cauliflora* Blanco op. cit. ed. 2 (1845) 323, ed. 3, 2 (1878) 235.

Luzon (Abra, Ilocos Norte, Ilocos Sur, Pangasinan, Batangas, Rizal, Tayabas), Negros, Bohol, Mindanao, *F. B. 23387 Contreras, 26331 Paraíso, 25871 Adduru, 5642 Klemme, B. S. 1229 McGregor, 32705 Ramos, 17898 Otanes, 26715 Félix, Merrill Sp. Blancoanae 603, Lete 247*. In forests at low and medium altitudes. Endemic.

Local names: Amúyon (C. Bis.); amúyong (Tag.); bantana (Buk.); grano del paraíso (Sp.); sagiát (Ilk.).

**GONIOTHALAMUS COPELANDII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 262.

Mindanao (Zamboanga), *Merrill 8297*. In hill forests, altitude about 900 m. Endemic.

**GONIOTHALAMUS DOLICHOPETALUS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 221.

Mindanao (Zamboanga, Misamis, Lanao), Basilan, *B. S.* 37073, 37412 Ramos & Edaña, *F. B.* 24691 Tecson, 9268, 9261 Whitford & Hutchinson, 23314 Agama, 22457 Klemme, Williams 2327, 2328. In forests at low and medium altitudes. Endemic.

Local names: Kusa (Sub.); saliangka (Sub.).

**GONIOTHALAMUS ELMERI** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 13, 35 (1906) 71, Philip. Journ. Sci. 1 (1906) Suppl. 54, 2 (1907) Bot. 273, 3 (1908) Bot. 76.

*Goniothalamus giganteus* Vidal Sinopsis Atlas (1883) 12, t. 5, f. B, Phan. Cuming. Philip. (1885) 93, p. p., Rev. Pl. Vasc. Filip. (1886) 42, p. p., non Hook. f. & Th.

*Goniothalamus brunneus* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 9.

Northern Luzon to Mindanao. A common, rather variable, widely distributed species in forests at low and medium altitudes. Endemic.

Local names: Bigus (Neg.); lanútan (P. Bis., Mbo.); malaámyong (Sbl.); malapa (C. Bis.); marabútai (Neg.).

**GONIOTHALAMUS EPIPHYTICUS** Elm. Leaf. Philip. Bot. 5 (1913) 1711.

Mindanao (Agusan), *Elmer* 13535, 13830. On forested ridges (terrestrial), and in the mossy forest (pseudoepiphytic), altitude 900 to 1,500 m. A species of uncertain status of which the flowers are unknown; perhaps not distinct from *G. elmeri* Merr. Endemic.

Local names: Ginañgiuan (Mbo.); lanútan (Mbo.).

**GONIOTHALAMUS GITINGENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1710.

Mindanao (Zamboanga), Sibuyan, *Elmer* 12507, *B. S.* 36593 Ramos & Edaña. On forested ridges, altitude about 1,350 m; very closely allied to *G. elmeri* Merr. Endemic.

Local name: Guyog (Sub.).

**GONIOTHALAMUS GIGANTIFOLIUS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 263.

Basilan, *F. B.* 18958 Miranda. In forests, altitude about 160 m; flowers unknown. Endemic.

**GONIOTHALAMUS LANCIFOLIUS** Merr. in Philip. Journ. Sci. 14 (1919) 385.

Luzon (Cagayan, Pangasinan), *B. S.* 29992 Fénix, *F. B.* 24844 Barros. In forests at low and medium altitudes. Endemic.

Local name: Monát (Ilk.).

**GONIOTHALAMUS LONGISTYLUS** Merr. in Philip. Journ. Sci. 14 (1919) 386.

Luzon (Tayabas, east coast), *B. S.* 26639 Ramos & Edaña. In forests at low and medium altitudes. Endemic.

**GONIOTHALAMUS OBTUSIFOLIUS** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 9.

Mindoro, Palawan, Mindanao (Agusan), Merrill 2183, 9215, *F. B.* 4139 Curran, *B. S.* 41201 Ramos. In dry forests at low altitudes. Endemic.

Local name: Amúyon (Tag.).

**GONIOTHALAMUS PANAYENSIS** Merr. in Philip. Journ. Sci. 17 (1920) 251.

Panay, *B. S.* 35290, 35575 Martelino & Edaña. In forests at low or medium altitudes. Endemic.

**GONIOTHALAMUS PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 3 (July, 1908) Bot. 135.

*Goniothalamus giganteus* F.-Vill. Novis. App. (1880) 6; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 42, non Hook. f. & Th.

*Goniothalamus magnificus* Elm. Leaf. Philip. Bot. 2 (Dec. 14, 1908) 473.

*Goniothalamus mindanaensis* Elm. Leaf. Philip. Bot. 5 (1913) 1712.

Luzon (Tayabas), Samar, Biliran, Mindanao (Agusan, Bukidnon, Lanao, Davao), *Cuming* 1746, *Elmer* 7419, 10982, 14024 *Clemens* 1049, *B. S.* 24286 *Ramos*, 18783 *McGregor*, 21458 *Escritor*, 15758 *Fénix*, *F. B.* 23184 *Agama*, *Merrill Phil. Pl.* 1639. In forests at low and medium altitudes. Endemic.

Local names: Dakter (Buk.); lanután (S. L. Bis., Mbo.); latipo (Lan.).

**GONIOTHALAMUS PUNCTICULIFOLIUS** Merr. in Philip. Journ. Sci. 20 (1922) 383.

Mindoro, *B. S.* 39660, 39519, 39676 *Ramos*. In dry forests at low altitudes. Endemic.

**GONIOTHALAMUS SIBUYANENSIS** (Elm.) comb. nov.

*Uvaria sibuyanensis* Elm. Leaf. Philip. Bot. 5 (1913) 1747; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 230.

Sibuyan, *Elmer* 12322. In forests, altitude about 300 m. A species of uncertain status, apparently allied to *G. elmeri* Merr., but the flowers unknown. Endemic.

Local name: Lanítos (P. Bis.).

**GONIOTHALAMUS TRUNCIFLORUS** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 10.

Luzon (Tayabas, east coast), *Whitford* 774, *B. S.* 25497 *Yates*. In forests at low altitudes. Endemic.

#### EXCLUDED SPECIES

**GONIOTHALAMUS FULVUS** Hook. f. & Th.; F.-Vill. Novis. App. (1880) 6.

**GONIOTHALAMUS MALAYANUS** Hook. f. & Th.; King in Ann. Bot. Gard. Calcutta 4 (1893) 94.

King extends the range of this Malayan species to the Philippines, but I have seen no specimens that I would refer here.

#### 17. XYLOPIA Linnaeus

**XYLOPIA DEHISCENS** (Blanco) Merr. in Philip. Bureau Forest. Bull. 1 (1903) 20, Govt. Lab. Publ. (Philip.) 27 (1905) 16, Philip. Journ. Sci. 1 (1906) Suppl. 54, Sp. Blancoanae (1918) 149.

*Unona dehiscens* Blanco Fl. Filip. (1837) 466, ed. 2 (1845) 325, ed. 3, 2 (1878) 238.

*Xylopija blancoi* Vidal Sinopsis Atlas (1883) 12, t. 5, f. C, Rev. Pl. Vasc. Filip. (1886) 43.

Northern Luzon (Cagayan) to Mindanao, *Merrill 1926, 1946, B. S. 29097 Ramos & Edaña, F. B. 683 Borden, 11696 Whitford, 4064, 9697 Merritt, 985, 998 Clark*. In forests at low and medium altitudes. Endemic.

Local names: Banitan (Ilk.); damarau (P. Bis.); hagibat (Neg.); sudkad (P. Bis., Bik.); tangísang-bágio (Tag.).

**XYLOPIA DENSIFOLIA** Elm. Leaf. Philip. Bot. 5 (1913) 1749.

Luzon (Tayabas, east coast), Mindoro, Sibuyan, *Elmer 12471, Merrill 1011, B. S. 21198 Escritor, 39754 Ramos*. In forests at low and medium altitudes. Endemic.

#### 18. MEIOGYNE Miquel

**MEIOGYNE LUCIDA** Elm. Leaf. Philip. Bot. 5 (1913) 1714; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 241.

*Meiogyne paucinervia* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 241.

*Unona virgata* Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 92, Rev. Pl. Vasc. Filip. (1886) 41, non Blume.

Luzon (Sorsogon), Samar, Leyte, Mindanao (Agusan), *Cuming 1738, Wenzel 645, 1060, 153, Sablaya 23, Elmer 13984, 15321, 15555, F. B. 21657 Sherfesece, B. S. 15381 Ramos, Merrill Phil. Pl. 1640*. In forests at low and medium altitudes. Endemic.

Local name: Hanloaihon (Mbo.).

**MEIOGYNE PHILIPPINENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1714; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 242.

Mindanao (Davao), *Elmer 11318*. In forests, altitude about 1,200 m. Endemic.

Local name: Pugan (Bag.).

#### 19. ARTABOTRYS R. Brown

**ARTABOTRYS CUMINGIANA** Vidal Phan. Cuming. Philip. (1885) 92, 169, Rev. Pl. Vasc. Filip. (1886) 39; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 54.

*Artabotrys cumingiana* Vidal var. *subglabra* Elm. Leaf. Philip. Bot. 5 (1913) 1705.

Luzon (Cagayan, Union, Pangasinan, Ilocos Norte, Bataan, Nueva Ecija), Sibuyan, Mindoro, Palawan, *F. B. 2950 Borden, 6633 Curran, B. S. 22719 Castillo, 32820, 39810 Ramos, Merrill 9632, Elmer 12338*. In forests at low and medium altitudes. Endemic.

Local name: Alagág (Ilk.).

**ARTABOTRYS LUTEUS** Elm. Leaf. Philip. Bot. 1 (1908) 290.

*Artabotrys cumingiana* Vidal var. *reticulata* Elm. Leaf. Philip. Bot. 5 (1913) 1706.

Luzon (Tayabas), Catanduanes, Mindanao (Agusan), *Elmer 9136, 13608, B. S. 30158 Ramos*. In forests up to 1,100 m altitude. Endemic.

Local name: Kabak-kábak (Mbo.).

**ARTABOTRYS CAGAYANENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 384.

Luzon (Cagayan), *Adduru 136, B. S. 22719 Castillo*. On forested slopes at low altitudes. Endemic.



**ARTABOTRYS MONOGYNUS** Merr. in Philip. Journ. Sci. 14 (1919) 383.

Luzon (Zambales), *B. S. 26826* *Edaño*. In forests at low altitudes. Endemic.

**ARTABOTRYS SUAVEOLENS** Blume Fl. Jav. Anon. (1828) 62, *t. 30, 31 D*; King in Ann. Bot. Gard. Calcutta 4 (1893) 46, *t. 61*; F.-Vill. Novis. App. (1880) 5; Vidal Sinopsis Atlas (1883) 12, *t. 4, f. D.*, Phan. Cuming. Philip. (1886) 39; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 16.

*Unona suaveolens* Blume Bijdr. (1825) 17.

*Unona corniculata* Blanco Fl. Filip. (1837) 469, ed. 2 (1845) 326, ed. 3, 2 (1878) 240.

*Artabotrys rolfei* Vidal Rev. Pl. Vasc. Filip. (1886) 39; Ceron Cat. Pl. Herb. Manila (1892) 10; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 54.

*Artabotrys hamata* Vidal Phan. Cuming. Philip. (1885) 92, non Blume.

*Artabotrys corniculata* Merr. Sp. Blancoanae (1918) 150.

Luzon (Zambales, Bataan, Rizal, Laguna, Tayabas), Polillo, Mindoro, Palawan, Mindanao, Basilan. In dry thickets and in second-growth forests at low altitudes. India through Malaya to the Moluccas.

Local names: Báhai-balagán (C. Bis.); kintubo (Sub.); súsong-damúlag (Tag.).

**ARTABOTRYS UNCINATUS** (Lam.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 234, Fl. Manila (1912) 206, Sp. Blancoanae (1918) 150.

*Anona uncinata* Lam. Encycl. 2 (1786) 127.

*Unona uncinata* Dunal Monog. Anon. (1817) 105, *t. 25*; DC. Prodr. 1 (1824) 90; Blanco Fl. Filip. ed. 2 (1845) 324, ed. 3, 2 (1878) 237, *t. 194*.

*Uvaria sinensis* Blanco Fl. Filip. (1837) 465.

*Artabotrys odoratissimus* R. Br. in Bot. Reg. *t. 423*; F.-Vill. Novis. App. (1880) 5; Vidal Sinopsis Atlas (1883) 12, *t. 4, f. E*; King in Ann. Bot. Gard. Calcutta 4 (1893) 44; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 16.

Luzon to Mindanao, in occasional cultivation; introduced from southern China. Pantropic in cultivation, probably a native of southern China.

Local names: Alaṅgigan (Ilk.); alaṅgálang-sonson (Tag.); ilang-ilang-sina (Tag.); ilangilang-songsong (Tag.).

**ARTABOTRYS VIDALIANA** Elm. Leaf. Philip. Bot. 5 (1913) 1707.

Palawan, *Elmer 13007*. In forests, altitude about 150 m. Endemic.

## EXCLUDED SPECIES

**ARTABOTRYS PLEUROCARPUS** Maingay; F.-Vill. Novis. App. (1880) 5.

20. **CYATHOCALYX** Champion

**CYATHOCALYX ACUMINATUS** C. B. Rob. in Bull. Torr. Bot. Club. 35 (1908) 66, 74.

Mindanao (Zamboanga), *Williams 2143*. In forests, at low altitudes. Endemic.

**CYATHOCALYX GLOBOSUS** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 17, Philip. Journ. Sci. 1 (1906) Suppl. 55.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Union, Benguet, Bataan, Rizal, Tayabas), *F. B.* 481, 310, 523 *Barnes*, 622, 646, 657, 667, 1529, 1536, 1735 *Borden*, 13424, 13420 *Klemme*, 10810 *Curran*, *Merrill* 2130. In primary forests at low and medium altitudes. Endemic.

Local names: Alínau (Ilk.); baniakáu (Ilk.); bohokan (Bik.); dalínas (Tag.); damarau (C. Bis.); ilangilang-gúbat (Tag.); kutipí (Ilk.); lanútan (Tag.); latáuan (Tag.); latúan (Tag.); tapuláu (Tag.).

#### EXCLUDED SPECIES

**CYATHOCALYX ZEYLANICUS** Champ.; F.-Vill. Novis. App. (1880) 5.

#### 21. FISSISTIGMA Griffith

(*Melodorum* Hooker f. and Thompson non Loureiro)

**FISSISTIGMA RUFUM** (Presl) Merr. in Philip. Journ. Sci. 15 (1919) 136.

*Melodorum rufum* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 223.

*Anona rufa* Presl Rel. Haenk. 2 (1835) 75; F.-Vill. Novis. App. (1880) 7.

*Melodorum clementis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 136.

*Melodorum latifolium* F.-Vill. Novis. App. (1880) 7; Vidal Phan. Cuming. Philip. (1885) 93, Rev. Pl. Vasc. Filip. (1886) 42, non Hook. f. & Th.

Luzon (Laguna, Bataan, Rizal, Sorsogon), Mindoro, Mindanao, *Cuming* 1548, *Presl*, *Elmer* 16709, *Clemens* 1097, *B. S.* 1871 *Foxworthy*, 13527, 15113, 21984 *Ramos*, *F. B.* 26938 *Phasis*, *Merrill* 2294. In forests at low and medium altitudes. Endemic.

This species is allied to the so-called Malayan *Melodorum latifolium* (Dunal) Hook. f. & Th. but has smaller flowers and fruits. The genus *Melodorum* Lour. is entirely distinct from Hooker f. and Thomson's interpretation of it.

Local names: Alákai (Tag.); auaán (Bag.).

#### EXCLUDED SPECIES

**MELODORUM FULGENS** Hook. f. & Th.; F.-Vill. Novis. App. (1880) 7.

#### 22. DREPANANTHUS Maingay

**DREPANANTHUS APOENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1708 (*Deprananthus*).

Samar, Leyte, Mindanao (Agusan, Bukidnon, Lanao), *Elmer* 11290, 10843, 13625, *Clemens* 1084, *B. S.* 24322 *Ramos*, 15666 *Fénix*, *F. B.* 24361 *Cortez & Fernandez*, 20779 *Miranda*, *Merrill* *Phil. Pl.* 1662, *Sablaya* 48, *Wenzel* 1129. In forests at low and medium altitudes, ascending to 900 m. Endemic.

Local names: Binayakau (Buk.); burak (S. L. Bis.); managakut (Bag.); manayasau (Mbo.); manaykut (Bag.); mariganda (Buk.); pangong-págong (S. L. Bis.); timinanan (Mbo.).

**DREPANANTHUS LONGIFLORUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 201.

Polillo, *B. S. 10353 McGregor*. In forests at low altitudes. Endemic.  
Local name: Bagna (Tag.).

**DREPANANTHUS PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 137.

Luzon (Camarines) Mindoro, Mindanao (Lanao), *F. B. 6892, 6896 Merritt, Clemens 1016, B. S. 33752 Ramos & Edaña, F. B. 27414 Alambra*. In forests at medium altitudes. Endemic.

Local name: Tañgit-gúbat (Bik.).

### 23. DASYMASCHALON Blume

**DASYMASCHALON CLUSIFLORUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 237.

*Unona clusiflora* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 13, Philip. Journ. Sci. 1 (1906) Suppl. 53.

*Polyalthia clusiflora* C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 68; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 406.

*Unona dasymaschala* F.-Vill. Novis. App. (1880) 5, non Blume.

*Unona longiflora* Vidal Cat. Pl. Prov. Manila (1880) 16, non Roxb.

Babuyan Islands to Palawan and Mindanao. Common in forests at low and medium altitudes. Endemic.

Local names: Buyanus (C. Bis.); kalabúyo (Tag.); kalimatas (Tagb.); lanután (Tag.); lanután-putí (Tag.); malaátis (Tag.); malamarábo (S. L. Bis.); malasagiát (Ilk.); panagit (C. Bís.); sagapan (Bag.); sagót (Ilk.).

Var. **MEGALANTHUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 237.

Luzon (Camarines), *F. B. 10686 Curran*. On hills near the sea. Endemic.

**DASYMASCHALON OBLONGATUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 237.

Luzon (Benguet, Lepanto, Nueva Vizcaya), *Merrill 9703, Elmer 6016, F. B. 94476 Darling, 10884 Curran*. In thickets about limestone cliffs and boulders, altitude 900 to 1,300 m. Endemic.

**DASYMASCHALON SCANDENS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 238.

Palawan, *Elmer 12803, Merrill 9277*. On forested slopes at low and medium altitudes. Endemic.

### 24. OXYMITRA Hooker f. and Thomson

**OXYMITRA AURICULATA** Elm. Leaf. Philip. Bot. 5 (1913) 1725.

Panay, Bohol, Mindanao (Agusan), *Cuming 1823, McGregor, Elmer 13586*. In forests at low and medium altitudes. Endemic.

Local name: Gauod (Mbo.).

**OXYMITRA BAKERI** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 259.

Luzon (Laguna, Nueva Ecija, Camarines, Albay, Sorsogon), Alabat, Catanduanes, *Baker 3691, Elmer 15902, Merrill 10468, B. S. 23521, 30181*

*Ramos, 23162 McGregor, 6290 Robinson, 26371 Ramos & Edaño.* In damp forests at low altitudes. Endemic.

Local name: Uisiuis (Neg.).

**OXYMITRA GLAUCA** Hook. f. & Th. Fl. Ind. 1 (1855) 146; King. in Ann. Bot. Gard. Calcutta 4 (1893) 128, t. 171 A.

Negros, *Whitford 1484.* In dipterocarp forests at low altitudes. Malay Peninsula, Penang, Sumatra, Borneo.

**OXYMITRA LAGUNENSIS** Elm. Leaf. Philip. Bot. 1 (1908) 293.

Luzon (Pangasinan, Bataan, Laguna, Sorsogon), Mindoro, Samar, Panay, Mindanao, *Elmer 8061, 15298, Merrill 5629, B. S. 29931 Félix, 20417 Borden, 24311 Ramos, 31208, 36947 Ramos & Edaño, F. B. 1773 Borden.* In forests at low and medium altitudes. Endemic.

Local names: Pañgaguason (S. L. Bis.); pañgod (Sub.).

**OXYMITRA LANCEOLATA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 260.

Leyte, *B. S. 15342 Ramos.* In forests at low and medium altitudes. Endemic.

**OXYMITRA LONGIFLORA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 134.

Mindanao (Zamboanga, Lanao), *Clemens 689, B. S. 36919 Ramos & Edaño.* In forests along streams, altitude about 700 m. Endemic.

Local name: Nanagon (Sub.).

**OXYMITRA MULTINERVIA** Merr. in Philip. Journ. Sci. 14 (1919) 388.

Catanduanes, *B. S. 30456 Ramos.* In forests at low altitudes. Endemic.

**OXYMITRA OBTUSIFOLIA** Elm. Leaf. Philip. Bot. 1 (1908) 294.

Mindoro (Camarines, Sorsogon), Leyte, Mindanao (Agusan), *Elmer 7364a, 9423, 13412, B. S. 22063, 23450, 23339 Ramos.* In forests at low and medium altitudes. Endemic.

Local name: Kalag (Mbo.).

**OXYMITRA OLIGOPHLEBIA** Merr. in Philip. Journ. Sci. 17 (1920) 250.

Bucas Grande, *B. S. 35068 Ramos & Pascasio.* In dry forests at low altitudes. Endemic.

**OXYMITRA PAUCINERVIA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 135.

*Oxymitra urdanetensis* Elm. Leaf. Philip. Bot. 5 (1913) 1725.

Mindanao (Agusan, Lanao), *Clemens 520, Elmer 13946.* In forests, altitude 700 to 1,200 m. Endemic.

Local name: Talimaghat (Mbo.).

**OXYMITRA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 261.

Luzon (Cagayan), Palawan, *F. B. 17901 Barros, Merrill 9413.* In forests at low altitudes. Endemic.

**OXYMITRA PLATYPHYLLA** Merr. in Philip. Journ. Sci. 14 (1919) 388.

Luzon (Laguna), *F. B. 26360 Mabesa.* In forests, altitude 400 to 500 m. Endemic.

**OXYMITRA PUBESCENS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 267.

Luzon (Cagayan), *B. S. 13870 Ramos,* January, 1912. In forests at low altitudes. Endemic.

## 25. ANONA Linnaeus

**ANONA MURICATA** Linn. Sp. Pl. (1753) 536; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 34; Blanco Fl. Filip. ed. 2 (1845) 326, ed. 3, 2 (1878) 241, *t.* 196; F.-Vill. Novis. App. (1880) 7; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 20, Fl. Manila (1912) 207, Sp. Blancoanae (1918) 150; Wester in Philip. Journ. Sci. 7 (1912) Bot. 113, 118, *t.* 7, 10.

Cultivated throughout the Philippines. Introduced from tropical America by the Spaniards, now pantropic in cultivation. The soursop.

Local names: Attí (Ibn.); babána (P. Bis.); bayubána (Ilk.); gayubáno (Ilk., Ibn.); guayabáno (Tag.); guanabáno (Tag.); guiábano (Sbl., Tag.); guyábana (Tag.); labanus (Sul.); llabanos (Bis.).

**ANONA RETICULATA** Linn. Sp. Pl. (1753) 537; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 34; Blanco Fl. Filip. (1837) 470, ed. 2 (1845) 327, ed. 3, 2 (1878) 242, *t.* 197; F.-Vill. Novis. App. (1880) 7; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 23, 27 (1905) 16, Fl. Manila (1912) 207, Sp. Blancoanae (1918) 150; Wester in Philip. Journ. Sci. 7 (1912) Bot. 113, 117, *t.* 9, *f.* B.

Cultivated throughout the Philippines. Introduced from tropical America at an early date by the Spaniards, now pantropic in cultivation. The bullock's heart.

Local names: Anonas (most dialects); sarikaya (Sul.).

**ANONA SQUAMOSA** Linn. Sp. Pl. (1753) 537; Blanco Fl. Filip. (1837) 469, ed. 2 (1845) 327, ed. 3, 2 (1878) 241, *t.* 192; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 33; F.-Vill. Novis. App. (1880) 7; Vidal Sinopsis Atlas (1883) 12, *t.* 5, *f.* E, Phan. Cuming. Philip. (1885) 93; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 23, 27 (1905) 16, Fl. Manila (1912) 208, Sp. Blancoanae (1918) 150; Wester in Philip. Journ. Sci. 7 (1912) Bot. 113, 115, *t.* 6, 9, *f.* A.

Cultivated throughout the Philippines, occasionally spontaneous. Introduced from tropical America by the Spaniards at an early date, now pantropic in cultivation. The custard apple or sweetsop. Widely known in the Philippines as *átis* or *átes* or *yátes*.

*Anona cherimolia* Mill. and *A. glabra* Linn. are recent introductions in the Philippines; see Wester in Philip. Journ. Sci. 7 (1912) Bot. 112, 113, 119.

## DOUBTFUL AND EXCLUDED GENERA

**KINGSTONIA NERVOSA** Hook. f. & Th.; F.-Vill. Novis. App. (1883) 347.

**MILIUSIA BAILLONI** Pierre Fl. Forest. Cochinch. 1 (1881) *t.* 38.

The type of the species is an Indo-China specimen; *Cuming 1198* cited as possibly representing the species is *Saccopetalum longipes* Vid. Pierre's species is a *Saccopetalum*, if this genus be retained as distinct from *Milisia*.

**SOALA LITORALIS** Blanco Fl. Filip. (1837) 437, ed. 2 (1845) 304, ed. 3, 2 (1878) 199; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 16, Sp. Blancoanae (1918) 151.

This has nothing to do with *Cyathocalyx zeylanicus* Champ. to which it was reduced by F.-Villar, but its true status cannot be determined from Blanco's description or any other data at present available. The floral

characters apparently appertain to *Uvaria*, but the description of the fruit does not appertain to any anonaceous plant. It is suspected that Blanco's description was based on material of two entirely different and perhaps not even closely allied species. Blanco's specimens were from Bauang, Batangas Province, Luzon; the Tagalog name is given as *soal*.

## MYRISTICACEAE

### 1. MYRISTICA Linnaeus

**MYRISTICA AGUSANENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2775.

Luzon (Sorsogon), Mindanao (Agusan, Bukidnon), *Elmer 13284, 16010* (*M. sorsogonensis* Elm.), *F. B. 10556 Curran, B. S. 26011 Fénix, 38971 Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

Local names: Balai (Bik.); dugóan (Mbo.).

**MYRISTICA CAGAYANENSIS** Merr. in Philip. Journ. Sci. 17 (1920) 255.

Luzon (Cagayan), *F. B. 24277 Bernardo*. In primary forests at low altitudes. Endemic.

Local name: N̄gab-n̄gáb (Neg.).

**MYRISTICA CUMINGII** Warb. in Nov. Act. Akad. Naturf. 68 (1897) 442, *t. 13, f. 1-2*; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 21.

*Myristica iners* A. DC. Prodr. 14 (1857) 190, quoad Philip.; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 139, non Blume.

Mindoro, *Cuming 1570, F. B. 6884, 3730 Merritt*. In forests at low altitudes. Endemic.

Local names: Dugúan (Tag.); malatálang (Tag.).

**MYRISTICA GUATTERIAEFOLIA** A. DC. in Ann. Sci. Nat. Bot. IV 4 (1855) 30, Prodr. 14 (1857) 193; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 61; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 221; Warb. in Nov. Act. Akad. Naturf. 68 (1897) 412, *t. 13, f. 1-4*, Perk. Frag. Fl. Philip. (1904) 49; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 21, Philip. Journ. Sci. 3 (1908) Bot. 407; Elm. Leaf. Philip. Bot. 3 (1911) 1062.

Babuyan Islands and northern Luzon (Cagayan) to Palawan and Mindanao. Common in forests at low and medium altitudes; very closely allied to *Myristica philippensis* Lam. Borneo, Labuan.

Local names: Alanagni (Sul.); barakbak (Neg.); dagáun (S. L. Bis.); dalihagan (Neg.) dogóan (S. L. Bis.); dogúan (Tag., P. Bis.); dugan (Tag., P. Bis.); dughán (P. Bis.); dugúan (Tag., Bik.); kamas (Sul.); lago (Tagb.); laho (Kuy.); tálang-búndok (Tag.); tugan (Tag.).

**MYRISTICA LANCIFOLIA** nom. nov.

*Gymnacranthera lanceolata* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 55; Elm. Leaf. Philip. Bot. 3 (1911) 1058, non *Myristica lanceolata* Wall.

Luzon (Cagayan, Bataan, Rizal), Sibuyan, *F. B. 3236 Meyer, 17202 Curran, Ahern 758, Elmer 12537, Loher 6716*. In forests at low and medium altitudes. Endemic.

Local name: Malatálang (Tag.).

**MYRISTICA LAXIFLORA** Merr. in Philip. Journ. Sci. 17 (1920) 254.

Basilan, Tinago, *B. S. 15498 Reillo, Ahern 421*. In primary forests at low altitudes. Endemic.

**MYRISTICA MINDORENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 281.

Mindoro, *F. B. 3698 Merritt*. In forests at low altitudes. Endemic.

**MYRISTICA NEGROSENSIS** (Elm.) comb. nov.

*Gymnacranthera negrosensis* Elm. Leaf. Philip. Bot. 2 (1909) 576, 3 (1911) 1057.

Negros, Sibuyan, *Elmer 12414, 10133*. In forests up to an altitude of 1,200 m; the bracteolate flowers clearly remove this from *Gymnacranthera*. Endemic.

Local names: Dugan (P. Bis.); kalau (C. Bis.).

**MYRISTICA NITIDA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 282.

Luzon (Nueva Ecija, Laguna, Tayabas, Camarines, Sorsogon), Samar, Ticao, Negros, Mindanao (Surigao, Zamboanga), *F. B. 22199 Alvarez, 24099 Contreras, 12523 Rosenbluth, 23029 Ponce, 24935 Bawan, 27411 Alambra, 21141 Miranda, 10224 Curran, 23709, 22046 Alvarez, B. S. 23322, 24147, 22046 Ramos, Merrill Phil. Pl. 1015, 1542*. In forests at low and medium altitudes; closely allied to *Myristica cumingii* Warb., but with much larger fruits. Endemic.

Local names: Dugang (C. Bis.); dugúan (Bik.); mala-ambalinad (S. L. Bis.); malabakau (C. Bis.); ugau (Bik.).

**MYRISTICA NIVEA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 191.

Mindanao (Zamboanga), Basilan, *B. S. 37070 Ramos & Edaño, F. B. 3454 Hutchinson, Williams 2145, Copeland*. In forests at low altitudes. Endémic.

Local names: Kanon (Sub.); uyat-uyat (Yak.).

**MYRISTICA PALAWANENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 283.

Palawan, *Merrill 9253, F. B. 4737 Manalo*. In forests at low altitudes. Endemic.

**MYRISTICA PHILIPPENSIS** Lam. Act. Paris (1788) 161, Encycl. 4 (1797) 387; Willd. Sp. Pl. 4<sup>2</sup> (1805) 870; Spreng. Syst. 3 (1826) 65; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 60; Baill. in Bull. Soc. Linn. Paris 1 (1885) 455; Warb. in Nov. Act. Akad. Naturf. 68 (1897) 386, t. 12, f. 1-8; Perk. Frag. Fl. Philip. (1904) 49; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 20, Philip. Journ. Sci. 1 (1906) Suppl. 55, Sp. Blancoanae (1918) 151.

*Myristica luzonica* Blanco Fl. Filip. (1837) 664, ed. 2 (1845) 462, 463, ed. 3, 3 (1879) 69, 70; A. DC. Prodr. 14 (1857) 207; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 72.

*Myristica commersonii* Blume Rumphia 1 (1835) 181; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 61.

*Myristica macrocarpa* Blume op. cit. 185; A. DC. Prodr. 14 (1857) 207; F.-Vill. Novis. App. (1880) 178.

*Myristica bracteata* A. DC. (incl. var. *longifolia* A. DC.) in DC. Prodr. 14 (1857) 192; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 221.

Northern Luzon (Cagayan) to Mindanao. Common in forests at low and medium altitudes. Endemic.

Local names: Bagir (Ilk.); balintua (Sul.); dogan (Tag., Bik.); dugan (Tag.); dugóan (Tag.); dugon (Tag.); dugúan (Tag., Pamp.); durúgo (Tag.); hindurúgo-babáe (Tag.); kutu (Ting.); lagu (Yak.); mabólónggubat (Tag.); malamabólo (Pang.); matumbau-babáe (Tag.); mundára (Ilk.); pálong (Ilk.); paraya (Pamp.); pau (Ting.); talang-tálang (Tag.); taliaghan (Neg.); tambaláu (Sbl., Tag.); tambalau-babáe (Tag.); tambau (Tag.); tatalong (Sub.).

**MYRISTICA PLUMERIAEFOLIA** Elm. Leaf. Philip. Bot. 3 (1911) 1063.

Mindanao (Davao), *Elmer 11063*. In forests along Baractan River, altitude about 600 m. Endemic.

Local name: Lago (Bag.).

**MYRISTICA SIMIARUM** A. DC. in Ann. Sci. Nat. Bot. IV 4 (1855) 29, Prodr. 14 (1857) 192; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 60; F.-Vill. Novis. App. (1880) 177; Warb. in Nov. Act. Akad. Naturf. 68 (1897) 397, t. 13, f. 1-2.

*Myristica discolor* Merr. in Philip. Journ. Sci. 13 (1918) Bot. 281.

Luzon (Cagayan, Ilocos Norte, Union, Bataan, Laguna, Tayabas, Camarines), Samar, Leyte, Mindanao, *Adduru 128, B. S. 27276, 19465, 24472 Ramos, Merrill Phil. Pl. 1543, 1609, Elmer 7377 (Gymnacranthera sulphurascens Elm.), 13502, F. B. 26484, 23632 Paraiso, 2630 Meyer, 1244 Borden, 10641, 13155 Curran, 21649 Sherfese, 23917 Ponce, Weber 1076, Whitford 470*. In forests at low and medium altitudes. Endemic.

Local names: Anuping (Sul.); dugúan (C. Bis.); lupáu (Ilk.); paria (Tag.); pokípok (Ilk.); tambaláu (Tag.).

**MYRISTICA UMBELLATA** Elm. Leaf. Philip. Bot. 5 (1913) 1816.

Palawan, *Elmer 12820, 13166*. In forests at medium altitudes. - Endemic.

**MYRISTICA URDANETENSIS** (Elm.) comb. nov.

*Gymnacranthera urdanetensis* Elm. Leaf. Philip. Bot. 8 (1915) 2773.

Mindanao (Agusan, Cotabato), *Elmer 13294, 13295, F. B. 23041 Ferraris*. In forests, altitude about 540 m. Endemic.

Local names: Bantolinau (Mbo.); imos (Mbo.).

**MYRISTICA WENZELII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 270.

Leyte, Samar, Mindanao (Surigao), *Wenzel 1152, 1887, B. S. 17462, 24507 Ramos, F. B. 23019 Razon*. In forests at low altitudes. Endemic.

Local name: Dugúan (S. L. Bis.).

#### EXCLUDED SPECIES

**MYRISTICA ATTENUATA** Wall.; F.-Vill. Novis. App. (1880) 178.

**MYRISTICA CORTICOSA** Hook. f. & Th.; Vidal Sinopsis Atlas (1883) 36, t. 77, f. C.

The figure is copied from Blume's *Rumphia* and represents *Knema glauca* (Blume) Warb.

**MYRISTICA FATUA** Hout.; F.-Vill. Novis. App. (1880) 177; Vidal Sinopsis Atlas (1883) 36, t. 77, f. B.

I do not recognize the form figured by Vidal; Houttuyn's species does not occur in the Philippines.



MYRISTICA FRAGRANS Houtt.; A. DC. Prodr. 14 (1857) 189; F.-Vill. Novis. App. (1880) 177.

The nutmeg does not occur in the Philippines; *Cuming 2418* cited by A. de Candolle as Philippine was from Singapore.

MYRISTICA INTERMEDIA Blume; F.-Vill. Novis. App. (1880) 178.

MYRISTICA IRYA Gaertn.; F.-Vill. op. cit. 177.

MYRISTICA ITEOPHYLLA Miq.; F.-Vill. l. c.

MYRISTICA LAURINA Blume; F.-Vill. op. cit. 178.

MYRISTICA SUCCEDANA Blume; F.-Vill. op. cit. 177.

MYRISTICA SYLVESTRIS Houtt.; F.-Vill. l. c.

## 2. GYMNACRANTHERA Warburg

GYMNACRANTHERA ACUMINATA Merr. in Philip. Journ. Sci. 12 (1917) Bot. 265.

Samar, *F. B. 21074 Sherfesee, Cenabre, & Cortes*. In forests at low altitudes; closely allied to *Gymnacranthera paniculata* Warb. Endemic. Local name: Dahaan (S. L. Bis.).

GYMNACRANTHERA MACROBOTRYS Merr. in Philip. Journ. Sci. 13 (1918) Bot. 284.

Leyte, *Merrill Phil. Pl. 1171*. In forests at low altitudes. Endemic.

GYMNACRANTHERA PANICULATA (A. DC.) Warb. in Nov. Act. Akad. Naturf. 68 (1897) 370, t. 20; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 55; Elm. Leaf. Philip. Bot. 3 (1911) 1059.

*Myristica paniculata* A. DC. in Ann. Sci. Nat. Bot. IV 4 (1855) 31, Prodr. 14 (1857) 200; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 221.

*Gymnacranthera laxa* Elm. Leaf. Philip. Bot. 8 (1915) 2772.

Babuyan Islands and northern Luzon to Mindanao and Basilan. In forests at low and medium altitudes; common. Endemic.

Local names: Anuping (Sul.); batu-batu (Bik.); dagang (Tag.); du-madáka (Ilk.); lagúan (Mang.); magandau (Mbo.); malakápa (Mang.); pamitógan (Ibn.); yango (P. Bis.).

GYMNACRANTHERA SULUENSIS Warb. in Nov. Act. Akad. Naturf. 68 (1897) 373; Elm. Leaf. Philip. Bot. 3 (1911) 1058.

Mindanao (Davao), Basilan, Sulu, *Elmer 10941*, (*Vidal 3546, 3561*). In forests. Endemic.

Local name: Magolomog (Bag.).

## 3. HORSFIELDIA Willdenow

HORSFIELDIA ACUMINATA Merr. in Philip. Journ. Sci. 17 (1920) 253.

Mindanao (Zamboanga, Davao), *F. B. 27507 De Mesa, B. S. 36770 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local names: Danglas (Sub.); kaná (Mag.).

HORSFIELDIA ARDISIAEFOLIA (A. DC.) Warb. in Nov. Act. Akad. Naturf. 68 (1897) 274; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 55; Elm. Leaf. Philip. Bot. 3 (1911) 1061.

*Myristica ardisiaefolia* A. DC. in Ann. Sci. Nat. Bot. IV 4 (1855) 31, t. 4, Prodr. 14 (1857) 203; F.-Vill. Novis. App. (1880) 177; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 221.

Luzon (Camarines, Sorsogon), Mindoro, Samar, Cebu, Leyte, *Cuming 1702, Elmer 7092, 17045 (H. vulcanica Elm.), Whitford 1412*. In forests at low altitudes. Endemic.

Local names: Dagóan (C. Bis.); tapol (Tagb.)

**HORSFIELDIA CONFERTIFLORA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 285.

Luzon (Laguna, Tayabas, Bataan, Camarines), Mindoro, Palawan, Leyte, Mindanao, Basilan, *F. B. 3183 Ahern's collector, 8049 Curran & Merritt, 7509 Curran, 2487 Borden, 25378 Mabesa, 18891, 18893 Miranda, Wenzel 920*. In forests at low altitudes. Endemic.

Local names: Dugodugóan (Tag.); dugúan (Tag., Bik.); hindang-atison (S. L. Bis.); tadhok (Sul.).

**HORSFIELDIA MEGACARPA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 286.

Luzon (Cagayan, Laguna, Tayabas), Mindanao (Misamis), *B. S. 16527 Ramos, F. B. 17044 Curran, 20844, 19888 Villamil (H. villamilii Elm.), 7787 Curran & Merritt, 11885 Miranda*. In forests at low and medium altitudes. Endemic.

Local name: Lánot (Ibn.).

**HORSFIELDIA MERRILLII** Warb. in Perk. Frag. Fl. Philip. (1904) 49; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 274.

Luzon (Tayabas, Camarines), Mindoro, Panay, Samar, Leyte, Camiguin de Misamis, *Merrill 2233, 2370, 5772, 4031, Phil. Pl. 1354, 1607, Baker 3338, F. B. 25428, 25575 Duldulao, 25408 Labitag, 14270 Aguilar, 3696, 3617, 6755, 6905, 8625 Merritt, 11862 Amarillas, B. S. 30838, 31293, 30874 Ramos & Edaña, McGregor 151*. In forests at low and medium altitudes. Endemic.

Local names: Dugan (Tag.); dugóan-ligaso (Tag.); dugon (Tag.); dugúan (Tag.); yabnob (Tag.).

**HORSFIELDIA OBLONGATA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 286.

Luzon (Tayabas, Camarines), Samar, Leyte, *Merrill Phil. Pl. 1393, F. B. 24927 Bawan, 12731 Rosenbluth, 13573 Lasquety, B. S. 22145, 17457 Ramos, 30986 Ramos & Edaña*. In forests at low and medium altitudes. Endemic.

Local name: Hindang-atison (S. L. Bis.).

**HORSFIELDIA OBSCURINERVIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 265.

Luzon (Camarines), *B. S. 33693 Ramos & Edaña, F. B. 26503 De Mesa & Magistrado*. In forests at low altitudes. Endemic.

Local name: Dugúan (Bik.).

**HORSFIELDIA RAMOSII** Merr. in Philip. Journ. Sci. 17 (1920) 254.

Bucas Grande, *B. S. 35047 Ramos & Pascasio*. In dry forests at low altitudes. Endemic.

**HORSFIELDIA WARBURGIANA** Elm. Leaf. Philip. Bot. 3 (1911) 1061.  
Sibuyan, *Elmer 12297*. In forests, altitude about 125 m. Endemic.  
Local name: Lagasi (P. Bis.).

#### 4. KNEMA Loureiro

**KNEMA ACUMINATA** Merr. in Philip. Journ. Sci. 17 (1920) 256.

Luzon (Isabela), *F. B. 11266 Klemme*. In primary forests at low altitudes. Endemic.

**KNEMA ALVAREZII** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 288.

Luzon (Nueva Ecija), *F. B. 22395, 22397 Alvarez*. In forests, altitude about 850 m: Endemic.

**KNEMA GLAUCA** (Blume) Warb. in Nov. Act. Akad. Naturf. 68 (1897) 594, t. 25, f. 1-3.

*Myristica glauca* Blume Bijdr. (1825) 576, Rumphia 1 (1835) 182, t. 60.

Samar, Leyte, Palawan, *Merrill 9764, F. B. 21605 Agama, B. S. 17590, 15277 Ramos, Wenzel 1808*. In forests at low altitudes. Andaman and Nicobar Islands, Malay Peninsula, Bangka, Sumatra, Java.

**KNEMA GLOMERATA** (Blanco) Merr. in Journ. Str. Branch Roy. As. Soc. 76 (1917) 81, Sp. Bloancoanae (1918) 151.

*Sterculia glomerata* Blanco Fl. Filip. (1837) 764, ed. 2 (1845) 525, ed. 3, 3 (1879) 164; F.-Vill. Novis. App. (1880) 27; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 24, 73.

*Sterculia decandra* Blanco Fl. Filip. (1837) 766, ed. 2 (1845) 526, ed. 3, 3 (1879) 166.

*Myristica heterophylla* F.-Vill. Novis. App. (1880) 178; Vidal Rev. Pl. Vasc. Filip. (1886) 220.

*Knema heterophylla* Warb. in Nov. Act. Akad. Naturf. 68 (1807) 573, t. 25, f. 1-2; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 55, 3 (1908) Bot. 407.

*Myristica corticosa* F.-Vill. Novis. App. (1880) 178; A. DC. Prodr. 14 (1857) 205, quoad Philip.; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 220, non Hook. f. & Th.

*Myristica laurina* Vidal Rev. Pl. Vasc. Filip. (1886) 221, non Blume.  
*Myristica glaucescens* Ceron Cat. Pl. Herb. Manila (1892) 141, non Hook. f. & Th.

*Knema gitingensis* Elm. Leaf. Philip. Bot. 3 (1911) 1065.

*Gymnacranthera cryptocaryoides* Elm. op. cit. 1060.

Babuyan Islands to Mindanao; common in forests at low and medium altitudes. Borneo.

Local names: Alas (Ig.); anoling (P. Bis.); dagdagan (Ibn.); dagúi (Tag.); dara-dára (Ilk.); dogóan (C. Bis., Mbo.); dogúan (Sbl., Tag., S. L. Bis.); dugúan (Tag., Bik., P. Bis.); dumadága (Ap.); dumadára (Ilk.); durúgo (Tag.); hindurúgo (Tag.); lapak (Tag.); margabúlo (Tag.); matumbau-laláki (Tag.); panigan (Neg.); parúgan (Tag.); talihagan (Neg.); tambalau (Tag.); tambalau-laláki (Tag.); ubían (Ilk.).

**KNEMA LATERICA** Elm. Leaf. Philip. Bot. 5 (1913) 1815.

Palawan, *Elmer 12757, F. B. 21612 Agama*. In forests at low altitudes. Endemic.

Local name: Tambaláu (Tagb.).

**KNEMA MINDANAENSIS** (Warb.) comb. nov.

*Myristica mindanaensis* Warb. in Nov. Act. Akad. Naturf. 68 (1897) 497, t. 13, f. 1-2; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 21, Philip. Journ. Sci. 3 (1908) Bot. 76.

*Myristica cinerea* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 35, non Poir.

Mindanao, Basilan, *F. B. 27048 Jimenez, 23377 Acuña, 3985, 3961 Hutchinson, 18942 Miranda, B. S. 15421, 15472 Reillo, 37366, 37380, 36828, 37443 Ramos & Edaño, Ahern 393, 589, Clemens 495*. In forests at low and medium altitudes. Endemic.

Local names: Biuku (Sul.); bunud (C. Bis.); dugan (C. Bis.); dugúan (C. Bis.); duhao (Sul.); salindupong (Lan.); tambalau (C. Bis.).

**KNEMA PARVIFOLIA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 287.

Luzon (Camarines, Albay), *F. B. 10573 Curran, 22641 Alvarez, B. S. 33456, 33631 Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

Local name: Dugúan (Bik.).

**KNEMA STELLATA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 182.

Samar, *B. S. 24430, 24276 Ramos, Sablaya 52, Merrill Phil. Pl. 1706*. In forests at low altitudes. Endemic.

Local name: Dugúan (S. L. Bis.).

**KNEMA STENOCARPA** Warb. in Nov. Act. Akad. Naturf. 68 (1897) 577; Elm. Leaf. Philip. Bot. 3 (1911) 1064.

Mindanao (Lanao, Davao, Zamboanga, Basilan), *Clemens 946, Elmer 11935, Williams 2876, 2340, F. B. 20745 Rafael & Ponce, B. S. 36682, 37079 Ramos & Edaño*. Endemic.

Local names: Kalahaglahag (Sul.); lago (Bag.); libago (Bag.).

**KNEMA VIDALII** Warb. in Nov. Act. Akad. Naturf. 68 (1897) 615.

*Myristica iners* Vidal Rev. Pl. Vasc. Filip. (1886) 221, p.p., non Blume.

Luzon (Nueva Ecija, Tayabas), Marinduque, Negros, *Vidal 1679, B. S. 13358 Ramos, 24623 Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

Local names: Alimpapáñgan (Neg.); dugúan (C. Bis.).

## DOUBTFUL SPECIES

**KNEMA CINEREA** (Poir.) Warb. in Nov. Act. Akad. Naturf. 68 (1897) 611.

This Moluccan species is reported from Tawitawi Island, Sulu Archipelago, by Warburg. It is suspected that the specimen is referable to *Knema glomerata* (Blanco) Merr.

## MONIMIACEAE

## 1. KIBARA Endlicher

**KIBARA CLEMENSIAE** Perk. in Engl. Bot. Jahrb. 45 (1911) 423, Pflanzenreich 49 (1911) 29.

Mindanao (Lanao), *Clemens 541*. In forests, altitude about 700 m. Endemic.

**KIBARA CUSPIDATA** Blume Mus. Bot. Lugd.-Bat. 2 (1852) 89; Perk. in Engl. Pflanzenreich 4 (1901) 61, 49 (1911) 33.

*Kibara coriacea* Merr. in Philip. Bureau Forest. Bull. 1 (1903) 21, non Tul.

Luzon (Cagayan, Nueva Ecija, Tayabas, Laguna), Mindoro, Catanduanes, Negros, Mindanao (Zamboanga, Cotabato), *B. S.* 13915, 23832, 30291, 39534 Ramos, 25431 Yates, 22348 Alvarez, *F. B.* 23667 Hinolan, Ahern 371, 350. In forests at low and medium altitudes. Malay Peninsula, Borneo, Nusa Kambangan.

Local names: Dorampunat (Neg.); malatambis (Sul.); pulug (Sul.).

**KIBARA ELMERI** Perk. in Engl. Bot. Jahrb. 45 (1911) 424, Pflanzenreich 49 (1911) 31.

Luzon (Benguet), *Elmer* 9119. In thickets or forests at medium altitudes; very close to *Kibara cuspidata* Blume. Endemic.

**KIBARA GRANDIFOLIA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 15; Perk. in Engl. Pflanzenreich 49 (1911) 30.

*Kibara mollis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 225.

*Kibara coriacea* Ceron Cat. Pl. Herb. Manila (1892) 141, non Blume.

Luzon (Bulacan, Bataan, Rizal), *F. B.* 1158, 3387 Ahern's collector, 6408 Curran, *B. S.* 1070 Ramos, 34147 Ramos & Edaño, Merrill 1685 p. p., *Phil. Pl.* 1946. In forests at low and medium altitudes. Endemic.

Local name: Anonias (Tag.).

**KIBARA MERRILLIANA** Perk. in Engl. Bot. Jahrb. 45 (1911) 424, Pflanzenreich 49 (1911) 32.

Luzon (Benguet, Pangasinan, Laguna, Sorsogon), *Elmer* 6151, 15241, *B. S.* 29995 Félix, 13522, 20404 Ramos. In forests at medium altitudes. Endemic.

**KIBARA OBTUSA** Blume Mus. Bot. Lugd.-Bat. 2 (1852) 89; Perk. in Engl. Pflanzenreich 4 (1901) 61, 49 (1911) 34, Engl. Bot. Jahrb. 45 (1911) 424.

*Kibara depauperata* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 13.

Luzon (Benguet), *Elmer* 5959. In thickets about limestone boulders and ledges, altitude about 1,200 m. Celebes.

**KIBARA STAFFIANA** Perk. in Engl. Bot. Jahrb. 45 (1911) 424, Pflanzenreich 49 (1911) 33.

Luzon (Albay, Sorsogon), *Vidal* 3618 (Hb. Kew.), *Elmer* 17080. In forests at low and medium altitudes. Endemic.

**KIBARA VIDALII** Perk. in Engl. Bot. Jahrb. 45 (1911) 423, Pflanzenreich 49 (1911) 30.

*Kibara coriacea* Rolfe in Journ. Bot. 23 (1885) 215; *Vidal* Rev. Pl. Vasc. Filip. (1886) 221, non Tul.

Luzon (Bataan, Camarines), Mindanao (Bukidnon), *Vidal* 950 (Hb. Kew.), *Merrill Phil. Pl.* 1521 (as *K. cuspidata* Blume), *B. S.* 38680 Ramos & Edaño. In forests at low or medium altitudes. Endemic.

## 2. MATTHAEA Blume

**MATTHAEA CALOPHYLLA** Perk. in Engl. Pflanzenreich 4 (1901) 52, 49 (1911) 16, f. 7, A.

Cebu, *F. B.* 6413 *Espinosa*. In forests. Borneo.

Local name: Bago-bago (C. Bis.).

**MATTHAEA CHARTACEA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 14; Perk. in Engl. Pflanzenreich 49 (1911) 19.

*Matthaea pinchotiana* Perk. in Engl. Bot. Jahrb. 45 (1911) 423, Pflanzenreich 49 (1911) 19.

Mindoro, *McGregor 167, F. B. 4313, 11480 Merritt, 12199 Rosenbluth*. In forests at low and medium altitudes. Endemic.

Local names: Alukba (Mang.); barau-barau (Mang.).

**MATTHAEA ELLIPSOIDEA** Merr. ex Perk. in Engl. Bot. Jahrb. 45 (1911) 423, Pflanzenreich 49 (1911) 19.

*Kibara ellipsoidea* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 56, 2 (1907) Bot. 274.

Luzon (Bataan), *F. B. 2843 Meyer*. In forests, altitude about 900 m. Endemic.

**MATTHAEA INTERMEDIA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 11.

Luzon (Tayabas, east coast), *B. S. 28614 Ramos & Edaño*. In forests, altitude about 1,000 m. Endemic.

**MATTHAEA PHILIPPINENSIS** Perk. in Engl. Bot. Jahrb. 45 (1911) 423, Pflanzenreich 49 (1911) 18.

Leyte, Negros, *F. B. 12336, 12309 Everett, 16916 Whitford*. In forests at low and medium altitudes. Endemic.

Local name: Saha (C. Bis.).

**MATTHAEA PUBESCENS** Merr. ex Perk. in Engl. Bot. Jahrb. 45 (1911) 422, Pflanzenreich 49 (1911) 16.

Mindanao (Davao), *Copeland, Weber, Elmer 10699, 11895*. In forests, altitude 600 to 1,000 m. Endemic.

Local names: Baringoras (Bag.); bayung-bayung (Bag.).

**MATTHAEA SANCTA** Blume Mus. Bot. Lugd.-Bat. 2 (1852) 89, t. 10, var. **MINDANAOENSIS** Perk. in Engl. Pflanzenreich 49 (1911) 18.

Mindanao (Lanao), *Clemens 233*. In forests, altitude about 700 m.

Var. **VENULOSA** Perk. op. cit. 19.

Luzon (Laguna, Tayabas, Batangas), *F. B. 7916 Curran & Merritt, 23810 Mabesa, 21534 Tamesis, B. S. 9751 Robinson, 19566 Ramos, Quisumbing 1345, Gates 6485*. In forests, altitude 500 to 900 m. The first variety endemic; the second also in Borneo, the species in Java and Borneo.

**MATTHAEA VIDALII** Perk. in Engl. Bot. Jahrb. 45 (1911) 422, Pflanzenreich 49 (1911) 17.

*Matthaea sancta* Ceron Cat. Pl. Herb. Manila (1892) 141, non Blume.

Luzon (Camarines, Sorsogon, Panay), *Vidal 3574* (Herb. Kew.), *Merrill Phil. Pl. 1554* (as *M. sancta* var. *venulosa*), *B. S. 30718 Ramos & Edaño*. In forests at medium altitudes. Endemic.

Local name: Salapula (Bik.).

**MATTHAEA WILLIAMSII** Perk. in Engl. Bot. Jahrb. 45 (1911) 422, Pflanzenreich 49 (1911) 18.

Mindanao (Zamboanga), *Williams 2430, Merrill 8169*. In forests, altitude 350 to 1,000 m. Endemic.

## LAURACEAE

## 1. CINNAMOMUM Tournefort

**CINNAMOMUM BURMANNI** Blume Bijdr. (1825) 569; Meissn. in DC. Prodr. 15<sup>1</sup> (1864) 17; F.-Vill. Novis. App. (1880) 179; Naves in Blanco Fl Filip. ed. 3 (1877-83) t. 115; Ceron Cat. Pl. Herb. Manila (1892) 142.

An introduced species, rare in cultivation. I have seen but a single Philippine specimen, from Nagcarlan, Laguna Province, Luzon. Java, Sumatra, reported also from southern China and from Japan, the last two records perhaps based on erroneously identified specimens, or perhaps on material from introduced plants.

Local name: Canéla (Sp.).

**CINNAMOMUM INERS** Reinw. ex Blume Bijdr. (1825) 570, Rumphia 1 (1835) 41, t. 17, 18; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 19; Gamble in Journ. As. Soc. Beng. 75<sup>1</sup> (1912) 76; F.-Vill. Novis. App. (1880) 180.

Mindanao (Lanao), Palawan, Tawitawi, *Clemens 951, 394, Elmer 10473, 12992, F. B. 28000 Cenabre, Baldemor, & Aduviso*. In forests up to 700 m altitude. Indo-China, Malay Peninsula, Sumatra, Java, Borneo.

Local name: Namog (Tagb.).

**CINNAMOMUM MERCADOI** Vidal Rev. Pl. Vasc. Filip. (1886) 224; Ceron Cat. Pl. Herb. Manila (1892) 142; Merr. in Philip. Bureau Forest. Bull. 1 (1903) 21, Philip. Journ. Sci. 1 (1906) Suppl. 56, Sp. Blancoanae (1918) 152; Elm. Leafl. Philip. Bot. 2 (1910) 704.

*Laurus culilaban* Blanco Fl. Filip. (1837) 315, ed. 2 (1845) 222, ed. 3, 2 (1878) 51, non Linn.

*Laurus cassia* Blanco op. cit. 317, 323, 53, non Linn.

*Cinnamomum iners* Vidal Sinopsis Atlas (1883) 36, t. 78, f. A (as var. *subvenosa* Vid.) non Reinw.

*Cinnamomum pauciflorum* F.-Vill. Novis. App. (1880) 179, non Nees.

*Cinnamomum tamala* F.-Vill. op. cit. 180, non T. Nees & Eberm.

*Cinnamomum zeylanicum* F.-Vill. op. cit. 179, non Nees.

Babuyan Islands and northern Luzon to Mindanao. Common in forests at low and medium altitudes, some forms ascending to 2,000 m. Endemic.

Local names: Kalíngad (Pamp.); kalíngag (Tag., Bag., S. L. Bis., Lan.); kalíngak (Tag.); kandoróma (Ilk.); kaníla (Ilk., Bik., Pang.); kanilau (Bik.); kaniñgag (S. L. Bis.); kariñganat (Neg.); kasiu (Ilk.); kuliuan (Neg.); makaliñgag (Tag.); marobo (S. L. Bis.); samiling (Tag.); similing (Tag.); uliuan (Neg.).

**CINNAMOMUM MINDANAENSE** Elm. Leafl. Philip. Bot. 2 (1910) 705.

Mindanao (Surigao, Davao, Zamboanga), *Elmer 11105, Williams 2868, B. S. 16458 Reillo, F. B. 24311 Tecson*. In thickets and forests at low and medium altitudes. This is probably the species yielding the "cinnamon" exported from Mindanao in the early colonial period. Endemic.

Local names: Kalíngag (Mbo.); kami (Bag.).

**CINNAMOMUM MYRIANTHUM** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 125.

Luzon (Ilocos Norte), *B. S. 27485 Ramos*. In forests at low altitudes. Endemic.

Local name: Peling (Ilk.).

**CINNAMOMUM SANDKUHLII** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 126.

Luzon (Ifugao, Benguet), *Sandkuhl 159, 310*. In forests, 1,400 to 2,000 m. Endemic.

**CINNAMOMUM ZEYLANICUM** Blume Bijdr. (1825) 568; Nees in Wall. Pl. As. Rar. 2 (1831) 74; Ceron Cat. Pl. Herb. Manila (1892) 142; Merr. Fl. Manila (1912) 210, Sp. Blancoanae (1918) 152.

*Laurus cinnamomum* Linn. Sp. Pl. (1752) 369; Blanco Fl. Filip. (1837) 319, ed. 2 (1845) 225, ed. 3, 2 (1878) 37.

Occasionally cultivated in gardens in Manila and other large towns. Introduced from India or Ceylon.

Local name: Canéla (Sp.).

#### EXCLUDED SPECIES

**CINNAMOMUM JAVANICUM** Blume; F.-Vill. Novis. App. (1880) 179.

**CINNAMOMUM SINTOK** Blume; F.-Vill. l. c.

**CINNAMOMUM XANTHONEURUM** Blume; F.-Vill. op. cit. 180.

**CINNAMOMUM CAMPHORATUM** Blume; F.-Vill. op. cit. 179.

**CINNAMOMUM CULILAWAN** Blume; F.-Vill. l. c.

**CINNAMOMUM CAMPHORATUM** (Linn.) T. Nees & Eberm.

The camphor tree occurs as a recently introduced species in Manila (rare) and in Baguio. It does not thrive in the regions in which it has been planted.

#### 2. PERSEA Plumier

**PERSEA AMERICANA** Mill. Gard. Dict. ed. 8 (1768); Blake in Journ. Wash. Acad. Sci. 10 (1920) 12, f. 1, A; Merr. Fl. Manila (1912) 211, Sp. Blancoanae (1918) 153.

*Laurus persea* Linn. Sp. Pl. (1753) 370; Blanco Fl. Filip. ed. 2 (1845) 224, ed. 3, 2 (1878) 56.

*Persea gratissima* Gaertn. Fruct. 3 (1805-07) 222; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 913; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 52; F.-Vill. Novis. App. (1880) 180; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 73.

*Aquacate* Kamel in Ray Hist. Pl. 3 (1704) App. 59.

Introduced from tropical America, occasional in cultivation. Originally introduced before the end of the sixteenth century. The avocado.

**PERSEA PYRIFORMIS** Elm. Leaf. Philip. Bot. 8 (1915) 2727.

Samar, Mindanao (Surigao, Agusan, Zamboanga), *Elmer 13311, Merrill Phil. Pl. 1667*, as *Beilschmiedia*, *Wenzel 1907, Piper 294, 327, F. B. 24955 Franco, 22744 Lasqueti, 23897 Ponce*. In forests at low altitudes, ascending to 300 m. Endemic.

Local names: Hotot (Mbo.); tangkankayau (C. Bis.).



## 3. PHOEBE Nees

**PHOEBE GLABRIFOLIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 140.

Samar, Basilan, *B. S. 17552 Ramos, 16159, 16158 Reillo, F. B. 18894 Miranda*. In primary forests at low or medium altitudes. Endemic.

**PHOEBE STERCULIOIDES** (Elm.) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 262; Elm. Leaf. Philip. Bot. 2 (1910) 727.

*Persea sterculioides* Elm. Leaf. Philip. Bot. 1 (1908) 295.

Luzon (Isabela, Laguna, Tayabas), Mindoro, Samar, Leyte, Panay, Negros, Mindanao. In primary forests at low and medium altitudes, represented by about 50 individual collections. Endemic, if really distinct from *P. macrophylla* Blume.

Local names: Alimbabaud (Mand.); banogan (S. L. Bis.); batikulíng (Tag.); boga (Bag.); bugo (Lan.); dulauan-ñgisit (Ibn.); hindang (S. L. Bis.); kaburo (Tag.); kachepu (Buk.); hindang-magtalísai (S. L. Bis.); magbuabang (C. Bis.); margadilau (Tag.).

## 4. MACHILUS Nees

**MACHILUS CURRANII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 349.

Luzon (Benguet), *F. B. 18080, 18054 Curran, Merritt, & Zschokke*. In the mossy forest on Mt. Pulog, altitude 2,400 to 2,700 m. Endemic.

**MACHILUS NERVOSA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 262.

Luzon (Benguet), *F. B. 10846 Curran, 18009 Merritt*. In the mossy forest on Mt. Ugo, altitude 2,000 m. Endemic.

**MACHILUS PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 56.

*Persea philippinensis* Elm. Leaf. Philip. Bot. 2 (1908) 384.

Luzon (Bontoc, Bataan, Laguna, Batangas, Tayabas), Mindoro, *Whitford 1220, 1139, Elmer 7642, 8184, 17485, Loher 6697, Merrill 8617, B. S. 31854 Santos, 39470 Ramos, F. B. 2793 Meyer, 23553 Mabesa*. On ridges in forests, altitude 800 to 2,300 m. Endemic.

Local names: Margapáli (Tag.); margapáli-kolilisiao (Tag.).

## 5. NOTHAPHOEBE Blume

**NOTHAPHOEBE MALABONGA** (Blanco) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 358, *Sp. Blancoanae* (1918) 153.

*Ajovea malabonga* Blanco Fl. Filip. (1837) 233; Meissn. in DC. Prodr. 15<sup>1</sup> (1864) 259.

*Laurus hexandra* Blanco op. cit. ed. 2 (1845) 222, ed. 3, 2 (1878) 52, non Willd.

*Iteadaphne confusa* F.-Vill. Novis. App. (1880) 181, non Blume.

Luzon (Cagayan, Ilocos Sur, Bulacan, Rizal, Laguna, Camarines), Mindoro, Leyte, Panay, Negros, Mindanao, *Merrill 1068, Sp. Blancoanae 121, F. B. 17906 Barros, 1876 Ahern's collector, 20486 Villamil, 22085 Calacosa, 24919 Mabesa, 21447, 22637 Alvarez, 4039, 4103, 6742, 9891 Merritt*. In forests at low and medium altitudes. Endemic unless referable to the Malayan *N. umbelliflora* Blume.

Local names: Anagáp (Tag.); babúlo (Tag.); bagarapili (Tag.); duláuan (Ibn.); kabulo (Tag.); magariláu (Tag.); malabúñga (Tag.); maláya (Bik.); margapáli (Tag.).

**NOTHAPHOEBE LEYTENSIS** (Elm.) comb. nov.

*Persea leytensis* Elm. Leaf. Philip. Bot. 2 (1908) 383.

*Persea surigaoensis* Elm. Leaf. Philip. Bot. 8 (1915) 2728.

Samar, Leyte, Panay, Dinagat, Mindanao (Surigao), *Elmer 7195, 14027, Merrill Phil. Pl. 6555 as Cryptocarya, Ahern 477, 520, 695, Wenzel 1908, B. S. 30902 Ramos & Edaño*. In forests at low altitudes. Endemic.

Local names: Hindang (C. Bis.); kubikúbi (C. Bis.).

6. **EUSIDEROXYLON** Teysmann and Binnendijk

**EUSIDEROXYLON ZWAGERI** Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 25 (1863) 292, 2 plates; Foxw. in Philip. Journ. Sci. 6 (1911) Bot. 179.

*Bihania borneensis* Meisn. in DC. Prodr. 16<sup>1</sup> (1864) 96.

*Eusideroxylon borneense* F.-Vill. Novis. App. (1880) 179, excl. syn. Blanco.

Sulu Archipelago (Tawitawi), *F. B. 23874 Ferraris, 20813 Ferraris & Stadtmüller, 22522 Klemme, B. S. 10833 Foxworthy, 36302 Yates*. In primary forests at low altitudes. A monotypic genus, otherwise known from Borneo, Sumatra, Bangka, and Billiton.

Local names: Bilíran (Sul.); tambúlian (Sul.).

7. **ACTINODAPHNE** Nees

**ACTINODAPHNE BICOLOR** (Merr.) comb. nov.

*Litsea bicolor* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 259; Elm. Leaf. Philip. Bot. 8 (1915) 2722.

Mindanao (Surigao, Agusan), *Bolster 318, Elmer 13961*. In forests, altitude 200 to 900 m. Endemic.

The type of *Litsea bicolor* Elm. is identical with that of *L. bicolor* Merr., the latter name having priority by five years.

Local names: Hannag (Mbo.); hindang (C. Bis.).

**ACTINODAPHNE CONFERTA** (Merr.) comb. nov.

*Litsea conferta* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 10.

Luzon (Sorsogon), Surigao, *B. S. 23348 Ramos, 34692 Ramos & Pascasio, Elmer 15994 as Neolitsea copelandii* Elm. In forests at medium altitudes. Endemic.

**ACTINODAPHNE DOLICHOPHYLLA** (Merr.) comb. nov.

*Litsea dolichophylla* Merr. in Philip. Journ. Sci. 12 (1917) Bot. 134.

Samar, Leyte, Panay, Mindanao (Surigao), *B. S. 17540 Ramos, 34527<sup>o</sup> Ramos & Pascasio, 31178 Ramos & Edaño, Wenzel 1604*. In primary forests at low altitudes. Endemic.

Local name: Pipi (S. L. Bis.).

Closely allied to the Malayan *Actinodaphne macrophylla* Nees from which *A. maingayi* Hook. f. can scarcely be distinguished.

**ACTINODAPHNE SAMARENSIS** (Merr.) comb. nov.

*Litsea samarensis* Merr. in Philip. Journ. Sci. 12 (1917) Bot. 138.

Luzon (Cagayan), Catanduanes, Samar, *B. S. 17541, 30469 Ramos, F. B. 18502 Alvarez*. In forests at low or medium altitudes. Endemic.

**ACTINODAPHNE TAYABENSIS** (Elm.) comb. nov.

*Litsea tayabensis* Elm. Leaf. Philip. Bot. 2 (1908) 380, (1909) 716.

Luzon (Laguna, Tayabas, Sorsogon), Mindoro, Negros, Mindanao (Davao), *Elmer 9144, 15001, 11526, Merrill Phil. Pl. 1105, B. S. 29211 Ramos & Edaño, 23843, 39495 Ramos, F. B. 22496 Mariano, 4093 Merritt*. In forests at low and medium altitudes. Endemic.

Local names: Anagás (P. Bis.); bohian (C. Bis.); gibuaya (Tag.); mabaráan (Bag.); maladugúan (P. Bis.).

8. **NEOLITSEA** (Bentham) Merrill**NEOLITSEA APOENSIS** Elm. Leaf. Philip. Bot. 2 (1909) 727.

Mindanao (Davao, Agusan), *Elmer 11255, 13849*. In primary forests, altitude about 1,050 m. Endemic.

Local names: Mabaráan (Bag.); sinagodsod (Mbo.).

**NEOLITSEA INCANA** Elm. Leaf. Philip. Bot. 5 (1913) 1794.

Palawan, *Elmer 13184, F. B. 3862 Curran*. In dense thickets at the summit of Mt. Pulgar, altitude about 1,300 m. Endemic.

**NEOLITSEA INTERMEDIA** Elm. Leaf. Philip. Bot. 2 (1908) 382.

Luzon (Benguet, Rizal), *Elmer 8832, F. B. 2993 Ahern's collector*. In forests and on ridges at medium altitudes. Endemic.

Local name: Basog (Ig.).

This is not certainly distinct from *N. vidalii* Merr. The second specimen cited, however, has fruits radically different from the latter species.

**NEOLITSEA LANCEOLATA** Merr. in Philip. Journ. Sci. 14 (1919) 397.

Luzon (Tayabas, east coast), Catanduanes, *B. S. 30231 Ramos, 28860 Ramos & Edaño*. In the mossy forest, probably at or above an altitude of 900 m. Endemic.

**NEOLITSEA MEGACARPA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 349.

Luzon (Bontoc, Benguet), *F. B. 18110, 18144 Curran, Merritt, & Zschokke, B. S. 8348 McGregor, 5709 Ramos, 31763 Santos, Loher 4521, Merritt 4761*. In the mossy forest, altitude 2,200 to 2,400 m. Endemic.

Local names: Balakauin (Ig.); dundumosen (Ig.).

**NEOLITSEA MICROPHYLLA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 57, 5 (1910) Bot. 349.

Luzon (Benguet, Bontoc, Bataan), Mindoro, *Elmer 6905, F. B. 8633 Merritt, 18071 Curran, Merritt, & Zschokke*. In the mossy forest, altitude 1,200 to 2,400 m. Endemic.

**NEOLITSEA PAUCINERVIA** Merr. in Philip. Journ. Sci. 14 (1919) 398.

Luzon (Camarines, Sorsogon), *B. S. 23316 Ramos, 33920 Ramos & Edaño, Elmer 15752* as *N. vulcanica* Elm. In the mossy forest at or above 1,000 m altitude. Endemic.

Closely allied to *N. villosa* Merr.

**NEOLITSEA VIDALII** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 56; Elm. Leaf. Philip. Bot. 2 (1910) 726.

*Litsea verticillata* Rev. Pl. Vasc. Filip. (1886) 226; Ceron Cat. Pl. Herb. Manila (1892) 143, non Hance.

Luzon (Cagayan, Bataan, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Guimaras, Mindanao, Basilan. In primary forests at low and medium altitudes, represented by over 30 individual collections. Endemic.

Local names: Batikulíng (Tag.); lanat (P. Bis.); maráng (Tag.); monpon (Tag.); patugau (Sub.); poli (Neg.); puso-púso (Tag.); puso-púsong-hula (Tag.); puso-púsong-laláki (Tag.); salíñguak (P. Bis.).

**NEOLITSEA VILLOSA** (Blume) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 261, 5 (1910) Bot. 329; Elm. Leaf. Philip. Bot. 2 (1910) 726.

*Litsea villosa* Blume Mus. Bot. Lugd.-Bat. 1 (1851) 349; F.-Vill. Novis. App. (1880) 181; Vidal Sinopsis Atlas (1883) 37, t. 78, f. E, Rev. Pl. Vasc. Filip. (1886) 226.

*Litsea cinnamomea* F.-Vill. Novis. App. (1880) 181; Vidal Rev. Pl. Vasc. Filip. (1886) 226, non Blume.

*Neolitsea zeylanica* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 57, 2 (1907) Bot. 274, quoad spp. cit.

Luzon (Ilocos Norte, Abra, Benguet, Bataan, Zambales, Pampanga, Laguna, Tayabas, Batangas), Mindoro, Leyte, Mindanao, represented by more than 50 individual collections. In the mossy forest, altitude 900 to 2,000 m. Malay Peninsula to the Moluccas.

Local names: Bohían (C. Bis.); klamagan (Buk.); mabaráan (Bag.).

**NEOLITSEA ZEYLANICA** (Nees) Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 57, 2 (1907) Bot. 274; Gamble in Journ. As. Soc. Bengal 75<sup>1</sup> (1912) 189.

*Litsea zeylanica* Nees in Amoén. Bot. Bonn. 1 (1823) 58, t. 5.

*Tetradenia zeylanica* Nees in Wall. Pl. As. Rar. 2 (1831) 64, 3 (1832) 30.

Luzon (Zambales, Batangas), Leyte, *Merrill Phil. Pl. 1907* (as *N. villosa*), *B. S. 15369 Ramos*. In forests at medium altitudes. India, through Malaya to tropical Australia.

#### 9. LITSEA Lamarck

**LITSEA ABRAENSIS** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 132.

Luzon (Abra), *B. S. 27048 Ramos*. On forested slopes at medium altitudes. Endemic.

**LITSEA ALBAYANA** Vidal Rev. Pl. Vasc. Filip. (1886) 227; Ceron Cat. Pl. Herb. Manila (1892) 143; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 140.

*Lindera reticulata* F.-Vill. Novis. App. (1880) 182; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 229, quoad Philip., non *Aperula reticulata* Blume.

*Aperula reticulata* Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 243, quoad Cuming 894.

*Litsea caesifolia* Elm. Leaf. Philip. Bot. 2 (1910) 722.

Luzon (Bataan, Laguna, Camarines, Albay), Samar, Leyte, Mindanao, *F. B. 26590 Sandique, 15148 Tarrosa, 7319 Everett, 27702 Angeles & Soriano, 27473 De Mesa, 25001 Mabesa, 14271 Aguilar, B. S. 16477 Reillo, 17518 Ramos, Ahern 553, Elmer 13414, 10853, 17911, Baker 3379, 3297, Wenzel 1028, 928, 1035, 1283, 768, 804, 360*. In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local names: Aráhan (Bik.); bakúnib (Bag.); batikulin (Tag.); dilakmanók (Mbo.); mabaraan (Bag.); otag (Mbo.); sala (S. L. Bis.).

**LITSEA AMPLA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 133.

Luzon (Isabela, Tayabas, Camarines), Samar, Mindanao (Lanao, Zamboanga, Misamis), Basilan, *Merrill Phil. Pl. 1654, Sablaya 107, B. S. 24378, 22103 Ramos, 37051 Ramos & Edaño, F. B. 20866 Bernardo, 11883 Miranda, 17891 Rafael*. In primary forests at low and medium altitudes. Endemic.

Local name: Maráng (Tag.).

**LITSEA ANOMALA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 12.

Luzon (Sorsogon), *B. S. 23652 Ramos*. In primary forests at medium altitudes. Endemic.

**LITSEA BARACTANENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 720.

Batan Islands, Luzon (Isabela, Cagayan, Nueva Ecija, Union, Rizal), Dumarán, Ticao, Masbate, Mindanao (Cotabato, Davao), *Elmer 10993, F. B. 14934 Bernardo, 24228 Villanueva, 12522 Rosenbluth, 26638 Velasco, B. S. 21630 Escritor, 11697 Robinson, 13533, 4658 Ramos, 3585, 3717 Fénix*. In forests up to 500 m altitude. Endemic.

This has all the appearance of being but a nearly glabrous form of *L. glutinosa* C. B. Rob.

Local names: Puso-púso (Tag.); sab-lót (Ilk.); tloh (Bag.).

**LITSEA BARURINGENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 719.

Mindanao (Davao), *Elmer 11736, 10738*. On forested slopes, altitude about 1,050 m. Endemic.

Local name: Mabaraan (Bag.).

**LITSEA CINEREA** Elm. in herb. comb. nov.

*Actinodaphne cinerea* Elm. Leaf. Philip. Bot. 5 (1913) 1795.

Palawan, *Elmer 12947*. On forested ridges, altitude about 600 m. Endemic.

**LITSEA EUPHLEBIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 135.

Luzon (Laguna), *B. S. 13523, 16633 Ramos, F. B. 15360 Tamesis*. In primary forests at low and medium altitudes. Endemic.

Local names: Maráng (Tag.); matang-usá (Tag.).

**LITSEA FULVA** (Blume) F.-Vill. Novis. App. (1880) 181; Vidal Phan.

Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 226; Elm. Leaf. Philip. Bot. 2 (1910) 718.

*Tetranthera fulva* Blume Mus. Bot. Lugd.-Bat. 1 (1851) 377; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 195.

Luzon (Ilocos Norte, Pangasinan, Zambales, Nueva Ecija, Bataan, Rizal, Laguna, Batangas, Sorsogon), Mindoro, Palawan, Sibuyan, Leyte, Negros, Mindanao, *Cuming 1620, Elmer 6808, 7106, 17959, 15348, 17195, 12118, 13939, 15463, Whitford 271, Merrill 3891, 9180, Wenzel 1558, 163, F. B. 1453 Ahern's collector, 1810 Borden, 26429 Miranda, 3002 Meyer, 134 Barnes, B. S. 27151, 32876, 32769, 7744, 13395, 24077 Ramos, 29841 Fénix, 34665, 26849 Edaño, 38599 Ramos & Edaño, 12300 Foxworthy, 12462 McGregor*. In primary forests at low and medium altitudes, ascending to 900 m. Sumatra, Java, and probably other parts of Malaya.

Local name: Limbahan (Mbo.).

**LITSEA GARCIAE** Vidal Rev. Pl. Vasc. Filip. (1886) 228; Ceron Cat. Pl. Herb. Manila (1892) 143.

*Litsea griscola* Elm. Leaf. Philip. Bot. 2 (1908) 382, (1909) 718.

*Litsea macrophylla* Elm. Leaf. Philip. Bot. 8 (1915) 2723.

Luzon (Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Samar, Leyte, Mindanao (Agusan, Davao, Cotabato), *Elmer* 9242, 16744, 15872, 13316, 17965, 15606, *McGregor* 159, *Merrill* 1798, *F. B.* 8036 *Curran & Merritt*, 11913 *Tamesis*, 21404 *Villamil*, 17635 *Curran*, 6803, 6393 *Merritt*, 27502 *De Mesa*, 26667 *Rola*, *B. S.* 17588, 20465 *Ramos*. In forests at low and medium altitudes. Endemic, unless, as Gamble thinks, *Journ. As. Soc. Bengal*, 75<sup>1</sup> (1912) 178, it is referable to the Malayan *L. sebifera* Blume.

Local names: Bagnólo (Tag.); bañgúlo (Tag.); batikulíng-maráng (Tag.); bouro (Mang.); kupa (Man., Mag., Bag.); pípai (Mbo.); pípi (Bik., S. L. Bis.).

**LITSEA GLUTINOSA** (Lour.) C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 321; Merr. Fl. Manila (1912) 210, Sp. Blancoanae (1918) 153, 154.

*Sebifera glutinosa* Lour. Fl. Cochinch. (1790) 638; Blanco Fl. Filip. (1837) 819, ed. 2 (1845) 566, ed. 3, 3 (1879) 234, t. 360.

*Tetranthera laurifolia* Jacq. Hort. Schoenbr. 1 (1797) 59; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 178 (incl. *multiflora* Meisn. et var. *citrifolia* Meisn.).

*Litsea chinensis* Lam. Encycl. 3 (1791) 574; Novis. App. (1880) 180; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 225.

*Litsea littoralis* F.-Vill. Novis. App. (1880) 180; Vidal Sinopsis Atlas (1883) 37, t. 78, f. D.

*Tetranthera litoralis* Blume Mus. Bot. Lugd.-Bat. 1 (1851) 375; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 180.

*Sebifera balongai* Blanco Fl. Filip. (1837) 820, ed. 2 (1845) 567, ed. 3, 3 (1879) 235.

*Litsea tersa* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 57, non *Glabraria tersa* Linn.

*Litsea sebifera* Pers. Syn. 2 (1807) 4.

*Tetranthera laurifolia* Jacq. var. *citrifolia* Meisn., var. *multiflora* Meisn. et var. *racemoso-umbellata* Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 179.

Throughout the Philippines, chiefly in secondary forests at low and medium altitudes; represented by more than 90 individual collections. India to southern China, through Malaya to tropical Australia.

Local names: Balañgánañ (P. Bis.); balóngai (Tag.); batikulíng (Tag.); butus (Tag.); daláuen-negro (Ibn.); duñgúl (Ibn.); iñgas (Tag.); lauat (Bik.); lormañgog (P. Bis.); mapípi (Bik.); maráng (Tag.) olosolos (Pang.); parasablút (Ilk.); poríkit (Tag.); puñgo (Tagb.); puso-púso (Ibn., Tag., Pamp., P. Bis.); sab-lót (Ibn., Ilk.); sapuan (Ig.); siblót (Ibn.); tagutugan (Bik.); tayapok (Mbo.); tilam (Tag.); tubhus (Iv.).

**LITSEA HUTCHINSONII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 259.

Balabac, Mindanao, Basilan, *F. B. 9148 Hutchinson, 17960, 20275 Miranda, 24050 Acuña, 21853 Villamil, B. S. 435 Mangubat*. In forests at low altitudes. Endemic.

Local names: Asasalá (Sul.); bakan (Buk.); boríngau (Tagb.); dulagin (Sul.); sua-suá (Lan.).

**LITSEA ILOCANA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 132.

Luzon (Ilocos Sur), *F. B. 25485 Paraiso*. In forests, altitude about 450 m. Endemic.

**LITSEA LEYTENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 272.

*Litsea obtusata* Vidal Rev. Pl. Vasc. Filip. (1886) 226; Ceron Cat. Pl. Herb. Manila (1892) 143, non F.-Vill.

Luzon (Bataan, Tayabas, Sorsogon), Leyte, Negros, *Wenzel 708, 911, 1092, F. B. 27371 Guieb, 24020 Duldulao, 24751 Manuel, B. S. 23669 Ramos, Merrill Sp. Blancoanae 1006, Elmer 10389, Vidal 524*. In forests at low altitudes. Endemic.

This may prove to be *Olex baticulin* Blanco.

Local names: Balbanéra (Tag.); batikulíng (Tag., Bik.).

**LITSEA LUZONICA** (Blume) F.-Vill. Novis. App. (1880) 181; Vidal Phan. Cuming. Philip. (1885) 139, Rev. Pl. Vasc. Filip. (1886) 226; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 57.

*Tetranthera luzonica* Blume Mus. Bot. Lugd.-Bat. 1 (1851) 377; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 947; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 195.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces; represented by more than 100 individual collections. In primary forests at low and medium altitudes. Endemic.

This interpretation is largely based on *Cuming 1585* and *1486*, referred here by Meisner. Blume's actual type was a specimen collected by Perrottet; Foxworthy, who examined it, notes that *Elmer 7699* and *9133* agree with it; they do not very closely match Cuming's specimens, so that perhaps more than one species is represented.

Local names: Duñgoi (Tag.); malasíko (Tag.); pamaliton (Pang.); pamayabásen (Ilk.); tambaláu (Tag.).

**LITSEA MACGREGORII** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 136.

Biliran, *B. S. 18493 McGregor*. In primary forests, altitude about 200 m. Endemic.

**LITSEA MEMBRANACEA** Elm. Leaf. Philip. Bot. 2 (1908) 380, (1910) 716.

Luzon (Benguet, Sorsogon), Leyte, Mindanao (Lanao), *Elmer 8961, 15278, Clemens 420*. In forests at medium altitudes. Endemic.

Local names: Marabáan (Bag.); tauako (Ig.).

**LITSEA MICRANTHA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 136.

Samar, Mindanao (Misamis, Lanao), *B. S. 24464, 24344, 17505 Ramos, F. B. 25215 Alvarez, 4772 Mearns & Hutchinson, 17989 Miranda*. In forests at low and medium altitudes. Endemic.

Local name: Yau-yau (S. L. Bis.).

**LITSEA MICROPHYLLA** (Elm.) comb. nov.

*Actinodaphne microphylla* Elm. Leaf. Philip. Bot. 2 (1908) 375.

Negros, *Elmer 10178*. On exposed ridges, altitude about 1,000 m. Endemic.

**LITSEA OBLONGIFOLIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 137.

Luzon (Cagayan), *B. S. 14518 Ramos*. In forests at low altitudes. Endemic.

**LITSEA ODORIFERA** Valetton in Ic. Bogor. 3 (1909) t. 276; Merr. in Philip. Journ. Sci. 20 (1922) 386.

Palawan, *F. B. 27884 Cenabre, Baldemor, & Aduviso*. On forested ridges, altitude 150 m. Sumatra, Java, Borneo.

**LITSEA PERFULVA** Elm. Leaf. Philip. Bot. 2 (1910) 723.

Mindanao (Davao), *Elmer 10691*. In primary forests, altitude about 1,100 m. Endemic.

Local name: Baga (Bag.).

**LITSEA PERROTTETII** (Blume) F.-Vill. Novis. App. (1880) 180; Vidal Sinopsis Atlas (1883) 36, t. 78, f. C, Phan. Cuming. Philip. (1885) 139 (var. *cumingii* Vid., var. *subcordata* Vid.), Rev. Pl. Vasc. Filip. (1886) 225 (var. *parviflora* Vid., var. *villarii* Vid.); Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 57, 11 (1916) Bot. 271, Fl. Manila (1912) 210; Elm. Leaf. Philip. Bot. 2 (1910) 715.

*Tetranthera perrottetii* Blume Mus. Bot. Lugd.-Bat. 1 (1851) 384; Meissn. in DC. Prodr. 15<sup>1</sup> (1864) 196.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces. Common chiefly in secondary forests at low and medium altitudes, represented by more than 90 individual collections. Celebes, Moluccas.

Local names: Anagép (Gad.); baáken (Ilk.); bákan (Tag., S. L. Bis., P. Bis.); batikulíng (Tag, Ibn.); batikulin-bálud (Tag.); índang (Bis.); kalaitik (Mang.); katiel (Bag.); kubílan (Ig.); magilik (Tag.); mala-bákan (Ilk.); marabái (Tagb.); maráng (Tag.); salamúñgai (Bik.); sibíglon (S. L. Bis.).

**LITSEA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 260; Elm. Leaf. Philip. Bot. 2 (1910) 717.

Luzon (Bataan, Tayabas), Mindoro, Sibuyan, Catanduanes, Samar, Negros, Leyte, *F. B. 7503 Curran, 13629 Curran & Foxworthy, 27369 Sulit, 1794, 1363 Borden, 3171 Ahern's collector, 6161 Merritt, B. S. 30514, 39592 Ramos, Williams 619, Whitford 472, 1413*. In primary forests at low and medium altitudes. Endemic.

Local names: Arahan (S. L. Bis.); bakan (Bik.); balilad (P. Bis.); batsan (Tag.); hindang (S. L. Bis.); maráng (Tag.).

**LITSEA PLATEAEFOLIA** Elm. Leaf. Philip. Bot. 2 (1908) Bot. 377.

Negros, *Elmer 9921*. In forests along streams, altitude about 750 m. Endemic.

Local name: Bakan-ihalas (C. Bis.).



**LITSEA QUERCOIDES** Elm. Leaf. Philip. Bot. 2 (1908) 378, (1910) 717.

*Litsea sorsogonensis* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 11.

Luzon (Sorsogon), Leyte, Negros, Mindanao (Lanao), *Elmer 10329, 9961, 15400, 16067, Wenzel 1144, 884, Clemens 954, B. S. 23332, 23678 Ramos*. In primary forests, altitude 700 to 1,200 m. Endemic.

Local names: Bohían (C. Bis.); mabaráan (Bag.).

**LITSEA SEGREGATA** Elm. Leaf. Philip. Bot. 2 (1910) Bot. 721.

Mindanao (Davao), *Elmer 10534*. In primary forests, altitude about 1,000 m. Endemic.

Local name: Mabaráan (Bag.).

**LITSEA SIBUYANENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 724.

Sibuyan, *Elmer 12536*. In forests along streams, altitude about 225 m. Endemic.

**LITSEA URDANETENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2724.

Luzon (Tayabas, Sorsogon), Mindanao (Agusan, Surigao), *Elmer 13427, 13380, Wenzel 1903, B. S. 28492 Ramos & Edaña*. In primary forests at low altitudes. Endemic.

Local name: Dilak-manók (Mbo.).

**LITSEA VANOVERBERGHII** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 139.

Luzon (Ilocos Norte, Bontoc), *Vanoverbergh 1737, B. S. 33331 Ramos*. In forests, altitude up to 1,700 m. Endemic.

**LITSEA VELUTINA** Elm. Leaf. Philip. Bot. 8 (1915) 2726.

Mindanao (Agusan), *Elmer 14189*. In forests, altitude about 1,500 m. Endemic.

Local name: Sung-sung (Mbo.).

**LITSEA WENZELII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 358.

Leyte, *Wenzel 626*. In forests, altitude about 500 m; perhaps too close to *L. luzonica* F.-Vill. Endemic.

**LITSEA WHITFORDII** nom. nov.

*Actinodaphne philippinensis* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 192, non *Litsea philippinensis* Merr.

Mindoro, Leyte, *Whitford 1476, 1416, Elmer 7323, F. B. 3667 Merritt*. In forests at low altitudes. Endemic.

Local name: Bakan (Tag.).

#### DOUBTFUL AND EXCLUDED SPECIES

**LITSEA ANGULATA** Blume; F.-Vill. Novis. App. (1880) 181.

**LITSEA BRACHYSTACHYA** (Blume) F.-Vill. op. cit. 180.

**LITSEA CALONEURA** (Miq.) F.-Vill. op. cit. 181.

**LITSEA CORDIFOLIA** (Meisn.) F.-Vill. l. c.

**LITSEA DIVERSIFOLIA** Blume; F.-Vill. l. c.

LITSEA LANCIFOLIA (Roxb.) F.-Vill. l. c.

LITSEA LIGUSTRINA (Nees) F.-Vill. op. cit. 180.

LITSEA MAGNIFICA (Miq.) F.-Vill. op. cit. 181.

LITSEA OBTUSATA (Meisn.) F.-Vill. l. c.

LITSEA RUMPHII (Blume) F.-Vill. op. cit. 180.

OLAX BATICULIN Blanco Fl. Filip. ed. 2 (1845) 589, ed. 3, 1 (1877) 38;  
Merr. in Govt. Lab. Publ. (Philipp.) 27 (1905) 74, Sp. Blancoanae  
(1918) 154.

F.-Villar reduced this to *Litsea obtusata* (Meisn.) F.-Vill. which is certainly a wrong disposition of it. It may prove to be the same as *Litsea albayana* Vidal or *L. leytenensis* Merr.

#### 10. BEILSCHMIEDIA Nees

BEILSCHMIEDIA CAIROCAN Vid. Rev. Pl. Vasc. Filip. (1886) 223; Ceron  
Cat. Pl. Herb. Manila (1892) 124.

Luzon (Cagayan, Isabela, Ilocos Norte, Ilocos Sur, Bontoc, Bataan, Rizal, Tayabas, Camarines), Mindoro, Masbate, Ticao, Leyte, Negros, Panay, Mindanao (Zamboanga), Vidal 519, Merrill 1947, 2599, Phil Pl. 1075, Ahern 127, 130, F. B. 17902 Barros, 15239, 17918, 13113, 20445, 23696 Bernardo, 27791 Franco, 7125 Klemme, 10392 Curran. In primary forests at low and medium altitudes. Endemic.

Local names: Anagép (Ibn., Ilk.); anago-ñgisi (Ibn.); anago-panagurán (Ibn.); baslayan (P. Bis.); daláueng (Ibn.); duláoen (Ibn.); duláuan (Ibn.); duláuen-négro (Ibn.); kairokan (Sbl., Tag.); kalangiking (Ilk.); kubi (C. Bis.); magariláo (Tag.); makatu (Neg.); malakadios (Tag.); nagusip (P. Bis.); níket (Ilk.); taki-na-gayang (Neg.).

BEILSCHMIEDIA GLOMERATA Merr. in Govt. Lab. Publ. (Philipp.) 29  
(1905) 15, Philip. Journ. Sci. 1 (1906) Suppl. 57.

Luzon (Ilocos Sur, Bataan, Laguna), F. B. 335 Barnes, 7104 Klemme, 23610 Paraiso, 6276 Curran, 20213, 23568 Villamil. In primary and secondary forests at low altitudes. Indo-China.

Local names: Mambúrau (Ilk.); tirukan (Tag.).

BEILSCHMIEDIA NERVOSA (Elm.) Merr. in Philip. Journ. Sci. 10 (1915)  
Bot. 271.

*Linociera nervosa* Elm. Leaflet. Philip. Bot. 5 (1913) 1652.

*Beilschmiedia leytenensis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 357.

Luzon (Sorsogon), Palawan, Samar, Leyte, Negros, Mindanao, Elmer 11833, 16927, 16794, 15593, Wenzel 501, Merrill 9452, F. B. 25057 Phasis, 11633 Whitford, 7277 Everett, 26263 Mallonga, 17955, 20581 Miranda, B. S. 24491 Ramos, 37041 Ramos & Edaña. In primary forests at low and medium altitudes, ascending to 1,200 m. Endemic, unless as Hallier f. states, Med. Rijks Herb. Leiden 35 (1918) 33, it is the same as the Indian *B. assamica* Meisn.; it may be the same as *B. praecox* K. & V. of Java.

Local names: Bagaoring (S. L. Bis.); ilak (Bag.); lalanig (Sub.).

BEILSCHMIEDIA NIGRIFOLIA Elm. Leaflet. Philip. Bot. 5 (1913) 1797.

Palawan, Elmer 12834. In forests along streams, altitude about 300 m. Endemic; apparently very close to *B. cairocan* Vid.

**BEILSCHMIEDIA PURPUREA** Elm. Leaf. Philip. Bot. 2 (1910) 703.

Mindanao (Davao), *Elmer 11288*. In ravines, borders of forests, etc., altitude about 800 m. Endemic.

Local name: Magansira (Bag.).

11. **DEHAASIA** Blume**DEHAASIA TRIANDRA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 193; Elm. Leaf. Philip. Bot. 2 (1910) 711.

Luzon (Cagayan, Isabela, Nueva Vizcaya, Nueva Ecija, Rizal, Laguna, Tayabas, Camarines), Mindoro, Masbate, Sibuyan, Negros, Mindanao, *F. B. 3751, 8758, 4104, 6210, 3636, 3628 Merritt, 26109 Bernardo, 20636, 20879 Villamil, 25553 Vargas, 25503 Labitag, 22400 Alvarez, 2000 Ahern's collector, 18827 Franco, 22678 Curran, 28490 Cenabre, 27659 De Mesa, B. S. 13254 Ramos, Whitford 1459, 1565, Merrill 3068, Elmer 12201, 12221, Clemens 598*. In primary forests at low and medium altitudes. Borneo.

Local names: Anagas (P. Bis.); bañgúlo (Tag.); basláyan (P. Bis.); hauíhan (P. Bis.); kabóro (P. Bis.); makúhai (Tag., P. Bis.); malaía (Bik.); malakadiós (Tag.); maníhai (Tag.); margapáli (Tag.); margariláu (Tag.); mompon (Bik.); paítan (Tag.); panuláuen (Ilk.); putian (P. Bis.); sikalig (Sul.).

## EXCLUDED SPECIES

**DEHAASIA BORNEENSIS** (Meisn.) F.-Vill. Novis. App. (1880) 179.

**DEHAASIA MEDIA** Blume; F.-Vill. l. c.

12. **CRYPTOCARYA** R. Brown**CRYPTOCARYA ACUMINATA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 192, 2 (1907) Bot. 274.

Luzon (Isabela, Pampanga), Mindoro, *F. B. 3673, 4342 Merritt, 15474 Bernardo, B. S. 22442 Ramos, Whitford 1426*. In primary forests at low altitudes, ascending to 500 m. Endemic.

Local names: Karaskas (Mang.); malabakaoan (Tag.).

**CRYPTOCARYA AFFINIS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 9.

Luzon (Sorsogon), Dinagat, *B. S. 23338 Ramos, 35247 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

**CRYPTOCARYA AMPLA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 258, Sp. Blancoanae (1918) 155.

? *Laurus martinicensis* Blanco Fl. Filip. (1837) 317, ed. 2 (1845) 223, ed. 3, 2 (1878) 35; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 259; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 73, non Jacq.

? *Beilschmiedia madang* F.-Vill. Novis. App. (1880) 179, non Blume.

Luzon (Ilocos Sur, Nueva Ecija, Pampanga, Rizal, Laguna), *F. B. 463, 397, 2438 Ahern's collector, 22423 Alvarez, 17707 Curran, 27090 Mabesa, 20876 Villamil*. In primary forests at low altitudes, ascending to 500 m. Endemic.

Local names: Bagariláu (Tag.); gariláu (Tag.); ñgarusáñgis (Ilk.).

**CRYPTOCARYA BICOLOR** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 255.

Mindanao (Zamboanga), *F. B. 6578 Hutchinson*. In forests at low altitudes. Endemic.

Local names: Dugkátan (Sul.); dukátan (Sul.); masagkunadug (Sul.).

**CRYPTOCARYA CAGAYANENSIS** Merr. in Philip. Journ. Sci. 20 (1922) 385.

Luzon (Cagayan), *F. B.* 28440 *Ponce*. In forests at low altitudes. Endemic.

**CRYPTOCARYA CALELANENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 707.

Panay, Mindanao (Davao), *Elmer* 11610, 10565, *F. B.* 27468 *De Mesa*, *B. S.* 35320 *Martelino & Edaño*. In forests, altitude 300 to 1,100 m. Endemic.

Local names: Mabaraan (Bag.); tamuku (Bag.).

**CRYPTOCARYA CINNAMOMIFOLIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 128.

Luzon (Nueva Ecija, Sorsogon), Samar, *B. S.* 26317 *Ramos & Edaño*, 24128 *Ramos*, *Elmer* 16749, 17395 as *C. trinervia* Elm. In primary forests at low altitudes. Endemic.

**CRYPTOCARYA DENSIFLORA** Blume Bijdr. (1825) 556; Koord. & Val. Bijdr. Boomsoort. Java 10 (1904) 213; Merr. in Philip. Journ. Sci. 14 (1919) 397.

*Cryptocarya laevigata* Elm. Leaf. Philip. Bot. 8 (1915) 2720, non Blume.

Panay, Negros, Mindanao (Agusan, Zamboanga, Lanao), *Elmer* 13604, *Clemens* 1001, *F. B.* 23666, 23887 *Hinolan*, *B. S.* 31317, 33435, 36813 *Ramos & Edaño*. In primary forests at low and medium altitudes, ascending to 1,050 m. Malay Peninsula, Java.

Local names: Bonai (Mbo.); buliñgog (Sub.); putian (P. Bis.).

**CRYPTOCARYA EDAÑOII** Merr. in Philip. Journ. Sci. 20 (1922) 384.

Mindanao (Zamboanga), *B. S.* 36706 *Ramos & Edaño*. In forests at low altitudes. Endemic.

**CRYPTOCARYA ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 14 (1919) 396.

Luzon (Camarines), Catanduanes, *B. S.* 30330 *Ramos*, 33537 *Ramos & Edaño*. In primary forests at low altitudes. Endemic.

**CRYPTOCARYA EUPHLEBIA** Merr. in Philip. Journ. Sci. 14 (1919) 396.

Catanduanes, Palawan, *B. S.* 30576 *Ramos*, *F. B.* 27866 *Cenabre*, *Gellidon*, & *Paras*. In primary forests at low and medium altitudes. Endemic.

Local name: Impaparen (Tagb.).

**CRYPTOCARYA EVERETTII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 257; Elm. Leaf. Philip. Bot. 2 (1910) 706 (var. *navesii* Elm.).

Sibuyan, Polillo, Panay, Negros, Bucas Grande, Mindanao (Surigao), *F. B.* 4236, 7311, 4311, 7288 *Everett*, 23028 *Razon*, 19994 *Tamesis*, 7409 *Danao*, 23498 *Roque*, 21974 *Hinolan*, *B. S.* 34732, 35081 *Ramos & Pascasio*, 10774 *McGregor*, 35271, 35470, 35527 *Martelino & Edaño*, *Elmer* 12505. In primary forests at low and medium altitudes. Endemic.

Local names: Balit (P. Bis.); nilagasi (P. Bis.); paang-dayaga (C. Bis.); sayab (P. Bis.).

**CRYPTOCARYA GLAUCA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 258.

Luzon (Pampanga, Bataan, Rizal, Laguna, Tayabas), *F. B. 2981 Ahern's collector, 17665 Curran, 18823 Pascual, 3046 Borden, Merrill 2337*. In primary forests at low and medium altitudes. Endemic.

Local names: Baliglarin (Tag.); kalai (Tag.).

**CRYPTOCARYA GLAUCIPHYLLA** Elm. Leaf. Philip. Bot. 2 (1910) 710.

Sibuyan, *Elmer 12287*. In forests along streams, altitude about 225 m. Endemic.

Local name: Magatopoi (P. Bis.).

**CRYPTOCARYA GRIFFITHIANA** Wight Ic. (1852) *t. 1830*; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 131.

Mindanao (Lanao), *F. B. 23179 Agama*. In forests at low or medium altitudes. Tenasserim, Malay Peninsula, Singapore.

**CRYPTOCARYA ILOCANA** Vidal Rev. Pl. Vasc. Filip. (1886) 223; Ceron Cat. Pl. Herb. Manila (1892) 141.

Luzon (Cagayan, Ilocos Norte, Laguna), *Vidal 1684, B. S. 7646, 17390 Ramos, F. B. 23237 Barros, 18432, 18424 Alvarez, 26895 Bernardo, 28298 Velasco*. In forests at low altitudes. Endemic.

Local names: Balañgúsan-á-laláki (Ilk.); kamigai (Ilk.); marakásim (Ilk.); pañganauan (Neg.); parappá (Ibn.).

**CRYPTOCARYA INTERMEDIA** Elm. Leaf. Philip. Bot. 8 (1915) 2719.

Mindanao (Agusan), *Elmer 13648*. In primary forests, altitude about 1,200 m. Endemic.

Local name: Maligitingmata (Mbo.).

**CRYPTOCARYA LANCEOLATA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 127.

Luzon (Ilocos Norte, Apayao, Union), *F. B. 25098 Paraíso, 25105 Peña, B. S. 28049 Fénix*. In forests at low altitudes. Endemic.

Local name: Aníngat (Ilk.).

**CRYPTOCARYA LAURIFLORA** (Blanco) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 254, Sp. Blancoanae (1918) 154.

*Salgada lauriflora* Blanco Fl. Filip. ed. 2 (1845) 221, ed. 3, 2 (1878) 50.

*Eusideroxylon borneense* F.-Vill. Novis. App. (1880) 179 quoad syn. Blanco.

*Cryptocarya luzoniensis* Vidal Rev. Pl. Vasc. Filip. (1886) 222; Ceron Cat. Pl. Herb. Manila (1892) 141; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 58.

Luzon (Cagayan, Ísabela, Ilocos Norte, Ilocos Sur, Nueva Ecija, Bataan, Rizal, Laguna, Batangas, Tayabas, Camarines), Mindoro, Palawan, Samar, *Whitford 1050, 1043, Merrill Sp. Blancoanae 56, B. S. 13382, 20563 Ramos, F. B. 20248 Franco, 27189 Udasco, 6274 Curran, 20875 Villamil*. In primary forests at low and medium altitudes. Endemic.

Local names: Baligtárin (Tag.); bániakao (Ibn.); lámot (Ilk.); lipote-gúbat (Bik.); mala-isao (S. L. Bis.).

- CRYPTOCARYA MINDANAENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2721.  
Mindanao (Agusan), *Elmer 13269*. In primary forests, altitude about 300 m. Endemic.  
Local name: Biaon (Mbo.).
- CRYPTOCARYA OBLONGATA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 129.  
Luzon (Laguna, Tayabas), *Merrill 1033, Phil. Pl. 1416* as *C. crebrinervis* Merr. In primary forests at low altitudes. Endemic.  
Local name: Purihan (Tag.).
- CRYPTOCARYA OLIGOCARPA** Merr. in Philip. Journ. Sci. 17 (1920) 257.  
Mindanao (Surigao), *F. B. 34716 Ramos & Pascasio*. In forests at low altitudes. Endemic.
- CRYPTOCARYA OLIGOPHLEBIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 128.  
Negros, Basilan, *B. S. 16155 Reillo, 18844, 18883 Miranda, 20683 Tamesis*. In primary forests at low altitudes. Endemic.
- CRYPTOCARYA PALAWANENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 256.  
Palawan, *F. B. 4141 Curran, 7423 Manalo, Merrill 9325, Elmer 12853, 13098, 13090*. In forests back of the mangrove, at sea level. Endemic.
- CRYPTOCARYA PALLIDA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 256.  
Mindanao (Zamboanga), Basilan, *Ahern 294, 566, F. B. 18976 Miranda*. In forests at low altitudes. Endemic.  
Local name: Ponit (Sul.).
- CRYPTOCARYA PARVIFOLIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 271.  
Leyte, *Wenzel 998*. In primary forests, altitude about 900 m. Endemic.
- CRYPTOCARYA RAMOSII** Merr. in Philip. Journ. Sci. 14 (1919) 395.  
Luzon (Ilocos Norte), *B. S. 33071, 33346 Ramos*. In primary forests at low altitudes. Endemic.
- CRYPTOCARYA SAMARENSIS** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 130.  
Panay, Mindanao (Zamboanga), Samar, *B. S. 17351 Ramos, 31326, 36635, 37087 Ramos & Edaño*. In primary forests at low altitudes. Endemic.  
Local names: Kamali (S. L. Bis.); mala-igot (S. L. Bis.).
- CRYPTOCARYA SUBVELUTINA** Elm. Leaf. Philip. Bot. 2 (1910) 707.  
Mindanao (Davao), *Elmer 11737*. In primary forests, altitude about 1,050 m. Endemic.  
Local name: Magolumog (Bag.).
- CRYPTOCARYA TODAYENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 709.  
Mindanao (Davao), *Elmer 11919, 10713*. In primary forests, altitude about 1,000 m. Endemic.  
Local name: Kapiñgan (Bag.).

**CRYPTOCARYA VIDALII** (Elm.) Merr. in Philip. Journ. Sci. 12 (1917) Bot. 130.

*Endiandra vidalii* Elm. Leaf. Philip. Bot. 2 (1910) 711.

Sibuyan, *Elmer 12131*. In primary forests, altitude about 225 m. Endemic.

**CRYPTOCARYA VILLARII** Vidal Rev. Pl. Vasc. Filip. (1886) 222; Ceron Cat. Pl. Herb. Manila (1892) 141.

*Cryptocarya ferrea* F.-Vill. Novis. App. (1880) 179; Vidal Sinopsis Atlas (1883) 36, t. 78, f. B, non Blume.

Luzon (Union, Benguet, Rizal), *Elmer 8531, 5897, Merrill 2831, 2355*. In forests at medium altitudes. Endemic.

Local name: Baliktan (Tag.).

**CRYPTOCARYA ZAMBOANGENSIS** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 130.

Mindanao (Lanao, Zamboanga), *Ahern 583, Williams 2301, F. B. 24053 Acuña, 13395 Foxworthy, De Mesa, & Villamil*. In forests at low altitudes. Endemic.

Local name: Taming-táming (Sul.).

#### EXCLUDED SPECIES

**CRYPTOCARYA CRASSINERVA** Miq.; F.-Vill. Novis. App. (1880) 178.

**CRYPTOCARYA INFECTORIA** Miq.; F.-Vill. l. c.

**CRYPTOCARYA LAEVIGATA** Blume; F.-Vill. op. cit. 179.

**CRYPTOCARYA ZOLLINGERIANA** Miq.; F.-Vill. op. cit. 178.

#### 13. ENDIANDRA R. Brown

**ENDIANDRA CORIACEA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 14, Philip. Journ. Sci. 1 (1906) Suppl. 58.

*Endiandra arborea* Elm. Leaf. Philip. Bot. 2 (1908) 376.

Luzon (Cagayan, Ilocos Norte, Union, Nueva Ecija, Zambales, Bataan, Cavite, Tayabas), Mindoro, Samar, Leyte, Panay, Mindanao, *Elmer 6129, 7268, Wenzel 345, 964, 1001, 1185, Merrill 2200, 3780, Phil. Pl. 1610, 32961, 17495 Ramos, 28751, 26590, 26380 Ramos & Edaña, 22572 Ramos & Deroy, F. B. 3066, 715 Borden, 24768 Vergara, 24255 Bernardo, 25421 Duldulao, 25409 Labitag, 26170 Alejandro, 22610 Paraiso, 126, 190 Barnes*. In primary forests at low and medium altitudes. Endemic.

Local names: Daligágau (Neg.); lamog-babáe (Tag.); magariláu (Tag.); manugbúgnai (P. Bis.); marabúneg (Ilk.); panalayápen (Ilk.); panglongbúyen (Ilk.); talan (Neg.); usáu (Tag.).

**ENDIANDRA GITINGENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 712.

Sibuyan, *Elmer 12420*. In forests, altitude about 550 m. Endemic.

Probably not a representative of this genus, but the flowers are as yet unknown.

Local name: Maye-mayebas (P. Bis.).

**ENDIANDRA LAXIFLORA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 182.

Luzon (Apayao, Tayabas), Samar, Mindanao (Agusan), *F. B.* 25416 *Labitag*, 25423 *Duldulao*, *B. S.* 24280, 24426 *Ramos*, 28110 *Fénix*, *Elmer* 13434. In primary forests at low and medium altitudes. Endemic.

Local name: Malagasáha (Tag.).

#### 14. **LINDERA** Thunberg

**LINDERA APOENSIS** Elm. Leafl. Philip. Bot. 2 (1910) 714.

Mindanao (Davao), Agusan, Lanao, *Elmer* 11640, *Clemens* 987, *F. B.* 24350 *Cortez & Fernandez*. In primary forests, altitude 700 to 1,200 m. Endemic.

Local names: Hindang (Mbo.); sarirab (Bag.).

#### EXCLUDED SPECIES

**LINDERA ACUMINATA** (Blume) F.-Vill. Novis. App. (1880) 181.

**LINDERA CAESIA** (Reinw.) F.-Vill. l. c.

**LINDERA MELASTOMACEA** (Nees) F.-Vill. l. c.

**LINDERA STRYCHNIFOLIA** (S. & Z.) F.-Vill. op. cit. 182.

#### 15. **ITEADAPHNE** Blume

**ITEADAPHNE PHILIPPINENSIS** Elm. Leafl. Philip. Bot. 2 (1910) 713.

Mindanao (Davao), *Elmer* 11493. In primary forests, altitude about 1,800 m. Endemic.

Local name: Boga (Bag.).

#### 16. **CASSYTHA** Linnaeus

**CASSYTHA FILIFORMIS** Linn. Sp. Pl. (1753) 35, ed. 2 (1762) 530; Blanco Fl. Filip. (1837) 321, ed. 2 (1845) 226, ed. 3, 2 (1878) 58; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 977; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 255; F.-Vill. Novis. App. (1880) 182; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 407, Fl. Manila (1912) 211, Sp. Blancoanae (1918) 155.

*Cassytha capillaris* F.-Vill. Novis. App. (1880) 182, non Meisn.

Batan Islands to Palawan and Mindanao. In thickets, especially near the sea, parasitic on various coarse grasses, shrubs, etc.; in dry regions sometimes found inland up to an altitude of 500 m. Pantropic.

Local names: Barutbárut (Ilk.); kauad-káuat (Tag.); kauad-kauáran (Tag.); kauat-káuat (Sul.); malabohok (Bik., Bis., Tag.); uauaken-iráng (Iv.).

#### EXCLUDED GENUS

**LAURUS LANOSA** Blanco Fl. Filip. (1837) 318, ed. 2 (1845) 224, ed. 3, 2 (1878) 54; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 259; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 74, Sp. Blancoanae (1918) 155.

This is possibly a *Cryptocarya*, but its exact identity is indeterminable from Blanco's imperfect description. It has nothing to do with *Litsea villosa* Blume to which it was reduced by F.-Villar.



## HERNANDIACEAE

## 1. GYROCARPUS Jacquin

**GYROCARPUS AMERICANUS** Jacq. Stirp. Am. (1763) 282, *t. 178*; Merr. Sp. Blancoanae (1918) 155.

*Gyrocarpus asiaticus* Willd. Sp. Pl. 4 (1805) 982; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 978.

*Gyrocarpus jacquini* Gaertn. Fruct. 2 (1791) 92; F.-Vill. Novis. App. (1880) 81; Vidal Sinopsis Atlas (1883) 26, *t. 48, f. E*; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 45.

*Gyrocarpus rugosus* R. Br. var. *philippinensis* Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 248.

*Gyrocarpus lobatus* Blanco Fl. Filip. ed. 2 (1845) 54, ed. 3, 1 (1877) 103.

Luzon (Abra, Ilocos Sur, Pangasinan, Nueva Ecija, Bulacan, Bataan, Rizal, Tayabas), Marinduque, Palawan. In forests near the seashore and on dry slopes inland. Pantropic.

Local names: Kulong-kúlong (Tag.); lapo-lápo (Ilk.); malasapsáp (Pang., Tag.).

## 2. ILLIGERA Blume

**ILLIGERA CARDIOPHYLLA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 292.

Babuyan Islands (Camiguin), Luzon (Ilocos Norte), *B. S. 4083 Fénix, 33117 Ramos*. In thickets at low altitudes. Endemic.

**ILLIGERA ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 291.

Samar, Mindanao (Butuan), *B. S. 17478 Ramos, F. B. 20571 Miranda*. In forests at low altitudes. Endemic.

**ILLIGERA LUZONENSIS** (Presl) Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 18, 27 (1905) 45, Philip. Journ. Sci. 1 (1906) Suppl. 58, 3 (1908) Bot. 407, Fl. Manila (1912) 212, Sp. Blancoanae (1918) 156; Hayata in Journ. Coll. Sci. Univ. Tokyo 30<sup>1</sup> (1911) 259.

*Henschelia luzonensis* Presl Rel. Haenk. 2 (1835) 81, *t. 63*.

*Gronovia ternata* Blanco Fl. Filip. (1837) 186, ed. 2 (1845) 132, ed. 3, 1 (1877) 236.

*Halesia ternata* Blanco op. cit. 399, 279, 2: 153.

*Illigera appendiculata* Vidal Cat. Pl. Prov. Manila (1880) 30, non Blume.

*Illigera dubia* F.-Vill. Novis. App. (1880) 81, non Span.

*Illigera meyeniana* Kunth ex Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 410; Walp. Ann. 1 (1849) 579; Vidal Sinopsis Atlas (1883) 26, *t. 48, f. F*, Phan. Cuming. Philip. (1885) 112, Rev. Pl. Vasc. Filip. (1886) 128.

*Illigera ternata* Dunn in Journ. Linn. Soc. Bot. 38 (1908) 294.

Luzon (Union, Pangasinan, Nueva Ecija, Bulacan, Rizal, Bataan, Tayabas, Laguna), Palawan. In thickets at low and medium altitudes. Formosa.

Local names: Alibalibin (Pamp.); binatang (Pang.); kuripatong (Ilk.); lagitik (Tag.); taktakop (Pang.).

**ILLIGERA MEGAPTERA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 290.

*Illigera diptera* Elm. Leaf. Philip. Bot. 7 (1915) 2687.

Panay, Mindanao (Agusan), *Elmer 13362, B. S. 21511 Escritor, 31221 Ramos & Edaña*. In forests at low and medium altitudes. Endemic.

Local names: Balógo (Mbo.); kaba-kaba (Mbo.).

**ILLIGERA PLATYANDRA** Dunn in Journ. Linn. Soc. Bot. 38 (1908) 294.

Luzon (*Wallis*, in Herb. Kew.). Southern China and Indo-China.

**ILLIGERA PUBESCENS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 446.

Luzon (Lepanto), *Vanoverbergh 2135*. In thickets along streams, altitude 500 m. Endemic.

**ILLIGERA RETICULATA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 291.

Luzon (Laguña), *F. B. 7761 Curran & Merritt, 21405 Villamil*. In thickets and second-growth forests at low altitudes. Endemic.

#### EXCLUDED SPECIES

**ILLIGERA CORYZADENIA** Meisn.; F.-Vill. Novis. App. (1880) 81.

### 3. HERNANDIA Plumier

**HERNANDIA OVIGERA** Linn. in Stickm. Herb. Amb. (1754) 14, Amoen.

Acad. 4 (1757) 125, Syst. ed. 10 (1759) 1264, Sp. Pl. ed. 2 (1763)

1392; Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 262; F.-Vill. No is. App.

(1880) 182; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 290,

Interpret. Herb. Amb. (1917) 239.

*Hernandia peltata* Meisn. in DC. Prodr. 15<sup>1</sup> (1864) 263; F.-Vill.

Novis. App. (1880) 182; Vidal Sinopsis Atlas (1883) 37, t. 73,

f. G, Rev. Pl. Vasc. Filip. (1886) 229, Phan. Cuming. Philip. (1885)

139; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 74, Philip. Bu-

reau Forest. Bull. 1 (1903) 21, Interpret. Herb. Amb. (1917) 239,

Sp. Blancoanae (1918) 155.

*Hernandia sonora* Blanco Fl. Filip. (1837) 689, ed. 2 (1845) 478,

ed. 3, 3 (1879) 93; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858) 887, non Linn.

Central Luzon (Zambales, Tayabas) to Palawan, Mindanao, and the Sulu Archipelago. Along the seashore, occasionally extending inland on slopes at low altitudes. Abundant material shows that the supposed differences between *Hernandia ovigera* Linn. and *H. peltata* Meisn. break down absolutely. Ceylon to tropical East Africa, Madagascar, through Malaya to tropical Australia and Polynesia.

Local names: Banung-kalauai (Tagb.); habag (C. Bis.); kolon-kogon (Bik.); kolonkógun (Bik.); kolung-kólung (Sul., Tag.); koron-kóron (Bik.); kung-kúng (Yak.); malat-antáñgan (Tag.); pantog-lubo (Tag.); tabataba (Bik.).

### PAPAVERACEAE

#### 1. ARGEMONE Tournefort

**ARGEMONE MEXICANA** Linn. Sp. Pl. (1753) 508; DC. Prodr. 1 (1824)

120; Blanco Fl. Filip. (1837) 454, ed. 2 (1845) 316, ed. 3, 2 (1878)

220, t. 187; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 92; F.-Vill. Novis. App.

(1880) 9; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 33, 27

(1905) 17, Philip. Journ. Sci. 3 (1908) Bot. 407, Fl. Manila (1912)

213, Sp. Blancoanae (1918) 156.

In and about towns, a weed in waste places, widely distributed in the Philippines. A native of tropical America, introduced into the Philippines and now pantropic.

Local names: Baruás (Iv.); diluáriu (Tag.); kachúmba (Ilk.); kang-kágang (C. Bis.); kasúbang-áso (Ilk.).

## CRUCIFERAE

### 1. LEPIDIUM Linnaeus

**LEPIDIUM VIRGINICUM** Sp. Pl. (1753) 645; Thell. in Vierteljahrsschr. Nat. Ges. Zürich 51 (1906) 163, subsp. **EU-VIRGINICUM** Thell. in Neue Denkschr. Schweiz. Ges. Naturw. Zürich 41<sup>1</sup> (1906) 225. *Lepidium ruderales* Ceron Cat. Pl. Herb. Manila (1892) 15; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 194, non Linn.

Luzon (Cagayan, Nueva Vizcaya). A weed in towns, also in some regions occurring along sandy seashores. Introduced; a native of America, now in all warm countries.

Local name: Sapatótes (Ilk.).

### 2. BRASSICA Tournefort

**BRASSICA INTEGRIFOLIA** (West) O. E. Schulz in Urb. Symb. Antill. 3 (1903) 509, Engl. Pflanzenreich 70 (1919) 56.

*Sinapis integrifolia* West Bijdr. St. Croix (1793) 296; Willd. Hort. Berol. (1806-1816) 14, t. 14.

*Brassica juncea* F.-Vill. Novis. App. (1880) 10; Ceron Cat. Pl. Herb. Manila (1892) 15; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 17, Fl. Manila (1912) 214, Sp. Blancoanae (1918) 157, non Coss.

*Sinapis juncea* Blanco Fl. Filip. ed. 2 (1845) 362, ed. 3, 2 (1878) 304, non Linn.

*Sinapis brassicata* Blanco Fl. Filip. ed. 2 (1845) 362, ed. 3, 2 (1879) 305, non Linn.

*Brassica orientalis* Blanco op. cit. 519, 361, 303, non Linn.

*Sinapis sinensis* Blanco Fl. Filip. (1837) 520, non Gmel.

Widely distributed in the settled areas of the Philippines, in towns, near houses, etc., planted and spontaneous. Introduced from Asia. Pantropic, occurring also in some temperate regions.

Local name: Mostaza (Sp.).

### EXCLUDED SPECIES

**BRASSICA CAMPESTRIS** Linn.; F.-Vill. Novis. App. (1880) 10.

**BRASSICA NIGRA** KOCH; F.-Vill. op. cit. 9.

**BRASSICA OLERACEA** Linn.; F.-Vill. l. c.

The cabbage (Sp. *repollo*); cultivated only.

**BRASSICA CERNUA** (Thunb.) Forbes & Hemsl. [*B. pekinensis* (Lour.) Gagnep.].

A form of this is commonly cultivated by Chinese gardeners for the Manial markets. It is locally known as *pechai*, and is perhaps a form of *Brassica integrifolia* (West) O. E. Schulz derived by selection and cultivation.

## 3. NASTURTIUM R. Brown

**NASTURTIUM INDICUM** (Linn.) DC. Syst. 2 (1821) 199, Prodr. 1 (1824) 139; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 93; F.-Vill. Novis. App. (1880) 19; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 17, Philip. Journ. Sci. 5 (1910) Bot. 350, Fl. Manila (1912) 213, Sp. Blancoanae (1918) 157.

*Sisymbrium indicum* Linn. Mant. 1 (1767) 93.

*Cardamine glandulosa* Blanco Fl. Filip. (1837) 531.

*Cardamine impatiens* Blanco op. cit. ed. 2 (1845) 363, ed. 3, 2 (1879) 306, non Linn.

? *Nasturtium montanum* Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 46, non (?) Wall.

In and about towns along drains, ditches, etc., waste places, along streams, etc., throughout the Philippines in the more or less settled areas, apparently introduced. Tropical Asia and Malaya.

Local names: Alalahia (Ibn.); apopo (Bon.); gandai (Bon.); gelgelai (Bon.); gilgilo (Ig.); lampaka (Ilk.); sabi (Bag.); undi (If.).

**NASTURTIUM OFFICINALE** R. Br. in Ait. Hort. Kew ed. 2, 4 (1812) 110.

*Sisymbrium nasturtium* Linn. Sp. Pl. (1753) 657.

*Roripa nasturtium* Rusby in Mem. Torr. Bot. Club 3 (1893) 5; Britt. & Br. Ill. Fl. U. S. 2 (1897) 126, f. 1721.

Luzon (Benguet), *Wester*. Abundant in shallow water and in small streams in Trinidad Valley, altitude about 1,300 m. Probably introduced since 1912. A native of Europe and northern Asia, now naturalized in most temperate and subtemperate countries. Water cress.

## 4. CARDAMINE Tournefort

**CARDAMINE REGELIANA** Miq. Ann. Mus. Bot. Lugd.-Bat. 2 (1865) 73; J. R. Drummond ex Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 100; Merr. op. cit. 5 (1910) Bot. 350.

*Cardamine parviflora* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 194, non Linn.

Luzon (Bontoc, Lepanto, Benguet). Occasional in open damp places, altitude 1,200 to 1,800 m. Eastern Asia and Japan southward to Malaya.

Local name: Gilgilo-ti-anito (Bon.).

## EXCLUDED GENERA

**RAPHANUS SATIVUS** Linn. Sp. Pl. (1753) 669; F.-Vill. Novis. App. (1880) 10; Merr. Fl. Manila (1912) 214.

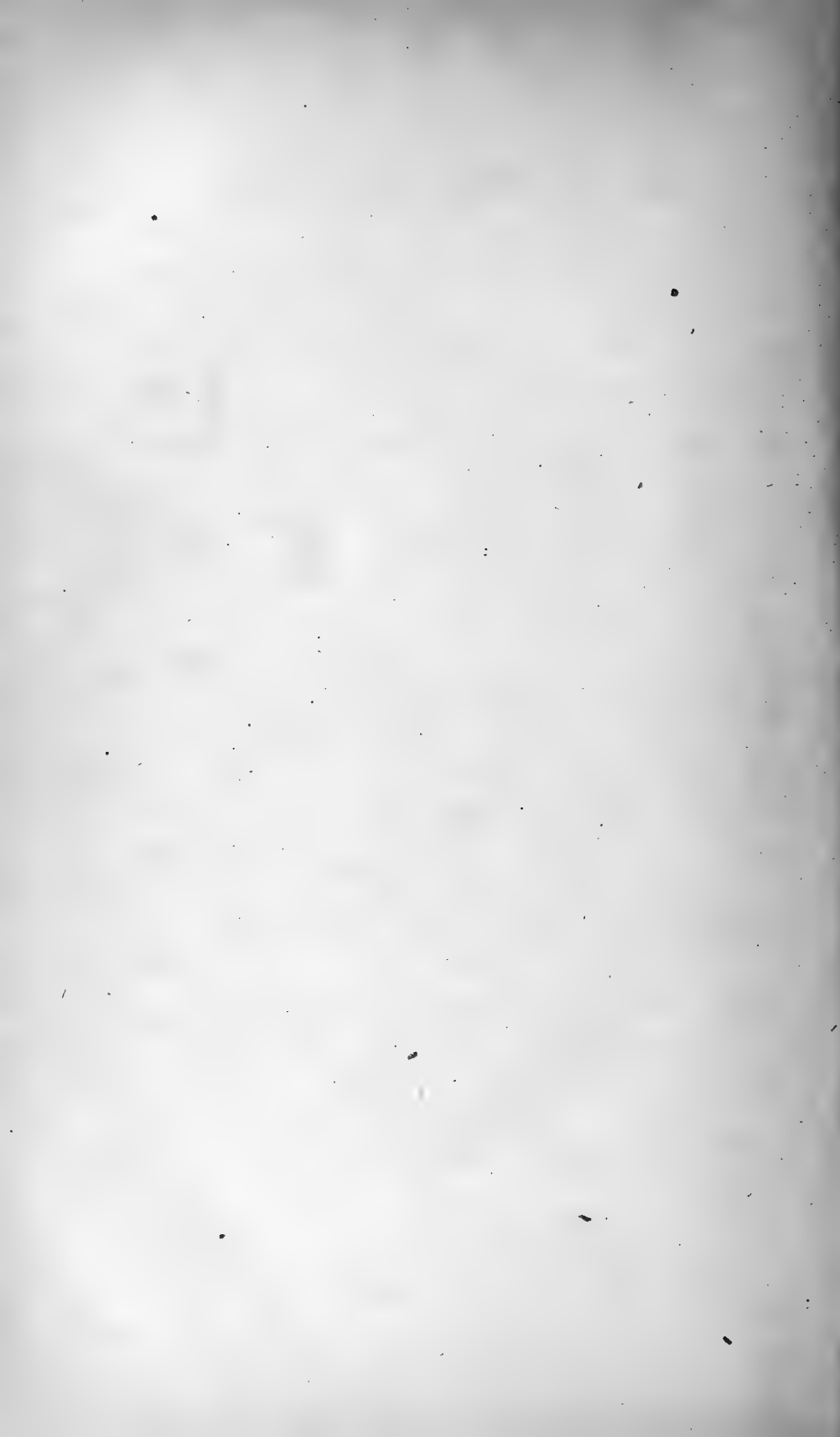
The common radish is widely cultivated in the Philippines and is commonly known as *rabanos* (Sp.), locally corrupted into *labanos* (Tag.). The shepherd's-purse (*Capsella bursa-pastoris* Medic.) has been collected once in Baguio, but apparently occurs there only as a casual plant.

## CAPPARIDACEAE

## 1. CLEOME Linnaeus

**CLEOME SPINOSA** Jacq. Enum. Pl. Carib. (1760) 26; Linn. Sp. Pl. ed. 2 (1762) 939; Usteri Beitr. Ken. Philip. Veg. (1905) 112.





# AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

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EXPLANATORY NOTE

The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., *August 25, 1921.*



A recent introduction, now thoroughly naturalized and very abundant along streams in Benguet, *Merrill Phil. Pl. 1731*. A native of tropical America, now pantropic.

Local name: Botete (Ig.).

## 2. GYNANDROPSIS de Candolle

### GYNANDROPSIS GYNANDRA (Linn.) comb. nov.

*Cleome gynandra* Linn. Sp. Pl. (1753) 671; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 182.

*Cleome pentaphylla* Linn. Sp. Pl. ed. 2 (1763) 938.

*Gynandropsis pentaphylla* DC. Prodr. 1 (1824) 238; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 96; F.-Vill. Novis. App. (1880) 10; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 58, Fl. Manila (1912) 216, Sp. Blancoanae (1918) 158.

*Pedicellaria pentaphylla* Schrank in Roem. & Usteri Mag. Bot. 3<sup>1</sup> (1790) 8, 10; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 18.

*Sinapistrum pentaphyllum* Medic. in Index Kew. 2 (1895) 914.

*Cleome alliacea* Blanco Fl. Filip. (1837) 522.

*Cleome alliadora* Blanco op. cit. ed. 2 (1845) 363, ed. 3, 2 (1879) 307, t. 233.

Throughout the Philippines at low and medium altitudes, a weed in waste places; often abundant especially near the sea. Pantropic.

Local names: Apoi-apoián (Tag.); balabalanóian (Tag.); halayá (P. Bis.); huláya (P. Bis.); tantandók (Ilk.); tantandók-a-dadakél (Ilk.).

### GYNANDROPSIS SPECIOSA (HBK.) DC. Prodr. 1 (1824) 238; F.-Vill.

Novis. App. (1880) 10; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 24, 27 (1905) 18, Sp. Blancoanae (1918) 158.

*Cleome speciosa* HBK. Nov. Gen. Sp. Pl. 5 (1817) 84, t. 436.

*Cleome pentaphylla* Blanco Fl. Filip. (1837) 523, non Linn.

*Cleome gigantea* Blanco op. cit. ed. 2 (1845) 364, ed. 3, 2 (1879) 307, t. 234, non Linn.

Luzon (Union, Manila, Cavite), Leyte, *B. S. 21085 Ramos, Wenzel 1066, Merrill 8502, Sp. Blancoanae 149*. Occasional in waste places, old clearings, etc. A native of tropical America, now pantropic.

## 3. POLANISIA Rafinesque

### POLANISIA ICOSANDRA (Linn.) W. & A. Prodr. (1834) 22; A. Gray Bot.

Wilkes U. S. Explor. Exped. (1854) 68; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77.

*Cleome icosandra* Linn. Sp. Pl. (1753) 672.

*Polanisia viscosa* DC. Prodr. 1 (1824) 242; Blanco Fl. Filip. ed. 2 (1845) 364, ed. 3, 2 (1879) 308; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 97; F.-Vill. Novis. App. (1880) 10; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 47; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 17, Philip. Journ. Sci. 3 (1908) Bot. 407, Fl. Manila (1912) 216, Sp. Blancoanae (1918) 158.

*Cleome viscosa* Linn. l. c.; Blanco Fl. Filip. (1837) 522.

*Cleome acutifolia* Elm. Leaf. Philip. Bot. 7 (1915) 2574.

Throughout the Philippines at low and medium altitudes in the settled areas; a common weed. Pantropic.

Local names: Apoi-apoian (Tag.); balabalanóian (Tag.); huláya (P. Bis.); kabáu (Iv.); lampotaki (Tagb.); silisian (Tag.); silisilíhan (Tag.); tantandók (Ilk.); tuláyag (P. Bis.).

#### 4. CRATAEVA Linnaeus

**CRATAEVA RELIGIOSA** Forst. f. Prodr. (1786) 35; DC. Prodr. 1 (1824) 243; Blanco Fl. Filip. (1837) 399; ed. 2 (1845) 279, ed. 3, 2 (1878) 154, t. 176; F.-Vill. Novis. App. (1880) 10; Vidal Sinopsis Atlas (1883) 13, t. 6, f. C, Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 48; Merr. Sp. Blancoanae (1918) 158.

*Crataeva axillaris* Presl Rel. Haenk. 2 (1835) 85; F.-Vill. Novis. App. (1880) 10.

Northern Luzon to Masbate and Palawan, probably also in Mindanao and the Sulu Archipelago. In waste places, along streams, and in thickets near the sea, sometimes planted. India to Malaya and Polynesia.

Local names: Balai-lamók (Ilk.); balai-namók (Ilk.); banugan (Bis.); duliñgatok (Pamp.); kalaluñgau (Tagb.); mokalbol (Tagb.); salingbobog (Bis., Tag.).

#### 5. CAPPARIS Tournefort

**CAPPARIS AFFINIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 303.

Palawan, *B. S. 21583 Escritor*. In thickets at low altitudes. Endemic.

**CAPPARIS CERASIFOLIA** A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 71; Walp. Ann. 7 (1868) 189; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77.

*Capparis lasiopoda* Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 320; F.-Vill. Novis. App. (1880) 11; Vidal Rev. Pl. Vasc. Filip. (1886) 48, Phan. Cuming. Philip. (1885) 94.

Luzon (Ilocos Norte, Cagayan, Union), Palawan, Sulu Archipelago, Mindanao (Zamboanga, Surigao, Agusan, Lanao, Davao), *Elmer 12721, 13538, Copeland 658, Williams 2152, 2200, F. B. 26999 Mallonga, Cuming 955, B. S. 32831, 32857, 27504 Ramos*. In thickets at low altitudes. Endemic.

Local name: Holiboi (Mbo.).

**CAPPARIS COPELANDII** Elm. Leaf. Philip. Bot. 2 (1910) 680.

Mindanao (Davao), *Copeland 705, Elmer 10943*. In thickets at medium altitudes. Endemic.

Local name: Sulu-sulu (Bag.).

**CAPPARIS CORDIFOLIA** Lam. Encycl. 1 (1785) 609; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 235, Fl. Manila (1912) 216, Sp. Blancoanae (1918) 159.

*Capparis mariana* Jacq. Hort. Schoenbr. 1 (1797) 57, t. 109; Blanco Fl. Filip. ed. 2 (1845) 305, ed. 3, 2 (1878) 201, t. 179; Miq. Ill. Fl. Archip. Ind. (1871) 36; F.-Vill. Novis. App. (1880) 11.

*Capparis baducca* Blanco Fl. Filip. (1837) 438, non Linn.

*Capparis spinosa* Linn., var. *mariana* K. Schum. in Engl. Bot. Jahrb. 9 (1887) 201.

Occasionally cultivated in Manila, spontaneous along the seashore in Bohol, *Merrill Sp. Blancoanae* 516, *Guerrero, Wester*. Introduced from the Marianne Islands. Polynesia.

Local name: Alcaparras from Sp. *alcaparra* = caper.

**CAPPARIS EMARGINATA** Presl Rel. Haenk. 2 (1835) 85; F.-Vill. Novis. App. (1880) 11.

Luzon, without locality, *Haenke*, Pangasinan, *B. S. 18318 Otanes*. In dry thickets at low altitudes; scarcely other than a pubescent form of *Capparis sepiaria* Linn. Endemic.

**CAPPARIS HORRIDA** Linn. f. Suppl. (1781) 264; F.-Vill. Novis. App. (1880) 11; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 48; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 58, Fl. Manila (1912) 215, Sp. Blancoanae (1918) 159.

*Capparis aurantioides* Presl Rel. Haenk. 2 (1835) 86; F.-Vill. Novis. App. (1880) 11; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 70.

*Capparis nemorosa* Blanco Fl. Filip. (1837) 438.

*Capparis micrantha* Blanco op. cit. ed. 2 (1845) 305, ed. 3, 2 (1878) 200, t. 178, non DC.

*Capparis linearis* Blanco op. cit. 438, 305, 200.

*Capparis viminea* F.-Vill. Novis. App. (1880) 11, non Hook. f. & Th.

Northern Luzon (Cagayan) to Mindanao. In thickets at low and medium altitudes. India to Indo-China and Malaya.

Local names: Baraláuk (Ibn.); dauag (Tag.); halubágat-báging (Tag.); laginau (Bis.); talakták (Ilk.); tarabtáb (Ilk.).

**CAPPARIS ILOCANA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 13.

Luzon (Ilocos Norte), *B. S. 27120, 32713, 32689 Ramos*. In thickets at low altitudes. Endemic.

**CAPPARIS LITTORALIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 270.

Luzon (Tayabas), *F. B. 11111 Curran*. In thickets along the seashore. Endemic.

**CAPPARIS LOBBIANA** Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 323; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Rev. Pl. Vasc. Filip. (1886) 47.

Luzon (Bataan, Rizal, Laguna), Mindoro, *Williams 382, 287, Merrill 3858, Phil. Pl. 1887, B. S. 6173 Robinson, 1052, 13694, 39726 Ramos, Whitford 518, Elmer 18160*. In thickets at low altitudes; Lobb's specimen on which the species was based was from Luzon, not from Singapore as stated in the original description. Endemic.

**CAPPARIS LOHERI** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 270.

Luzon (Rizal), *Loher 2016, 6787*. In thickets or forests at low or medium altitudes. Endemic.

**CAPPARIS LONGIPES** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 12.

Luzon (Abra), *B. S. 26980 Ramos*. In forests along streams and on cliffs at low or medium altitudes. Endemic.

**CAPPARIS LUZONENSIS** Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 324; F.-Vill. Novis. App. (1880) 11; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 47; Merr. Sp. Blancoanae (1918) 159.

*Crataeva octandra* Blanco Fl. Filip. (1837) 400, ed. 2 (1845) 280, ed. 3, 2 (1878) 155, non Jacq.

*Capparis floribunda* F.-Vill. Novis. App. (1880) 11, non Wight.

Luzon (Ilocos Norte, Ilocos Sur, Tayabas, Rizal), *Cuming 1201, 1210, B. S. 13389 Ramos, Merrill 2282*. In thickets or forests at low or medium altitudes. Endemic.

Var. **AMPLA** var. nov.

A typo differt foliis majoribus, 4 ad 4.5 cm latis.

Luzon (Isabela, Cagayan, Benguet), *B. S. 8093 Ramos, F. B. 11593, 16745 Curran, Adduru 260, Elmer 5883*. In thickets at low and medium altitudes. Endemic.

Local names: Balisaog (Tag.); halubátag-babáe (Tag.); madulungban (Ig.).

**CAPPARIS MICRACANTHA** DC. Prodr. 1 (1824) 247; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 99; F.-Vill. Novis. App. (1880) 11; Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 47; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 58, Fl. Manila (1912) 215, Sp. Blancoanae (1918) 160.

*Capparis odorata* Blanco Fl. Filip. (1837) 439, ed. 2 (1845) 305, ed. 3, 2 (1878) 201; F.-Vill. Novis. App. (1880) 11.

*Capparis halobagat* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 180.

*Capparis forsteniana* Miq. Ill. Fl. Archip. Ind. (1870) 32.

Northern Luzon to Mindanao. In thickets, second-growth forests, etc., at low and medium altitudes; common. Burma, Siam, Indo-China to the Malay Peninsula and Archipelago.

Local names: Alunṅung (P. Bis.); balituk (Buk.); bayábas-uák (Tag.); dauag (Tag.); halubátag (Tag.); halubátag-káhoi (Tag.); kasuit (Pamp.); malaráyat-káhoi (Tag.); salimbátag (Tag.); salimómo (Bis.); saluásuá (Bis.); tarabtáb (Ilk.); tarabtab-uák (Ilk.); taraptáp (Ilk.); tinikán (Tag.).

**CAPPARIS OBLONGATA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 15, Philip. Journ. Sci. 1 (1906) Suppl. 58.

? *Capparis floribunda* Vidal Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 48, non Wight.

*Capparis viridis* Elm. Leaf. Philip. Bot. 8 (1919) 3076.

Luzon (Bataan, Laguna, Tayabas, Sorsogon), *Merrill 8619, F. B. 2632 Meyer, 25390 Mabesa, B. S. 25482 Yates, Elmer 15956, 16743 (C. irosinensis Elm.), 18160*. In forests, altitude 300 to 600 m. Endemic.

**CAPPARIS PALAWANENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 304.

Palawan, *Merrill 9459*. In forests at low altitudes. Endemic.

**CAPPARIS SEPIARIA** Linn. Syst. ed. 10 (1759) 1071; F.-Vill. Novis. App. (1880) 11; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 209; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 101; A. Gray Bot. Wilkes U. S.

Explor. Exped. (1854) 70; Vidal Sinopsis Atlas (1883) 13, *t. 6*, *f. A*, Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 47 (incl. var. *acuta* Vidal); Merr. in Philip. Journ. Sci. 3 (1908) Bot. 77, Fl. Manila (1912) 215.

Babuyan Islands and northern Luzon to Mindanao and the Sulu Archipelago. In thickets at low altitudes. India to Malaya and Australia. Local names: Aráyat (Ilk.); keme-keming (Ilk.); tarabtab (Tag.).

**CAPPARIS TYLOPHYLLA** Spreng. Syst. 4 (1827) Cur. Post. 204.

*Capparis cumingii* Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 101.

*Capparis mucronata* Elm. Leaf. Philip. Bot. 5 (1913) 1757.

*Capparis turczaninowii* Elm. op. cit. 1755.

Luzon (Ilocos Norte, Ilocos Sur, Nueva Ecija, Rizal, Bataan), Palawan, *Cuming 1234*, *Elmer 12720, 13080*, *F. B. 14050 Merritt & Darling, 22133*, *Alvarez, B. S. 10849 Foxworthy, Loher 6785*. In thickets at low altitudes. Java.

**CAPPARIS VENOSA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 305.

Mindanao (Cotabato), *F. B. 14216 Whitford*. In dipterocarp forests at low altitudes. Endemic.

#### 6. STIXIS Loureiro

**STIXIS PHILIPPINENSIS** (Turcz.) Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 72, Philip. Journ. Sci. 1 (1906) Suppl. 58.

*Roydsia philippinensis* Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 329; F.-Vill. Novis. App. (1880) 11; Vidal Sinopsis Atlas (1883) 13, *t. 6*, *f. B*, Phan. Cuming. Philip. (1885) 94, Rev. Pl. Vasc. Filip. (1886) 48.

*Roydsia floribunda* Planch. ex Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 409.

*Stixis floribunda* Pierre in Bull. Soc. Linn. Paris 1 (1887) 655.

Luzon (Laguna, Bataan), Mindanao (Surigao, Cotabato, Davao), *Cuming 541*, *F. B. 24199 Bawan, 2263 Meyer, 2326 Borden, 26315 Mabesa, 26266 Mallonga, Williams 2718, Merrill Phil. Pl. 454*. In forests at low and medium altitudes. Endemic.

Local name: Lanitnet (Tag.).

### MORINGACEAE

#### 1. MORINGA Burman

**MORINGA OLEIFERA** Lam. Encycl. 1 (1785) 398; Blanco Fl. Filip. (1837) 341, ed. 2 (1845) 238, ed. 3, 2 (1878) 80, *t. 125*; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 36, Philip. Bureau Forestry Bull. 1 (1903) 22, Philip. Journ. Sci. 1 (1906) Suppl. 59, Fl. Manila (1912) 217, Sp. Blancoanae (1918) 160.

*Guilandina moringa* Linn. Sp. Pl. (1753) 381.

*Moringa pterygosperma* Gaertn. Fruct. 2 (1791) 314; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 325; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1855) 350; Vidal Sinopsis Atlas (1883) 22, *t. 38*, Rev. Pl. Vasc. Filip. (1886) 102; F.-Vill. Novis. App. (1880) 56.

*Moringa nux-ben* Perr. in Mem. Soc. Linn. Paris 3 (1824) 129; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 305.

Planted throughout the settled areas of the Philippines at low and medium altitudes. The horse-radish tree, introduced from tropical Asia or Malaya in the prehistoric period, now pantropic in cultivation.

Local names: Arúnggai (Pang.); balúñgai (Bis.); dool (Pamp., Bis.); kalamúñgai (P. Bis.); kalúñgai (Bik., Bis., Tag.); kamalóñgan (P. Bis.); kamalúñgai (Pamp., Tag.); komkompilán (Ilk.); malóñgai (Tag.); malúñgai (Tag.); malúñgit (Pamp., Bis.); maróñgoi (Sbl.); marúngai (Ilk., Ib.).

## NEPENTHACEAE

### 1. NEPENTHES Linnaeus

**NEPENTHES ALATA** Blanco Fl. Filip. (1837) 805, ed. 2 (1845) 555, ed. 3, 3 (1879) 214; Hook. f. in DC. Prodr. 17 (1873) 99; F.-Vill. Novis. App. (1880) 173; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 218; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 59, 5 (1910) Bot. 350, Sp. Blancoanae (1918) 160; Macfarl. in Engl. Pflanzenreich 36 (1908) 71.

*Nepenthes blancoi* Blume Mus. Bot. Lugd.-Bat. 2 (1852) 10; Hook. f. in DC. Prodr. 17 (1873) 105; Macfarl. in Engl. Pflanzenreich 36 (1908) 40.

*Nepenthes* sp. Blanco Fl. Filip. (1837) 808, ed. 2 (1845) 556, ed. 3, 3 (1879) 215.

*Nepenthes melamphora* F.-Vill. Novis. App. (1880) 173, non Blume.

Northern Luzon (Cagayan) to Mindanao, common in the mossy forest, chiefly on exposed ridges on the higher mountains in the Mountain Province, occurring on open grassy slopes above an altitude of 1,400 m; in Mindoro and other regions where the forests are continually wet, occurring along streams at low and medium altitudes. Endemic.

Local names: Aran-kálaw (Bis.); batbatidór (Ilk.); batidór (Ilk.); gorongita (Ilk.); inomang-kálaw (Tag.); inomang-kalóo (Bik.); kádung (Ilk.); kaka (Tag.); kakalong (Ig.); kakalum (Ig.); kakalung (Ig.); kalo (Ig.); kalu (Bon.); opli (Tag.); salud-salud (C. Bis.); sikado (Bag.); sogon-sogon (C. Bis.); taká (Bik.); tandayrúa (C. Bis.); ulakgio (Bon.).

Var. **BIFLORA** Macfarl. in Engl. Pflanzenreich 36 (1908) 72.

Negros, *Whitford 1723*. On exposed ridges in the mossy forest, altitude about 1,100 m.

Var. **ECRISTATA** Macfarl. l. c.

*Nepenthes graciliflora* Elm. Leaflet. Philip. Bot. 4 (1912) 1494.

Leyte, Sibuyan, Mindanao, *F. B. 16886 Rosenbluth, 4632 Mearns & Hutchinson, Elmer 12465*. On forested ridges, altitude 1,100 to 1,700 m.

**NEPENTHES BURKEI** Mast. in Gard. Chron. III 6 (1889) 492, 566, *f. 69*, 8 (1890) 184, Hort. Veitch. (1906) 300, 486; Macfarl. in Engl. Pflanzenreich 36 (1908) 55.

Mindoro, Panay, *Merrill 5774, F. B. 4392 Merritt, B. S. 32597 McGregor*. In the mossy forest, altitude 1,000 to 1,400 m. Endemic.

**NEPENTHES COPELANDII** Merr. ex. Macfarl. in Engl. Pflanzenreich 36 (1908) 51.

Mindanao (Davao, Mt. Apo), *Copeland 1033, Elmer 11523, De Vore & Hoover 294*. In thickets, altitude about 2,400 m. Endemic.

**NEPENTHES DEANIANA** Macfarl. in Engl. Pflanzenreich 36 (1908) 57.

Palawan, *F. B. 3891 Curran, 23337 Danao*. On summit of Mt. Pulgar, altitude 1,300 m. Endemic.

**NEPENTHES MERRILLIANA** Macfarl. in Contr. Bot. Lab. Univ. Penn. 3 (1911) 207, t. 1.

*Nepenthes surigaoensis* Elm. Leafl. Philip. Bot. 8 (1915) 2785.

Mindanao (Surigao), *F. B. 7545 Hutchinson, Elmer 13705, Lyon*. In forests, extending from low altitudes to 1,600 m. Endemic.

Local names: Batidor (Sp.); handayrua (C. Bis.); lapsai (Mbo.); lapasayin (Mbo.).

**NEPENTHES MIRABILIS** (Lour.) Merr. Interpret. Herb. Amb. (1917) 242.

*Phyllamphora mirabilis* Lour. Fl. Cochinch. (1790) 606.

*Nepenthes phyllamphora* Willd. Sp. Pl. 4<sup>2</sup> (1805) 874; Hook. f. in DC. Prodr. 17 (1873) 97; F.-Vill. Novis. App. (1880) 173; Ceron Cat. Pl. Herb. Manila (1892) 138; Macfarl. in Engl. Pflanzenreich 36 (1908) 63.

Mindanao (Lanao, Zamboanga), *Clemens 816, 923, F. B. 6575 Hutchinson*. In swamps and forests from near sea level to an altitude of 900 m. Southern China, Indo-China, through the Malay Peninsula, Sumatra, Java, and Borneo to New Guinea and the Caroline Islands.

**NEPENTHES PHILIPPINENSIS** Macfarl. in Engl. Pflanzenreich 36 (1908) 43.

*Nepenthes brachycarpa* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 306.

Palawan, *B. S. 721 Foxworthy, Merrill 9588, 9615*. On steep slopes in dry forests, altitude 250 to 350 m. Endemic.

Local name: Kuong-kuong (Tagb.).

**NEPENTHES TRUNCATA** Macfarl. in Contr. Bot. Lab. Univ. Penn. 3 (1911) 209, t. 11.

Mindanao (Surigao, Agusan), *Bolster 270, Allen 171, Eddingfield, Weber, Elmer 13483*. In wet forests, altitude 600 to 1,100 m. Endemic.

Local name: Sandaoua (Mbo.).

**NEPENTHES VENTRICOSA** Blanco Fl. Filip. (1837) 807, ed. 2 (1845) 556, ed. 3, 3 (1879) 215; Blume Mus. Bot. Lugd.-Bat. 2 (1852) 10; Hook. f. in DC. Prodr. 17 (1873) 100; F.-Vill. Novis. App. (1880) 173; Vidal Phan. Cuming. Philip. (1885) 137, Rev. Pl. Vasc. Filip. (1886) 218; Rolfe in Gard. Chron. III 23 (1898) 380, f. 143; Mast. in Gard. Chron. III 30 (1901) 312, fig.; Macfarl. in Engl. Pflanzenreich 36 (1908) 54; Merr. Sp. Blancoanae (1918) 160.

Luzon (Ifugao, Ilocos Norte, Tayabas, Rizal, Camarines, Albay, Sorsogon). In damp forests, altitude 600 to 1,500 m. Endemic.

Local names: Kako (Bik.); salud-sálud (Ilk.).

#### EXCLUDED SPECIES

**NEPENTHES CRISTATA** Brongn. in Ann. Sci. Nat. I 1 (1824) 48; Hook. f. in DC. Prodr. 17 (1873) 105; F.-Vill. Novis. App. (1880) 173.

The type of this species was from Madagascar; the Philippine specimen collected by Née at Mauban, Tayabas Province, Luzon, cited by Brongniart in the original description, is unquestionably *Nepenthes alata* Blanco.

*NEPENTHES GRACILIS* Korth.; F.-Vill. Novis. App. (1880) 173.

*NEPENTHES RAFFLESIANA* Jack; Gibbs in Journ. Linn. Soc. Bot. 42 (1914) 127.

The *Cuming* specimen in the Herbarium of the British Museum cited by Miss Gibbs as Philippine was certainly from Singapore or the Malay Peninsula, not from the Philippines.

## DROSERACEAE

### 1. *DROSERA* Linnaeus

*DROSERA BURMANNI* Vahl Symb. 3 (1794) 50; F.-Vill. Novis. App. (1880) 78; Diels in Engl. Pflanzenreich 26 (1906) 75, t. 27, E-G; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 263.

Luzon (Bontoc), *F. B. 10995 Curran*. In peaty soil, open places, altitude about 700 m. India to Japan southward to northern Australia.

*DROSERA INDICA* Linn. Sp. Pl. (1753) 282; DC. Prodr. 1 (1824) 319; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 120; Hook. f. & Th. in Journ. Linn. Soc. Bot. 2 (1858) 82; F.-Vill. Novis. App. (1880) 78; Diels in Engl. Pflanzenreich 26 (1906) 77, f. 29; Merr. Sp. Blancoanae (1918) 161.

*Drosera hexagymia* Blanco Fl. Filip. (1837) 226, ed. 2 (1845) 159, ed. 3, 1 (1877) 186.

Luzon (Pangasinan, Rizal), Culion, *B. S. 4908, 13753, 41309 Ramos, Lohher 1637, 6756*. In open wet grassy places, old rice lands, etc., at low and medium altitudes; rare or at least very local. India to Japan southward to Australia.

Local name: Bintipálo (Tag.).

*DROSERA PELTATA* Sm. in Willd. Sp. Pl. 1 (1797) 1546, Exot. Bot. 1 (1805) 79, t. 41; DC. Prodr. 1 (1824) 319; F.-Vill. Novis. App. (1883) 350; Ceron Cat. Pl. Herb. Manila (1892) 75 (var. *lunata* C. B. Clarke); Diels in Engl. Pflanzenreich 26 (1906) 110; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 275, 5 (1910) Bot. 350.

Luzon (Bontoc, Benguet, Zambales), common on open grassy slopes in thin pine forests, altitude 1,000 to 1,800 m, and on open heaths, Mt. Halcon, Mindoro, at 2,400 m. India to Japan southward to Tasmania.

Local names: Bain (Ig.); gúmgumayéng (Bon.); sanabúgan (Ig.).

*DROSERA SPATHULATA* Labill. Nov. Holl. Pl. Sp. 1 (1804) 79, t. 106, f. 1; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 130; F.-Vill. Novis. App. (1880) 78; Vidal Phan. Cuming. Philip. (1885) 111; Diels in Engl. Pflanzenreich 26 (1906) 83, f. 31, A-B; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 274.

Luzon (Albay, Mayon Volcano), Mindoro (Mt. Halcon), *Merrill 5784, B. S. 2929 Mcarns*. On open heaths, altitude 1,200 to 2,400 m. Japan, southern China, Formosa, Borneo, eastern Australia, and New Zealand.



## EXCLUDED FAMILY

**TRISTICHA BIFARIA** Presl Rel. Haenk. 1 (1827) 86; Wedd. in DC. Prodr. 17 (1873) 46; F.-Vill. Novis. App. (1880) 173.

This is the only representative of the Podostemonaceae that has been credited to the Philippines, localized by Presl as "Hab. in insulis Philippinis," an error later corrected by Presl himself.

## CRASSULACEAE

1. **SEDUM** Tournefort

**SEDUM AUSTRALE** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 16, Philip. Journ. Sci. 5 (1910) Bot. 351.

Luzon (Benguet, Bontoc). Widely scattered on boulders, cliffs, etc., altitude 1,200 to 2,000 m. Endemic.

2. **BRYOPHYLLUM** Salisbury

**BRYOPHYLLUM PINNATUM** (Lam.) Kurz. in Journ. As. Soc. Beng. 40<sup>2</sup> (1876) 309; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 351, Fl. Manila (1912) 218, Sp. Blancoanae (1918) 161.

*Cotyledon pinnatum* Lam. Encycl. 2 (1786) 171.

*Bryophyllum calycinum* Salisb. Parad. Lond. (1805) t. 3; Wight in Hook. Bot. Miscel. 3 (1833) 100, t. 31; F.-Vill. Novis. App. (1880) 78; A. Gray Bot. Wilkes Explor. Exped. (1854) 690; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 84.

*Cotyledon paniculata* Blanco Fl. Filip. (1837) 381, non Linn. f.

*Bryophyllum germinans* Blanco op. cit. ed. 2 (1845) 220, ed. 3, 2 (1878) 47, t. 147.

Northern Luzon to Mindanao, in open settled areas, dry second-growth forests, etc., sometimes planted; locally abundant. Of prehistoric introduction from tropical Asia or Malaya, now pantropic.

Local names: Abisrána (Ik.); angélica (Sp.); aritana (Bik.); ba-langbáng (If.); inǵinǵa (Ig.); kapal-kapal (Sul.); karitana (Bis.); katakataká (Tag.); kokoeng (Bon.); lapak-lapak (Sul.); putpútok (Bon.); siempreviva (Sp.).

3. **KALANCHOE** Adanson

**KALANCHOE LACINIATA** (Linn.) DC. Pl. Grass. (1799-1829) t. 100, Prodr. 3 (1828) 395; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 728; F.-Vill. Novis. App. (1880) 78; Hook. f. & Th. in Journ. Linn. Soc. Bot. 2 (1858) 91; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 146; Merr. Fl. Manila (1912) 218, Sp. Blancoanae (1918) 161.

*Cotyledon laciniata* Linn. Sp. Pl. (1753) 430.

*Cotyledon serrata* Blanco Fl. Filip. (1837) 382, non Linn.

*Bryophyllum serratum* Blanco op. cit. ed. 2 (1845) 220, ed. 3, 2 (1878) 48.

*Cotyledon lanceolata* Blanco Fl. Filip. (1837) 382, non Forsk.

*Bryophyllum triangulare* Blanco op. cit. ed. 2 (1845) 221, ed. 3, 2 (1878) 48.

Occasionally cultivated in gardens or about dwellings, an introduced plant in the Philippines, *Merrill Sp. Blancoanae* 983, 900. India to tropical Africa, China and Java, often planted only.

Local name: Siempreviva (Sp.).

**KALANCHOE SPATHULATA** (Poir.) DC. Pl. Grass. (1799-1829) *t.* 65, Prodr. 3 (1828) 395; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1856-57) 728; F.-Vill. Novis. App. (1880) 78; Vidal Rev. Pl. Vasc. Filip. (1886) 125; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 59, 5 (1910) Bot. 351. *Cotyledon spathulata* Poir. in Lam. Encycl. Suppl. 2 (1811) 373.

Luzon (Ilocos Norte, Lepanto, Benguet, Bataan). On cliffs, boulders, etc., low altitudes to 1,500 m. India to China and Java.

Local name; Spelda (Ig.).

## SAXIFRAGACEAE

### 1. ASTILBE Hamilton

**ASTILBE APOENSIS** Hallier f. in Meded. Rijks Herb. 37 (1918) 7.

Mindanao (Davao), *Elmer 11508*. On mossy boulders along streams, altitude about 1,600 m. Endemic.

Local name: Parapingdang (Bag.).

Hallier's type was an unnumbered specimen from Elmer's Mt. Apo collection; Elmer's original notes show that his Mt. Apo collection of *Astilbe* is his number 11508. I have seen no specimens.

**ASTILBE PHILIPPINENSIS** Henry in Gard. Chron. (1902) 2: 155; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 351.

*Astilbe rivularis* Vidal Rev. Pl. Vasc. Filip. (1886) 124, non Ham.

*Astilbe speciosa* F.-Vill. Novis. App. (1883) 351, non Jungh.

Luzon (Bontoc, Benguet). Characteristic of the upper pine region, extending into the mossy forest, altitude 1,200 to 2,300 m. Endemic.

Local names: Hagmán (Ig.); káuan (Ig.); ñgáboi (Ig.); túgtugi (Bon.).

### 2. DEUTZIA Thunberg

**DEUTZIA ACUMINATA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 266.

Luzon (Nueva Ecija), *B. S. 26441 Ramos & Edaña*. On forested slopes at medium altitudes. Endemic.

**DEUTZIA PULCHRA** Vidal Rev. Pl. Vasc. Filip. (1886) 124; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 351.

Luzon (Ifugao, Bontoc, Benguet). In ravines, thickets, and on exposed ridges in the mossy forest, altitude 1,200 to 2,400 m; common. Formosa.

Local names: Alátin (Bon.); aludís (Bon.); amogíng (Ig.); anatil (Ig.); ketkét (Ig.).

### 3. HYDRANGEA Gronovius

**HYDRANGEA GLANDULOSA** Elm. Leaf. Philip. Bot. 2 (1908) 473.

*Hydrangea cuneatifolia* Elm. op. cit. 8 (1915) 2825.

Luzon (Ifugao, Benguet, Bontoc, Laguna, Rizal), Leyte, Negros, Mindanao (Davao), *Elmer 9846, 10732, Sandkuhl 317, Vanoverbergh 1120, B. S. 15281 Ramos, 37768, 40754 Ramos & Edaña, 19659 McGregor, 31847 Santos*. Usually in the mossy forest, altitude 900 to 2,200 m; rare and local. Endemic.

Local names: Bañgáuan (Ig.); kupkut (Bon.); takir (Bag.).

**HYDRANGEA LOBBII** Maxim. in Mém. Acad. Sci. St. Pétersb. VII 10 (1867) 15; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Rev. Pl. Vasc. Filip. (1886) 124; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 59, 2 (1907) Bot. 275, 5 (1910) Bot. 351.

Northern Luzon to Mindanao, in the mossy forest on most of the higher mountains, altitude 1,000 to 2,400 m. *Lobb 446*, on which the species was based, was from Luzon, not from Java. Endemic.

Local names: Batibati (Bag.); luk (Bon.); sugúsug (Bon.); umum (Ig.).

**HYDRANGEA PUBIRAMEA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 267.

Luzon (Benguet, Tayabas, east coast), *B. S. 26521, 40337, 40374 Ramos & Edaña*. In wet forests, altitude 300 m or above. Endemic.

Var. **PARVIFOLIA** Merr. op. cit. 268.

Luzon (Nueva Ecija), *B. S. 26511 Ramos & Edaña*. In damp forests at or above 300 m altitude. Endemic.

**HYDRANGEA SUBINTEGRA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 408.

Batan Islands (Batan), *B. S. 3776 Fénix*. In thickets or open forests. Endemic.

Local name: Gagá dang (Iv.).

#### EXCLUDED SPECIES

**HYDRANGEA OBLONGIFOLIA** Blume; F.-Vill. Novis App. (1883) 351.

Some horticultural forms of *Hydrangea hortensia* Sieb. are cultivated in Baguio and are occasionally brought to Manila.

#### 4. DICHROA Loureiro

**DICHROA PHILIPPINENSIS** Schltr. in Engl. Bot. Jahrb. 52 (1914) 122.

*Dichroa febrifuga* F.-Vill. Novis. App. (1880) 77, Vidal Phan. Cuming. Philip. (1885) 111, non Lour.

Luzon (Apayao, Ifugao, Benguet, Laguna, Tayabas, Camarines), Mindoro, Catanduanes, Camiguin de Misamis, Mindanao. In the mossy forest on the higher mountains. Endemic.

Local names: Kalantud (Tag.); pamagtiñgan (Bag.).

**DICHROA PLATYPHYLLA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 13.

Luzon (Albay, Sorsogon), Catanduanes, Mindoro, Leyte, *B. S. 23416, 30454, 41010 Ramos, 6453 Robinson, Wenzel 1018*. In damp forests at medium altitudes. Endemic.

#### 5. ITEA Gronovius

**ITEA MACROPHYLLA** Wall. in Roxb. Fl. Ind. 2 (1824) 419; DC. Prodr. 4 (1830) 6; Hook. f. & Th. in Journ. Linn. Soc. Bot. 2 (1858) 77; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Rev. Pl. Vasc. Filip. (1886) 124; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 148; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 59, 5 (1910) Bot. 351; Hallier f. in Meded. Rijks Herb. 37 (1918) 4.

*Itea luzonensis* Elm. Leaf. Philip. Bot. 2 (1908) 528.

Northern Luzon (Abra) to Mindanao. In forests at medium altitudes, ascending to 1,350 m. Himalayan region to Japan southward to Java Sumatra, Sumbawa, and Borneo.

Local names: Danipog (Ig.); kodai (Ig.); kogos (Ting.).

**ITEA MAESAEOFOLIA** Elm. Leaf. Philip. Bot. 2 (1908) 528.

Luzon (Laguna), Leyte, *Elmer* 7566, *Baker* 258, 259, *F. B.* 15375 *Tamesis*, 16908 *Rosenbluth*. In forests at 1,000 to 1,300 m altitude. Endemic.

#### 6. QUINTINIA de Candolle

**QUINTINIA APOENSIS** (Elm.) Schltr. in Engl. Bot. Jahrb. 52 (1914) 125.

*Dedeia apoensis* Elm. Leaf. Philip. Bot. 2 (Aug. 8, 1910) 682.

*Curraniodendron dedeaoides* Merr. in Philip. Journ. Sci. 5 (Aug. 19, 1910) Bot. 177.

*Curraniodendron apoense* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 5.

*Dedeia cinerea* Elm. Leaf. Philip. Bot. 8 (1915) 2824.

Negros, Leyte, Mindanao (Agusan, Bukidnon, Davao), *Elmer* 10627, 11524, 13696, 13749, *Wenzel* 1056, *B. S.* 15283 *Ramos*, 38916 *Ramos & Edaña*, *F. B.* 13634 *Curran & Foxworthy*. In the mossy forest on the higher mountains, altitude 1,300 to 2,200 m. Endemic.

The genus otherwise is known only from New Guinea, New Caledonia, Australia, and New Zealand; in all about fifteen species are now recognized.

Local names: Bitaoogan (Mbo.); kalipayan (Mbo.); mamagras (Bag.).

#### 7. POLYOSMA Blume

**POLYOSMA APOENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1633.

Mindanao (Davao, Surigao), *Elmer* 10797, *F. B.* 26479 *Mallonga*, 26236 *Ponce & Mallonga*. In forests, 100 to 1,200 m altitude. Endemic.

Local names: Magsañgad (Tagb.); taypo (P. Bis.).

**POLYOSMA CYANEA** Elm. Leaf. Philip. Bot. 5 (1913) 1637.

Mindanao (Agusan, Bukidnon), *Elmer* 13670, *B. S.* 38883 *Ramos & Edaña*. On forested peaks and ridges, altitude about 1,300 m. Endemic.

Local name: Ambat (Mbo.).

**POLYOSMA GITINGENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1634.

Sibuyan, Leyte, Panay, Biliran, *Elmer* 12437, 12206, *Wenzel* 924, *B. S.* 18731 *McGregor*, 30640 *Ramos & Edaña*. In forests, altitude 500 to 900 m. Endemic.

Local name: Baybatuan (P. Bis.).

**POLYOSMA LAGUNENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 5.

Luzon (Laguna), Catanduanes, *B. S.* 20393, 14960, 10056, 30558, 30563 *Ramos*, 23021 *McGregor*, *F. B.* 13185 *Curran*, 26824 *Catalan*. In forests at low and medium altitudes. Endemic.

**POLYOSMA LINEARIBRACTEA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 6.

Luzon (Ifugao, Bontoc), *B. S.* 19656 *McGregor*, 37645, 37767 *Ramos & Edaña*. In forests, probably at or above an altitude of 1,400 m. Endemic.

**POLYOSMA LONGIPETIOLATA** Merr. in Philip. Journ. Sci. 14 (1919) 400.

Luzon (Ilocos Norte), *B. S. 33259 Ramos*. In forests, altitude about 1,000 m. Endemic.

**POLYOSMA PHILIPPINENSIS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 16, Philip. Journ. Sci. 1 (1906) Suppl. 59, 5 (1910) Bot. 352; Elm. Leaf. Philip. Bot. 5 (1913) 1633.

Luzon (Benguet, Zambales, Tayabas, Bataan, Laguna, Camarines, Sorogon), Mindoro, *F. B. 828, 2099, 2079, 1811 Borden, B. S. 15061, 23535 Ramos, Merrill 3877, Elmer 9137*. In forests at medium altitudes, ascending to 2,000 m. Endemic.

Local names: Agusíp (Tag.); magbut (Ig.); matáng-árau (Sbl.).

**POLYOSMA PIPERI** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 271; Elm. Leaf. Philip. Bot. 5 (1913) 1633.

Leyte, Samar, Mindanao (Surigao, Bukidnon), *Piper 519, Wenzel 767, 671, B. S. 15325 Ramos*. In forests at low and medium altitudes. Endemic.

**POLYOSMA PULGARENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1636.

Palawan, *Elmer 13187*. In thickets, exposed ridges and peaks on Mt. Pulgar, altitude about 1,250 m. Endemic.

**POLYOSMA RETUSA** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 321; Elm. Leaf. Philip. Bot. 5 (1913) 1633.

Luzon (Tayabas, east coast), *B. S. 9362 Robinson, 28477 Ramos & Edaño*. In the mossy forest on Mt. Binuang, altitude about 840 m. Endemic.

**POLYOSMA URDANETENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1637.

Mindanao (Agusan), *Elmer 13793*. In the mossy forest on Mt. Urdaneta, altitude about 1,900 m. Endemic.

Local name: Yanñgítosan (Mbo.).

**POLYOSMA VERTICILLATA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 272; Elm. Leaf. Philip. Bot. 5 (1913) 1633.

Luzon (Benguet, Bontoc, Lepanto), *Merrill Phil. Pl. 772, Williams 1526, Elmer 8798, Vanoverbergh 1141, B. S. 31706 Santos, 37789, 37817 Ramos & Edaño, F. B. 25134 Leaño*. In forests, altitude 1,650 to 2,400 m. Endemic.

Local name: Buduan (Ig.).

**POLYOSMA VILLOSA** Merr. in Philip. Journ. Sci. 14 (1919) 399.

Luzon (Ilocos Norte), *B. S. 33340 Ramos*. In forests, altitude about 900 m. Endemic.

## PITTOSPORACEAE

### 1. PITTOSPORUM Banks

**PITTOSPORUM ACUMINATISSIMUM** Merr. in Philip. Journ. Sci. 14 (1919) 402.

Panay, *B. S. 30745 Ramos & Edaño*. In forests at medium altitudes. Endemic.

**PITTOSPORUM EPIPHYTICUM** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 138.

Luzon (Camarines), Leyte, Mindanao (Lanao), *Merrill Phil. Pl. 1501, Wenzel 807, 927, Clemens 1040, B. S. 15225 Ramos*. Epiphytic or pseudo-epiphytic in damp forests, altitude 500 to 800 m. Endemic.

Local name: Bualau (Bik.).

**PITTOSPORUM EUPHLEBIUM** Merr. in Philip. Journ. Sci. 17 (1920) 258.

Mindoro, Panay, Mindanao (Bukidnon), *B. S. 35416 Martelino & Edaña, 38735 Ramos & Edaña, 40958 Ramos*. On forested slopes at low and medium altitudes. Endemic.

**PITTOSPORUM GLABERRIMUM** Merr. in Philip. Journ. Sci. 14 (1919) 402.

Luzon (Ilocos Norte), *B. S. 33309 Ramos*. On forested slopes, altitude about 1,000 m. Endemic.

**PITTOSPORUM LITTORALE** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 179.

Mindoro, Burias, Siquijor, Negros, *F. B. 9845 Merritt, 16999 Everett, 25896 Tamesis & Azurin, B. S. 21273 Escritor, Merrill 11533*. In thickets along the seashore. Endemic.

Local name: Tikala (C. Bis.).

**PITTOSPORUM MEGACARPUM** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 179.

*Pittosporum subverticillatum* Elm. Leaf. Philip. Bot. 8 (1915) 2795.

Babuyan Islands, Mindoro, Masbate, Sibuyan, Mindanao, *F. B. 12557 Rosenbluth, 5292 Merritt, B. S. 37461 Ramos & Edaña, Elmer 10826, 11882, 12054*. In forests at low and medium altitudes; allied to *P. odoratum* Merr. Endemic.

Local names: Amomu (P. Bis.); amomunpon (P. Bis.); tapotása (Bag.).

**PITTOSPORUM OBSCURINERVE** Merr. in Philip. Journ. Sci. 17 (1920) 257.

Mindanao (Surigao), *B. S. 34441 Ramos & Pascasio*. In forests, altitude about 600 m. Endemic.

**PITTOSPORUM ODORATUM** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 16; Philip. Journ. Sci. 1 (1906) Suppl. 60, 2 (1907) Bot. 275, 3 (1908) Bot. 406.

*Pittosporum glabratum* F.-Vill. Novis. App. (1880) 13; Vidal Sinopsis Atlas (1883) 13, t. 8, f. B, non Lindl.

Northern Luzon to Mindanao. In forests at medium altitudes, ascending to 1,600 m. Endemic.

Local names: Botúnis (Ik.); bulálang (Tag.); dail (Bon.); kamidíng (Ig.); labagáñgon (Buk.), labáñgon (Buk.); libagañgon (Buk.); tum-pagásog (Bag.).

**PITTOSPORUM PENTANDRUM** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 19, 35 (1906) 16, Philip. Journ. Sci. 1 (1906) Suppl. 57, 5 (1910) Bot. 352, Fl. Manila (1912) 219, Sp. Blancoanae (1918) 162.

*Aquilaria pentandra* Blanco Fl. Filip. (1837) 373; Meisn. in DC. Prodr. 14 (1857) 602.

*Limonia laureola* Blanco Fl. Filip. ed. 2 (1845) 251, ed. 3, 2 (1878) 101, t. 128.

*Bursaria inermis* Azaola in Blanco Fl. Filip. ed. 2 (1845) 124, ed. 3, 1 (1877) 222.

*Pittosporum brachysepalum* Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 366; Rolfe in Journ. Bot. 23 (1885) 210, Rev. Pl. Vasc. Filip. (1886) 50.

*Pittosporum fernandezii* Vidal ex F.-Vill. Novis. App. (1880) 13, Cat. Pl. Prov. Manila (1880) 17, Sinopsis Atlas (1883) 13, t. 8, f. A, Rev. Pl. Vasc. Filip. (1886) 50.

*Pittosporum ferrugineum* F.-Vill. Novis. App. (1880) 13; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 18, non Ait.

Northern Luzon to Palawan and Mindanao, very common in second-growth forests, parang, etc., at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Antoan (C. Bis.); balinkauáyan (P. Bis.); basuít (Ilk.); bolonkóyan (P. Bis.); darayau (Tagb.); dili (Gad.); lasuít (Ig.); mamáli (Tag.); mamális (Pang., Tag.); marabiñga (Tagb.); oplái (Ilk.); pañg-antóan (C. Bis.); pañgatoan (C. Bis.); pasgik (Ig.); pasik (Bon.); saboágon (P. Bis.); taliú (Sbl.); uplái (Ilk.).

**PITTOSPORUM PSEUDOSTIPITATUM** Merr. in Philip. Journ. Sci. 14 (1919) 401.

Luzon (Ilocos Norte), *B. S. 33127 Ramos*. On dry slopes, altitude about 700 m. Endemic.

**PITTOSPORUM PULGARENSE** Elm. Leaf. Philip. Bot. 5 (1913) 1825.

Palawan, *Elmer 13188, F. B. 3877 Curran*. On the exposed peak of Mt. Pulgar, altitude about 1,250 m; allied to *Pittosporum pentandrum* Merr. rather than to *P. odoratum* Merr., the mature fruits less than 1 cm long. Endemic.

**PITTOSPORUM RAMIFLORUM** Zoll. ex Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 122; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 180.

*Glyaspernum ramiflorum* Zoll. & Mor. in Nat. Geneesk. Arch. Ind. 2 (1845) 11.

*Pittosporum clementis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 137.

Negros, Cebu, Mindanao (Lanao, Bukidnon, Davao), *Merrill Phil. Pl. 228, F. B. 25200 Alvarez, B. S. 38544 Ramos & Edaño, Clemens 768, 892, Elmer 11685, 11316, 11403, 11959*. In forests, altitude 700 to 1,900 m. Java to Celebes and the Moluccas.

Local names: Duong (Bag.); kolinus-hamolaon (C. Bis.); malagus (Bag.); riin (Lan.).

**PITTOSPORUM RAMOSII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 180.

Luzon (Abra, Bontoc, Lepanto), *B. S. 7211 Ramos, 38019, 38016 Ramos & Edaño, F. B. 5683 Klemme, 14502 Darling*. In forests, altitude about 1,500 m. Endemic.

Local names: Albon (Ig.) tungtuñga (Bon.).

**PITTOSPORUM RESINIFERUM** Hemsl. in Kew Bull. (1894) 344; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 17, Philip. Journ. Sci. 1 (1906) Suppl. 60, 2 (1907) Bot. 275, 5 (1910) Bot. 352.

Luzon (Bontoc to Sorsogon), Mindoro, Catanduanes. Common, growing as an epiphytic or pseudoepiphytic plant on trees in the mossy forest, altitude 900 to 2,400 m. Endemic; the Celebes specimens referred here by Koorders do not represent Hemsley's species.

Var. **ORBICULATUM** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 18.

Luzon (Pampanga), *Merrill 3919*. At the summit of Mt. Arayat, altitude about 800 m. Endemic.

Local names: Abkél (Ig.); abkól (Ig.); apísang (Ig.); botiak (Ig.); daél (Ig.); diñgo (Ig.); kabilan (Ig.); kalapakab (Bon.); kiligto (Ig.); lañgis (Ig.); obkol (Ig.); pilai (Bon.); sagága (Ting.).

#### EXCLUDED SPECIES

**PITTOSPORUM FLORIBUNDUM** W. & A.; F.-Vill. Novis. App. (1880) 13.

### 2. CITRIOBATUS Cunningham

**CITRIOBATUS JAVANICUS** Boerl. & Koord. in Ic. Bogor. 1 (1901) t. 77; Merr. in Philip. Journ. Sci. 14 (1919) 401.

Luzon (Batangas), *B. S. 22343 Ramos, F. B. 28269 Sulit*. In thickets at low altitudes. Java.

With the exception of this all the species of this small genus are Australian.

## CUNONIACEAE

### 1. SPIRAEOPSIS Miquel

**SPIRAEOPSIS CELEBICA** (Blume) Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856-57) 719; Ceron Cat. Pl. Herb. Manila (1892) 57; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 101.

*Cunonia celebica* Blume Bijdr. (1826) 868.

*Spiraeopsis philippinensis* Elm. Leaf. Philip. Bot. 8 (1915) 2826.

Luzon (Camarines), Leyte, Negros, Camiguin de Misamis, Mindanao (Agusan, Davao), *Vidal 2719, Elmer 10075, 11402, 14157, Wenzel 1087, B. S. 14684 Ramos*. In forests on the higher mountains, altitude 500 to 1,500 m. Celebes.

Local names: Bognág (Mbo.); kaliapi (Bag.).

### 2. WEINMANNIA Linnaeus

**WEINMANNIA CAMIGUINENSIS** Elm. Leaf. Philip. Bot. 7 (1915) 2607.

Luzon (Sorsogon), Catanduanes, Leyte, Camiguin de Misamis, Mindanao (Lanao), *Elmer 14228, 14918, 17293, B. S. 23494, 23695, 30537 Ramos, Wenzel 997, 1088*. In forests, altitude 700 to 1,200 m; allied to *Weinmannia blumei* Planch. Endemic.

**WEINMANNIA HUTCHINSONII** Merr. in Philip. Journ. Sci. 2 (1907) Bot. 275.

Luzon (Zambales, Pampanga, Sorsogon), Mindoro, Mindanao (Lanao, Jolo), *Merrill 5753, Loher 5998, B. S. 23673 Ramos, F. B. 3782 Merritt, Clemens 519, 9381, 9358*. In forests, altitude 650 to 1,200 m; very closely allied to the Malayan *Weinmannia blumei* Planch. Endemic.



**WEINMANNIA LUCIDA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 7.

Luzon (Rizal, Laguna), *Loher 5991*, *B. S. 23806 Ramos, Merrill Phil. Pl. 1109*. In damp forests at medium altitudes. Endemic.

**WEINMANNIA LUZONIENSIS** Vidal Rev. Pl. Vasc. Filip. (1886) 125; Ceron Cat. Pl. Herb. Manila (1892) 75; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 60.

*Weinmannia sundana* F.-Vill. Novis. App. (1883) 351, non Miq.

*Weinmannia luzoniensis* Vid. var. *puberula* Elm. Leaf. Philip. Bot. 8 (1919) 3078.

Luzon (Ilocos Norte, Bontoc, Benguet, Laguna, Rizal, Bataan, Tayabas), *Vidal 314*, *B. S. 9399 Robinson, 20533 Ramos, 18999 Brown, F. B. 5070 Curran, 21846 Leaño, 3133 Meyer, Merrill Phil. Pl. 830, 1739, Elmer 18066, 18024*. In forests, altitude 600 to 1,700 m. Endemic.

Local names: Bani (Tag.); itañgan (Ig.); saiu (Ig.).

**WEINMANNIA NEGROSENSIS** Elm. Leaf. Philip. Bot. 2 (1909) 577.

Luzon (Bataan, Sorsogon), Leyte, Negros, *Elmer 9656, Wenzel 1057, Whitford 420, F. B. 789, 1227 Borden, 2756 Meyer, B. S. 23666, 23500 Ramos*. In forests, altitude 500 to 1,200 m; very closely allied to *Weinmannia luzoniensis* Vid. Endemic.

Local name: Tañgalamos-itum (C. Bis.).

**WEINMANNIA SIMPLICIFOLIA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 268.

Luzon (Bontoc, Tayabas), *Vanoverbergh 1253, B. S. 26531 Ramos & Edaño*. In forests, altitude 300 to 1,600 m. Endemic.

**WEINMANNIA URDANETENSIS** Elm. Leaf. Philip. Bot. 7 (1915) 2608.

Luzon (Ilocos Norte), Mindanao (Agusan), *Elmer 13701, B. S. 33268 Ramos*. In forests, altitude 1,000 to 1,700 m. Endemic.

Local names: Kalilan (Mbo.); kalion (Mbo.).

#### EXCLUDED GENERA

**BREXIA MADAGASCARIENSIS** Thouars; F.-Vill. Novis. App. (1883) 351.

**PHILADELPHUS INODORUS** Linn; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 101.

#### HAMAMELIDACEAE

##### 1. EMBOLANTHERA Merrill

**EMBOLANTHERA SPICATA** Merr. in Philip. Journ. Sci. 4 (1910) Bot. 263.

Palawan (Mt. Victoria), *B. S. 739 Foxworthy*. In forests along streams, altitude 250 m. An endemic monotypic genus.

##### 2. SYCOPSIS Oliver

**SYCOPSIS PHILIPPINENSIS** Hemsl. in Hook. Ic. IV 9 (1907) sub *t. 2836*, Fedde Repert. 5 (1908) 342.

*Croton curtiflorus* Elm. Leaf. Philip. Bot. 1 (1908) 310.

Luzon (Bontoc, Benguet, Nueva Ecija, Bataan, Rizal, Batangas, Laguna), Mindoro, *Elmer 8651, Loher 4881, Vanoverbergh 2213, Santos 13, F. B. 25506 Garcia, 6246 Curran, B. S. 26419, 29326 Ramos & Edaño*,

39604 *Ramos, Phil. Pl. 1999 Merrill.* On forested ridges, altitude 1,000 to 1,700 m. Endemic.

Local name: Parukápok (Neg.).

## ROSACEAE

### 1. ERIOBOTRYA Lindley

**ERIOBOTRYA AMBIGUA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 19, Philip. Journ. Sci. 1 (1906) Suppl. 60.

Luzon (Ilocos Norte, Benguet, Rizal, Bataan), *F. B. 2796 Meyer, 22916 Leaña, 10927 Curran, B. S. 31954 Santos, 5586, 33152 Ramos, 29653 Ramos & Edaña, Whitford 1155, 1168, 1309, Merrill Phil. Pl. 724.* In forests, altitude 800 to 2,000 m. Endemic.

Local names: Anagép (Ilk.); buláñgan (Ig.); panglungbóyen (Ilk.).

**ERIOBOTRYA OBLONGIFOLIA** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 102.

Mindanao (Misamis), *F. B. 4680 Mearns & Hutchinson.* In forests, altitude about 1,800 m. Endemic.

**ERIOBOTRYA PHILIPPINENSIS** Vidal Rev. Pl. Vasc. Filip. (1886) 123; Ceron Cat. Pl. Herb. Manila (1892) 74.

Luzon (Zambales, Nueva Ecija, Tayabas, east coast), *Vidal 1350, 1353, B. S. 5008 Ramos, 26443 Ramos & Edaña, F. B. 6234 Curran & Merritt, 19739 Wood.* In forests at medium altitudes. Endemic.

Local name: Marabaráni (Neg.).

### EXCLUDED SPECIES

**ERIOBOTRYA JAPONICA** (Thunb.) Lindl.

The loquat is occasionally planted, but is not established and does not thrive at low altitudes. It promises to be successful at medium and higher altitudes.

### 2. PHOTINIA Lindley

**PHOTINIA LUZONENSIS** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 18, Philip. Journ. Sci. 1 (1906) Suppl. 60, 2 (1907) Bot. 276.

Luzon (Ilocos Norte, Benguet, Zambales, Rizal, Bataan), Mindoro, *Merrill 3223, 3714, 6205, Phil. Pl. 790, F. B. 22985 Adduru, 2120 Borden, Williams 418, Elmer 6996, Whitford 1189, B. S. 33379, 40761 Ramos, 40319 Ramos & Edaña.* On exposed ridges on the higher mountains, altitude 1,200 to 2,400 m. Endemic.

Local name: Bitgui (Ig.).

**PHOTINIA SERRULATA** Lindl. in Trans. Linn. Soc. 13 (1821) 103, excl. syn. *Crataegus glabra* Thunb.; Hemsl. in Trans. Linn. Soc. Bot. 33 (1887) 263; Rehder & Wilson in Sargent Pl. Wils. 1 (1912) 184; Merr. in Philip. Journ. Sci. 14 (1919) 403.

Luzon (Lepanto, Benguet), Mindanao (Bukidnon), *B. S. 4425 Mearns, 31650 Santos, 38908, 40259 Ramos & Edaña, Sandkuhl 258.* In the mossy forest, altitude about 2,400 m. China, Formosa.

Local name: Itañgan (Ig.).

*Photinia glabra* (Thunb.) Maxim. (*Crataegus glabra* Thunb.) of Japan is an introduced and cultivated species in Baguio (*Sandkuhl 217*).

## 3. RUBUS Tournefort

**RUBUS BENGUETENSIS** Elm. Leaf. Philip. Bot. 2 (1908) 449; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 66.

Luzon (Benguet), *Loher 2237, Elmer 8383*. In thickets on limestone formations, altitude about 1,300 m. Endemic.

Local name: Kobat (Ig.).

**RUBUS COPELANDII** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 194, 5 (1910) Bot. 352; Elm. Leaf. Philip. Bot. 2 (1908) 457; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 33.

Luzon (Bontoc, Lepanto, Benguet), *Merrill 4810, 6560, Phil. Pl. 860, Clemens 9120, B. S. 4309 Mearns, 37615, 40467 Ramos & Edaña, F. B. 16328 Curran, Merritt, & Zschokke*. In the mossy forest, altitude 1,700 to 2,300 m. Endemic.

Local name: Pinit (Bon.).

**RUBUS CUMINGII** O. Kuntze Meth. Rub. (1879) 76; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 58, *f. 21*.

? *Rubus sundaicus* Presl Epim. (1851) 197; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Rev. Pl. Vasc. Filip. (1886) 122, non Blume.

Philippines, without definite locality (*Cuming*). Endemic.

**RUBUS EDANOII** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 14.

Luzon (Nueva Ecija), *B. S. 26505 Ramos & Edaña*. In the mossy forest. Endemic.

**RUBUS ELLIPTICUS** Sm. in Rees Cyclop. 30 (1819) No. 16; Elm. Leaf. Philip. Bot. 2 (1908) 456; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 352; Focke in Bibl. Bot. 17<sup>72</sup> (1911) 198 (var. *insulanus* Focke).

Luzon (Benguet), *Elmer 5795, 8633, Merrill 6562, Phil. Pl. 850, B. S. 5832 Ramos, 38106, 37714 Ramos & Edaña, F. B. 958 Barnes*. In thickets and on open slopes, altitude 1,300 to 1,600 m. India to Burma and Yunnan; introduced and naturalized in Jamaica.

Local names: Búnut (Bon.); kokobód (Ig.).

**RUBUS ELMERI** Focke in Bibl. Bot. 17<sup>72</sup> (1909) 112; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 352.

*Rubus rugosus* Elm. Leaf. Philip. Bot. 2 (1908) 455, non Sm.

Luzon (Bontoc, Benguet), *Elmer 5792, Merrill 4651, 6542, Phil. Pl. 857, B. S. 31984 Santos, 8337 McGregor, 5430 Ramos, For. Bur. 949 Barnes, 14161 Merritt*. Open slopes, altitude 1,300 to 2,200 m. Endemic.

Local names: Búnut (Bon.); subit (Ig.).

**RUBUS FRAXINIFOLIUS** Poir. in Lam. Encycl. 6 (1804) 242; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 376; F.-Vill. Novis. App. (1880) 77; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 122; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 146; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 60, 5 (1910) Bot. 353, Interpret. Herb. Amb. (1917) 246; Perk. Frag. Fl. Philip. (1904) 118; Elm. Leaf. Philip. Bot. 2 (1908) 460; Focke in Bibl. Bot. 17<sup>72</sup> (1911) 150, *f. 63* (subsp. *celebicus* Focke).

*Rubus celebicus* Blume Bijdr. (1826) 107; Presl Epim. (1851) 196.

*Rubus rosaefolius* Vidal Sinopsis Atlas (1883) 25, *t. 46, f. D*, non Sm.

Northern Luzon to Mindanao. In damp forests at low and medium altitudes, ascending to 1,800 m. Sumatra to New Guinea, Formosa; introduced in Brazil.

Local names: Balaungán (Ig.); barini (Ap.); buhuit (If.); kalagiauát (Buk.); lagukanata (Lan.); luting (Ig.); pagar (If.); palanau (Ig.); pinít Ilk.) pupugan (Ig.); sampínit (C. Bis.); sapínit (Tag.); tugas-tugas (P. Bis.); talagiáuat (Buk.).

**RUBUS HETEROSEPALUS** Merr. in Philip. Journ. Sci. 20 (1922) 387.

Luzon (Bontoc), *B. S. 37609 Ramos & Edaño*. In the mossy forest, altitude 1,800 m. Endemic.

Local name: Tukong.

**RUBUS LUCENS** Focke in Abh. Nat. Ver. Bremen 4 (1874) 199, subsp.

**CLEMENTIS** (Merr.) Focke in Bibl. Bot. 17<sup>72</sup> (1911) 213.

*Rubus clementis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 139; Elm. Leaf. Philip. Bot. 2 (1908) 458.

Mindanao (Bukidnon, Lanao), *Clemens 740, B. S. 38964 Ramos & Edaño*. In thickets, altitude about 700 m. India to Celebes, the subspecies endemic.

Local name: Dugis (Buk.).

**RUBUS LUZONIENSIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 195;

Elm. Leaf. Philip. Bot. 2 (1908) 452; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 59.

Luzon (Lepanto), *Merrill 4596, B. S. 40186 Ramos & Edaño*. In the mossy forest, altitude about 2,150 m. Endemic.

**RUBUS MEARNSII** Elm. Leaf. Philip. Bot. 2 (1908) 448; Merr. in Philip.

Journ. Sci. 5 (1910) Bot. 353; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 74.

Luzon (Benguet), *B. S. 4304 Mearns, 31714 Santos, 8885 McGregor, 40494 Ramos & Edaño, F. B. 16173 Curran, Merritt, & Zschokke*. In the mossy forest, altitude about 2,400 m. Endemic.

Local name: Buatnak (Ig.).

**RUBUS MERRILLII** Focke in Bibl. Bot. 17<sup>72</sup> (1911) 153.

*Rubus fraxinifolius* Poir. var. *haightii* Elm. Leaf. Philip. Bot. 2 (1908) 461; Focke op. cit. 151.

Luzon (Benguet), *Merrill 6637, Phil. Pl. 862, B. S. 4459 Mearns, 31773 Santos*. In the mossy forests, altitude about 2,500 m at Pauai. Endemic.

Local name: Búyot (Ig.).

**RUBUS MOLUCCANUS** Linn. Sp. Pl. (1753) 1197; Blanco Fl. Filip.

(1837) 428, ed. 2 (1845) 298, ed. 3, 2 (1878) 190, t. 393; Presl Epim. (1851) 197; Miq. Fl. Ind. Bat. 1<sup>3</sup> (1855) 382; F.-Vill. Novis. App. (1880) 77; Perk. Frag. Fl. Philip. (1904) 118; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 43, Philip. Journ. Sci. 1 (1906) Suppl. 60, 2 (1907) Bot. 276; Interpret. Herb. Amb. (1917) 245, Sp. Blancoanae (1918) 162; Elm. Leaf. Philip. Bot. 2 (1908) 453; Focke in Bibl. Bot. 17<sup>72</sup> (1910) f. 34.

*Rubus glomeratus* Presl Epim. (1851) 197, F.-Vill. Novis. App. (1880) 77; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 122, non Blume.

*Rubus glomeratus* Blume var. *pilcanus* Focke in *Bibl. Bot.* 17<sup>72</sup> (1910) 91.

*Rubus hasskarlii* Miq. *Fl. Ind. Bat.* 1<sup>1</sup> (1855) 381; Focke in *Bibl. Bot.* 17<sup>72</sup> (1910) 98, f. 41.

*Rubus hasskarlii* Miq. subsp. *dendrocharis* Focke op. cit. 99, f. 42.

*Rubus angulosus* Focke op. cit. 90.

Northern Luzon to Mindanao and Palawan. Common in forests at medium and higher altitudes, in very wet regions also at low altitudes. India, through Malaya to Australia and Fiji.

Local names: Bunut (Bon.); bunbunútan (Bon.); dagámit (Bis.); kinubot (Ig.); kobot (Ig.); pakauit (Bon.); salampinit (Sub.); sampínit (Sul.); sapínit (Ig., Bag.); siit (Mbo.).

**RUBUS NIVEUS** Thunb. *Diss. Rub.* (1813) 9, f. 3; Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 353; Focke in *Bibl. Bot.* 17<sup>72</sup> (1911) 182.

*Rubus lasiocarpus* Sm. in *Rees Cyclop.* 30 (1819) No. 6; Elm. *Leafl. Philip. Bot.* 2 (1908) 459.

*Rubus niveus* Thunb. subsp. *horsfieldii* Focke op. cit. 183.

Luzon (Benguet, Bontoc), *Merrill 6533, Phil. Pl. 883, Williams 1057, Elmer 5989*. In thickets, altitude 1,300 to 1,600 m. India, through Malaya to Timor.

**RUBUS PECTINELLUS** Maxim. in *Bull. Acad. St. Pétersb.* 17 (1871) 147; Rolfe in *Journ. Bot.* 23 (1885) 212; Vidal Phan. *Cuming. Philip.* (1885) 41, *Rev. Pl. Vasc. Filip.* (1886) 122; Elm. *Leafl. Philip. Bot.* 2 (1908) 448; Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 353; Focke in *Bibl. Bot.* 17<sup>72</sup> (1910) 22, f. 6.

Luzon (Abra, Bontoc, Benguet, Tayabas, Laguna), Mindanao (Bukidnon, Davao). Common in the mossy forest on the highest mountains. Japan.

Local names: Apukid (Bon.); bagalbalan (Bag.); bana (Ig.); kalapachap (Ig.).

**RUBUS PERFULVUS** Merr. in *Philip. Journ. Sci.* 20 (1922) 386.

Mindanao (Bukidnon), *B. S. 38566 Ramos & Edaño*. In the mossy forest, altitude about 2,000 m. Endemic.

**RUBUS PHILIPPINENSIS** Focke in *Leafl. Philip. Bot.* 5 (1913) 1617.

Mindanao (Agusan), *Elmer 13606*. In forests. Endemic.

Local name: Sampínit (Mbo.).

**RUBUS PIRIFOLIUS** Sm. *Pl. Icon. Ined.* 3 (1791) t. 61; Focke in *Bibl. Bot.* 17<sup>72</sup> (1910) 64, f. 63; *Meded. Rijks Herb.* 14 (1912) 39; Hallier f. in *Beihefte Bot. Centralbl.* 34<sup>2</sup> (1916) 23.

*Dalibarda latifolia* Blume *Bijdr.* (1826) 1112, non *Rubus latifolia* Bab.

*Rubus rotundifolius* Reinw. in *Miq. Fl. Ind. Bat.* 1<sup>1</sup> (1855) 284, non Bloxam.

*Rubus brevipetalus* Elm. *Leafl. Philip. Bot.* 2 (1908) 450.

Negros, Leyte, Mindanao, *Elmer 10099, 10672, Wenzel 909, Merrill 8214*. In forests, altitude about 900 to 1,200 m. Sumatra, Java.

Local name: Sapínit (Bag.).

**RUBUS ROLFEI** Vidal Phan. Cuming. Philip. (1885) 171, Rev. Pl. Vasc. Filip. (1886) 122; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 276, 3 (1908) Bot. 82, 5 (1910) Bot. 353; Elm. Leaf. Philip. Bot. 2 (1907) 454; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 101, f. 43.

*Rubus alceaefolius* Vidal Sinopsis Atlas (1883) 25, t. 46, f. C. non Poir.

*Rubus rugosus* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 503, non Sm.

Luzon (Benguet, Tayabas), Mindoro, Negros. In the mossy forest on the highest mountains. Formosa.

Local name: Dutung (Ig.).

**RUBUS ROSAEFOLIUS** Sm. Pl. Ic. Ined. 3 (1793) t. 60; Roxb. Fl. Ind. ed. 2, 2 (1832) 518; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 501; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 375; Hook. f. Fl. Brit. Ind. 2 (1878) 341; F.-Vill. Novis. App. (1880) 77; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 146; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 60, 3 (1908) Bot. 82, Sp. Blancoanae (1918) 163; Elm. Leaf. Philip. Bot. 2 (1908) 462; Focke in Bibl. Bot. 17<sup>72</sup> (1911) 153, f. 65.

*Rubus commersonii* Poir. in Lam. Encycl. 6 (1804) 240.

*Rubus jamaicensis* Blanco Fl. Filip. (1837) 427, non Linn.

*Rubus comintanus* Blanco op. cit. ed. 2 (1845) 298, ed. 3, 2 (1878) 190, t. 416 (as *Rubus idaeus* Blanco and *R. acuminatissimus* Hassk.).

*Rubus apoensis* Elm. Leaf. Philip. Bot. 5 (1913) 1618.

Northern Luzon to Mindanao. In thickets and forests at low and medium altitudes, ascending in some regions to 1,900 m. Tropical and South Africa to Japan and Australia, introduced in tropical America.

Local names: Baknit (C. Bis.); daguinot (Bis.); init (Ilk.); lagiauat (Lan.); pinit (If., Bon.); ragini (Bik.); sagmit (Tag.); sampinit (Bag.); sapinit (Tag.); sapinit-tatana (Bag.); saponit (Bag.); suting (Ig.).

**RUBUS TAGALLUS** Cham. & Schlecht. in Linnaea 2 (1827) 9; Walp. Repert. 2 (1843) 19, Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 325; Maxim. in Bull. Acad. St. Pétersb. 8 (1871) 389; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 122; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 60; Elm. Leaf. Philip. Bot. 2 (1908) 461; Focke in Bibl. Bot. 17<sup>72</sup> (1911) 157, f. 66.

*Rubus rosaeifolius* Presl Epim. (1851) 196, non Sm.

Luzon (Bataan, Cavite, Batangas), Panay. In thickets and forests at medium altitudes; scarcely distinguishable from *Rubus rosaeifolius* Sm. Formosa.

**RUBUS VANOVERBERGHII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 448.

Luzon (Bontoc), *Vanoverbergh* 2683. In forests, altitude about 1,700 m. Endemic.

**RUBUS VIDALII** Focke in Bibl. Bot. 17<sup>72</sup> (1910) 98; f. 40.

*Rubus glomeratus* Vidal Phan. Cuming. Philip. (1885) 111, p. p. quoad *Cuming* 750, non Blume.

Luzon (Tayabas, Isabela), *B. S. 8051 Ramos*, det. Focke. The type is *Cuming 750* from Mt. Banahao, Luzon. It is very close to *Rubus moluccanus* Linn. Endemic.

**RUBUS ZAMBALENSIS** Elm. in Leaf. Philip. Bot. 2 (1908) Bot. 451; Focke in Bibl. Bot. 17<sup>72</sup> (1910) 62.

Luzon (Zambales), *F. B. 8085 Curran & Merritt*. In the mossy forest on Mt. Tapulao, altitude about 2,000 m. Endemic.

#### EXCLUDED SPECIES

**RUBUS ALPESTRIS** Blume; F.-Vill. Novis. App. (1880) 77.

**RUBUS LINEATUS** Reinw.; F.-Vill. l. c.

**RUBUS PARVIFOLIUS** Linn.; F.-Vill. l. c.

**RUBUS CUMINGII** Gandog. in Bull. Soc. Bot. France 65 (1918) 24 (non O. Kuntze, 1879).

The type, *Cuming 2455*, was from St. Helena, not from the Philippines. It is *R. pinnatus* Willd., introduced in 1775.

#### 4. FRAGARIA Tournefort

**FRAGARIA INDICA** Andr. in Bot. Rep. t. 479; Hook. f. Fl. Brit. Ind. 2 (1878) 343; F.-Vill. Novis. App. (1880) 77; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 352.

*Duchesnia indica* Focke in Engl. & Prantl Nat. Pflanzenfam. 3<sup>3</sup> (1888) 33.

Luzon (Benguet), *B. S. 31658 Santos, Elmer 5770, Merrill 4373, Phil. Pl. 852, Williams 1442*. On open grassy slopes, altitude 1,300 to 2,400 m. India to Japan southward on the mountains to Java.

Local names: Atabkang (Ig.); dotdating (Ig.); kubkubut (Ig.).

#### EXCLUDED SPECIES

**FRAGARIA NILGERRENSIS** Schlecht.; F.-Vill. Novis. App. (1880) 77.

**FRAGARIA VESCA** Linn.; F.-Vill. l. c.

The form of the strawberry now commonly cultivated in the vicinity of Baguio is probably one of the races of this species. It may become established at higher altitudes in the Mountain Province.

#### 5. ROSA Tournefort

**ROSA LUZONIENSIS** Merr. in Philip. Journ. Sci. 17 (1920) 259.

Luzon (Benguet), *B. S. 31876 Santos, 4300 Mearns, 8336 McGregor*. In thickets at Pauai, altitude about 2,300 m; allied to the Formosan *Rosa transmorrisonensis* Hayata. Endemic.

Local name: Pauikan (Ig.).

**ROSA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 17 (1920) 260.

*Rosa multiflora* Vidal Rev. Pl. Vasc. Filip. (1886) 123; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 352, non Thunb.

Luzon (Bontoc, Benguet), *Elmer 5794, B. S. 37920 Ramos & Edaña, Merrill Phil. Pl. 882*. In thickets, altitude 1,200 to 1,700 m. Endemic.

Var. **PARVIFOLIA** Merr. op. cit.

Luzon (Ifugao, Lepanto, Benguet). Common in thickets, altitudinal range of the species.

Local names: Kuyaob (Ig.); pigit (Bon.); sabit (Ig.).

A number of horticultural forms of the rose are cultivated in the Archipelago, probably mostly derived forms of *Rosa centiflora* Linn., *R. damascena* Mill., *R. indica* Linn., and *R. semperflorens* Curt. In addition to these *Rosa sinica* Ait. has been reported from the Philippines by F.-Villar, Novis. App. (1880) 77. These horticultural forms of the rose are found in the Archipelago only in cultivation and are nowhere established.

#### 6. PYGEUM Gaertner

**PYGEUM APOENSE** Elm. Leaf. Philip. Bot. 5 (May 30, 1913) 1623; Koehne in Engl. Bot. Jahrb. 52 (1915) 337.

*Pygeum apoanum* Elm. ex Koehne in Engl. Bot. Jahrb. 51 (Dec. 9, 1913) 205, 217.

Mindanao (Davao, Mt. Apo), *Elmer 11729*. In forests, altitude about 1,000 m; very closely allied to *Pygeum clementis* Merr. Endemic.

Local name: Bakad (Bag.).

**PYGEUM CLEMENTIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 227; Elm. Leaf. Philip. Bot. 5 (1913) 1621; Koehne in Engl. Bot. Jahrb. 51 (1913) 205, 218.

Mindanao (Lanao), *Clemens 760, 966, F. B. 25199 Alvarez*. In forests, altitude 600 to 1,000 m. Endemic.

Local name: Dalísai (Lan.).

**PYGEUM COCCINEUM** (Elm.) Elm. Leaf. Philip. Bot. 5 (1913) 1621; Koehne in Engl. Bot. Jahrb. 52 (1915) 336.

*Parinarium coccineum* Elm. Leaf. Philip. Bot. 2 (1909) 578.

Negros, Cebu, *Elmer 9787, F. B. 28344 Cenabre & Cruz*. In forests, altitude about 600 m; apparently allied to *Pygeum megaphyllum* Merr. Endemic.

Local name: Alipatsáu (C. Bis.).

**PYGEUM DECIPIENS** Koehne in Engl. Bot. Jahrb. 51 (1913) 204, 217.

Mindanao (Davao), *Elmer 11095, 11910*. In forests; scarcely distinguishable from *Pygeum preslii* Merr. Endemic.

Local name: Magulamod (Bag.).

**PYGEUM ELMERIANUM** Koehne in Engl. Bot. Jahrb. 51 (1913) 206, 218.

Sibuyan, *Elmer 12210*. In forests; very close to *Pygeum glandulosum* Merr. Endemic.

**PYGEUM EUPHLEBIUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 311.

Mindanao (Lanao), *F. B. 20619 Miranda*. In forests, altitude about 80 m. Endemic.

**PYGEUM FRAGRANS** Elm. Leaf. Philip. Bot. 2 (1908) 475, 5 (1913) 1622; Koehne in Engl. Bot. Jahrb. 51 (1913) 205, 218.

Luzon (Tayabas, Mt. Banahao), *Elmer 7504*. In forests, altitude about 750 m. Endemic.

The fruiting specimen, *Elmer 7662*, is to be excluded as it represents *Pygeum glandulosum* Merr.



**PYGEUM GITINGENSE** Elm. Leaf. Philip. Bot. 5 (1913) 1625; Koehne in Engl. Bot. Jahrb. 52 (1915) 335.

Sibuyan, *Elmer 12137*. In forests, altitude about 200 m; scarcely distinguishable from *Pygeum vulgare* (Koehne) Merr. Endemic.

**PYGEUM GLANDULOSUM** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 226, 5 (1910) Bot. 353; Elm. Leaf. Philip. Bot. 5 (1913) 1621; Koehne in Engl. Bot. Jahrb. 51 (1913) 205, 218.

*Pygeum reticulatum* Merr. ex Elm. Leaf. Philip. Bot. 5 (1913) 1621, *nomen nudum*.

Luzon (Cagayan to Camarines), Mindoro, Negros. Common in forests at low and medium altitudes, in some regions ascending to 1,500 m. Endemic.

Local names: Aniñgai (Sbl.); bétik (Tag.); dampól (Tag.); gupit (Tag.); kagatóngan (Tag.); kalumala (Tag.); kambál (Tag.); kanumog (Bik.); lago (Tag.); papáin (Bon.); sañgá (Klg.); sangára (Ibn.); tañgá (Ilk.).

**PYGEUM MEGAPHYLLUM** Merr. ex Elm. Leaf. Philip. Bot. 5 (1913) 1621, Philip. Journ. Sci. 10 (1915) Bot. 312.

Luzon (Laguna, Tayabas, Camarines), Panay, *B. S. 14923 Ramos, 33833, 31121 Ramos & Edaño, Merrill Phil. Pl. 1292, F. B. 24234 Duldulao, 23950 Hirro*. In forests at low and medium altitudes. Endemic.

Local name: Kamantúgan (P. Bis.).

**PYGEUM MERRILLIANUM** Koehne in Engl. Bot. Jahrb. 51 (1913) 206, 219.

Mindoro, *F. B. 6784, 6744, 4363, 6854 Merritt*. In forests at low and medium altitudes; in the original description the collector is erroneously indicated as *Merrill*. Endemic, although recorded from Amboina with doubt by Koehne op. cit. 52 (1915) 337.

**PYGEUM MICROPHYLLUM** Elm. Leaf. Philip. Bot. 5 (1913) 1626; Koehne in Engl. Bot. Jahrb. 52 (1915) 335.

Palawan (Mt. Pulgar), *Elmer 13198, F. B. 3869 Curran*. On exposed ridges, altitude about 1,200 m. Endemic.

**PYGEUM MONTICOLUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 312.

Luzon (Bataan), *Whitford 1203*. On forested slopes, altitude about 1,100 m. Endemic.

**PYGEUM PRESII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 227; Elm. Leaf. Philip. Bot. 5 (1913) 1621; Koehne in Engl. Bot. Jahrb. 51 (1913) 203, 216, 52 (1915) 337 (var. *latifolium* Koehne).

*Germaria latifolia* Presl Epim. (1851) 221, Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 401, non *Pygeum latifolium* Miq.

*Pygeum latifolium* Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 122; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 60, non Miq.

*Pygeum arboreum* F.-Vill. Novis. App. (1880) 76; Vidal Sinopsis Atlas (1883) 25, t. 46, f. B. non Endl.

*Pygeum latiphyllum* Elm. Leaf. Philip. Bot. 5 (1913) 1622.

Luzon (Sorsogon), Leyte, Bohol, Mindanao, *Cuming 1815*, *B. S. 15724 Fénix*, *Wenzel 142, 162*, *F. B. 22928 Fajatin*, *Elmer 11828*. Endemic.

Local name: Balia (Bag.); tañgá (Buk.).

**PYGEUM PUBESCENS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 359.

Luzon (Benguet, Bontoc, Ilocos Sur, Sorsogon), Samar, Leyte, Negros, *Wenzel 333, 39, 18, 217, 1579, 331, 1657, 1789, 1674, 221*, *B. S. 24532, 17474 Ramos*, *F. B. 25292, 25295, 24005 Lasquety, 12427 Danao, 24719, 25136 Leaño*, *Elmer 6110, 15258 (P. ovalis Elm.)*. In forests at low and medium altitudes, in Benguet ascending to 2,000 m. Endemic.

Local names: Apoakan-amok (S. L. Bis.); magbalanak (S. L. Bis.).

**PYGEUM PULGARENSE** Elm. Leaflet. Philip. Bot. 5 (1913) 1626; Koehne in Engl. Bot. Jahrb. 52 (1915) 336.

Palawan (Mt. Pulgar), *Elmer 13200*. On exposed ridges, altitude about 1,200 m. Endemic.

**PYGEUM RAMIFLORUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 447.

Luzon (Bontoc), *Vanoverbergh 2820*, *B. S. 37913 Ramos & Edaño*. In forests, altitude 1,400 m. Endemic.

**PYGEUM RUBIGINOSUM** Elm. Leaflet. Philip. Bot. 5 (1913) 1624; Koehne in Engl. Bot. Jahrb. 51 (1913) 205, 218.

Mindanao (Davao, Agusan), *Elmer 11857, 14067*. In forests, altitude about 1,200 m. Endemic.

Local names: Bukad (Bag.); kabung (Mbo.).

**PYGEUM VULGARE** (Koehne) comb. nov.

*Pygeum preslii* Merr. var. *vulgare* Koehne in Engl. Bot. Jahrb. 51 (1913) 203, 216.

*Pygeum preslii* Merr. in Philip. Journ. Sci. 3 (1908) 227 p. p.

Northern Luzon (Cagayan) to Mindanao. Common in forests at low and medium altitudes. This form, typified by *F. B. 1806 Borden*, is certainly specifically distinct from *Pygeum preslii* Merr., typified by *Cuming 1815* from Bohol. Endemic.

Local names: Amongyang (Tag.); amugan (Tag.); apítan (Ibn.); bang-luai (P. Bis.); gupít (Tag.); hunúg (Ibn.); ipus-ípus (C. Bis.); kalishing (Ig.); kambál (Sul.); kanumog (Bik.); komon (Neg.); lago (Tag.); lamaguan (Pamp.); malagmát (Pamp.); paitan (Tag.); pamilíngan (Ilk.); panikin (Neg.).

#### EXCLUDED SPECIES

**PYGEUM GRIFFITHII** Hook. f.; *F.-Vill. Novis. App. (1880) 76*.

**PYGEUM MAINGAYI** Hook. f.; *F.-Vill. l. c.*

**PYGEUM MONTANUM** Hook. f.; *F.-Vill. l. c.*

**PYGEUM PARVIFLORUM** Teysm. & Binn.; *F.-Vill. l. c.*

#### 7. PRUNUS Tournefort

**PRUNUS JUNGHUHNIANUS** Miq. *Fl. Ind. Bat. 1<sup>1</sup> (1855) 366*; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 180.

Palawan (Mt. Victoria), *B. S. 731 Foxworthy*. In rocky stream beds, altitude about 250 m. Java, Sumatra.

## DOUBTFUL AND EXCLUDED SPECIES

**PRUNUS ARMENIACA** Blanco Fl. Filip. ed. 2 (1845) 296, ed. 3, 2 (1878) 185; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 43, Sp. Blancoanae (1918) 163, non Linn.

*Prunus triflora* F.-Vill. Novis. App. (1880) 76, Roxb.

Blanco's description was based on cultivated specimens observed by him in Manila and in Cagayan Province, Luzon, probably originating in China. The status of the form he ascribed to the Linnean species cannot be determined from his description alone. For it he gives the Spanish name *albaricoques*. It is not *Prunus triflora* Roxb. where it was placed by F.-Villar.

**PRUNUS GLANDULOSA** Thunb.; Llanos in Mem. Acad. Cienc. Madr. 4 (1858); F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 76, Novis. App. (1880) 76.

There is no description; Llanos probably had a species of *Pygeum*.

**PRUNUS PERSICA** (Linn.) Stokes.

The peach is occasionally planted at high altitudes in the Mountain Province, Luzon.

## 8. PARINARIUM Aublet

**PARINARIUM BICOLOR** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 309.

Mindanao (Surigao), *F. B. 28022 Razon*. On open slopes at low altitudes. Endemic.

**PARINARIUM CORYMBOSUM** (Blume) Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 356; F.-Vill. Novis. App. (1880) 76; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 309, Sp. Blancoanae (1918) 162.

*Maranthes corymbosa* Blume Bijdr. (1825) 89.

*Maranthes multiflora* Korth. Verh. Nat. Gesch. Bot. (1839-42) 259, t. 70.

*Parinarium griffithianum* Benth. in Hook. Niger Fl. (1849) 334; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 356; F.-Vill. Novis. App. (1880) 76; Vidal Sinopsis Atlas (1883) 25, t. 46, f. A; Perk. Frag. Fl. Philip. (1904) 118; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 60.

*Grymania salicifolia* Presl Epim. (1851) 193.

*Parinarium salicifolium* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 357; F.-Vill. Novis. App. (1880) 76; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 121.

*Parinarium racemosum* Vidal Cat. Pl. Prov. Manila (1880) 29.

*Polyalthia pulchrinervia* Boerl. Cat. Hort. Bogor. (1899) 20, Ic. Bogor. 1 (1899) 106.

Northern Luzon (Cagayan) to Mindanao and Palawan. Common in forests at low and medium altitudes. India through Malaya to tropical Australia.

Local names: Alamag (Tag.); aníngat (Ilk.); arañgan (Tagb.); bagkañgai (C. Bis.); bakayau (Pang.); bakokoyan (P. Bis.); bagkangai (Mbo.); bárit (Bik., C. Bis.); bingás (Ilk.); bongog (S. L. Bis.); dau (S. L. Bis.); deleybaybai (Tag.); dumaga (Kuy.); kagemkém (Ilk.); kalagkañgan (Bag.); kamulitiñgan (Pamp.); kankañgan (Bag.); kapgañgan (Tag.); karatákat (Ilk.); kuliliñgan (Tag.); lankañgan (Lan.); lañgog (Buk.); lañgug (Buk.); laiúsin (Bik., S. L. Bis.); liúsin (Sbl., Tag., Bik.); lumaluas (Mag.); malapiga (Tag.); malapúyau (Tag.); maluktik (Sul.); mata-matá (S. L. Bis.); ogat (Bag.); sabongkáag (Ilk., Ting.); salipu-

ngan (Neg.); salútui (Neg.); saráñgan (S. L. Bis.); sigaadán (Mag.); tádiang-manók (Ting., Tag.); takdáñgan (Tag.); tappas (P. Bis.); uas-uasa (Klg.).

**PARINARIUM COSTATUM** Blume ex Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 354; King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 277.

Samar, Mindanao (Surigao, Davao), *F. B. 12871 Rosenbluth, 25948 Cortes, 25075 Ponce, 26600 Ceballos*. In forests at low altitudes. Malay Peninsula to Sumatra, Java, and Borneo.

Local names: Barit (S. L. Bis.); moises (S. L. Bis.).

**PARINARIUM GLABERRIMUM** Hassk. in Tijdschr. Nat. Gesch. 10 (1843) 147, *nomen nudum*, Cat. Hort. Bogor. (1844) 269, *nomen nudum*, Flora 27 (1844) 583; Merr. Interpret. Herb. Amb. (1917) 247.

*Parinarium scabrum* Hassk. l. cc.; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 354; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 22.

*Parinarium laurinum* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 490, t. 55; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 310.

*Parinarium mindanaense* Perk. Frag. Fl. Philip. (1904) 119.

*Parinarium racemosum* Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 19.

*Parinarium curranii* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 264.

Luzon (Camarines, Albay), Masbate, Palawan, Mindanao. In forests at low and medium altitudes. Java and Borneo across Malaya to Polynesia.

Local names: Botabon (Tagb.); botgo (Bik.); butabul (Tagb.); gotabon (Tagb.); pantog-usá (Kuy.); pinai (P. Bis.); tabong (Bag.); tabon-tabon (C. Bis., Bik., Mbo.); tabun-tabun (C. Bis., Bag., Bik.); tambon-tambon (P. Bis.).

**PARINARIAM VILLAMILII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 308.

Luzon (Camarines), Mindanao (Zamboanga), *F. B. 21863 Villamil, 24544 Aguilar*. In forests at low altitudes. Endemic.

#### 9. ANGELESIA Korthals

**ANGELESIA SPLENDENS** Korth. in Nederl. Kruick. Arch. 3 (1854) 384; Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 236; Boerl. & Koord. in Ic. Bogor. 1 (1901) t. 96; Merr. in Philip. Journ. Sci. 10 (1915) 307; Elm. Leaf. Philip. Bot. 5 (1913) 1638, in nota.

*Licania angelesia* Blume Mél. Bot. (1855) No. 2, Flora 41 (1858) 256.

*Trichocarya splendens* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 358; F.-Vill. Novis. App. (1880) 76.

*Chrysobalanus splendens* Miq. l. c. in syn.

*Parinarium nitidum* Hook. f. Fl. Brit. Ind. 2 (1878) 310; King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 284.

Samar, Panay, Mindanao (Surigao), Busuanga, Palawan, Balabac, *Merrill Phil. Pl. 1224, 1696, B. S. 17431 Ramos, 34519 Ramos & Pascasio, 35458, 35524, 35520, 35519 Martelino & Edaña*. In dry thickets and forests at low altitudes. Malay Peninsula, Sumatra, Borneo.

Local names: Balik (P. Bis.); dagíñgan (S. L. Bis.); dagingdíñgan (S. L. Bis.).

## EXCLUDED GENERA

**COUEPIA GUIANENSIS** Aubl.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 106.

**GRANGERIA BORBONICA** Lam.; Vidal Cat. Pl. Prov. Manila (1880) 29.

**PARASTEMON UROPHYLLUS** A. DC.; F.-Vill. Novis. App. (1880) 76.

**CHRYSOBALANUS ICACO** Linn.

A recent introduction from tropical America, cultivated at Lanao and at Los Baños.

**PYRUS MALUS** Linn.

The apple is occasionally cultivated at high altitudes in the Mountain Province, Luzon.

## CONNARACEAE

1. **CONNARUS** Linnaeus

**CONNARUS CAUDATUS** Merr. in Philip. Journ. Sci. 17 (1920) 261.

Bucas Grande, *B. S. 35059 Ramos & Pascasio*. In dry forests at low altitudes. Endemic.

**CONNARUS BALSAHANENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1764.

Palawan, *Elmer 13083, Merrill 9184, 9457*. In forests and thickets at low altitudes. Endemic.

**CONNARUS BRACTEATUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 120.

Luzon (Cagayan), *F. B. 11308 Klemme*. In dense forests at low altitudes. Endemic.

**CONNARUS CASTANEUS** Merr. in Philip. Journ. Sci. 14 (1919) 403.

Luzon (Camarines), *B. S. 33600 Ramos & Edaño*. In forests at low altitudes. Endemic.

**CONNARUS CULIONENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 120.

Culion, Palawan, *Merrill 450, 9219, 9220*. In dry thickets at low altitudes. Endemic.

**CONNARUS ERIANTHUS** Elm. Leaf. Philip. Bot. 5 (1913) 1762.

Palawan, *Elmer 12877*. In forests at low altitudes. Endemic.

**CONNARUS HALLIERI** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 122.

*Connarus carnosus* Elm. Leaf. Philip. Bot. 4 (1912) 1508.

*Connarus fragrans* Elm. op. cit. 1507.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Sibuyan, Leyte, Samar, Basilan, *Hallier, Elmer 7269, 12305, 12069, 13518 (C. sorsogonensis Elm.), B. S. 19553, 20524 Ramos, Wenzel 1770, Cuming 1465*. In forests at low and medium altitudes. Endemic.

Local names: Bago-bago (P. Bis.); oñgali (S. L. Bis.).

**CONNARUS MINDANAENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 122; C. B. Rob. op. cit. 6 (1911) Bot. 205.

Leyte, Samar, Mindanao, *Clemens 754, Wenzel 1727, 1476, B. S. 24540 Ramos, F. B. 23911 Ponce, 28216 Elumir*. In forests at low and medium altitudes. Endemic.

Local names: Kauang (Mbo.); sapinib (C. Bis.); uñgali (S. L. Bis.); uul (C. Bis.).

**CONNARUS NEUROCALYX** Planch. in *Linnaea* 23 (1850) 428; Walp. *Ann.* 2 (1850-51) 300; Miq. *Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 665; F.-Vill. *Novis. App.* (1880) 56; Vidal *Phan. Cuming. Philip.* (1885) 106, *Rev. Pl. Vasc. Filip.* (1886) 103, *Sinopsis Atlas* (1883) 23, *t. 39, f. E*; Merr. in *Philip. Journ. Sci.* 1 (1906) *Suppl.* 61, 4 (1909) *Bot.* 121, *Fl. Manila* (1912) 220.

*Connarus obtusifolius* Planch. in *Linnaea* 23 (1850) 428; Walp. *Ann.* 2 (1850-51) 300; Miq. *Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 665; F.-Vill. *Novis. App.* (1880) 57; Vidal *Phan. Cuming. Philip.* (1885) 106, *Rev. Pl. Vasc. Filip.* (1886) 103; Merr. in *Philip. Journ. Sci.* 4 (1909) *Bot.* 121.

Northern Luzon (Isabela) southward to Panay and Negros. Common in thickets and forests at low and medium altitudes. Endemic.

Local names: Kamot (Pamp.); sandalino (Tag.).

**CONNARUS PALAWANENSIS** Elm. *Leafl. Philip. Bot.* 5 (1913) 1763.

Palawan, *Elmer 12771*. In forests at low altitudes. A species of which the fruits are unknown. Endemic.

**CONNARUS STELLATUS** Merr. in *Philip. Journ. Sci.* 4 (1909) *Bot.* 119.

Balabac, *B. S. 520 Mangubat*. In forests at low altitudes. Endemic.

**CONNARUS SUBFOVEOLATUS** Merr. in *Philip. Journ. Sci.* 13 (1918) *Bot.* 15.

Luzon (Apayao), *B. S. 28240 Fénix*. In damp forests at medium altitudes. Endemic.

**CONNARUS SUBINAEQUIFOLIUS** Elm. *Leafl. Philip. Bot.* 1 (1908) 297; Merr. in *Philip. Journ. Sci.* 4 (1909) *Bot.* 124.

Luzon (Benguet, Laguna, Tayabas), *Elmer 9341, 6208, Baker 3678, B. S. 10969 Ramos*. In forests at low and medium altitudes.

**CONNARUS TRIFOLIATUS** (Turcz.) Rolfe in *Journ. Bot.* 23 (1885) 212 (*trifoliolatus*); Vidal *Rev. Pl. Vasc. Filip.* (1886) 103; Ceron *Cat. Pl. Herb. Manila* (1892) 59; Merr. in *Philip. Journ. Sci.* 4 (1909) *Bot.* 119.

*Anisostemon trifoliatus* Turcz. in *Bull. Soc. Nat. Mosc.* 20<sup>1</sup> (1847) 152; Walp. *Ann.* 1 (1848) 199.

*Connarus polyanthus* Planch. in *Linnaea* 23 (1850) 428; Walp. *Ann.* 2 (1850-51) 300; Miq. *Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 665; F.-Vill. *Novis. App.* (1880) 56; Vidal *Phan. Cuming. Philip.* (1885) 106, *Rev. Pl. Vasc. Filip.* (1886) 103.

*Connarus rolfei* Vidal *Phan. Cuming. Philip.* (1885) 106.

Luzon (Cagayan, Tayabas, Albay, Sorsogon), Biliran, Leyte, Negros, Mindanao, Basilan. In forests at low and medium altitudes. Endemic.

**CONNARUS WHITFORDII** Merr. in *Philip. Journ. Sci.* 4 (1909) *Bot.* 123.

Mindanao (Zamboanga), *F. B. 9185 Whitford & Hutchinson*. In forests at low altitudes. Endemic.

#### EXCLUDED SPECIES

**CONNARUS FERRUGINEUS** Jack; F.-Vill. *Novis. App.* (1880) 57.

**CONNARUS PANICULATUS** Roxb.; F.-Vill. *l. c.*

## 2. AGELAEA Solander

**AGELAEA EVERETTII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 127; C. B. Rob. op. cit. 6 (1911) Bot. 205.

Northern Luzon (Cagayan) to Mindanao and Palawan incl. *Elmer 16822* as *A. platyphylla* Elm. In forests at low and medium altitudes. Endemic, although scarcely distinct from *A. borneensis* (Hook. f.) Merr. (*A. vestita* Hook. f.) of the Malay Peninsula and Borneo.

Local names: Balagun (P. Bis.); kamágsa (Tag.); kamáksa (Tag.); ngáluk (Ibn.); oñgali (P. Bis.); uñgali (P. Bis.).

**AGELAEA TRINERVIS** (Llanos) Merr. Sp. Blancoanae (1918) 164.

*Castañola trinervis* Llanos in Mem. Acad. Cienc. Madr. III 2 (1859) 505; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103.

*Agelaea wallichii* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 19, Philip. Journ. Sci. 1 (1906) Suppl. 61, 4 (1909) Bot. 126, non Hook. f.

*Connarus monocarpus* F.-Vill. Novis. App. (1880) 57, non Linn.

*Agelaea vestita* Vidal Sinopsis Atlas (1883) 23, t. 39, f. D, non Hook. f.

Luzon (Tayabas to Sorsogon) southward to Mindanao. In forests at low and medium altitudes. Endemic.

Local names: Dagtung (Mbo.); tayabak (Tag.); ulali (Tag.).

## 3. ROUREA Aublet

**ROUREA ERECTA** (Blanco) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 125, Fl. Manila (1912) 220.

*Cnestis erecta* Blanco Fl. Filip. (1837) 387.

*Cnestis glabra* Blanco Fl. Filip. (1837) 387, ed. 2 (1845) 271, ed. 3, 2 (1878) 138, t. 140, non Linn.

*Omphalobium pictum* Blanco op. cit. ed. 2 (1845) 271, ed. 3, 2 (1878) 139.

*Rourea multiflora* Planch. in Linnaea 23 (1850) 418; Walp. Ann. 2 (1851) 297; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 658; F.-Vill. Novis. App. (1880) 56; Vidal Sinopsis Atlas (1883) 23, t. 39, f. A, Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 102; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 61.

*Omphalobium obliquum* Presl Epim. (1851) 207.

*Connarus obliquus* Walp. Ann. 3 (1852-53) 884; Vidal Phan. Cuming. Philip. (1885) 106.

*Santaloides erectum* Schellenb. Beitr. Anat. Syst. Connar (1910) 51, Fedde Repert. 10 (1911) 247; Merr. Sp. Blancoanae (1918) 163.

Northern to Central Luzon (Cagayan to Laguna), Lubang, Mindoro, Cuyo, Leyte, Panay, Bantayan. Common in dry thickets and second-growth forests at low and medium altitudes. Endemic, although *R. rubella* Pierre of Indo-China is scarcely distinguishable.

Local names: Gikos-gikos (Tag.); guraikan (Tag.); hanmababau (Bis., Tag.); kamagsa (Tag.); kamagsa-tagilis (Tag.); kamumin (Tag.); magtabig (Bis., Pamp.); palo santo (Sp.); paragauúk (Ibn.).

**ROUREA IMBRICATA** Elm. Leafl. Philip. Bot. 7 (1915) 2597.

Mindanao (Agusan), *Elmer 14309*. In forests, altitude about 950 m; very closely allied to *Rourea volubilis* Merr. and perhaps not specifically distinct. Endemic.

Local name: Dakolai (Mbo.).

**ROUREA LUZONIENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 404.

Luzon (Camarines), *B. S. 33534 Ramos & Edaño*. In thickets at low altitudes. Endemic.

**ROUREA UNIFOLIOLATA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 372.

Leyte, *Wenzel 36*. In forests at low altitudes. This may ultimately prove to be merely a form of *Rourea volubilis* Merr. with all or most of the leaves unifoliolate; it is certainly very closely allied to that species. Endemic.

**ROUREA VOLUBILIS** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 36, Philip. Journ. Sci. 1 (1906) Suppl. 61, 4 (1909) Bot. 125. *Cnestis volubilis* Blanco Fl. Filip. (1837) 385.

*Cnestis trifolia* Blanco op. cit. ed. 2 (1845) 270, ed. 3, 2 (1878) 136, non Lam.

*Rourea heterophylla* Planch. in Linnaea 23 (1850) 419; Walp. Ann. 2 (1851) 297; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 658; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 375; F.-Vill. Novis. App. (1880) 56; Vidal Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 103.

*Santaloides volubile* Schellenb. Beitr. Anat. Syst. Connar. (1910) 51, Fedde Repert. 10 (1912) 247; Merr. Sp. Blancoanae (1918) 164.

*Rourea microcarpa* Elm. Leafl. Philip. Bot. 7 (1915) 2599.

*Rourea subvolubilis* Elm. op. cit. 2600.

Northern Luzon (Cagayan) to Mindanao and Palawan. In thickets and forests at low and medium altitudes; common and variable. Hainan.

Local names: Baraláng (Ibn.); bitog (Ig.); gikos-gikos (Tag.); hanambabau (Bis.); kalayan (Bag.); kamagsa (Tag.); kamagsa-takilis (Tag.); mabindato (Bis.); palo santo (Sp.); tioa (Bag.); uñgalina (Bis.).

#### EXCLUDED SPECIES

**ROUREA COMMUTA** Planch.; F.-Vill. Novis. App. (1880) 56.

**ROUREA RUGOSA** Planch.; F.-Vill. l. c.

**ROUREA SANTALOIDES** W. & A.; F.-Vill. l. c.

#### 4. CNESTIS Jussieu

**CNESTIS PALALA** (Lour.) Merr. in Journ. Straits Branch Roy. As. Soc. 85 (1922) 201.

*Thysanus palala* Lour. Fl. Cochinch. (1790) 284, excl. syn. Rumph.

*Thysanus cochinchinensis* DC. Prodr. 2 (1825) 91.

*Cnestis diffusa* Blanco Fl. Filip. (1837) 386; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 127, Sp. Blancoanae (1918) 164.

*Cnestis corniculata* Blanco Fl. Filip. (1837) 386, ed. 2 (1845) 270, ed. 3, 2 (1878) 138, non Lam.

*Cnestis polyphylla* Blanco op. cit. ed. 2 (1845) 270, ed. 3, 2 (1878) 137, non Lam.



*Cnestis ramiflora* Griff. Not. 4 (1854) 432; F.-Vill. Novis. App. (1880) 57; Vidal Sinopsis Atlas (1883) 23, t. 39, f. C, Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 103; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 61.

Luzon (Ilocos Norte to Laguna), Lubang, Burias, Cebu. In thickets at low and medium altitudes. Burma, Siam, Indo-China, Malay Peninsula, Sumatra, Borneo.

Local names: Kalakalamyásan (Tag.); palo santo (Sp.); pias-piásan (Tag.); salsaladáí (Ilk.); torotagotum (P. Bis.).

#### 5. ELLIPANTHUS Hooker f.

**ELLIPANTHUS LONGIFOLIUS** Merr. in Philip. Journ. Sci. 17 (1920) 262.

Dinagat, *B. S. 35180 Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

**ELLIPANTHUS LUZONIENSIS** Vidal Rev. Pl. Vasc. Filip. (1886) 104; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 61, 4 (1909) Bot. 124.

*Ellipanthus helferi* Vidal Sinopsis Atlas (1883) 23, t. 39, f. B, non Hook. f.

*Ellipanthus vidalii* Elm. Leaf. Philip. Bot. 7 (1915) 2596.

Northern and central Luzon (Cagayan to Bulacan and Bataan) southward to Mindanao. Common in forests at low and medium altitudes. Endemic.

Local names: Alomañgói (Tag.); atarúkan (Tag.); saling-uák (P. Bis.).

**ELLIPANTHUS MINDANAENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 124, Journ. Str. Branch Roy. As. Soc. 76 (1917) 84.

Mindanao (Zamboanga), *F. B. 9276 Whitford & Hutchinson, B. S. 36811, 36875, 36944, 37033 Ramos & Edaña*. In forests at low altitudes. Borneo.

**ELLIPANTHUS URDANETENSIS** (Elm.) comb. nov.

*Connarus urdanetensis* Elm. Leaf. Philip. Bot. 7 (1915) 2594.

*Ellipanthus buribidensis* Elm. op. cit. 2596.

Luzon (Tayabas, Camarines, Sorsogon), Mindanao (Agusan, Davao), *Elmer 11941, 14043, 15556, B. S. 20711 Escritor, 13369, 22105 Ramos, 25403 Yates*. In forests at low and medium altitudes, ascending to 1,000 m. Endemic.

Local names: Dañgalis (Bag.); pañgalámag (Mbo.).

#### EXCLUDED SPECIES

**ELLIPANTHUS CALOPHYLLUS** Kurz; F.-Vill. Novis. App. (1883) 351.

**ELLIPANTHUS TOMENTOSUS** Kurz; F.-Vill. l. c.

#### LEGUMINOSAE

##### 1. SERIANTHES Bentham

**SERIANTHES GRANDIFLORA** (Wall.) Benth. in Hook. Lond. Journ. Bot. 3 (1844) 225, Trans. Linn. Soc. 30 (1875) 599; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 40; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 301; F.-Vill. Novis. App. (1880) 75; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 454; Vidal Sinopsis Atlas (1883) 24, t. 44, f. F., Phan. Cuming.

Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 121; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 22; Philip. Journ. Sci. 5 (1910) Bot. 15.

*Inga grandiflora* Wall. Cat. (1832) No. 5285, *nomen nudum*.

Palawan, Panay, Negros, Mindanao, *Merrill Phil. Pl. 1166, F. B. 3800 Curran, 23939 Cortes & Knapp, 22829 Ponce, 5616 Everett, Ahern 447*. In beach forests, Malay Peninsula to New Guinea and the Aru Islands.

Local names: Honok (C. Bis.); kásai (P. Bis.); maganhop-sa-baibái (P. Bis.); nap (Sul.).

## 2. SAMANEA (Bentham) Merrill

**SAMANEA SAMAN** (Jacq.) Merr. in Journ. Wash. Acad. Sci. 6 (1916) 47.

*Mimosa saman* Jacq. Fragm. (1800) 15, t. 9.

*Inga saman* Willd. Sp. Pl. 4 (1806) 1024.

*Pithecolobium saman* Benth. in Hook. Lond. Journ. Bot. 3 (1844) 101; F.-Vill. Novis. App. (1880) 76; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 309; Perk. Frag. Fl. Philip. (1904) 5; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 31.

*Enterolobium saman* Prain ex King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 352; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 15, Fl. Manila (1912) 225.

Introduced from tropical America about 1860, now widely planted as a shade tree, in places spontaneous. Pantropic in cultivation; the rain tree.

Local name: Acacia (Sp.).

## 3. PITHECOLOBIUM Martius

**PITHECOLOBIUM ANGULATUM** (Grah.) Benth. in Hook. Lond. Journ. Bot. 3 (1844) 208, Trans. Linn. Soc. 30 (1875) 580; F.-Vill. Novis. App. (1880) 76; Ceron Cat. Pl. Herb. Manila (1892) 72; Perk. Frag. Fl. Philip. (1904) 4; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 19.

*Inga angulata* Grah. in Wall. Cat. (1832) No. 5271, *nomen nudum*.

Northern Luzon (Cagayan) to Palawan, Panay, and Negros. In thickets and secondary forests at low and medium altitudes.

The Philippine form is the var. *intermedium* Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 275. *Pithecolobium clypearia* (Jack) Benth., although currently retained as a distinct species, is not clearly distinguishable, and the latter name should perhaps be adopted as Jack's name is older than Graham's. India, through Malaya to the Moluccas.

Local names: Bagalñgá, bagaluñgá (P. Bis.); bakan (Bik.); barokmók (Mang.); bunsikág (Tagb.); maganhop-sa-tayon (P. Bis.); potkipot (P. Bis.).

**PITHECOLOBIUM APOENSE** Elm. Leaf. Philip. Bot. 2 (1910) 694.

Mindanao (Davao), *Elmer 11710*. In forests, altitude about 1,200 m. Endemic.

Local name: Magatkarot (Mbo.).

**PITHECOLOBIUM CAULOSTACHYUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 10.

Samar, *Merrill Phil. Pl. 1637*. In forests at low altitudes. Endemic.

**PITHECOLOBIUM DULCE** (Roxb.) Benth. in Hook. Lond. Journ. Bot. 3 (1844) 199, Trans. Linn. Soc. 30 (1875) 572; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 40; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 485; F.-Vill. Novis. App. (1880) 75; Vidal Rev. Pl. Vasc. Filip. (1886) 121; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 82, 5 (1910) Bot. 16, Fl. Manila (1912) 225, Sp. Blancoanae (1918) 165.

*Mimosa dulcis* Roxb. Pl. Coromandel 1 (1795) 67, t. 99.

*Inga dulcis* Willd. Sp. Pl. 4<sup>2</sup> (1805) 1005; DC. Prodr. 2 (1825) 436.

*Inga camatchili* Perr. in Mém. Soc. Linn. Paris 3 (1824) 122; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 305.

*Mimosa unguis-cati* Blanco Fl. Filip. (1837) 731, non Linn.

*Inga lanceolata* Blanco op. cit. ed. 2 (1845) 370, ed. 3, 2 (1879) t. 237, non HBK.

Throughout the Philippines at low and medium altitudes, in many regions thoroughly naturalized. Introduced from Mexico; now pantropic.

Local names: Damórtis (Ilk.); chamúltis (Ig.); damúlkis (Bon.); kamachíli (Tag., Bik.); kamachílis (Tag.); kamanchile (Tag.); kamanchilis (P. Bis., Mag.); kamansile (Tag.); kamantílis (Pang.); kamarsílis (Tag.); kamatséle (Tag.); kamonsíles (Tag.); karamansili (Ib.); komonsíli (P. Bis.); komóntos (Ting.); kamúnsil (P. Bis.); komóntres (Ting.), all corruptions or modifications of the Aztec *kwamochitl*.

**PITHECOLOBIUM ELLIPTICUM** (Blume) Hassk. Retzia 1 (1855) 225; Prain ex King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 270, 516; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 104; Merr. op. cit. 5 (1910) Bot. 19.

*Inga elliptica* Blume Cat. Gew. Buitenz. (1823) 88; Walp. Repert. 1 (1842) 930.

*Pithecolobium fasciculatum* Benth. in Hook. Lond. Journ. Bot. 3 (1844) 208.

Palawan, Panay, Negros, Mindanao, *Merrill Phil. Pl. 1319, B. S. 31142 Ramos & Edaña, Williams 2094, F. B. 24310 Tecson*. In forests along streams, in old clearings, etc., at low and medium altitudes. Malay Peninsula and Archipelago.

Local names: Bugas (P. Bis.); salangkógi (C. Bis.); tabid-tabid (Sul.).

**PITHECOLOBIUM MINDANAENSE** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 18.

Mindanao (Lanao, Davao, Misamis, Zamboanga), *Basilan, Clemens 277, F. B. 17947 Miranda, 25918 Alviar, B. S. 36688 Ramos & Edaña, Weber 1437*. In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Kulikul (Sul.); lalatan (Sub.); tomanag (Bag.).

**PITHECOLOBIUM MULTIFLORUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 11.

Luzon (Benguet, Tayabas), *Merrill Phil. Pl. 1779 (as P. platycarpum Merr.), B. S. 28995 Ramos & Edaña*. In forested ravines up to an altitude of 1,200 m. Endemic.

Local name: Anagip (Tag.).

**PITHECOLOBIUM PAUCIFLORUM** Benth. in Hook. Lond. Journ. Bot. 3 (1844) 212; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 40; F.-Vill. Novis. App. (1880) 75; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 229, 5 (1910) Bot. 18.

Luzon (Albay), Samar, Leyte, Camiguin de Misamis, Bohol, Mindanao (Surigao), *Cuming 1854, F. B. 10566 Curran, 12893 Rosenbluth, Whitford 11639, Wenzel 43, 1194, 1527, B. S. 14465 Ramos*. In primary forests at low and medium altitudes. Endemic.

Local names: Malatágum (Bik.); panauisanung (C. Bis.).

**PITHECOLOBIUM (?) PLATYCARPUM** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 17.

Luzon (Benguet), *Elmer 6439*. In damp thickets in ravines, altitude about 400 m. Endemic.

**PITHECOLOBIUM PRAINIANUM** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 61, 2 (1907) Bot. 276, 5 (1910) Bot. 20.

*Pithecolobium parvifolium* Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 19, non Benth.

*Pithecolobium montanum* Benth. var. *microphyllum* Benth. in Trans. Linn. Soc. 30 (1875) 581; Vidal Phan. Cuming. Philip. (1885) 111, Vidal Rev. Pl. Vasc. Filip. (1886) 121.

*Pithecolobium montanum* Vidal Sinopsis Atlas (1883) 25, t. 45, f. A, non Benth.

Luzon (Bontoc to Sorsogon), Mindoro, Leyte, Camiguin de Misamis. On exposed slopes and ridges, altitude 900 to 2,000 m. Borneo, Java.

Local name: Kamanigum (Ig.).

**PITHECOLOBIUM SCUTIFERUM** (Blanco) Benth. in Hook. Lond. Journ. Bot. 3 (1844) 211; Miq. Ind. Bat. 1<sup>1</sup> (1855) 39; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 228, 5 (1910) Bot. 17, Sp. Blancoanae (1918) 165.

*Mimosa scutifera* Blanco Fl. Filip. (1837) 735, ed. 2 (1845) 507, ed. 3, 3 (1879) 138, t. 438.

*Pithecolobium lobatum* F.-Vill. Novis. App. (1880) 75; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 120; Perk. Frag. Fl. Philip. (1904) 4; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23, Philip. Journ. Sci. 1 (1906) Suppl. 62, non Benth.

Northern Luzon (Cagayan) to Mindanao (Agusan). In forests at low and medium altitudes, widely distributed and usually common. Endemic.

Local names: Alobáhai (Tag.); anagáp (Tag.); anagóp (S. L. Bis., Bik.); anagép (Bik.); anagíb (Tag.); anagíp (Tag.); bag (Tag.); baluk-báluk (P. Bis.); bonsilak (P. Bis.); binakálan (Tag.); bunsilak (P. Bis.); kulikul (Bis.); mamaibut (Sub.); tabog (Mbo.).

**PITHECOLOBIUM SESSILIFLORUM** Merr. in Philip. Journ. Sci. 17 (1920) 262.

Mindanao (Surigao), *B. S. 34675 Ramos & Pascasio*. Along streams at low altitudes. Endemic.

**PITHECOLOBIUM SUBACUTUM** Benth. in Hook. Lond. Journ. Bot. 3 (1844) 210, Trans. Linn. Soc. 30 (1875) 578; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 37; F.-Vill. Novis. App. (1880) 76; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 121; Perk. Frag.

Fl. Philip. (1904) 5; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 19, 353, Sp. Blancoanae (1918) 165.

*Mimosa scutifera* Blanco [var. *casai*] Blanco Fl. Filip. (1837) 736, ed. 2 (1845) 508, ed. 3, 3 (1879) 137, t. 447.

*Pithecolobium montanum* F.-Vill. Novis. App. (1880) 76; Perk. Frag. Fl. Philip. (1904) 5; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 61, 3 (1908) Bot. 305, 408, non ? Benth.

Batan Islands and northern Luzon to Palawan and Mindanao. In forests at low and medium altitudes, ascending to 1,350 m; perhaps not distinct from the Malayan *P. montanum* Benth. Celebes.

Local names: Alobáhai (Tag.); apalit (Sbl.); asam-asam (Sul.); ayamgílan (Sbl.); Hopang (Ig.); inep (Tag.); maradamórtis (Pang.); maratéka (Ilk.); narangdauél (Ibn.); pangmarunggaién (Ilk.); saplít (Ibn.); tagomtágom (S. L. Bis.); tagurári (Pang.); tikeu (Tag.); tikues (Tag.); tékiu (Tag.); tugayóng (Ibn.); uníp (Tag.).

#### DOUBTFUL AND EXCLUDED SPECIES

PITHECOLOBIUM BIGEMINUM Mart.; F.-Vill. Novis. App. (1880) 75; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 144.

PITHECOLOBIUM CLYPEARIA Benth.; F.-Vill. Novis. App. (1880) 76, Usteri Beitr. Ken. Philip. Veg. (1905) 117.

Usteri's specimen will probably prove to be *Pithecolobium angulatum* Benth. or *P. subacutum* Benth.

#### 4. WALLACEODENDRON Koorders

WALLACEODENDRON CELEBICUM Koord. in Meded. Lands Plantent. 19 (1898) 446, 631; Gilg. in Engl. & Prantl Nat. Pflanzenfam. Nachtr. 2 (1900) 30; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23, Philip. Journ. Sci. 3 (1908) Bot. 409, 5 (1910) Bot. 26; Perk. Frag. Fl. Philip. (1904) 5.

*Pithecolobium williamsii* Elm. Leaf. Philip. Bot. 1 (1907) 223.

Babuyan Islands and northern Luzon (Cagayan) to Samar, Negros, and Cebu. In forests at low and medium altitudes. A monotypic genus otherwise known only from Celebes.

Local names: Banúyo (Tag., Bik., S. L. Bis., P. Bis.); bulilísing (Ilk.); dauél (Ibn.); dauér (Ibn.); lupígi' (Ibn., Neg.); magbon (C. Bis.); mala-tágom (Tag.); melmel (Neg.); nárang-dauél (Ilk.); nipat-nípat (C. Bis.); supéngan (Ibn.); salonggígi (Bik.).

#### 5. ALBIZZIA Durazzini

ALBIZZIA ACLE (Blanco) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 25, Fl. Manila (1912) 226, Sp. Blancoanae (1918) 165.

*Mimosa acle* Blanco Fl. Filip. (1837) 738, ed. 2 (1845) 509, ed. 3, 3 (1879) 140.

*Pithecolobium acle* Vidal Rev. Pl. Vasc. Filip. (1886) 121; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23, Philip. Journ. Sci. 1 (1906) Suppl. 61; Perk. Frag. Fl. Philip. (1904) 4.

*Xylia dolabriformis* Vidal Cat. Pl. Herb. Manila (1880) 28; F.-Vill. Novis. App. (1880) 73, non Benth.

Northern Luzon (Ilocos Sur) southward to Palawan and Negros. In forests at low and medium altitudes. Endemic.

Local names: Akle (Sbl., Tag., Pamp., Tagb., P. Bis.); banúyo (P. Bis.); kitakita (Ilk., Pang.); lañgin (P. Bis.); lañgip (Bis.); mabúnga (Tag.); sauríri (Tagb.); solungkígi (Tagb.); tabalañgi (Bis.); tíli (Sbl.); tilis (Sbl.).

**ALBIZZIA CHINENSIS** (Osbeck) Merr. in Am. Journ. Bot. 3 (1916) 575.

*Mimosa chinensis* Osbeck Dagbok Ostind. Resa (1757) 233.

*Mimosa marginata* Lam. Encycl. 1 (1783) 12.

*Mimosa stipulata* Roxb. Hort. Beng. (1814) 40, *nomen nudum*.

*Mimosa stipulacea* Roxb. Fl. Ind. ed. 2, 2 (1832) 549.

*Acacia marginata* Ham. in Wall. Cat. (1832) No. 5243, *nomen nudum*.

*Albizzia stipulata* Boiv. in Encycl. XIX Siècle 2 (1838) 33; Benth. in Hook. Lond. Journ. Bot. 3 (1844) 92, Trans. Linn. Soc. 30 (1875) 568; F.-Vill. Novis. App. (1880) 75.

*Albizzia marginata* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 23.

*Albizzia julibrissin* Perk. Frag. Fl. Philip. (1904) 5, non Duraz.

Luzon (Abra, Ilocos Sur, Nueva Vizcaya, Nueva Ecija, Rizal, Bataan, Laguna). In thickets and open forests at low and medium altitudes; apparently very closely allied to *Albizzia julibrissin* Duraz. India to southern China southward to Java.

Local names: Hinagit (If.); kantiñgen (Ilk.); kúpang-babáe (Tag.); kúpang-bundók (Tag.); malaghanip (Tag.); malakaráyom (Tag.); mala-tígi (Tag.); ónik (Tag.); oónog (Ilk.); úník (Tag.); únip (Tag.).

**ALBIZZIA LEBBECK** (Linn.) Benth. in Hook. Lond. Journ. Bot. 3 (1844)

87, Trans. Linn. Soc. 30 (1875) 562 (*lebbek*); F.-Vill. Novis. App.

(1880) 75; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 316;

Vidal Sinopsis Atlas (1883) 25, t. 45, f. E, Rev. Pl. Vasc. Filip.

(1886) 120; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23,

Philip. Journ. Sci. 5 (1910) Bot. 23, Fl. Manila (1912) 226.

*Mimosa lebeck* Linn. Sp. Pl. (1753) 516.

Luzon (Ilocos Sur, Amburayan, Union, Bataan, Manila, in all places planted only), Palawan, Busuanga (probably native). A native of tropical Asia and Africa, now introduced in most tropical countries.

Local names: Acacia (Sp.); aninaplá (Tag.); láñgil (Tag.).

**ALBIZZIA LEBBEKOIDES** (DC.) Benth. in Hook. Lond. Journ. Bot. 3

(1844) 89, Trans. Linn. Soc. 30 (1875) 568; Merr. in Philip. Journ.

Sci. 1 (1906) Suppl. 62, 5 (1910) Bot. 23, Sp. Blancoanao (1918)

166.

*Acacia lebbekoides* DC. Prodr. 2 (1825) 467.

*Mimosa carisquis* Blanco Fl. Filip. (1837) 734, ed. 2 (1845) 507, ed. 3, 3 (1879) 137.

*Albizzia julibrissin* F.-Vill. Novis. App. (1880) 75, non Duraz.

Northern Luzon to Mindanao. In thickets and forests at low and medium altitudes. The Philippine material agrees closely with the type of the species, from Timor, an excellent photograph of the type sheet having kindly been prepared for me by C. de Candolle. Burma and Siam to Java and Timor.

Local names: Halugánit (Tag.); kariskís (Ilk.); maganhóp-sa-búkid (P. Bis.); malagánit (Tag.); malaghánip (Tag.); malagháni' (Tag.); malasampálok (Pamp., Tag.).

**ALBIZZIA MAGALLANENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 693.

*Albizzia myriantha* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 8.

Luzon (Camarines), Sibuyan, Palawan, *Elmer 12089, Merrill 9259, F. B. 21735 Peñas*. In forests at low altitudes; fruiting material will probably show this to be identical with *Albizzia pedicellata* Baker of the Malay Peninsula. Endemic.

**ALBIZZIA MEGALADENIA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 16.

Luzon (Tayabas, east coast), *B. S. 29023 Ramos & Edaña*. In damp forests at low altitudes. Endemic.

**ALBIZZIA PROCERA** (Roxb.) Benth. in Hook. Lond. Journ. Bot. 3 (1844)

89, Trans. Linn. Soc. 30 (1875) 564; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855)

21; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip.

(1886) 120; F.-Vill. Novis. App. (1880) 75; Merr. in Philip. Forestry

Bur. Bull. 1 (1903) 23, Philip. Journ. Sci. 1 (1906) Suppl. 62, 5

(1910) Bot. 21, Fl. Manila (1912) 226, Sp. Blancoanae (1918) 166.

*Mimosa procera* Roxb. Pl. Coromandel 2 (1798) 12, t. 121.

*Mimosa coriaria* Blanco Fl. Filip. (1837) 734, ed. 2 (1845) 506, ed. 3, 3 (1879) 136.

Luzon (Cagayan to Batangas), Mindoro, Busuanga. Common in thickets, second-growth forests, parang, etc., at low altitudes in regions subject to a long dry season. India to central China southward to tropical Australia.

Local names: Acháan (Ig.); adáan (Ilk., Ting.); adáan-bákir (Pang.); adiañgau (Tag.); ayañgau (Tag.); akleng párang (Ilk., Sbl.); alalanad (Tag., Pamp.); alalañgad (Tag.); anaplá (Mang.); aninaplá (Tag.); aninípla (Tag.); anítap (Pamp.); boak (Ig.); dáan (Ilk.); dariañgau (Tag.); kálai (Ting.); káral (Ibn., Pang.); karáil (Sbl.); karáol (Sbl.); payhód (Bis.); payhót (Bis.); palatañgan (Ilk.).

**ALBIZZIA RETUSA** Benth. in Hook. Lond. Journ. Bot. 3 (1844) 90, Trans.

Linn. Soc. 30 (1875) 563; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 23; F.-Vill.

Novis. App. (1880) 75; Vidal Phan. Cuming. Philip. (1885) 111,

Rev. Pl. Vasc. Filip. (1886) 120; Merr. in Philip. Journ. Sci. 5

(1910) Bot. 22, Sp. Blancoanae (1918) 166.

*Mimosa lebbek* Blanco Fl. Filip. (1837) 733, ed. 2 (1845) 506, ed. 3, 3 (1879) 135, non Linn.

*Albizzia littoralis* Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 29 (1867) 259; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23.

Batan Islands and northern Luzon to Mindanao and Palawan, scattered along the seashore. Nicobar Islands, across Malaya to the Caroline Islands.

Local names: Balúnos (Bik.); kásai (Tag., Bik.); láñgíl (Tag.); málinab (Ibn.); panatáyán (Iv.); salangkúgi (Sul.); saplít (Tag.); sintog (Sul.); tagolo (Neg.).

**ALBIZZIA SAPONARIA** (Lour.) Blume ex Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 19;

Benth. in Trans. Linn. Soc. 30 (1875) 561; F.-Vill. Novis. App.

(1880) 75; Vidal Rev. Pl. Vasc. Filip. (1886) 120; Perk. Frag. Fl. Philip. (1904) 6; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 62, 5 (1910) Bot. 24, Fl. Manila (1912) 226.

*Mimosa saponaria* Lour. Fl. Cochinch. (1790) 653.

*Albizzia lucida* F.-Vill. Novis. App. (1880) 75; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23, non Benth.

*Albizzia tomentella* Merr. l. c. non Miq.

Northern Luzon (Cagayan) to Mindanao. Common in forests, parang, etc., at low and medium altitudes. Indo-China through Malaya to the Moluccas.

Local names: Balógo (Mbo.); balóyo (Sul.); gógo'-kásai (Tag.); gógong-toko (Tag., Pang.); gúgo-tukó (Tag.); gúgong-malatukó (Tag.); haunaki (Bik.); hinaki (C. Bis.); inauaki (Bis., Bik.); kogon toko (Tag.); karikir (Bag.); katumbal (Bag.); malatoko-gugu (Tag.); malatukó (Tag.); malatukú (Tag., Pamp.); maratáoka (Ilk.); maratéka (Ilk.); maratíka (Ilk.); martíga (Ilk.); masugat (Yak.); paltáuin (Tag.); pipi (P. Bis.); salangkúgi (P. Bis., Sul.); salankúgi (P. Bis.); salingígi (Tag.); salinkógi (Tag.); salinkúgi (Bik.); salogígi (S. L. Bis.); salukígi (S. L. Bis.); salungígi (P. Bis.); siangíngi (Mbo.); sankúgi (C. Bis.); sankugu (C. Bis.); saplít (Ilk.); siangkúgi (Mbo.); tagumtagum (Mbo.); tagurarit (Pang.); tambíng (Ig.); tígian (P. Bis.); tinaki (Bis.); unaki (Bik.); upi (If.).

**ALBIZZIA SCANDENS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 265, 5 (1910) Bot. 21.

Palawan, *B. S. 829 Foxworthy, Elmer 12972, 12915*. In forests at low altitudes. Borneo.

#### EXCLUDED SPECIES

**ALBIZZIA ODORATISSIMA** Benth.; F.-Vill. Novis. App. (1880) 75.

#### 6. ACACIA Willdenow

**ACACIA CONCINNA** (Willd.) DC. Prodr. 2 (1825) 464; Benth. in Trans.

Linn. Soc. 30 (1875) 531; F.-Vill. Novis. App. (1880) 74; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 120.

*Mimosa concinna* Willd. Sp. Pl. 4 (1805) 1039.

*Mimosa rugata* Lam. Encycl. 1 (1783) 20.

*Acacia rugata* Ham. in Wall. Cat. (1832) No. 5251, *nomen nudum*; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 28, Fl. Manila (1912) 227.

*Acacia philippinarum* Benth. in Hook. Lond. Journ. Bot. 1 (1842) 514, p.p., quoad *Cuming 1166*.

Luzon (Union, Benguet, Ilocos Sur), *Cuming 1166, Elmer 5689, B. S. 12557 Fénix*. In thickets at low and medium altitudes. India to southern China and Malaya.

*Acacia rugata* Ham. is not based on *Mimosa rugata* Lam.

**ACACIA CONFUSA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 27.

*Acacia richii* Forbes & Hemsl. in Journ. Linn. Soc. Bot. 23 (1887) 215; Perk. Frag. Fl. Philip. (1904) 6; Mat. & Hayata Enum. Pl. Formosa (1906) 117, non A. Gray.

Luzon (Zambales), *Merrill 2114, Warburg 13739, F. B. 5922, 7010 Curran, 28231, 28232 Amarillus*. On slopes and in open dry forests at low altitudes,



very local. Formosa (apparently common), there also planted as a shade tree; southern China. An interesting Australian phyllocladous type.

Local names: Ayañgili (Sbl.); ualisen (Sbl.).

**ACACIA FARNESIANA** (Linn.) Willd. Sp. Pl. 4 (1805) 1083; Benth. in Trans. Linn. Soc. 30 (1875) 502; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 7; F.-Vill. Novis. App. (1880) 74; Vidal Sinopsis Atlas (1883) 25, t. 45, f. C, Rev. Pl. Vasc. Filip. (1886) 119; Perk. Frag. Fl. Philip. (1904) 6; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 28, Fl. Manila (1912) 227, Sp. Blancoanae (1918) 166.

*Mimosa farnesiana* Linn. Sp. Pl. (1753) 521; Blanco Fl. Filip. (1837) 729; ed. 2 (1845) 504, ed. 3, 3 (1879) 133.

Throughout the Philippines in open grasslands, thickets, etc., at low and medium altitudes, especially common in regions subject to a long dry season. A native of tropical America, introduced from Mexico by the Spaniards, now pantropic.

Local names: Kandaróma (Ilk.); aroma (Sp.); sometimes corrupted into rómas; kambang jipun (Sul.).

**ACACIA PENNATA** (Linn.) Willd. Sp. Pl. 4 (1805) 1090; Benth. in Trans. Linn. Soc. 30 (1875) 530; F.-Vill. Novis. App. (1880) 75; Vidal Phan. Cuming. Philip. (1885) 111, Rev. Pl. Vasc. Filip. (1886) 120; Perk. Frag. Fl. Philip. (1904) 6; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 29, Sp. Blancoanae (1918) 167.

*Mimosa pennata* Linn. Sp. Pl. (1753) 522.

*Mimosa tenuifolia* Blanco Fl. Filip. (1837) 739, ed. 2 (1845) 510, ed. 3, 3 (1879) 141, t. 374, non Linn.

Babuyan Islands to Mindanao. In thickets and forests at low and medium altitudes. Tropical Asia, Africa, and Malaya.

Var. **ARROPHULA** (D. Don) Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 298; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 29.

*Acacia arrophula* D. Don Prodr. Fl. Nepal. (1825) 247.

Palawan, *B. S. 897 Foxworthy, Elmer 12908*. In thickets and forests at low altitudes. India.

Var. **PLURICAPITATA** (Steud.) Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 298; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 29.

*Acacia pluricapitata* Steud. Nomencl. ed. 2, 1 (1840) 7; Benth. in Trans. Linn. Soc. 30 (1875) 531.

Luzon (Laguna, Tayabas), Samar, *Elmer 9340, F. B. 26031 Mabesa*. In forests. Burma to Malaya.

Local names: Bayuaing (Ig.); kokó-ti-púsa (Ilk.); sabit (Ig.); salomá-ging-súngo (Ilk.); sapínit (S. L. Bis.); sibog (Tag.).

**ACACIA PHILIPPINARUM** Benth. in Hook. Lond. Journ. Bot. 1 (1842) 514, quoad *Cuming 943*, excl. *Cuming 1166* et descr. fruct.

*Acacia caesia* Perk. Frag. Fl. Philip. (1904) 6; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 29, non Willd.

*Acacia intsia* F.-Vill. Novis. App. (1880) 74; Vidal Sinopsis Atlas (1883) t. 45, f. D, Phan. Cuming. Philip. (1885) 111 (var. *caesia*), Rev. Pl. Vasc. Filip. (1886) 120; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 62, non Willd.

*Acacia concinna* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 374, non DC.

Luzon (Ilocos Sur, Nueva Ecija, Pangasinan, Rizal, Bataan, Laguna), *Cuming 953, Merrill 3796, 2812, Phil. Pl. 444, 1807, Elmer 18159, Williams 478, B. S. 29518, 26291, Ramos & Edaña, 1431, 4578 Ramos, F. B. 5267 Klemme*. In thickets and forests at low altitudes. Endemic. For the status of *Acacia intsia* Willd. and *A. caesia* Willd. see Craib. in Kew Bull. (1915) 407-410.

Local names: Dauag (Tag.); dauag-manók (Tag.); kámot-kabág (Tag.); salsalomáge (Ilk.); sibog-áso (Tag.).

#### EXCLUDED SPECIES

##### ACACIA ARABICA Willd.

A single and apparently old tree of this exists in Pasig, near the east end of the Pasig bridge. A native of Asia.

##### ACACIA MANGIUM Willd. (*A. holosericea* A. Cunn.).

Planted at Lamao, also formerly grown in Manila (*Shaw 485*). A native of the Moluccas and Australia.

##### ACACIA SPECTABILIS A. Cunn.

An Australian species, planted in Baguio.

#### 7. LEUCAENA Bentham

**LEUCAENA GLAUCA** (Linn.) Benth. in Hook. Journ. Bot. 4 (1842) 416, Trans. Linn. Soc. 30 (1875) 443; Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 290; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 41; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 400; Vidal Sinopsis Atlas (1883) 25, t. 45, f. B, Rev Pl. Vasc. Filip. (1886) 119; F.-Vill. Novis. App. (1880) 74; Perk. Frag. Fl. Philip. (1904) 6; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 30, Fl. Manila (1912) 227.

*Mimosa glauca* Linn. Sp. Pl. (1753) 520.

*Acacia glauca* Willd. Sp. Pl. 4 (1805) 1075.

Throughout the Philippines in the settled areas at low and medium altitudes, locally gregarious and abundant. Introduced from tropical America. Pantropic.

Local names: Aghó (P. Bis.); aghóg (P. Bis.); ípel (Tag.); ipil ípil (Tag.); kabahéro (C. Bis.); kariskís (Ilk.); komkompítis (Ilk.); loyloi (S. L. Bis.); Santa Elena (Sp.); San Pedro (P. Bis.).

#### 8. SCHRANKIA Willdenow

**SCHRANKIA QUADRIVALVIS** (Linn.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 30, Sp. Blancoanae (1918) 167.

*Mimosa quadrivalvis* Linn. Sp. Pl. (1753) 522; Blanco Fl. Filip. (1837) 732, ed. 2 (1845) 506, ed. 3, 3 (1879) 135; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 42.

*Schrankia aculeata* Willd. Sp. Pl. 4 (1805) 1041; Benth. in Trans. Linn. Soc. 30 (1875) 441; F.-Vill. Novis. App. (1880) 74.

Luzon (Batangas), Mindanao (Misamis), *B. S. 22461, 26766 Ramos, Merrill Sp. Blancoanae 825*. In open grasslands and waste places, local. Introduced from Mexico.

Local names: Bulongsíri (C. Bis.); sapínit (Tag.).

## 9. MIMOSA Linnaeus

**MIMOSA PUDICA** Linn. Sp. Pl. (1753) 518; F.-Vill. Novis. App. (1880) 74; Vidal Rev. Pl. Vasc. Filip. (1886) 119; Perk. Frag. Fl. Philip. (1904) 7; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 31, Fl. Manila (1912) 228, Sp. Blancoanae (1918) 167.

*Mimosa asperata* Blanco Fl. Filip. (1837) 732, ed. 2 (1845) 505, ed. 3, 3 (1879) 134, t. 253, non Linn.

Throughout the Philippines in open waste places at low and medium altitudes in the settled areas, common and abundant. Introduced from tropical America, now a pantropic weed.

Local names: Bábain (Ilk.); damohia (Tag.); dilgansúsu (Ilk.); harupai (S. L. Bis.); huya-huya (Bis.); kirómkiróm (S. L. Bis.); makahiá (Pang., Tag.); sipug-sipug (Sub.); tuyag-húyag (P. Bis.); torog-torog (Bik.).

## DOUBTFUL SPECIES

**MIMOSA BLANCOANA** Llanos in Mem. Acad. Cienc. Madr. III 2 (1857) 503; F.-Vill & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103; F.-Vill. Novis. App. (1880) 74.

This is perhaps a synonym of *Entada phaseoloides* (Linn.) Merr., or perhaps the very imperfect description was based on material originating from two entirely different plants. It is not recognizable with certainty from the description.

## 10. NEPTUNIA Loureiro

**NEPTUNIA DEPAUPERATA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 16.

Luzon (Ilocos Norte), *B. S. 27169, 32898 Ramos*. In open dry fields at low altitudes. Endemic.

**NEPTUNIA OLERACEA** Lour. Fl. Cochinch. (1790) 654; F.-Vill. Novis. App. (1880) 73; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 12.

Mindanao (Agusan), *Taylor 202*. In shallow lakes and swamps at low altitudes. Pantropic.

## 11. PROSOPIS Linnaeus

**PROSOPIS VIDALIANA** Naves in Ephem. "Oriente" (1877) fide F.-Vill., *Prosopis vidaliana* (1877) 1-19, t. 1, 2, Blanco Fl. Filip. ed. 3 (1877-83) t. 392; Vidal Cat. Pl. Prov. Manila (1880) 28, Sinopsis Atlas (1883) 24, t. 44, f. C; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 31, Fl. Manila (1912) 228.

*Prosopis juliflora* F.-Vill. Novis. App. (1880) 73; Perk. Frag. Fl. Philip. (1904) 7; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 32, Philip. Journ. Sci. 1 (1906) Suppl. 62, non DC.

Manila Bay region, forming dense thickets immediately back of the beach; also in Basilan. Unquestionably introduced from Mexico, probably from the vicinity of Acapulco.

Local names: Aroma (Sp.); properly the name of *Acacia farnesiana* Willd.

## 12. ADENANTHERA Royen

**ADENANTHERA INTERMEDIA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 228, 5 (1910) Bot. 32, Fl. Manila (1912) 229, Sp. Blancoanae (1918) 168.

*Mimosa virgata* Blanco Fl. Filip. (1837) 737, non Linn.

*Mimosa punctata* Blanco Fl. Filip. ed. 2 (1845) 508, ed. 3, 3 (1879) 139, non Linn.

*Adenanthera pavonina* Vidal Sinopsis Atlas (1883) 24, t. 44, f. B, Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 119, non Linn.

Northern Luzon to Palawan and Mindanao. In thickets and forests at low and medium altitudes. Endemic.

Local names: Adambagin (Ilk.); alalañgat (Tag.); bagiroro (Bik.); bahai (P. Bis., Sul.); bugayóng (Ilk.); butarik (Ibn.); kasai (Bis.); kinasaikasai (Tag.); ípil-tanglín (Ilk.); malaságad (Tag.); malatáyon (Pamp.); malatágum (Bik.); matáng-uláng (Tag.); paagáhan (Tag.); pamiásin (Ilk.); sagun-ságum (Bik.); tanglín (Tag.); tadlañgau (Bik.); tanglon (Pamp.); tañgalin (Tag.).

**ADENANTHERA PAVONINA** Linn. Sp. Pl. (1753) 348; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 46, F.-Vill. Novis. App. (1880) 73.

Occasionally cultivated in Manila; introduced from India, now pantropic in cultivation.

### 13. ENTADA Adanson

**ENTADA PARVIFOLIA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 229, 5 (1910) Bot. 33.

*Entada philippinensis* Gagnep. in Not. Syst. 2 (1911) 58.

Luzon (Union, Zambales, Bataan), Golo, Busuanga, Cuyo, *B. S. 4810, 5067, 21375 Escritor, 41227 Ramos, F. B. 20028 Topacio, Hallier, Lete 550, Merrill 11557, Marche 368*. In thickets at low altitudes. The underground parts form a very large somewhat fleshy tuber; the stems are used as a soap substitute. Endemic.

Local names: Dalidigan (Tagb.); hinagi (Sbl.); kati-u (Ilk.).

**ENTADA PHASEOLOIDES** (Linn.) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 86, Interpret. Herb. Amb. (1917) 235, Sp. Blancoanae (1918) 168, 194.

*Lens phaseoloides* Linn. in Stickman Herb. Amb. (1754) 18, Amoen. Acad. 4 (1759) 128.

*Mimosa entada* Linn. Sp. Pl. (1753) 518.

*Mimosa scandens* Linn. Sp. Pl. ed. 2 (1763) 1501.

*Entada scandens* Benth. in Hook. Journ. Bot. 4 (1842) 332, Trans. Linn. Soc. 30 (1875) 363; Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 287; F.-Vill. Novis. App. (1880) 73; Vidal Sinopsis Atlas (1883) 24, t. 44, f. A, Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 119; Perk. Frag. Fl. Philip. (1904) 7; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 32.

*Adenanthera gogo* Blanco Fl. Filip. (1837) 353.

*Entada pursaetha* DC. Prodr. 2 (1825) 425; Blanco Fl. Filip. ed. 2 (1845) 247, ed. 3, 2 (1878) 96.

*Mimosa blancoana* Llanos in Mem. Acad. Cienc. Madr. 2 (1859) 503; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103?

Northern Luzon (Cagayan) to Mindanao and Palawan. In forests at low and medium altitudes. Pantropic.

Local names: Balúgo (Tag., Pamp.); barúgo (S. L. Bis.); bayógo (C. Bis., Tag.); balónos (Bis.); dípai (Ig.); gógong-bákai (Pamp.); gógo (Tag., Bik., Tagb., P. Bis.); gúgo (Tag.); gúgu (Tag.); kézzing (Ibn.); lípai (Ilk.); tamayan (Bag.).

#### 14. PARKIA R. Brown

**PARKIA HARBESONII** Elm. Leaf. Philip. Bot. 5 (1913) 1804.

Palawan, *Elmer 13173, F. B. 27391 Cenabre, Baldemor, & Aduviso, Merrill 9351*. In forests, sea level to an altitude of 150 m. Endemic.

Local name: Butad (Tagb.).

**PARKIA JAVANICA** (Lam.) Merr. Sp. Blancoanae (1918) 168.

*Gleditsia javanica* Lam. Encycl. 2 (1788) 466.

*Acacia ? javanica* DC. Prodr. 2 (1825) 471.

*Mimosa biglobosa* Roxb. Fl. Ind. ed. 2, 2 (1832) 551, non Jacq.

*Parkia roxburghii* G. Don Gen. Syst. 2 (1832) 397; Benth. in Trans.

Linn. Soc. 30 (1875) 360; F.-Vill. Novis. App. (1880) 74; Vidal

Sinopsis Atlas (1883) 24, t. 44, f. D, Rev. Pl. Vasc. Filip. (1886)

119; Perk. Frag. Fl. Philip. (1904) 7; Merr. in Philip. For. Bur.

Bull. 1 (1903) 23, Govt. Lab. Publ. (Philip.) 27 (1905) 42, Philip.

Journ. Sci. 1 (1906) Suppl. 62.

*Inga timoriana* DC. Prodr. 2 (1825) 442.

*Mimosa peregrina* Blanco Fl. Filip. (1837) 737, ed. 2 (1845) 509, ed. 3, 3 (1879) 139, non Linn.

*Acacia niopo* Llanos in Mem. Acad. Cienc. Madr. 4 (1858) 508; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 106, non HBK.

*Parkia timoriana* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 33, Fl. Manila (1912) 229.

Luzon (Union to Laguna), Palawan. Common in forests at low and medium altitudes. India to Timor.

Local names: Amarang (Tagb.); bagóen (Ilk.); balái-uák (Ilk.); kúpang (Tag., Sbl., Tagb., Ilk.).

**PARKIA SHERFESEI** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 9.

Mindanao (Agusan), *F. B. 21962 Sherfesee, Cenabre, & Ponce, 23669, 23670 Razon, 24485 Miras, Sabino, & Oliveros*. Near tidal streams. Endemic.

Local name: Kunding (C. Bis.).

#### 15. ERYTHROPHLOEUM Afzelius

**ERYTHROPHLOEUM DENSIFLORUM** (Elm.) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 267, 5 (1910) Bot. 35; L. Planch. in Ann. Colon. Mus.

Marseille 19 (1911) 304, t. 3, 4, figs.

*Cynometra densiflora* Elm. Leaf. Philip. Bot. 1 (1907) 222.

Luzon (Cagayan, Tayabas, Rizal, Camarines, Sorsogon), Palawan, Mindanao, (Lanao, Zamboanga), *Elmer 9014, 16686, F. B. 20476, 21831, 21910 Barros, 10272, 10215, 17198 Curran, 24260, 26262 Bernardo, 23369 Ponce, 21635 Lopez, Loher 6056*. In forests at low and medium altitudes. Endemic. This small genus is chiefly African, with one species in Indo-China, one in China, and one in Australia.

Local names: Abihal (Neg.); baris (Tagb.); batik (Tag.); kadir (Ilk.); kalamátau (Tag.); kamátog (Tag.); malabúnan (Bik.); ñgirikñgík (Neg.); pali. (Lan.); salsál (Neg.); taklóban (Tag.).

## 16. CYNOMETRA Linnaeus

**CYNOMETRA BIFOLIOLATA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 272.

Luzon (Cagayan), *F. B. 24211 Barros, Warburg 12087*. Along river banks at low altitudes. Endemic.

**CYNOMETRA BIJUGA** Spanoghe in Linnaea 15 (1841) 201, *nomen nudum*; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 78; Perk. Frag. Fl. Philip. (1904) 7; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 36.

*Cynometra whitfordii* Elm. Leaf. Philip. Bot. 8 (1915) 2734.

Luzon (Union, Zambales), Palawan, Leyte, Panay, Mindanao, *Lete 507, F. B. 3785 Curran, 28844 Mallonga, 12727 Rosenbluth, Weber 1018, Elmer 18465*. In forests along streams at low and medium altitudes. Ceylon, through Malaya to Timor.

Local names: Ananamsi (C. Bis.); bayág-áso (Lan.); katokabiñganan (Mbo.); lumbadan (Mbo.); malatágum (P. Bis.); namot-namot (Sub., C. Bis.); suhai-bágio (S. L. Bis.); suñgot-úlang (P. Bis.).

Var. **MIMOSOIDES** (Wall.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 36. *Cynometra mimosoides* Wall. Cat. (1832) No. 5817, *nomen nudum*.

*Cynometra ramiflora* Linn. var. *mimosoides* Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 267.

Panay, Tablas, Mindanao, *Cuming 1652, F. B. 20519, 20504, 20795 Rafael & Ponce, 20528 Miranda, 22462 Klemme*. In forests at low altitudes. India and Ceylon to the Andaman Islands.

**CYNOMETRA CAULIFLORA** Linn. Sp. Pl. (1753) 382; F.-Vill. Novis. App. (1880) 71; Naves in Blanco Fl. Filip. (1877-83) t. 213; Vidal Sinopsis Atlas (1883) 24, t. 43, f. H.

*Cynometra acutiflora* Vidal Rev. Pl. Vasc. Filip. (1886) 118; Ceron Cat. Pl. Herb. Manila (1892) 70, sphalm.

Luzon, formerly cultivated in Manila, *Vidal 1278, Loher 2205*, now cultivated at Lamao. Introduced from India or Malaya.

**CYNOMETRA COPELANDII** (Elm.) Elm. Leaf. Philip. Bot. 8 (March 27, 1915) 2734; Merr. in Philip. Journ. Sci. 10 (April 23, 1915) 13.

*Gleditschia copelandii* Elm. Leaf. Philip. Bot. 2 (1910) 695.

Sibuyan, *Elmer 12234*. In forests, altitude about 125 m. Endemic.

**CYNOMETRA DONGNAINISIS** Pierre Fl. Forest. Cochinch. 4 (1899) t. 389A; Gagnep. in Lecomte Fl. Gen. Indo-Chine 2 (1913) 155.

Cebu, Mindanao (Butuan, Davao), *F. B. 6488 Espinosa, 20563 Miranda, 26244 Ceballos*. In forests at low and medium altitudes. Cochinchina.

Local name: Matágum (C. Bis.).

**CYNOMETRA INAEQUIFOLIA** A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 473; F.-Vill. Novis. App. (1880) 71; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 118; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 3 (1908) Bot. 82, 5 (1910) Bot. 36, Sp. Blancoanae (1918) 169.

*Schotia speciosa* Blanco Fl. Filip. (1837) 356, ed. 2 (1845) 251, ed. 3, 2 (1878) 100, non Jacq.

Luzon (Cagayan, Union, Zambales, Bataan, Rizal, Tayabas, Cavite, Laguna, Batangas). In forests at low and medium altitudes. Endemic, with an allied form in the Malay Peninsula.

Local names: Akakob (Tag.); balitbítan (Tag.); dila-díla Sbl., Tag.); kabilian (Tag.); namot (C. Bis.); olod (Pamp.); palanapoi (Sbl.); uló (Ibn.).

**CYNOMETRA LUZONIENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 266, 5 (1910) Bot. 37.

Luzon (Rizal, Tayabas, Camarines), *Merrill 2128, F. B. 23014 Aguilar, 28760 Simeon, B. S. 3286 Ramos p. p.* In forests at low and medium altitudes. Endemic.

Local name: Tañgísang-bágio (Tag.).

**CYNOMETRA RAMIFLORA** Linn. Sp. Pl. (1753) 382, excl. syn. Rheede; F.-Vill. Novis. App. (1880) 71; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 37.

Luzon (Cagayan, Bulacan, Rizal, Tayabas), *F. B. 7214, 16967 Curran, Whitford 847, Loher 5959.* In forests along streams at low and medium altitudes. Ceylon, through Malaya to tropical Australia.

Local names: Balitbítan (Tag.); komon (Neg.); odling (Bis.); ulá (Ibn.); ulud (Tag.).

**CYNOMETRA SIMPLICIFOLIA** Harms in Notizbl. Kgl. Bot. Gart. Berlin 3 (1902) 186; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 5 (1910) Bot. 37, Fl. Manila (1912) 236, Sp. Blancoanae (1918) 170.

*Crudia spicata* Blanco Fl. Filip. ed. 2 (1845) 261, ed. 3, 2 (1878) 121, p.p., non Willd.

Northern Luzon (Cagayan) to Mindanao and Basilan: In thickets and open dry forests at low and medium altitudes. Endemic.

Local names: Dila-díla (Tag.); lanis (Bag.); makanit (Tag.); mala-tumbága (Tag.); matolog (P. Bis.); núpai (Sul.); pagapus (Mag.); pamalitin (Ilk.); piñgan (Pamp.); siping (Ibn.).

Var. **OBLONGATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 37.

Luzon (Rizal), *F. B. 2978 Ahern's collector, B. S. 3349, 5216 Ramos, Warburg 13204.* Habitat of the species. Endemic.

**CYNOMETRA WARBURGII** Harms in Notizbl. Kgl. Bot. Gart. Berlin 3 (1902) 186; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 37.

Luzon (Cagayan, Ilocos Norte, Nueva Ecija), *Warburg 12086, 12427, B. S. 27338 Ramos, F. B. 22442 Alvarez.* In forests, chiefly near streams at low and medium altitudes. Endemic.

#### 17. KINGIODENDRON Harms

**KINGIODENDRON ALTERNIFOLIUM** (Elm.) Merr. & Rolfe in Philip. Journ. Sci. 4 (1909) Bot. 267; Merr. op. cit. 5 (1910) Bot. 38.

*Cynometra alternifolia* Elm. Leaf. Philip. Bot. 1 (1907) 223.

*Hardwickia alternifolia* Elm. op. cit. (1908) 362.

Luzon (Cagayan, Tayabas, Camarines, Albay), Ticao, Masbate, Samar, Leyte, Panay, Mindanao. In forests at low and medium altitudes. Endemic.

Local names: Bagbalógo (S. L. Bis.); batéte (Tag., Bik., P. Bis.); batíti (P. Bis.); danggái (Tag., Bik., P. Bis.); duká (S. L. Bis., P. Bis.); kalikit (Mbo.); kalitkit (Mbo.); komagaskas (C. Bis.); longbayau (Mbo.); magbalógo (S. L. Bis.); manongbáyo (Mbo.); palina (C. Bis.); parina (C. Bis.); payina (C. Bis.); salalañgin (Bik.); taruñgatiñgan (Bik.); tuaan (C. Bis.).

#### 18. SINDORA Miquel

**SINDORA INERMIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 314.

Luzon (Camarines), Dinagat, Mindanao (Zamboanga, Cotabato), Si-butu, Jolo, *F. B. 23054 Ferraris, 26505 De Mesa & Magistrado, 21993 Villamil*. In forests along the seashore and at low altitudes inland. Endemic, unless it proves to be identical with the Moluccan *Sindora gale-dupa* Prain.

Local names: Gayugalo (Mag.); kayugalu (Mag.); nito-nitong puti (Bik.); parina (Bik.); sinsud (Sul.); sinsuod (Sul.).

**SINDORA SUPA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 198, 5 (1910) Bot. 38.

*Sindora wallichii* F.-Vill. Novis. App. (1880) 71; Vidal Sinopsis Atlas (1883) 24, t. 43, f. C., Rev. Pl. Vasc. Filip. (1886) 118; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 23, non Benth.

Luzon (Tayabas, Nueva Ecija, Camarines, Albay), Mindoro. In forests at low and medium altitudes. Endemic.

Local names: Manapo (Bik., Tag.); paina (Bik.); parina (Bik.); súpa (Tag., Bik.).

#### 19. CRUDIA Schreber

**CRUDIA BLANCOI** Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 309; Vidal Rev. Pl. Vasc. Filip. (1886) 118; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 39, Sp. Blancoanae (1918) 170.

*Crudia spicata* Blanco Fl. Filip. ed. 2 (1845) 261, ed. 3, 2 (1878) 121 p. p., t. 244; Vidal Sinopsis Atlas (1883) 24, t. 43, f. B; F.-Vill. Novis. App. (1880) 71, non Willd.

*Apalatoa blancoi* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 19.

Luzon (Pangasinan, Nueva Ecija, Pampanga, Bulacan, Rizal, Laguna, Camarines). In thickets and forests, chiefly along streams at low and medium altitudes. Endemic.

Local names: Bigbiga (Tag.); hintotoor (Tag.); kalatumbága (Tag.); malatumbága (Ilk., Tag., Pamp.); malusúñgai (Tag.); ulud (Sbl.).

**CRUDIA SUBSIMPLICIFOLIA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 39.

Luzon (Cagayan), Leyte, *F. B. 4287 Klemme, Wenzel 1252*. In forests at low altitudes. Endemic.

Local name: Tambáli (Neg.).

#### 20. TAMARINDUS Linnaeus

**TAMARINDUS INDICA** Linn. Sp. Pl. (1753) 34; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 82; Vog. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 39; Blanco Fl. Filip. (1837) 29, ed. 2 (1845) 20, ed. 3, 1 (1877) 39, t. 14; F.-Vill. Novis. App. (1880) 71; Vidal Phan. Cuming. Philip.



(1885) 110, Rev. Pl. Vasc. Filip. (1886) 118, Sinopsis Atlas (1883) 24, t. 43, f. D; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 40, Fl. Manila (1912) 235, Sp. Blancoanae (1918) 179.

The tamarind, planted throughout the settled areas of the Philippines, of prehistoric introduction. Pantropic in cultivation, probably a native of tropical Africa.

Local names: Asam (Sul.); kalamági (Bis., Ibn.); salomági (Ilk.); salamági (Ilk.); salunági (Ting.); sambag (P. Bis.); sambak (Bik.); sambági (Bis.); sambalági (Bik.); sampálok (Tag., Pamp., C. Bis.); sanbag (P. Bis.); tamaríndo (Sp.).

## 21. INTSIA Thouars

**INTSIA ACUMINATA** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 20; Philip. Journ. Sci. 5 (1910) Bot. 40.

Luzon (Cagayan, Tayabas), *Merrill 1108, 2584, 2594, F. B. 1413, 7063, 11318 Klemme*. In forests near the seashore. Endemic.

Local names: Balahian (Neg.); bayugbúg (C. Bis.); ípil (Ibn., Tag.).

**INTSIA BIJUGA** (Colebr.) O. Kuntze Rev. Gen. Pl. (1891) 192; Prain in Sci. Mem. Med. Off. Ind. Army 12 (1901) 12; in Philip. Journ. Sci. 1 (1906) Suppl. 63, 3 (1908) Bot. 409, 5 (1910) Bot. 40, Fl. Manila (1912) 235, Interpret. Herb. Amb. (1917) 255, Sp. Blancoanae (1918) 171.

*Macrolobium bijugum* Colebr. in Trans. Linn. Soc. 12 (1819) 359, t. 17.

*Afzelia bijuga* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 467, t. 51; F.-Vill. Novis. App. (1880) 72; Vidal Sinopsis Atlas (1883) 24, t. 42, f. B.; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 24; Perk. Frag. Fl. Philip. (1904) 7.

*Eperua decandra* Blanco Fl. Filip. (1837) 368, ed. 2 (1845) 259, ed. 3, 2 (1878) 118.

Babuyan Islands and northern Luzon to Mindanao and Palawan. Usually along the seashore, in some localities occurring in inland forests. Madagascar, across Malaya to the Caroline and Fiji Islands.

Local names: ípil (Ibn., Tag., Bik., Tagb., Sul., Bis., Mbo., Lan., Mag.); ípil-lalaó (Tag.); ítíl (Mag.); lábnig (Tag.); muláto (C. Bis.); nála (Sbl.); taal (Tag.); tigel (Tagb.).

### EXCLUDED SPECIES

**AFZELIA PALEMBANICA** Baker; F.-Vill. Novis. App. (1880) 72.

## 22. PAHUDIA Miquel

**PAHUDIA RHOMBOIDEA** (Blanco) Prain in Sci. Mem. Off. Ind. Army 12 (1901) 14; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 5 (1910) Bot. 41, Fl. Manila (1912) 236, Sp. Blancoanae (1918) 171.

*Eperua falcata* Blanco Fl. Filip. (1837) 369, non Aubl.

*Eperua rhomboidea* Blanco op. cit. ed. 2 (1845) 260, ed. 3, 2 (1878) 119, t. 281.

*Afzelia rhomboidea* Vidal Cat. Pl. Prov. Manila (1880) 28, Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 117,

Sinopsis Atlas (1883) 24, t. 42, f. A; F.-Vill. Novis. App. (1880) 72; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 24.

Northern Luzon (Cagayan) to Mindanao and Palawan. In primary forests at low and medium altitudes, locally abundant. Endemic.

Local names: Apáilit (Pang.); balahiáú (Neg.); baláyong (Tag., C. Bis.); baráong (Bik., S. L. Bis.); bayádgung (Mbo.); baárong (S. L. Bis.); báiong (C. Bis., Buk.); biálung (Mag.); ípil (Ibn., Neg.); magálayau (Ibn.); magáliau (Ibn.); sañgai (Bik.); tándalo (Sbl., Tag.).

### 23. BAUHINIA Linnaeus

**BAUHINIA ACUMINATA** Linn. Sp. Pl. (1753) 375; Vidal Cat. Pl. Prov. Manila (1880) 27; F.-Vill. Novis. App. (1880) 72; Perk. Frag. Fl. Philip. (1904) 8; Hook. f. in Curtis's Bot. Mag. III 58 (1902) t. 7866; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 43, Fl. Manila (1912) 230.

*Bauhinia tomentosa* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 111, non Linn.

Luzon (Union, Rizal, Tayabas), Marinduque, Panay. In dry thickets at low and medium altitudes, probably introduced. India to southern China and Malaya.

Local names: Bambáng (Tag.); kulibangbáng (Ilk.).

**BAUHINIA AHERNIANA** Perk. Frag. Fl. Philip. (1904) 8; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 45.

*Bauhinia antipolana* Perk. op. cit. 9; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 45.

*Bauhinia pinchotiana* Perk. op. cit. 12; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 45.

*Bauhinia semibifida* Vidal Sinopsis Atlas (1883) 24, t. 49, f. 1?; F.-Vill. Novis. App. (1880) 73, non Roxb.

*Phanera semibifida* Benth. in Miq. Pl. Jungh. (1852) 265 p. p. quoad *Cuming* 1119.

Luzon (Benguet, Ilocos Sur, Lepanto, Rizal), Mindoro, Palawan, Cebu, Mindanao, Merrill 1237, 1317, 1873, 9189, Phil. Pl. 465, *Cuming* 1119, McGregor 256, F. B. 12007 Merritt, Clemens 228. In thickets and forests at low and medium altitudes. Endemic.

Local names: Banot (Tag.); banlut (C. Bis.).

**BAUHINIA BINATA** Blanco Fl. Filip. (1837) 331 (*binnata*), ed. 2 (1845) 231, ed. 3, 2 (1878) 66; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 42; Philip. Journ. Sci. 5 (1910) Bot. 43, Sp. Blancoanae (1918) 72.

*Bauhinia pinnata* Walp. in Linnaea 16 (1846) Litt.-Ber. 53.

*Phanera blancoi* Benth. in Miq. Pl. Jungh. (1852) 264; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 70.

*Bauhinia blancoi* Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 278; Hemsl. Bot. Challenger Exp. 1<sup>a</sup> (1884) 146; F.-Vill. Novis. App. (1880) 72; Vidal Phan. *Cuming*. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 117; Perk. Frag. Fl. Philip. (1904) 8.

Luzon (Zambales, Tayabas), Coron, Palawan, Dumarán, Cebu, Panay, Negros, Bohol, Mindanao, Basilan, Sibutu, Merrill 1972, 5294, Sp. Blancoanae 998, Warburg 13746, F. B. 3545, 13705 Curran, Elmer 12031. In thickets along the seashore, tidal streams, etc.; comparison made at Kew

shows the Siam material to be identical with the Philippine specimens. Siam, Timor Laut.

Local names: Alibihil (Bis.); alibangbáng (Tag.); malabánot (Tag.).

**BAUHINIA CUMINGIANA** (Benth.) F.-Vill. Novis. App. (1880) 73; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 116; Perk. Frag. Fl. Philip. (1904) 9; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 5 (1910) Bot. 44, Sp. Blancoanae (1918) 171.

*Bauhinia scandens* Blanco Fl. Filip. (1837) 332, ed. 2 (1845) 232, ed. 3, 2 (1878) 68, t. 76, non Linn.

*Phanera cumingiana* Benth. in Miq. Pl. Jungh. (1852) 263; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 68.

*Bauhinia vahlii* F.-Vill. Novis. App. (1880) 72, non W. & A.

*Phanera vahlii* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 76, non Benth.

Northern Luzon (Cagayan) to Mindanao. Common in forests at low and medium altitudes. Endemic.

Local names: Agki (Pamp.); agpoi (Tag., Bik.); arabahau (Mbo.); aro (Bag.); balagon (Chab.); banot (Tag.); impid (Bik.); impig (Bik.); kalibangbáng (P. Bis.) kali-bangbáng-anai (Mbo.); libangbáng (P. Bis.); lúpig (Tag.); ogpoi (Tag.); oplíg (Ilk.); salibangbángan (S. L. Bis., P. Bis.); ugpoi (Tag., Pamp.); umpig (Ibn.); umpík (Ibn.); uplíg (Ilk.); upling (Ilk.).

**BAUHINIA DOLICHOCALYX** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 231, 5 (1910) Bot. 44, Sp. Blancoanae (1918) 171.

*Bauhinia grandiflora* Blanco Fl. Filip. (1837) 332, ed. 2 (1845) 231, ed. 3, 2 (1878) 67; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 42, Philip. Journ. Sci. 2 (1907) Bot. 422 (excl. *B. acuminata*), non Juss.

*Bauhinia variegata* F.-Vill. Novis. App. (1880) 73, non Linn.

Luzon (Batangas), *F. B. 7756 Curran & Merritt, Merrill Sp. Blancoanae 531*. On dry slopes at low altitudes. Endemic.

Local names: Boñgalon (Tag.); malabanot (Tag.).

**BAUHINIA HALLIERIANA** Elm. Leaf. Philip. Bot. 2 (1910) 691.

Romblon, *Elmer 12172, Hallier*. In thickets at low altitudes. Endemic.

Local name: Bika-bíka (P. Bis.).

**BAUHINIA LEPTOPUS** Perk. Frag. Fl. Philip. (1904) 10; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 44.

*Bauhinia copelandii* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 230.

*Bauhinia bidentata* F.-Vill. Novis. App. (1880) 72; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 117, non Jack.

*Phanera bidentata* Benth. in Miq. Pl. Jungh. (1852) 263 p. p. quoad *Cuming 1744*.

Luzon (Tayabas, Camarines), Samar, Leyte, Panay, Negros, Mindanao, *Cuming 1744, Copeland 1429, Warburg 12824, 14689, Baker 3252, Wenzel 639, 1775, Clemens 1059, Elmer 10477, Merrill Phil. Pl. 1687, F. B. 21251 Alvarez, B. S. 28957, 31031 Ramos & Edaño*. In forests at low and medium altitudes. A variety in Java.

Local names: Kalibangbang (Bag.); malakmi (Lan.).

**BAUHINIA MALABARICA** Roxb. Hort. Beng. (1814) 31, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 321; F.-Vill. Novis. App. (1880) 72; Vidal Cat. Pl. Prov. Manila (1880) 27, Rev. Pl. Vasc. Filip. (1886) 117; Perk. Frag. Fl. Philip. (1904) 8; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 43, Sp. Blancoanae (1918) 172.

*Piliostigma acidum* Benth. in Miq. Pl. Jungh. (1852) 261; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 470; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 118.

*Bauhinia tomentosa* Blanco Fl. Filip. (1837) 330, ed. 2 (1845) 230, ed. 3, 2 (1878) 65, t. 118, non Linn.

*Bauhinia purpurea* Vidal Sinopsis Atlas (1883) 24, t. 43, f. A, non Linn.

Luzon (Ilocos Norte to Laguna), very common on open dry slopes in regions subject to a long dry season. India to Indo-China, Java, and Timor.

Local names: Alibangbáng (Tag.); alibangbáng (Tag., Bis., Pamp.); balibambán (Pamp.); kalibanbáng (Pang., Tag.); kalibangbáng (Ilk.).

**BAUHINIA MERRILLIANA** Perk. Frag. Fl. Philip. (1904) 10; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 45.

Palawan, Mindanao (Zamboanga), *Merrill 694, Elmer 12723, B. S. 192 Bermejos, 37308, 36722 Ramos & Edaña, F. B. 3554 Curran*. In thickets and forests at low altitudes. Endemic.

**BAUHINIA MONANDRA** Kurz in Journ. As. Soc. Beng. 42<sup>2</sup> (1873) 73; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 265, 5 (1910) Bot. 46, Fl. Manila (1912) 231.

*Bauhinia krugii* Urban in Ber. Deutsch. Bot. Ges. 3 (1885) 83.

*Bauhinia kappleri* Sagot in Ann. Sci. Nat. Bot. VI 13 (1882) 317; Perk. Frag. Fl. Philip. (1904) 13; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 17.

*Bauhinia subrotundifolia* F.-Vill. Novis. App. (1880) 72; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 82, non Cav.

Fairly common in cultivation in the settled areas at low altitudes, central Luzon to Mindanao. A native of tropical America, now pantropic.

Local names: Alibangbáng (Tag.); cinco llagas (Sp.); fringon (Sp.); mainuma (Pamp.); mimang (C. Bis.).

**BAUHINIA NYMPHAEIFOLIA** Perk. Frag. Fl. Philip. (1904) 11; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 45.

*Bauhinia fulva* F.-Vill. Novis. App. (1880) 72, non Blume.

Luzon (Ilocos Sur, Abra), *Cuming 1180 (1181 in some herbaria), B. S. 27040 Ramos*. In forests at low altitudes. Endemic.

**BAUHINIA PAUCIFLORA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 13.

Luzon (Tayabas), *B. S. 13113 Foxworthy & Ramos*. In forests at low altitudes. Endemic.

**BAUHINIA PERKINSIAE** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 21, Philip. Journ. Sci. 5 (1910) Bot. 45.

*Bauhinia ferruginea* Perk. Frag. Fl. Philip. (1904) 9, non Roxb.

Palawan, *Merrill 731, 9190, F. B. 3553 Curran*. In thickets at low altitudes. Endemic.

**BAUHINIA PURPUREA** Linn. Sp. Pl. (1753) 375; Blanco Fl. Filip. ed. 2 (1845) 231, ed. 3, 2 (1878) 66; F.-Vill. Novis. App. (1880) 73; Merr. Sp. Blancoanae (1918) 172.

*Bauhinia castrata* Blanco Fl. Filip. (1837) 331.

Luzon (Manila, Los Baños), *Merrill 8372*, *Sp. Blancoanae 1050*. A native of tropical Asia, introduced and cultivated in the Philippines.

Local name: Alibangbáng (Tag.).

**BAUHINIA SUBGLABRA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 230, 5 (1910) Bot. 44.

Palawan, *B. S. 821 Foxworthy*, *Elmer 12962*. In forests at low altitudes. Endemic.

**BAUHINIA TOMENTOSA** Linn. Sp. Pl. (1753) 375; F.-Vill. Novis. App. (1880) 72; Vidal Rev. Pl. Vasc. Filip. (1886) 117; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 43, Fl. Manila (1912) 230.

*Bauhinia binata* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 19, non Blanco.

Cultivated in Manila and in other towns, introduced from tropical Asia.

**BAUHINIA WARBURGII** Perk. Frag. Fl. Philip. (1904) 12; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 46.

Luzon (Apayao, Tayabas, Camarines), Samar, Leyte, *B. S. 28176 Fénix*, *24384 Ramos*, *24799 Edaña*, *F. B. 11338 Curran*, *Warburg 12823*, *Wenzel 1757*. In forests at low altitudes. Endemic.

**BAUHINIA WHITFORDII** Elm. Leaf. Philip. Bot. 1 (1907) 229; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 44.

Luzon (Benguet, Cagayan, Zambales, Bataan), *Elmer 8897*, *Castillo, F. B. 6009 Curran*. In forests and thickets at medium and low altitudes. Endemic.

Local names: Agpoi (Sbl.); atiklanan (Ig.); chipig (Ig.); ugpoi (Tag.); umpíg (Ibn.).

#### DOUBTFUL AND EXCLUDED SPECIES

**BAUHINIA ELONGATA** Kunth.; F.-Vill. Novis. App. (1880) 73.

**BAUHINIA INERMIS** Perr. in Mém. Soc. Linn. Paris 3 (1824) 102, *nomen nudum*.

**BAUHINIA KHASIANA** Baker; F.-Vill. l. c.

**BAUHINIA ? LATISILIIQUA** Cav. Ic. 5 (1799) 5, t. 407; F.-Vill. Novis. App. (1880) 73; Vidal Phan. Cuming. Philip. (1886) 117.

This is a mixture of a *Bauhinia* (leaves) and a *Mezoneurum* (fruits) = *Mezoneurum latisiliquum* (Cav.) Merr.

**BAUHINIA LUNULARIA** Cav. Ic. 5 (1799) 4, t. 407; DC. Prodr. 2 (1825) 512; F.-Vill. Novis. App. (1880) 72; Vidal Rev. Pl. Vasc. Filip. (1886) 117.

"Habitat in Calávan [Calauan, Laguna Province, Luzon] et Acapulco [Mexico], viciniis" Cavanilles. This is a species of the section *Casparia* and is undoubtedly of American, not Philippine origin; many of the Malaspina Expedition plants were erroneously localized.

BAUHINIA RETUSA Ham.; F.-Vill. Novis. App. (1880) 72.

BAUHINIA RUFA Grah.; F.-Vill. Novis. App. (1880) 72.

BAUHINIA SUBROTUNDIFOLIA Cav. Ic. 5 (1799) 4, t. 406; DC. Prodr. 2 (1825) 512; Vidal Rev. Pl. Vasc. Filip. (1886) 117.

"Habitat in Calávan duodecim leucis a Manila et etiam in Acapulco viciniis" Cavanilles. This belongs in the section *Casparia* and is undoubtedly American, not Philippine; see *B. lunularia* Cav. above.

BAUHINIA RACEMOSA Lam.; F.-Vill. Novis. App. (1880) 72.

#### 24. KOOMPASSIA Maingay

KOOMPASSIA EXCELSA (Becc.) Taub. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>3</sup> (1891) 156; Bericht Deutsch. Bot. Ges. 10 (1892) 641, t. 32, f. 1-3; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 12.

*Abauria excelsa* Becc. Malesia 1 (1877) 169.

Palawan, *F. B. 21580 Danao*. In dense forests at low altitudes. Borneo. Local name: Mañggis (Tagb.).

#### 25. CASSIA Tournefort

CASSIA ALATA Linn. Sp. Pl. (1753) 378; Blanco Fl. Filip. (1837) 339, ed. 2 (1845) 237, ed. 3, 2 (1878) 77, t. 124 bis; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 93; F.-Vill. Novis. App. (1880) 70; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 462; Vidal Rev. Pl. Vasc. Filip. (1886) 116; Perk. Frag. Fl. Philip. (1904) 14; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 3 (1908) Bot. 82, 5 (1910) Bot. 50, Fl. Manila (1912) 234, Sp. Blancoanae (1918) 174.

*Herpetica alata* Raf. Sylv. Tellur. (1838) 123.

Throughout the Philippines in the settled areas at low and medium altitudes, locally abundant; occasionally planted. Introduced from tropical America, now pantropic.

Local names: Adadisi (Ting.); akapulko (Sul., Tag.); ancharási (Ig.); andadási (Ilk.); andadási-a-dadakkél (Ilk.); andadasi-ñg-bugbugtóng (Ilk.); andalan (Sul.); bayabásin (Tag.); bikas-bíkas (Tag.); buni-buni (Bag.); gamót-sa-búni (Tag.); kapúrko (Tag.); kapis (Sub.); katánda (Tag.); kasítas (Bik., Bis.); pakagonkon (Tag.); pakayomkom-kastila (Pamp.); palo-china (Bis.); sunting (C. Bis.); sonting (Tag.).

CASSIA DIVARICATA Nees & Blume Syll. Ratisb. 1 (1824) 94; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 97; Benth. in Trans. Linn. Soc. 27 (1871) 554; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Rev. Pl. Vasc. Filip. (1886) 116; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 49.

Luzon (Benguet, Bontoc, Lepanto, Zambales), *Elmer 5996, F. B. 10928 Curran, Vanoverbergh 731, Pascasio 507*. In thickets or forests at medium altitudes, ascending to 1,600 m. Java.

Local name: Ataatab (Ig.).

CASSIA FISTULA Linn. Sp. Pl. (1753) 377; Blanco Fl. Filip. (1837) 339, ed. 2 (1845) 237, ed. 3, 2 (1878) 76, p. p. t. 120; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 89; F.-Vill. Novis. App. (1880) 70; Vidal Sinopsis Atlas

(1883) 24, t. 42, f. E, Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 116; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 47, Sp. Blancoanae (1918) 174.

Northern Luzon to Mindanao and Palawan, occasionally planted. A native of tropical Asia, introduced in the Philippines, now pantropic in cultivation.

Local names: Bítsula (C. Bis.); caña fistula (Sp.); kaña-péstula (Ibn.); kaña-pístola (Tag.); fistula (C. Bis.); ibabau (Bis.); lombayong (Bis.); lapad-lapad (Tagb.).

**CASSIA HIRSUTA** Linn. Sp. Pl. (1753) 378; F.-Vill. Novis. App. (1880) 70; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 30, Philip. Journ. Sci. 5 (1910) Bot. 50, Fl. Manila (1912) 234, Sp. Blancoanae (1918) 173.

*Cassia longisiliqua* Blanco Fl. Filip. (1837) 338, non Linn. f.

*Cassia sulcata* Blanco Fl. Filip. ed. 2 (1845) 236, ed. 3, 2 (1878) 76, non DC.

Luzon (Manila, Rizal, Laguna). Occasional in waste places in the settled areas at low altitudes; a native of tropical America, now pantropic.

Local names: Balbalatuñgan (Tag.); katanda (Tag.); tighiman (Tag.).

**CASSIA JAVANICA** Linn. Sp. Pl. (1753) 379; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 90; F.-Vill. Novis. App. (1880) 70; Vidal Sinopsis Atlas (1883) 24, t. 42, f. D, Rev. Pl. Vasc. Filip. (1886) 116; Perk. Frag. Fl. Philip. (1904) 14; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 48, Sp. Blancoanae (1918) 174.

*Cassia fistula* Blanco Fl. Filip. (1837) 339, ed. 2 (1845) 237, ed. 3, 2 (1878) 76, p. p., non Linn.

*Cassia nodosa* F.-Vill. Novis. App. (1880) 70; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 116, non Ham.

Northern Luzon to Palawan and Mindanao. In open places, thin forests, etc., at low and medium altitudes. Not certainly representing the Linnean species, but perhaps referable to *Cassia nodosa* Ham. Malaysia.

Var. **PUBIFOLIA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 48.

Luzon (Ilocos Sur, Bulacan, Rizal), *F. B. 5239 Klemme, B. S. 21726 Ramos, Merrill 1313, 2639, Phil. Pl. 1480, F. B. 1173 Ahern's collector*. Habitat of the species. Indo-China through Malaya to the Moluccas, the variety endemic.

Local names: Anchoan (Bik.); anchohan (Tag.); apad-apad (Sul.); apóstola (Tag.); bagiroro (Bik.); bañgiróro (Bik.); caña-fístula (Sp.); duláueng (Ibn.); dúyong (Ibn.); fugáyong (Ibn.); fístula (Kuy.); gale-abod (Sub.); kilkil (Sul.); kamantígi (Bik.); malatágum (Bik.); narang-dauél (Ilk.); pístula (Tag.); tualing bakulau (Sul.).

**CASSIA MIMOSOIDES** Linn. Sp. Pl. (1753) 379; Blanco Fl. Filip. (1837) 340, ed. 2 (1845) 237, ed. 3, 2 (1878) 78; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 101; F.-Vill. Novis. App. (1880) 71; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 116; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 51, Sp. Blancoanae (1918) 174.

Northern Luzon to Mindanao. In open grasslands at low and medium altitudes, in some regions ascending to 1,500 m. India to southern China southward through Malaya to Australia.

Local names: Karagain (Bag.); kilkidis (Bon.).

**CASSIA MINDANAENSIS** Merr. in Philip. Journ. Sci. 20 (1922) 388.

Mindanao (Davao), *F. B. 28245 Mataya*. Along streams at low altitudes. Endemic.

**CASSIA OCCIDENTALIS** Linn. Sp. Pl. (1753) 377; Blanco Fl. Filip. (1837) 338, ed. 2 (1845) 236, ed. 3, 2 (1878) 75, *t. 73*; F.-Vill. Novis. App. (1880) 70; Vidal Phan. Cuming. Philip. (1885) 110; Rev. Pl. Vasc. Filip. (1886) 115; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 50, Fl. Manila (1912) 234, Sp. Blancoanae (1918) 173.

Throughout the Philippines at low and medium altitudes, a weed in waste places in and about towns. A native of tropical America, now pantropic.

Local names: Andadási (Ilk.); balátong-áso (Tag.); duda (C. Bis.); gulinggam (Sul.); kabal-kabálan (Tag.); katanġan-áso (Tag.); suka (Ig.); sumting (S. L. Bis.); tambalisa (Tag.); tighiman (Tag.).

**CASSIA SIAMEA** Lam. Encycl. 1 (1785) 648; Benth. in Trans. Linn. Soc. 27 (1871) 549; Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 264; F.-Vill. Novis. App. (1880) 71; Vidal Rev. Pl. Vasc. Filip. (1886) 116; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 51, Fl. Manila (1912) 233.

*Cassia florida* Vahl Symb. 3 (1794) 57; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 98; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 24.

*Cassia arayatsensis* Naves in Blanco Fl. Filip. (1877-83) *t. 426*, non Llanos.

A commonly cultivated shade tree in the larger towns of the Philippines. A native of tropical Asia, now pantropic in cultivation.

Local name: Acacia (Sp.).

**CASSIA SOPHERA** Linn. Sp. Pl. (1753) 379; F.-Vill. Novis. App. (1880) 70; Vidal Rev. Pl. Vasc. Filip. (1886) 116; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 30, Philip. Journ. Sci. 5 (1910) Bot. 50.

Northern to central Luzon. An occasional weed in the settled areas at low and medium altitudes. A pantropic species of American origin.

Local name: Andadási (Ilk.).

**CASSIA TIMORIENSIS** DC. Prodr. 2 (1825) 499; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 99; F.-Vill. Novis. App. (1880) 71; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 115; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 5 (1910) Bot. 51, Sp. Blancoanae (1918) 173.

*Cassia arayatsensis* Llanos Frag. Pl. Filip. (1851) 71; F.-Vill & Naves in Blanco Fl. Filip. 4<sup>1</sup> (1880) 55.

*Cassia montana* Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 452*, non Heyne.

Luzon (Ilocos Sur, Pangasinan, Nueva Ecija, Tarlac, Pampanga, Bulacan, Bataan, Rizal, Laguna). In thickets at low and medium altitudes. India to Indo-China and Malaya.



Local names: Bagau (Tag.); bagauak (Tag.); balakbak (Tag.); bayakbak (Pamp.); isar (Ilk.); malakatú dai (Pang.); malakatúrai (Tag.); malapatpát (Tag.); malamalunggáian (Tag.).

**CASSIA TORA** Linn. Sp. Pl. (1753) 376; Blanco Fl. Filip. (1837) 337, ed. 2 (1845) 235, ed. 3, 2 (1878) 74, *t. 122*; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 95; Vog. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 39; F.-Vill. Novis. App. (1880) 70; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 115; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 49, Fl. Manila (1912) 234, Sp. Blancoanae (1918) 173.

*Cassia obtusifolia* Linn. op. cit. 377; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 95; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 30.

Throughout the Philippines, a very common weed in the settled areas at low and medium altitudes. Pantropic, where native uncertain.

Local names: Andadási (Ilk.); andadási-nga-dadakkél (Ilk.); balátong-áso (Pang., Tag.); baho-baho (Bis.); halu-halu (Sul.); katanda (Tag.); katandang-áso (Tag.); monggo-monggóhan (Tag.).

#### EXCLUDED SPECIES

**CASSIA MONTANA** Heyne; F.-Vill. Novis App. (1880) 71.

**CASSIA DIPHYLLA** Linn.

A recently introduced plant cultivated at Lamao.

**CASSIA GLAUCA** Lam.; F.-Vill. Novis. App. (1880) 71; Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 426bis*; Vidal Rev. Pl. Vasc. Filip. (1886) 115; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 49.

The Philippine records of this species were based on specimens cultivated in Manila. It apparently no longer occurs in the Archipelago. A native of tropical Asia, now widespread in cultivation as a shade tree. Its proper name is apparently *Cassia surattensis* Burm. f. Fl. Ind. (1768) 97.

**CASSIA BACILLARIS** Linn. f.

A native of tropical America, a recent introduction, rare in cultivation in Manila.

**CASSIA DIVARICATA** Nees.

A native of tropical Asia, recently introduced and planted at Los Baños.

#### 26. GLEDITSCHIA Clayton

**GLEDITSCHIA ROLFEI** Vidal Rev. Pl. Vasc. Filip. (1886) 115; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 63, 5 (1910) Bot. 51.

*Gleditschia celebica* Koord. Meded. Lands Plantent. 19 (1898) 433; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 24.

Luzon (Pampanga, Bataan, Rizal, Laguna, Tayabas, Batangas, Camarines, Sorsogon), Negros, Mindanao (Zamboanga). In forests at medium altitudes. Celebes.

Local names: Tahid-labúyo (Tag.); tiri (Tag.).

## 27. PTEROLOBIUM R. Brown

**PTEROLOBIUM MEMBRANULACEUM** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 22, Philip. Journ. Sci. 2 (1907) Bot. 433, 5 (1910) Bot. 52, Sp. Blancoanae (1918) 175.

*Mimosa membranulacea* Blanco Fl. Filip. (1837) 739.

*Reichardia pentapetala* Blanco op. cit. ed. 2 (1845) 233, ed. 3, 2 (1878) 71.

*Pterolobium indicum* F.-Vill. Novis. App. (1880) 70; Vidal Sinopsis Atlas (1883) 24, t. 42, f. G, Rev. Pl. Vasc. Filip. (1886) 114; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 41, non A. Rich.

Luzon (Bulacan, Rizal), *Merrill Sp. Blancoanae 454, 664, Phil. Pl. 488, Lohr 5911, B. S. 12264 Foxworthy, F. B. 1837, 1984 Ahern's collector*. In thickets about cliffs, etc., at low and medium altitudes. Endemic.

Local name: Dauag-manók (Tag.).

## 28. DELONIX Rafinesque

**DELONIX REGIA** (Boj.) Raf. Fl. Tellur. 2 (1836) 92; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 52, Fl. Manila (1912) 231.

*Poinciana regia* Boj. in Curtis's Bot. Mag. 56 (1829) t. 2884; F.-Vill. Novis. App. (1880) 70; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 451; Vidal Cat. Pl. Prov. Manila (1880) 27.

A native of Madagascar now extensively cultivated in the Philippines as an ornamental shade tree; the fire tree, flame tree, or flamboyant, locally known as *arbol de fuego* and as *caballero*. Pantropic in cultivation.

## 29. CAESALPINIA Linnaeus

**CAESALPINIA CRISTA** Linn. Sp. Pl. (1753) 380, excl. syn. Fl. Zeyl. 157, non ed. 2 (1762) 544, nec aliorum; Urban Symb. Antill. 2 (1900) 269; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 53, Fl. Manila (1912) 232, Sp. Blancoanae (1918) 175.

*Guilandina bonduc* Linn. Sp. Pl. (1753) 381, non ed. 2 (1762) 545.

*Guilandina bonducella* Linn. Sp. Pl. ed. 2 (1762) 545; Blanco Fl. Filip. (1837) 343, ed. 2 (1845) 239, ed. 3, 2 (1878) 81.

*Caesalpinia bonducella* Flem. in As. Research. 11 (1810) 159; F.-Vill. Novis. App. (1880) 69; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 64.

*Guilandina crista* Small Fl. Southeast. U. S. (1903) 591.

Throughout the Philippines in thickets along and near the seashore. Pantropic.

Local names: Bangbang (C. Bis.); bayag-kambing (Tag.); bebít (Sub.); binit (Bik.); bugtong (Bis.); dalagdag (Tag.); dalugdug (Tag., Bis.); dauer (Ilk.); kalambibít (C. Bis.); kalumbibít (Tag., Pang.); kamaunggi (Sul.); kamot-kabag (Tag.); sabinit (Bik.); simbar (Bag.); siñgor (Ilk.).

**CAESALPINIA JAYABO** Maza in Anal. Soc. Esp. Hist. Nat. 19 (1890) 234; Merr. Interpret. Herb. Amb. (1917) 261.

*Caesalpinia bonduc* Roxb. Hort. Beng. (1814) 32; F.-Vill. Novis. App. (1880) 69, non *Guilandina bonduc* Linn.

*Guilandina bonduc* Linn. Sp. Pl. ed. 2 (1762) 545, p. p.; Miq. Fl. Ind.

Bat. 1<sup>1</sup> (1855) 113; Vog. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 37, non Linn. Sp. Pl. (1753) 381.

*Caesalpinia crista* Perk. Frag. Fl. Philip. (1904) 15, non Linn.

*Guilandina major* Small Fl. Southeast. U. S. (1903) 591.

*Guilandina bonduc* Linn. var. *majus* DC. Prodr. 2 (1825) 480.

*Caesalpinia glabra* in Philip. Journ. Sci. 5 (1910) Bot. 54, non *Guilandina glabra* Mill.

Babuyan Islands, Palawan, Mindanao, *B. S. 10650 McGregor, 228 Bermejós, Merrill 842, Clemens 755, 1182, 863, Elmer 11917*. In forests, ascending to about 1,000 m. Pantropic.

**CAESALPINIA NUGA** (Linn.) Ait. Hort. Kew ed. 2, 3 (1811) 32; F.-Vill. Novis. App. (1880) 69; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 114; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 54, Fl. Manila (1912) 232, Sp. Blancoanae (1918) 176. *Guilandina nuga* Linn. Sp. Pl. ed. 2 (1762) 546; Blanco Fl. Filip. (1837) 344, ed. 2 (1845) 240, ed. 3, 2 (1878) 81, *t. 150*. *Caesalpinia laevigata* Perr. in Mém. Soc. Linn. Paris 3 (1824) 104; C. B. Rob. in Philip. Journ. Sci. 3 (1908) 304.

Throughout the Philippines in tidal swamps, thickets along the seashore, etc. Pantropic.

Local names: Bakaig (Tag.); binít (Bik.); kalauinít (Tag.); kabít-kábag (Tag.); kámit-kabág (Tag.); sagmít (Tag.); sampinít (P. Bis.); sapanít (Sbl.); sapinít (Tag., S. L. Bis.); suba (Sul.).

**CAESALPINIA PULCHERRIMA** (Linn.) Sw. Obs. (1791) 166; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 111; F.-Vill. Novis. App. (1880) 69; Vidal Rev. Pl. Vasc. Filip. (1886) 114; Perk. Frag. Fl. Philip. (1904) 15; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 29, Philip. Journ. Sci. 5 (1910) Bot. 54, Fl. Manila (1912) 232, Sp. Blancoanae (1918) 175.

*Poinciana pulcherrima* Linn. Sp. Pl. (1753) 380; Blanco Fl. Filip. (1837) 333, ed. 2 (1845) 232, ed. 3, 2 (1878) 69, *t. 112*.

Cultivated throughout the settled areas in the Philippines, in some regions naturalized. An early introduction from tropical America, now pantropic.

Local name: Caballero (Sp.), in all provinces.

**CAESALPINIA SAPPAN** Linn. Sp. Pl. (1753) 381; Blanco Fl. Filip. (1837) 335, ed. 2 (1845) 234, ed. 3, 2 (1878) 72, *t. 121*; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 108; F.-Vill. Novis. App. (1880) 69; Vidal Sinopsis Atlas (1883) 24, *t. 42, f. C*; Rev. Pl. Vasc. Filip. (1886) 114; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 461; Merr. Fl. Manila (1912) 232, Philip. Journ. Sci. 5 (1910) Bot. 55, Sp. Blancoanae (1918) 175.

*Biancaea sappan* Todaro Hort. Bot. Panorm. (1876) 3.

*Caesalpinia minutiflora* Elm. Leaf. Philip. Bot. 5 (1913) 1803.

Throughout the Philippines at low and medium altitudes in dry thickets, parang, etc., locally abundant. Perhaps an introduced plant in the Archipelago, but if so then of prehistoric introduction. India to Malaya.

Local names: Hápang (Sbl.); sápag (Ilk., Bis., Tag.); sappán (Ilk., Tag.); sibukáu (Tag., Sul., Bis.).

**CAESALPINIA SEPIARIA** Roxb. Hort. Beng. (1814) 32, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 360; F.-Vill. Novis. App. (1880) 69; Vidal Rev. Pl. Vasc. Filip. (1886) 114; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 55.

*Caesalpinia benguetensis* Elm. Leaf. Philip. Bot. 1 (1907) 226.

*Mezoneurum benguetense* Elm. op. cit. 1 (1908) 362.

Luzon (Isabela, Benguet), *Merrill Phil. Pl. 1785, Williams 1206, Elmer 5888, 8720, B. S. 8094 Ramos*. In thickets about limestone cliffs and boulders, altitude about 1,200 m. India to Japan southward to Malaya, introduced in tropical Africa, America, and Australia.

Local name: Puto (Ig.).

#### EXCLUDED SPECIES

**CAESALPINIA MIMOSOIDES** Lam.; F.-Vill. Novis App. (1880) 69.

#### 30. MEZONEURUM Desfontaines

**MEZONEURUM CUCULLATUM** (Roxb.) W. & A. Prodr. (1834) 283; Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 258; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 56.

*Caesalpinia cucullata* Roxb. Hort. Beng. (1814) 32, *nomenn nudum*, Fl. Ind. ed. 2, 2 (1832) 358.

*Mezoneurum macrophyllum* Blume ex Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 104.

Luzon (Laguna), Mindanao (Lanao), *Elmer, Clemens 922*. In forests along streams and lakes at medium altitudes. India to Yunnan, Indo-China, Andaman Islands, and Java.

**MEZONEURUM LATISILIQUM** (Cav.) Merr. in Philip. Journ. Sci. 4 (1909) Bot. 268, 5 (1910) Bot. 57, Sp. Blancoanae (1918) 176.

*Bauhinia ? latisiliqua* Cav. Ic. 5 (1799) 5, t. 408 p. p. (excl. fol.).

*Mezoneurum glabrum* Desf. in Mém. Mus. Paris 4 (1818) 245, t. 10; DC. Prodr. 2 (1825) 484; F.-Vill. Novis. App. (1880) 70; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 103; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 114; Perk. Frag. Fl. Philip. (1904) 15,

P.P.

*Caesalpinia torquata* Blanco Fl. Filip. (1837) 336.

*Mezoneurum procumbens* Blanco op. cit. ed. 2 (1845) 235, ed. 3, 2 (1878) 73.

Luzon (Ilocos Norte) to Mindanao. In thickets and secondary forests at low and medium altitudes. Timor.

Local names: Aráyat (Ilk.); dauag (Tag.); dauer (Ilk.); kabit-kábag (Tag.); kámit-kábag (Tag.); kámot-púsa' (Tag., Pamp.); sabít (Ig.); sagnít (Tag.); sampinít (Tag., Mbo.); sapinít (P. Bis.) sapnít (Tag., Pamp.); siit (Bis.); sokít (Yak.); tugabang (Bis.); ugabang (Bis.).

**MEZONEURUM MINDORENSE** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 232, 5 (1910) Bot. 57.

Mindoro, Biliran, *F. B. 5383 Merritt, B. S. 18672 McGregor*. Endemic.

Var. **INERME** Merr. l. cc.

Mindoro, *B. S. 1514 Bermejós*. In thickets at low altitudes. Endemic.

Local name: Sapinít (Tag.).

**MEZONEURUM PUBESCENS** Desf. in Mém. Mus. Paris 4 (1818) 245, t. 11; F.-Vill. Novis. App. (1880) 70; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 104; Vidal Rev. Pl. Vasc. Filip. (1886) 114; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 56, Fl. Manila (1912) 230, Sp. Blancoanae (1918) 176.

*Caesalpinia ignota* Blanco Fl. Filip. (1837) 336, ed. 2 (1845) 235, ed. 3, 2 (1878) 72.

Luzon (Pangasinan, Pampanga, Bulacan, Rizal). In open dry grasslands, thin thickets, etc., at low altitudes. Timor.

Local names: Dauag-kalabáu (Tag.); kalambibít-lalaki (Tag.); kamit-kábag (Tag.).

**MEZONEURUM SUMATRANUM** (Roxb.) W. & A. Prodr. 1 (1834) 283; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855-59) 105, 1081; Baker in Hook. f. Fl. Brit. Ind. 2 (1878) 259; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 57.

*Caesalpinia sumatrana* Roxb. Hort. Beng. (1814) 32, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 366.

*Mezoneurum rubrum* Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 7.

Palawan, Merrill 805. In thickets at low altitudes. Malay Peninsula, Singapore, Sumatra, Borneo.

### 31. PELTOPHORUM Vogel

**PELTOPHORUM INERME** (Roxb.) Llanos in Blanco Fl. Filip. ed. 3 (1877-83) t. 335; F.-Vill. Novis. App. (1880) 69 in syn.; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 57, Fl. Manila (1912) 233.

*Caesalpinia inerme* Roxb. Hort. Beng. (1814) 90, Fl. Ind. ed. 2, 2 (1832) 367.

*Caesalpinia ferruginea* Decne. in Nuov. Ann. Mus. Paris 3 (1834) 462.

*Poinciana roxburghii* G. Don Gen. Syst. 2 (1832) 433.

*Peltophorum ferrugineum* Benth. Fl. Austral. 2 (1864) 279; F.-Vill. Novis. App. (1880) 69; Vidal Phan. Cuming. Philip. (1885) 110, Rev. Pl. Vasc. Filip. (1886) 114.

Luzon (Pangasinan, Zambales, Batangas), Mindoro, Coron, Palawan, Balabac, Sibuyan, Panay, Negros. In forests along the seashore; now extensively cultivated in Manila and in other towns as a shade tree. Indo-China to the Andaman Islands through Malaya to tropical Australia.

Local names: Baringbing (Tagb., Kuy.); maganhóp-sa-katuñgá (P. Bis.); siar (Sul.).

### 32. ORMOSIA Jackson

**ORMOSIA BASILANENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 407.

Basilan, F. B. 17893 Rafael, Hallier. In forests at low altitudes. Endemic.

**ORMOSIA CALAVENSIS** Azaola ex Blanco Fl. Filip. ed. 2 (1845) 230, ed. 3, 2 (1878) 64; F.-Vill. Novis. App. (1880) 69; Vidal Sinopsis Atlas (1883) 23, t. 41, f. H, Rev. Pl. Vasc. Filip. (1886) 113, Phan. Cuming. Philip. (1885) 109; Prain in Journ. As. Soc. Beng. 69<sup>2</sup> (1900) 180; Perk. Frag. Fl. Filip. (1904) 15; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 64, Philip. Journ. Sci. 5 (1910) Bot. 58, Interpret. Herb. Amb. (1917) 262, Sp. Blancoanae (1918) 177.

Northern Luzon (Cagayan) to Mindanao. Common in primary forests at low and medium altitudes. Moluccas, Palao Islands.

Local names: Báhai (Tag., S. L. Bis., C. Bis., Bik.); bugáyong (Ilk.); gayai (Bag.); kauái (Bag.); malasága (Tag.); maribkos (Mbo.); tandang-ísok (P. Bis.).

**ORMOSIA CLEMENTIS** Merr. in Philip. Journ. Sci. 14 (1919) 406.

Mindanao (Lanao), *Clemens 1139*. In forests, altitude about 900 m. Endemic.

**ORMOSIA GRANDIFOLIA** Merr. in Philip. Journ. Sci. 14 (1919) 408.

Luzon (Camarines), *F. B. 21172 Alvarez*. In forests, altitude about 100 m. Endemic.

**ORMOSIA ORBICULATA** Merr. in Philip. Journ. Sci. 14 (1919) 405.

Luzon (Ilocos Norte), *B. S. 32775 Ramos, 22094, 25094 Paraiso*. In forests, altitude up to 300 m. Endemic.

Local name: Panapotien (Ilk.).

**ORMOSIA PANICULATA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 21, Philip. Journ. Sci. 1 (1906) Suppl. 64, 5 (1910) Bot. 58.

Luzon (Bataan), *F. B. 2028 Borden*. In forests at low altitudes. Endemic.

**ORMOSIA SURIGAENSIS** Merr. in Philip. Journ. Sci. 17 (1920) 263.

Mindanao (Surigao), *B. S. 34494 Ramos & Pascasio*. On forested ridges at low altitudes. Endemic.

**ORMOSIA VILLAMILII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 313.

Mindanao (Zamboanga), *F. B. 21892 Villamil, 13290 Foxworthy, Villamil, & De Mesa*. In forests at low altitudes. Endemic.

Local names: Báhai (Bis.); makapilit (Bis.).

### 33. SOPHORA Linnaeus

**SOPHORA LONGIPES** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 12.

Luzon (Batangas), Golo, *B. S. 26765 Ramos, Merrill 11556*. On slopes in an old clearing at low altitudes; on Golo in open thickets on serpentine bluffs. Endemic.

**SOPHORA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 449.

Luzon (Bontoc, Benguet), *Vanoverbergh 1223, 2612, Sandkuhl 124*. In thickets on slopes, altitude 1,200 to 1,500 m. Endemic.

Local name: Dududun (Bon.).

**SOPHORA TOMENTOSA** Linn. Sp. Pl. (1753) 373; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 124; Blanco Fl. Filip. (1837) 328, ed. 2 (1845) 229, ed. 3, 2 (1878) 63; F.-Vill. Novis. App. (1880) 69; Vidal Sinopsis Atlas (1883) 23, t. 41, f. G, Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 113; Merr. in Philip. Journ. Sci. 3 (1908) 82, 409, 5 (1910) Bot. 58, Sp. Blancoanae (1918) 177.

*Sophora heptaphylla* Blanco Fl. Filip. (1837) 329, ed. 2 (1845) 229, ed. 3, 2 (1878) 63; F.-Vill. Novis. App. (1880) 69, non Linn.

Along the seashore throughout the Philippines; locally abundant. A pantropic strand plant.

Local names: Bángil (Tag., Bis.); baraumárau (Tag., Bis.); gison (Tag., Bis.); golonaktau (Bag.); kabai-kábai (Tag.); kapon (Iv.); káuai (Tag., Bis.); mangguíau (Bik., Tag.); mantala (Tag., Bis.); olaomag (Bis.); pañgalañgan (Tag., Bis.); roknohan (Bis.); sandalaitan (Tag.); tambalagísa (C. Bis.); tambaléta (Tag.); tambalísa (Tag., S. L. Bis., P. Bis.); tambalísi (Tag.); tambiligísa (P. Bis.); tanbalísa (Bik.).

### 34. CROTALARIA Dillenius

**CROTALARIA ACICULARIS** Ham. in Wall. Cat. (1832) No. 5390, *nomen nudum*; Benth. in Hook. Lond. Journ. Bot. 2 (1843) 476; F.-Vill. Novis. App. (1880) 57; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 61.

*Crotalaria prostrata* Ceron Cat. Pl. Herb. Manila (1892) 60, non Roxb.

Luzon (Benguet, Bontoc, Rizal, Batangas), Mindanao (Lanao), *Merrill 4266, 10648, Phil. Pl. 462, Williams 1419, Elmer 5826, B. S. 1838 Ramos, 37967 Ramos & Edaño*. On open grassy slopes, altitude 700 to 1,400 m; on Taal Volcano occurring practically at sea level. Bengal, Ava, Tenasserim, and Java.

**CROTALARIA ALBIDA** Heyne ex Roth Nov. Pl. Sp. (1821) 333; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 105; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 61.

Luzon (Cagayan to Batangas), Culion. In open grasslands at low and medium altitudes, ascending to 1,400 m. India to Formosa and the Malay Peninsula.

**CROTALARIA ASSAMICA** Benth. in Hook. Lond. Journ. Bot. 2 (1843) 481; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 62.

Luzon (Ilocos Norte, Abra, Pangasinan, Zambales, Bataan). Occasional in ravines, thickets, etc., at low and medium altitudes. India.

**CROTALARIA BRACTEATA** Roxb. Hort. Beng. (1814) 54, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 278; DC. Prodr. 2 (1825) 130; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 104; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 63, Fl. Manila (1912) 252.

Luzon (Benguet, Pangasinan, Rizal). Occasional in thickets, on open banks, etc., at low and medium altitudes. India to Malaya.

**CROTALARIA CALYCINA** Schrank Pl. Rar. Monac. (1819) *t. 12*; DC. Prodr. 2 (1825) 129; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 390; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1855) 337; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 60.

Northern Luzon to Mindanao. In open grasslands at low and medium altitudes. Tropical Asia, Africa, Malaya, and northern Australia.

Local name: Balahí bong-usá (Tag.).

**CROTALARIA CHINENSIS** Linn. Syst. ed. 10 (1759) 1158; Benth. in Hook. Lond. Journ. Bot. 2 (1843) 566; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107.

Luzon (Rizal), Negros, Mindanao (Misamis), *Merrill Phil. Pl. 449, 2004, F. B. 19509 Tarrosa*. In open grasslands at low altitudes, very local. Eastern India to southern China and Malaya.

**CROTALARIA FERRUGINEA** Grah. in Wall. Cat. (1832) No. 5398; Benth. in Hook. Lond. Journ. Bot. 2 (1843) 476; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Philip. (1886) 105; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 61.

Luzon (Cagayan, Ilocos Norte, Bontoc, Benguet, Ifugao, Zambales, Rizal), Mindanao (Bukidnon, Misamis, Lanao, Cotabato, Davao). In open grasslands at low and medium altitudes, in Benguet ascending to 2,000 m. India to China and Formosa south to Malaya.

Local names: Púgad-labúyo (Tag.); talinotino (Buk.).

**CROTALARIA INCANA** Linn. Sp. Pl. (1753) 716; DC. Prodr. 2 (1825) 132; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 347; F.-Vill. Novis. App. (1880) 58; Vidal Rev. Pl. Vasc. Philip. (1886) 104; Naves in Blanco Fl. Filip. (1877-83) t. 160; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 63, Fl. Manila (1912) 252.

*Crotalaria radiata* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 63.

Babuyan Islands and Luzon (Cagayan to Sorsogon), Mindoro. In waste places in and about towns, locally abundant. A pantropic weed of American origin. *Crotalaria radiata* Merr. is a form with abnormal flowers due to the attack of fungi or insects.

Local names: Búlailáua (Tag.); putok-putókan (Tag.).

**CROTALARIA JUNCEA** Linn. Sp. Pl. (1753) 714; DC. Prodr. 2 (1825) 125; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 62, Fl. Manila (1912) 251.

Luzon, occasionally cultivated experimentally, apparently naturalized in Ilocos Norte. Sunn hemp, introduced from India.

**CROTALARIA LINIFOLIA** Linn. f. Suppl. (1781) 322; DC. Prodr. 2 (1825) 128; Blanco Fl. Filip. (1837) 570; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Philip. (1886) 104; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 60, Fl. Manila (1912) 241, Sp. Blancoanae (1918) 178.

*Crotalaria pallida* Blanco Fl. Filip. (1837) 570, non Ait.

*Crotalaria stenophylla* Vog. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 7; Benth. in Hook. Lond. Journ. Bot. 2 (1843) 568.

*Quirosia secunda* Blanco Fl. Filip. ed. 2 (1845) 398, ed. 3, 2 (1879) 366, t. 268.

*Crotalaria pumila* Blanco Fl. Filip. ed. 2 (1845) 397, ed. 3, 2 (1879) 365, non Schrank.

*Crotalaria formosana* Mats. in Journ. Coll. Sci. Univ. Tokyo 12 (1900) 395; Mats. & Hayata op. cit. 22 (1906) 103, t. 10.

Luzon (Cagayan to Tayabas), Negros, Mindanao. In open grasslands at low and medium altitudes, in Benguet ascending to 1,400 m. India to southern China and Formosa southward through Malaya to Australia and the Caroline Islands.

Local name: Gurung-gúrung (Bis.).



**CROTALARIA ORIXENSIS** Willd. in Ges. Naturf. Fr. Neue Schr. 4 (1803) 217; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 83; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 18.

Luzon (Manila), *B. S. 19145 Guerrero*. Apparently a casual introduction which will perhaps not persist. India, Abyssinia, tropical Africa.

**CROTALARIA QUINQUEFOLIA** Linn. Sp. Pl. (1753) 716; Blanco Fl. Filip. (1837) 569; ed. 2 (1845) 397, ed. 3, 2 (1879) 365, *t. 159*; Vog. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 9; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 104; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 64, Fl. Manila (1912) 252, Sp. Blancoanae (1918) 177.

Northern Luzon to Mindanao, widely distributed and locally abundant in open wet lands, rice paddies, etc., at low and medium altitudes. India through Malaya to Australia.

Local names: Búli-láua (Tag.); katánda (Tag.); palpaltóg (Ilk.); putúkan (Tag.); susoi (Tag.); suso-susóyan (Tag.).

**CROTALARIA RETUSA** Linn. Sp. Pl. (1753) 715; DC. Prodr. 2 (1825) 125; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 330; F.-Vill. Novis. App. (1880) 57; Perk. Frag. Fl. Philip. (1904) 16; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 62.

Northern Luzon to Mindanao. In open usually damp places in the settled areas at low and medium altitudes. Pantropic.

Local names: Búli-láua (Tag.); kalog-kalog (P. Bis.); Kataua (Sub.); palpaltóg (Ilk.); potókan (Tag.).

**CROTALARIA SALTIANA** Andr. Bot. Rep. (1811) *t. 648*; Prain ex King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 41, 353; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 62.

*Crotalaria striata* DC. Prodr. 2 (1825) 131; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 346; Perk. Frag. Fl. Philip. (1904) 16.

Luzon (Bontoc), Panay, Negros. Common in waste places in and about towns, manifestly introduced. Pantropic.

Local names: Gorung-górunq (P. Bis.); kolong-kólong (P. Bis.); tamba-rísa (P. Bis.).

**CROTALARIA SESSILIFLORA** Linn. Sp. Pl. ed. 2 (1763) 1004; Benth. in Hook. Lond. Journ. Bot. 2 (1843) 565; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 390; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Merr. Philip. Journ. Sci. 3 (1908) Bot. 81, 5 (1910) Bot. 105.

Luzon (Cagayan to Sorsogon), Mindanao (Bukidnon). Occasional in open grasslands at low and medium altitudes, in Bontoc ascending to 1,300 m. India to Japan southward to Malaya.

Local name: Pitpitít (Bon.).

**CROTALARIA TRIFOLIASTRUM** Willd. Sp. Pl. 3 (1806) 983; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 17.

Luzon (Ilocos Norte), *B. S. 27265, 32691 Ramos*. In open places at low altitudes. India to tropical Australia.

**CROTALARIA VERRUCOSA** Linn. Sp. Pl. (1753) 718, Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 331; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 390; F.-Vill. Novis. App. (1880) 57; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 104; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 80, 5 (1910) Bot. 62, Fl. Manila (1912) 251, Sp. Blancoanae (1918) 177.

*Phaseolus bulai* Blanco Fl. Filip. (1837) 572.

*Quirosia anceps* Blanco Fl. Filip. ed. 2 (1845) 398, ed. 3, 2 (1879) 367.

Luzon (Bataan, Laguna, Tayabas, Rizal), Mindoro, Masbate, Negros, Cebu, Mindanao. In open places at low altitudes. Pantropic.

Local names: Búlaíláua (Tag.); gulinggam (Sul.); gulung-gúlung (P. Bis.); kalayákai (Tag.); reging (Bag.).

#### EXCLUDED SPECIES

**CROTALARIA LABURNIFOLIA** Retz.; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 84; F.-Vill. Novis. App. (1880) 58.

Baker's record of this species as Philippine was probably based on an erroneously localized *Cuming* specimen.

**CROTALARIA SERICEA** Retz.; F.-Vill. Novis. App. (1880) 57.

### 35. **MEDICAGO** Linnaeus

**MEDICAGO DENTICULATA** Willd. Sp. Pl. 3 (1803) 1414; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 90; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 64.

Luzon (Benguet, Union, Manila). A casual introduction at low altitudes, apparently well established in Benguet. Europe to India, China, and Japan, naturalized in North America.

Local name: Galéria (Ilk.).

**MEDICAGO LUPULINA** Linn. Sp. Pl. (1753) 779; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 274, Fl. Manila (1912) 253.

Luzon (Benguet), *Merrill 7762*. In open grassy places, altitude about 1,500 m, introduced. Widely distributed in Europe and Asia, naturalized in North America.

### 36. **MELILOTUS** Tournefort

**MELILOTUS INDICA** (Linn.) All. Fl. Ped. 1 (1785) 308; Merr. in Philip. Journ. Sci. 10 (1915) Bot. 15.

*Trifolium melilotus-indica* Linn. Sp. Pl. (1753) 765.

Luzon (Benguet), *Merrill 9700*. An introduced weed. Widely distributed in Asia, introduced in other regions.

### 37. **INDIGOFERA** Linnaeus

**INDIGOFERA GALEGOIDES** DC. Prodr. 2 (1825) 225; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 100.

Culion, *B. S. 41327 Ramos*. In open grasslands (cogonales), at low altitudes. India and Ceylon to Indo-China, southern China, the Malay Peninsula, and Java.

**INDIGOFERA HENDECAPHYLLA** Jacq. Coll. 2 (1788) 259; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 98; Craib. in Notes Bot. Gard. Edinb. 8 (1913) 68; Merr. in Philip. Journ. Sci. 14 (1919) 405.

*Indigofera pusilla* Lam. Encycl. 3 (1789) 248.

Luzon (Ilocos Norte), *B. S. 32770 Ramos*. In open dry grassy places at low altitudes. India to southeastern China, tropical and southern Africa.

**INDIGOFERA HIRSUTA** Linn. Sp. Pl. (1753) 751; DC. Prodr. 2 (1825) 228; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 304; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Perk. Frag. Fl. Philip. (1904) 16; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 66, Fl. Manila (1912) 243, Sp. Blancoanae (1918) 179.

*Indigofera angustifolia* Blanco Fl. Filip. (1837) 596, ed. 2 (1845) 415, ed. 3, 2 (1879) 394, non Linn.

*Indigofera tinctoria* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 163, non Linn.

Northern Luzon to Mindanao. In waste places in and about towns, an introduced weed. Pantropic.

Local names: Taiúman (Tag.); taium-taiúman (Tag.).

**INDIGOFERA LINIFOLIA** Retz. Obs. 4 (1786) 29, 6 (1791) 33, t. 2; DC. Prodr. 2 (1825) 222; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 92; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 195, 5 (1910) Bot. 65.

*Sphaeridiophorum linifolium* Desv. Journ. Bot. 3 (1813) 125, t. 6, f. 35.

Luzon (Ilocos Norte, Benguet, Nueva Ecija), *Merrill 4387, B. S. 32734, 32758 Ramos, 26247 Ramos & Edaña, F. B. 15506 Merritt & Darling*. On dry rocky and grassy banks and slopes at low and medium altitudes. Abyssinia to China through Malaya to Australia.

**INDIGOFERA NIGRESCENS** Kurz ex Prain in Journ. As. Soc. Beng. 67<sup>2</sup> (1898) 268; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 183; Merr. op. cit. 5 (1910) Bot. 67, 353.

Luzon (Bontoc, Benguet), *B. S. 32007 Santos, 4396, 4456 Mearns, 40431 Ramos & Edaña, Elmer 6582, Williams 925, 1413, Merrill 6395*. On open slopes in the pine region, altitude 1,300 to 2,200 m. India, Yunnan.

Local name: Yakyákan (Ig.).

**INDIGOFERA SUFFRUTICOSA** Mill. Gard. Dict. ed. 8 (1768) No. 2; Prain & Baker in Journ. Bot. 40 (1902) 137, 138 sub *I. anil* Linn.; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 67, Fl. Manila (1912) 243, Sp. Blancoanae (1918) 179.

*Indigofera anil* Linn. Mant. 2 (1771) 272; DC. Prodr. 2 (1825) 225; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 307; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 410.

*Indigofera argentea* Blanco Fl. Filip. ed. 2 (1845) 415, in nota, ed. 3, 2 (1879) 394, in nota, non Linn.

Batan Islands and northern Luzon to Mindanao. In waste places in and about towns, locally abundant; occasionally cultivated. Indigo. Pantropic.

Local names: Páuai (Iv.); tágum (S. L. Bis.); tágun (P. Bis.); táyom (Ilk.); táyon (Ilk.); táyum (Ilk., Tag., P. Bis., C. Bis.); tina-tináan (Tag.); yagum (Bis.).

**INDIGOFERA TINCTORIA** Linn. Sp. Pl. (1753) 751; DC. Prodr. 2 (1825) 224; Blanco Fl. Filip. (1837) 591, ed. 2 (1845) 413, ed. 3, 2 (1879) 393, Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 206; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 403; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Perk. Frag. Fl. Philip. (1904) 16; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81, 410, 5 (1910) Bot. 67, Fl. Manila (1912) 244, Sp. Blancoanae (1918) 179.

Batan Islands and northern Luzon to Mindanao, in waste places in and about towns at low and medium altitudes; sometimes cultivated. Indigo. Pantropic.

Local names: Añil (Sp.); dágum (Sub.); tagung-tágung (C. Bis.); tágum (Bis.); táiom (Ilk.); taióng-taiúñgan (Bik.); taium (Iv.); táiumg (Pamp.); túgum (Bik.).

**INDIGOFERA TRIFOLIATA** Linn. Amoen. Acad. 4 (1759) 327, Sp. Pl. ed. 2 (1763) 1062; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 96; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106, Philip. Journ. Sci. 3 (1908) Bot. 411, 5 (1910) Bot. 66.

Batan Islands, Luzon (Cagayan, Ilocos Norte, Bontoc, Pangasinan, Rizal), Mindanao (Bukidnon), *B. S. 27541 Ramos, 38469 Ramos & Edaño, 17742 Otanes, 26056 Félix*. On open dry grassy slopes at low and medium altitudes. India to China southward to Australia.

**INDIGOFERA UNIFOLIOLATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 65, Sp. Blancoanae (1918) 178.

*Tetragonolobus simplicifolius* Blanco Fl. Filip. ed. 2 (1845) 397, ed. 3, 2 (1879) 364; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 38, non *Indigofera simplicifolia* Lam.

Luzon (Bulacan, Rizal, Laguna), *B. S. 1411, 14944, 21678, 21718 Ramos, Merrill Sp. Blancoanae 965*. In grasslands at low altitudes. Endemic.

**INDIGOFERA ZOLLINGERIANA** Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 310; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 66.

*Indigofera teysmanni* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 1083; Prain & Baker in Journ. Bot. 40 (1902) 143; Perk. Frag. Fl. Philip. (1904) 16; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 24, Philip. Journ. Sci. 3 (1908) Bot. 411.

*Indigofera galeoides* F.-Vill. Novis. App. (1880) 59; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105, non DC.

Batan Islands and northern Luzon to Mindanao and Palawan. In thickets, secondary forests, etc., at low and medium altitudes, ascending to 1,400 m in Benguet. Southern China and Formosa, Indo-China, Malay Peninsula, through Malaya to New Caledonia.

Local names: Balabalatuñgan (Bik.); balabalátong (Tag.); vanatnid (Iv.); tina-tináan (Tag.).

## 38. PSORALEA Linnaeus

**PSORALEA BADCANA** Blanco Fl. Filip. ed. 2 (1845) 416, ed. 3, 2 (1879) 395; F.-Vill. Novis. App. (1880) 58; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 105; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 68, Sp. Blancoanae (1918) 180.

*Liparia badocana* Blanco Fl. Filip. (1837) 597; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 37.

*Meladenia densiflora* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 576.

Luzon (Ilocos Norte, Abra, Bontoc, Union, Pangasinan), *Cuming 1149*, *Merrill Sp. Blancoanae 968*, *B. S. 4907, 7011, 7240, 27298 Ramos*. In open grasslands, waste places, etc., at low and medium altitudes. New Guinea

Local names: Língai (Ilk.); lolóng (Ilk.).

## 39. PAROSELA Cavanilles

**PAROSELA GLANDULOSA** (Blanco) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 68, Fl. Manila (1912) 246; Sp. Blancoanae (1918) 180.

*Amorpha glandulosa* Blanco Fl. Filip. (1837) 555.

*Dalea alopecuroides* Blanco Fl. Filip. ed. 2 (1845) 389, ed. 3, 2 (1879) 351; F.-Vill. Novis. App. (1880) 58, non Willd.

*Dalea nigra* Mart. & Gal. in Bull. Acad. Brux. 10<sup>2</sup> (1843) 43; Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 309; Vidal Phan. Cuming. Philip. (1885) 107, Phan. Cuming. Philip. (1886) 105; Perk. Frag. Fl. Philip. (1904) 16.

*Dalea glandulosa* Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 37, Philip. Journ. Sci. 1 (1906) Suppl. 64.

*Parosela nigra* Rose in Contr. U. S. Nat. Herb. 10 (1906) 105.

Luzon (Ilocos Norte to Batangas). On open dry slopes at low and medium altitudes, ascending to 1,300 m; locally very abundant. Introduced from Mexico.

Local names: Agógo (Tag.); cháng-párang (Tag.); dura (Pang.); dúrang-párang (Tag.); kamañgi (Tag.); sampálok-sampalókan (Tag.).

## 40. TEPHROSIA Persoon

**TEPHROSIA DICHOTOMA** Desv. in Ann. Sci. Nat. I 9 (1826) 415; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 298; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 69, Fl. Manila (1912) 244, Sp. Blancoanae (1918) 180.

*Tephrosia luzoniensis* Vogel in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 15; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 299; F.-Vill. Novis. App. (1880) 59; Perk. Frag. Fl. Philip. (1904) 17.

*Indigofera hirsuta* Blanco Fl. Filip. (1837) 591, non Linn.

*Indigofera senegalensis* Blanco op. cit. ed. 2 (1845) 412, ed. 3, 2 (1879) 392, t. 162, non Linn.

*Tephrosia piscatoria* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 407, quoad pl. Philip. non Pers.

Northern Luzon to Mindanao. In open dry places at low and medium altitudes. Endemic.

Local names: Balabatong (Buk.); dagangdáng (Bis.); maásik (Pamp.); marakatúdai (Ilk.); tayom-tayóman (Tag.).

**TEPHROSIA HOOKERIANA** W. & A. Prodr. (1834) 212; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 113.

Jolo, *Link 174*. In waste places, certainly introduced. India to Singapore and Java.

**TEPHROSIA OBOVATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 69.

Palau, Luzon (Ilocos Norte), Lubang, *F. B. 16939 Curran, B. S. 27681, 27112 Ramos, 2341 Mearns*. In dry open places at low altitudes. Endemic. Local name: Karkardís (Ibn.).

**TEPHROSIA PURPUREA** (Linn.) Pers. Syn. 2 (1807) 329; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 296; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106; Perk. Frag. Fl. Philip. (1904) 17; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 69.

*Cracca purpurea* Linn. Sp. Pl. (1753) 752.

Luzon (Cavite, Batangas), Mindanao (Bukidnon, Misamis), *B. S. 1315 Mangubat, 22364 Ramos, 21397 Escritor, Piper 147*. In open grasslands or waste places at low altitudes. India to southern China through Malaya to tropical Australia.

Local names: Balbalátong (Tag.); tina-tináan (Tag.).

**TEPHROSIA VESTITA** Vogel in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 15; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Phan. Cuming Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 69.

Negros, Mindanao (Bukidnon, Misamis, Lanao), *Cuming 1621, Clemens, F. B. 15194 Tarrosa, 21456 Escritor*. In thickets at low and medium altitudes. Southern China to Java and New Guinea.

Local name: Tágum (P. Bis.).

#### DOUBTFUL SPECIES

**TEPHROSIA CAPITULATA** Link Enum. Hort. Berol. 2 (1822) 251; Vogel in Linnaea 10 (1836) 587.

Link states that the type was from Hawaii, but Vogel states that Chamisso's specimen was from Luzon.

**TEPHROSIA CANDIDA** (Roxb.) DC.

A recent introduction in cultivation at Los Baños.

#### 41. MILLETTIA Wight and Arnott

**MILLETTIA AHERNII** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 103; Merr. op. cit. 5 (1910) Bot. 71; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 181.

Luzon (Cagayan, Ilocos Sur, Rizal, Tayabas), *F. B. 3373 Ahern's collector, 5655 Klemme, 23270 Velasco, B. S. 20884 Escritor*. In open forests at low altitudes. Endemic.

Local names: Balok (Tag.); balok-balok (Tag.); baní (Ilk.).

**MILLETTIA BRACHYCARPA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 17.

Luzon (Batangas), Palawan, *Elmer 13035, Merrill 9578, B. S. 22382 Ramos, F. B. 21602 Agama*. In thin forests, deserted clearings, etc., at low altitudes. Endemic.

**MILLETTIA CANARIIFOLIA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 71; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 178.

Luzon (Zambales), *B. S. 4711, 7427 Ramos*. In thickets or secondary forests at low altitudes. Endemic.

Local name: Malapatpát (Tag.).

**MILLETTIA CAVITENSIS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 72; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 179.

Luzon (Ilocos Norte, Cavite), *Merrill 4181, F. B. 13815 Merritt & Darling*. In thickets and ravines at low altitudes. Endemic.

Local name: Mila-milan (Ilk.).

**MILLETTIA FOXWORTHYI** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 72; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 179.

Palawan, *B. S. 740 Foxworthy*. On river banks, altitude about 250 m. Endemic.

**MILLETTIA LITORALIS** Dunn in Philip. Journ. Sci. 6 (1911) Bot. 316, Journ. Linn. Soc. Bot. 41 (1912) 181.

Mindanao (Davao), *De Vore & Hoover 250*. Along sandy seashores. Endemic.

**MILLETTIA LONGIPES** Perk. Frag. Fl. Philip. (1904) 80; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 71; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 178.

*Millettia capillipes* Dunn in Philip. Journ. Sci. 6 (1911) Bot. 316, Journ. Linn. Soc. Bot. 41 (1912) 180.

Luzon (Isabela, Cagayan), *Warburg 12112, 12094, 12095, F. B. 18549 Alvarez, Addurn 181*. In thickets or forests along streams at low altitudes. Endemic.

**MILLETTIA MERRILLII** Perk. Frag. Fl. Philip. (1904) 81; Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 18, Philip. Journ. Sci. 1 (1906) Suppl. 64, 5 (1910) Bot. 71, Fl. Manila (1912) 245; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 180.

*Millettia xylocarpa* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 79; Vidal Sinopsis Atlas (1883) t. 41, f. B, non Miq.

*Millettia caerulea* F.-Vill. Novis. App. (1880) 59, non Baker.

Luzon (Cagayan to Bataan and Rizal), Mindoro, Negros. In thickets and secondary forests at low and medium altitudes; locally abundant. Endemic.

Local names: Balók (Tag.); balok-balók (Tag.); baní (Ilk., Pamp.); malabai (Pamp.); pañgardisen (Ilk.).

**MILLETTIA PLATYPHYLLA** Merr. ex Dunn in Journ. Linn. Soc. Bot. 41 (1912) 140.

Samar, Biliran, Leyte, Mindanao (Agusan, Bukidnon, Misamis). In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Dulis (C. Bis.); malatayotes (S. L. Bis.).

**MILLETTIA RACEMOSA** (Roxb.) Benth. in Miq. Pl. Jungh. (1852) 249; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 164.

*Robinia racemosa* Roxb. Fl. Ind. ed. 2, 3 (1832) 329.

*Pongamia racemosa* Grah. in Wall. Cat. (1832) No. 5914.

Luzon (Rizal), *B. S. 1064 Ramos*. In forests at low or medium altitudes. India to Burma and Siam. The identity of the Luzon specimen with this species is not certain, as it is with buds only.

**MILLETTIA STIPULATA** Dunn in Philip. Journ. Sci. 6 (1911) Bot. 316, Journ. Linn. Soc. Bot. 41 (1912) 181.

Luzon (Bulacan), *F. B. 11140 Aguilar*. In thickets or forests at low altitudes. Endemic.

#### EXCLUDED SPECIES

**MILLETTIA PULCHRA** Benth.; Baker in Hooker f. Fl. Brit. Ind. 2 (1876) 105; F.-Vill. Novis. App. (1880) 59.

Baker's record of this species as a Philippine one was probably based on an erroneously localized specimen.

**MILLETTIA SERICEA** W. & A.; F.-Vill. l. c.

**MILLETTIA SPLENDENS** W. & A.; F.-Vill. l. c.

#### 42. WHITFORDIODENDRON Elmer

(*Whitfordia* Elm., non Murr., *Adinobotrys* Dunn)

**WHITFORDIODENDRON SCANDENS** Elm. ex Dunn in Kew Bull. (1912) 364 in syn.

*Whitfordia scandens* Elm. Leaf. Philip. Bot. 2 (1910) 689.

*Adinobotrys scandens* Dunn in Kew Bull. (1912) 364.

Sibuyan, Panay, Palawan, Mindanao (Bukidnon, Agusan), *Elmer 12259, 13288, 13134, 12747, F. B. 22882 Tamesis, B. S. 31148 Ramos & Edaña, 15756 Félix*. In forests at low and medium altitudes. Endemic.

Local names: Kagai (P. Bis.); pitugo (Buk.); tolanan (Mbo.).

The genus has several other species in the Malayan region. By common consent among mycologists Murrill's genus *Whitfordia* is reduced to *Trametes* as a synonym, which, among many systematists, would allow the reinstatement of Elmer's original name *Whitfordia* for the present genus.

#### 43. GLIRICIDIA Humbolt, Bonpland, and Kunth

**GLIRICIDIA SEPIUM** (Jacq.) Steud. Nomencl. (1821) 688; Urban Symbol. Antill. 2 (1900) 288; Perk. Frag. Fl. Philip. (1904) 17; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 64, 5 (1910) Bot. 73, Fl. Manila (1912) 245, Sp. Blancoanae (1918) 180.

*Robinia sepium* Jacq. Enum. (1760) 28.

*Gliricidia maculata* HBK Nov. Gen. 6 (1824) 393, F.-Vill. Novis. App. (1880) 59; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 22, Govt. Lab. Publ. (Philip.) 6 (1904) 30.

*Galedupa pungam* Blanco Fl. Filip. (1837) 558, ed. 2 (1845) 390, ed. 3, 2 (1879) 352, t. 250, non Gmel.

*Millettia ? luzoniensis* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 456; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 82; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 239.

*Millettia splendidissima* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 250; Vidal Cat. Pl. Prov. Manila (1880) 25, non Blume.



Throughout the Philippines in the settled areas at low and medium altitudes, thoroughly naturalized; often planted in hedges. Introduced from Mexico by the Spaniards, its common name *kakauati* of Aztec origin.

Local names: Kakaoáti (Bon.); kakauáti (Tag.); madre cacáo (Sp.); marikakáu (Tag.); mandiri-kakáu (Sul.).

#### 44. *SESBANIA* Scopoli

**SESBANIA CANNABINA** (Retz.) Pers. Syn. 2 (1807) 316; DC. Prodr. 2 (1825) 265; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 74, Fl. Manila (1912) 250.

*Aeschynomene cannabina* Retz. Obs. 5 (1789) 26.

*Agati cannabina* Desv. Journ. Bot. 1 (1813) 120.

*Sesbania aegyptiaca* F.-Vill. Novis. App. (1880) 59; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 405, non Poir.

*Sesbania aculeata* F.-Vill. Novis. App. (1880) 59; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106; Perk. Frag. Fl. Philip. (1904) 17, non Pers.

*Sesbania picta* Vidal Cat. Pl. Prov. Manila (1880) 26, non Pers.

Northern Luzon to Mindanao. Along streams, in open wet lands, etc., at low and medium altitudes. India to Malaya.

Local names: Balakbák (Tag.); bayakbák-búkit (Pamp.); ganai (C. Bis.); laguiaua (Bag.); rubáu (Ilk.); tabing (Mag.).

**SESBANIA GRANDIFLORA** (Linn.) Pers. Syn. 2 (1807) 316; Blanco Fl. Filip. (1837) 599, ed. 2 (1845) 418, ed. 3, 2 (1879) 399, t. 291; F.-Vill. Novis. App. (1880) 60; Vidal Sinopsis Atlas (1883) 23, t. 40, f. F; Perk. Frag. Fl. Philip. (1904) 17; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 75, Fl. Manila (1912) 250, Sp. Blancoanae (1918) 181.

*Robinia grandiflora* Linn. Sp. Pl. (1753) 722.

*Aeschynomene grandiflora* Linn. op. cit. ed. 2 (1763) 1060.

*Sesban grandiflorus* Poir. in Lam. Encycl. 7 (1806) 127.

*Agati grandiflora* Desv. Journ. Bot. 1 (1813) 120, t. 4, f. 6; DC. Prodr. 2 (1825) 266; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 289.

Northern Luzon to Mindanao in the settled areas at low and medium altitudes, often planted; certainly an introduced plant in the Philippines. India to the Mascarene Islands, through Malaya to tropical Australia, planted in other tropical countries.

Local names: Diana (Bag.); gauai-gáuai (P. Bis.); kambang-turi (Sul.); katódai (Ilk.); katúdai (Ilk., Ibn.); katúrai (Ibn., Tag., Pang.).

**SESBANIA ROXBURGHII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 269, 5 (1910) Bot. 74, Sp. Blancoanae (1918) 181.

*Aeschynomene paludosa* Roxb. Fl. Ind. ed. 2, 3 (1832) 333, non

*Sesbania paludosa* Jacq.

*Coronila emerus* Blanco Fl. Filip. (1837) 582, non Linn.

*Sesbania cannabina* Blanco op. cit. ed. 2 (1845) 418, ed. 3, 2 (1879) 400, non Poir.

*Sesbania grandiflora* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 288, non Pers.

*Sesbania paludosa* Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 82, 367, non Jacq.

*Sesbania aculeata* Poir. var. *paludosa* Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 115; F.-Vill. Novis. App. (1880) 59.

Luzon (Rizal, Laguna), *B. S. 6530 Robinson, 22424 Ramos, 1187 Robinson & Ramos, Merrill Phil. Pl. 450, Sp. Blancoanae 880, F. B. 10098 Curran*. Along streams, in swamps, and in shallow water of lakes. India to southern China and Formosa southward to Java and Celebes.

Local name: Balakbák (Tag.).

**SESBANIA SESBAN** (Linn.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 235.

*Aeschynomene sesban* Linn. Sp. Pl. (1753) 714.

*Coronilla sesban* Willd. Sp. Pl. 3 (1806) 1147.

*Sesbania aegyptiaca* Poir. in Lam. Encycl. 7 (1806) 128.

*Emerus sesban* O. Kuntze Rev. Gen. Pl. (1891) 180.

Luzon (Manila), *Shaw 801, Merrill 9805*, occasional; a recent introduction. Tropics of both hemispheres.

#### 45. CLIANTHUS Banks and Solander

**CLIANTHUS BINNENDYCKIANUS** Kurz in Journ. As. Soc. Beng. 40<sup>2</sup> (1871) 51; Perk. Frag. Fl. Philip. (1904) 20; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 75; C. B. Rob. op. cit. 6 (1911) Bot. 205.

Polillo, Luzon (Sorsogon), Leyte, Camiguin de Misamis, Mindanao, *Elmer 10962, 13307, 16645, Warburg 14663, Wenzel 814, 913, Williams 2745, B. S. 10767 McGregor, 15212, 14714 Ramos, Clemens 623*. In thickets and forests at low and medium altitudes. Celebes, Ceram.

Local name: Sabali (Bag.).

#### 46. ORMOCARPUM Beauvois

**ORMOCARPUM COCHINCHINENSE** (Lour.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 76.

*Diphaca cochinchinensis* Lour. Fl. Cochinch. (1790) 454.

*Hedysarum sennoides* Willd. Sp. Pl. 3 (1803) 1207.

*Ormocarpum sennoides* DC. Prodr. 2 (1825) 315; F.-Vill. Novis. App. (1880) 60; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106; Perk. Frag. Fl. Philip. (1904) 17.

Luzon (Ilocos Norte, Ilocos Sur, Batangas, Camarines), Cagayan de Misamis, *B. S. 14454, 22381 Ramos, F. B. 13956 Merritt & Darling, 5631 Klemme*. On dry open slopes and in thickets at low and medium altitudes; rare or local. Tropical Africa, India to southern China through Malaya to tropical Australia.

#### 47. AESCHYNOMENE Linnaeus

**AESCHYNOMENE INDICA** Linn. Sp. Pl. (1753) 715; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 274; F.-Vill. Novis. App. (1880) 60; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 76, Fl. Manila (1912) 237, Sp. Blancoanae (1918) 181.

*Aeschynomene aspera* Vogel in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 26, non Linn.

*Aeschynomene roxburghii* Spreng. Syst. 3 (1826) 322; Llanos Frag. Pl. Filip. (1851) 83; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 64.

Throughout the Philippines, in open wet places, old rice paddies, etc., at low and medium altitudes. Tropics of the Old World.

#### 48. SMITHIA Aiton

**SMITHIA CILIATA** Royle Illustr. (1839) 201, t. 35, f. 2; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 150; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 184; Merr. op. cit. 5 (1910) Bot. 77.

*Damapana ciliata* O. Kuntze Rev. Gen. Pl. (1891) 179.

Luzon (Bontoc, Benguet), *Vanoverbergh 842, Merrill 4267, Williams 970, B. S. 5890 Ramos, 31928 Santos, 2502 Mearns*. On open slopes in the pine region, altitude 1,100 to 2,200 m. India to Formosa.

**SMITHIA SENSITIVA** Ait. Hort. Kew. 3 (1789) 496; DC. Prodr. 2 (1825) 323; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 148; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 272; Ceron Cat. Pl. Herb. Manila (1892) 61; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 76.

*Damapana ciliata* O. Kuntze Rev. Gen. Pl. (1891) 179.

Luzon (Benguet, Bontoc, Nueva Ecija, Nueva Vizcaya, Pangasinan), Mindanao (Lanao). In open wet places, chiefly at medium altitudes, ascending to 2,000 m. Tropical Asia and Africa to Formosa, Malaya, and Tropical Australia.

Local names: Bargak (Ig.); gomgóm (If.).

#### 49. ARACHIS Linnaeus

**ARACHIS HYPOGAEA** Linn. Sp. Pl. (1753) 741; Blanco Fl. Filip. (1837) 567, ed. 2 (1845) 396, ed. 3, 2 (1878) 363, t. 157; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 281; F.-Vill. Novis. App. (1880) 60; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 77, Fl. Manila (1912) 237, Sp. Blancoanae (1918) 182.

The peanut, cultivated in many parts of the Philippines, an early introduction from tropical America.

Local names: Batung-china (Sul.); maní (Sp.).

#### 50. ZORNIA J. F. Gmelin

**ZORNIA DIPHYLLO** (Linn.) Pers. Syn. 2 (1807) 318; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 147; F.-Vill. Novis. App. (1880) 60; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 106; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 77, Fl. Manila (1912) 238, Sp. Blancoanae (1918) 182.

*Hedysarum diphyllum* Linn. Sp. Pl. (1753) 747.

*Zornia zeylonensis* Pers. Syn. 2 (1807) 318; DC. Prodr. 2 (1825) 317.

*Zornia nuda* Vogel in Linnaea 10 (1836) 587.

*Lupinus angustifolius* Blanco Fl. Filip. (1837) 566, non Linn.

*Smithia bigeminata* Blanco op. cit. ed. 2 (1845) 395 (*rigeminata*), ed. 3, 2 (1879) 362.

Northern to central Luzon (Cagayan to Rizal and Bataan). In open dry grasslands in the settled areas at low and medium altitudes, with all the appearance of an introduced species. Pantropic.

#### 51. DESMODIUM Desvaux

**DESMODIUM AURICULATUM** DC. Prodr. 3 (1827) 326; Prain in Journ. As. Soc. Bengal 66<sup>2</sup> (1897) 144.

*Pteroloma auriculatum* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 258.

Luzon (Rizal), *B. S. 1036, 22685 Ramos, Merrill 7394*. In open grasslands at low and medium altitudes. Often confused with *D. triquetrum* DC., but easily distinguished by its glabrous, not strigose pods. Andaman and Great Coco Islands, Indo-China, and Malaya.

**DESMODIUM BOLSTERI** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 102; Merr. op. cit. 5 (1910) Bot. 83.

Luzon (Cagayan, Nueva Ecija), *Bolster 181, Adduru 209, Warburg 12447, F. B. 22127 Alvarez*. On bowlders along streams on slopes, etc., at low altitudes, apparently very local. Endemic.

**DESMODIUM BUERGERI** Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 45; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 85.

Luzon (Bontoc, Benguet, Laguna), *Williams 1400, 1402, Merrill 4374*. On open grassy slopes, borders of thickets, etc., at medium altitudes. Japan, Riu Kiu Islands, Formosa, Hainan, and probably also in China; reduced by most authors to *Desmodium heterocarpum* DC.

**DESMODIUM CAPITATUM** (Burm. f.) DC. Prodr. 2 (1825) 336; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 241; F.-Vill. Novis. App. (1880) 62; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 433; Vidal Phan. Cuming. Philip. (1885) 107, Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65, 2 (1907) Bot. 276, 3 (1908) Bot. 81, 5 (1910) Bot. 84, Fl. Manila (1912) 240.

*Hedysarum capitatum* Burm. f. Fl. Ind. (1768) 167, t. 64, f. 1.

*Meibomia capitata* O. Kuntze Rev. Gen. Pl. (1891) 195.

Northern Luzon to Mindanao. In open grasslands at low and medium altitudes; common. India to Malaya.

Local names: Bilibig (Bik.); kalapikid (Bag.); maní-maní (Tag.); maní-manían (Pang., Tag.); maníng-párang (Tag.).

**DESMODIUM CUMINGIANUM** (Benth.) F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 80.

*Dendrobium cumingianum* Benth. in Miq. Pl. Jungh. (1852) 216; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 263.

Luzon (Batangas), *Cuming 1454, B. S. 22341 Ramos*. On dry slopes in thickets and secondary forests at low altitudes. Endemic.

Local name: Malakágyos (Tag.).

**DESMODIUM DASYLOBUM** Miq. Fl. Ind. Bot. Suppl. (1860-61) 305.

*Desmodium sinuatum* Blume ex Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 166; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 83, 356.

*Desmodium strangulatum* W. & A. var. *sinuatum* Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 255.

*Meibomia sinuata* O. Kuntze Rev. Gen. Pl. (1891) 198.

Luzon (Benguet, Bontoc, Kalinga, Lepanto), Mindanao (Bukidnon, Davao). In thickets, ravines, and forests, altitude 1,200 to 2,400 m. India to Formosa southward to New Guinea.

Local names: Karindapit (Buk.); kópat (Ig.); púlot (If.).

**DESMODIUM GANGETICUM** (Linn.) DC. Prodr. 2 (1825) 327; Blanco Fl. Filip. ed. 2 (1845) 408, ed. 3, 2 (1879) 384; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 247; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 433; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Filip. (1904) 18; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65, 3 (1908) Bot. 81, 5 (1910) Bot. 87, Fl. Manila (1912) 241, Sp. Blancoanae (1918) 182.

*Hedysarum gangeticum* Linn. Sp. Pl. (1753) 746.

*Desmodium gangeticum* Linn. var. *neaei* DC. Prodr. 2 (1825) 327.

*Hippocrepis multisiliquosa* Blanco Fl. Filip. (1837) 584, non Linn.

*Meibomia gangetica* O. Kuntze Rev. Gen. Pl. (1891) 196.

Throughout the Philippines at low and medium altitudes, in thickets, open secondary forests, waste places, etc.; common. Tropics of the Old World, introduced in tropical America.

Local names: Andudúkut (Sul.); dikit-dikit (Tag.); kupkupies-ñg-babasit (Ilk.); mangkít (Tag.); paiang-páiáng (Tag.); pega-péga (C. Bis.).

**DESMODIUM GYRANS** (Linn. f.) DC. Prodr. 2 (1825) 326; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 86.

*Hedysarum gyrans* Linn. f. Suppl. (1781) 332.

*Meibomia gyrans* O. Kuntze Rev. Gen. Pl. (1791) 196.

Luzon (Cagayan, Lepanto, Bontoc, Benguet, Nueva Vizcaya), Mindanao (Davao, Bukidnon). In thickets, ravines, etc., chiefly at medium altitudes. India to Formosa, southward through Malaya to tropical Australia.

Local names: Dipdipíl (Bon.); dumdum (Buk.); sigbut-hapang (Bag.).

**DESMODIUM GYROIDES** (Roxb.) DC. Prodr. 2 (1825) 326; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 175; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 86.

*Hedysarum gyroides* Roxb. Hort. Beng. (1814) 57, *nomen nudum*.

*Meibomia gyroides* O. Kuntze Rev. Gen. Pl. (1891) 196.

Mindanao (Lanao), Palawan, *Clemens 369*, *Merrill 9472*. On slopes bordering forests, in thickets near lake shores, etc., at low and medium altitudes; very local. India to Formosa southward to New Guinea.

Local names: Karikut-rikut (Bag.); koer (Bag.).

**DESMODIUM HETEROCARPUM** (Linn.) DC. Prodr. 2 (1825) 337; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 84.

*Hedysarum heterocarpum* Linn. Sp. Pl. (1753) 747.

*Hedysarum polycarpon* Poir. in Lam. Encycl. 6 (1804) 413.

*Desmodium polycarpum* DC. Prodr. 2 (1825) 334; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc.

Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65.

*Meibomia polycarpa* O. Kuntze Rev. Gen. Pl. (1891) 196.

Northern Luzon to Mindanao. In thickets, open grasslands, etc., at low and medium altitudes; common. Tropical Africa and Asia through Malaya to Australia and Polynesia.

Local names: Huyop (If.); huyo-húyop (If.); mangkít-párang (Tag.); maní-maní (P. Bis.); mani-manían (Tag.); naangkonod (Mbo.); tagiktik (Mbo.); tayam (Tag.); timbalau (Bag.).

**DESMODIUM HETEROPHYLLUM** (Willd.) DC. Prodr. 2 (1825) 334; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 173; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 85, Fl. Manila (1912) 240.

*Hedysarum heterophyllum* Willd. Sp. Pl. 3 (1800) 1201.

*Meibomia triphylla* O. Kuntze Rev. Gen. Pl. (1891) 196.

Luzon (Ilocos Norte, Rizal, Tayabas), Polillo, Palawan. In open, usually damp grasslands, old clearings etc., at low and medium altitudes. India to the Mascarene Islands, southern China, and Malaya.

**DESMODIUM LASIOCARPUM** (Beauv.) DC. Prodr. 2 (1825) 328; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 88, Fl. Manila (1912) 241.

*Hedysarum lasiocarpum* Beauv. Fl. Oware Benin. 1 (1804) 32, t. 18; Poir. in Lam. Encycl. Suppl. 5 (1817) 15.

*Hedysarum latifolium* Roxb. Hort. Beng. (1814) 57, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 350.

*Desmodium latifolium* DC. Prodr. 2 (1825) 328; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65.

*Meibomia lasiocarpa* O. Kuntze Rev. Gen. Pl. (1891) 196.

Northern Luzon to Mindanao. In open grasslands, thickets, etc., at low and medium altitudes. Tropical Africa and Asia through Malaya to New Guinea; introduced in tropical America.

Local name: Magunlapi (Bag.).

**DESMODIUM LAXIFLORUM** DC. Prodr. 2 (1825) 335; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 164; F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 81, Sp. Blancoanae (1918) 183.

*Desmodium recurvatum* Grah. in Wall. Cat. (1832) No. 5717, *nomen nudum*; Benth. in Miq. Pl. Jungh. (1852) 225.

*Hippocrepis comosa* Blanco Fl. Filip. (1837) 584, non Linn.

*Desmodium diversifolium* Blanco op. cit. ed. 2 (1845) 408, ed. 3, 2 (1879) 384, non DC.

Northern Luzon to Palawan and Mindanao. In thickets, secondary forests, coconut groves, etc., at low and medium altitudes; often common. India to Formosa southward to Malaya.

Local names: Dokot-dókot (Bis.); kúpot (Ig.); mangkít (Tag.); mangkít-labúio (Tag.).

**DESMODIUM LAXUM** DC. in Ann. Sci. Nat. I 4 (1825) 102, Prodr. 2 (1825) 336; Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 138; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 82.

*Desmodium gardneri* Benth. in Miq. Pl. Jungh. (1852) 226.

*Desmodium leptopus* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 436; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 255; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81, t. 1; F.-Vill. Novis. App. (1880) 61.

*Meibomia leptopus* O. Kuntze Rev. Gen. Pl. (1891) 198.

Babuyan Islands and northern Luzon to Mindanao. In shaded ravines, forests along streams, etc., mostly at medium altitudes. India to southern China southward to Malaya.

Local names: Bangbāṅga (Bag.); panikit (Mbo.); tagustus (Bik.).

**DESMODIUM MALACOPHYLLUM** (Link) DC. Prodr. 2 (1825) 338 (*malacophyllum*); F.-Vill. Novis. App. (1880) 62; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 84.

*Hedysarum malacophyllum* Link Enum. Hort. Berol. 2 (1822) 247.

*Meibomia malacophylla* O. Kuntze Rev. Gen. Pl. (1891) 198.

Luzon (Cavite?), *Chamisso* in herb. Berol. An imperfectly known endemic species known only from the original collection, perhaps really not originating in the Philippines.

**DESMODIUM MICROPHYLLUM** (Thunb.) DC. Prodr. 2 (1825) 337; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 86.

*Hedysarum microphyllum* Thunb. Fl. Jap. (1784) 284.

*Desmodium parvifolium* DC. in Ann. Sci. Nat. I 4 (1825) 100, Prodr. 2 (1825) 334; F.-Vill. Novis. App. (1880) 62.

Luzon (Bontoc, Benguet), Mindanao (Lanao). On open grassy slopes at medium altitudes, ascending to 2,200 m in Benguet. India to Japan southward to New Guinea.

**DESMODIUM ORMOCARPOIDES** DC. Prodr. 2 (1825) 327; Desv. in Mém. Soc. Linn. Paris 1825 (1826) 307; Gagnep. in Not. Syst. 3 (1916) 256; Merr. Interpret. Herb. Amb. (1917) 267, Philip. Journ. Sci. 14 (1919) 409, non auct. plur.

*Hedysarum adhaerens* Poir. in Lam. Encycl. Suppl. 5 (1817) 15, non Vahl.

*Desmodium dependens* Blume ex Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 248.

Jolo, *Rola 118*, *Link 42*. In teak forests at low altitudes. Celebes, Moluccas, New Guinea, and northeastern Australia.

Local name: Sampautai (Sul.).

**DESMODIUM OVALIFOLIUM** Wall. Cat. (1832) No. 5730, *nomen nudum*; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 85.

*Desmodium polycarpum* DC. var. *ovalifolium* Prain ex King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 141.

Luzon (Bataan), *Merrill 7611*, *Whitford 227*, *F. B. 3115 Meyer*. In primary forests, on ridges, altitude 150 to 1,100 m. Malay Peninsula, Sumatra.

**DESMODIUM PODOCARPUM** DC. in Ann. Sci. Nat. I 4 (1825) 102, Prodr. 2 (1825) 336; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 83.

*Meibomia podocarpa* O. Kuntze Rev. Gen. Pl. (1891) 198.

Luzon (Benguet), *Williams 1398, Merrill 4356*. In ravines and thickets, altitude 1,100 to 1,400 m. India to China and Japan.

**DESMODIUM PROCUMBENS** (Mill.) A. S. Hitchc. in Rept. Mo. Bot. Gard. 4 (1893) 76; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 82, Fl. Manila (1912) 239, Sp. Blancoanae (1918) 183.

*Hedysarum procumbens* Mill. Gard. Dict. ed. 8 (1768) No. 10.

*Hedysarum spirale* Sw. Prodr. (1788) 107.

*Desmodium spirale* DC. Prodr. 2 (1825) 332; Blanco Fl. Filip. ed. 2 (1845) 408, ed. 3, 2 (1879) 385; F.-Vill. Novis. App. (1880) 61; Perk. Frag. Fl. Philip. (1904) 19.

*Desmodium chamissonis* Vogel in Linnaea 10 (1836) 588.

*Hippocrepis rhomboidea* Blanco Fl. Filip. (1837) 585.

*Meibomia chamissonis* O. Kuntze Rev. Gen. Pl. (1891) 197.

Northern to central Luzon. In thickets, open places, etc., at low and medium altitudes in the settled areas. Introduced from tropical America, now pantropic.

**DESMODIUM PSEUDOTRIQUETRUM** DC. in Ann. Sci. Nat. I 4 (1825) 100, Prodr. 2 (1825) 326; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 87.

Luzon (Lepanto, Benguet, Rizal), *Merrill 4477, Williams 1414, Bona 20, Vanoverbergh 2169, B. S. 29494 Ramos & Edaño*. On dry open grassy slopes at medium altitudes. India, China, Formosa.

**DESMODIUM PULCHELLUM** (Linn.) Benth. Fl. Hongk. (1861) 83; F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65, 5 (1910) Bot. 79, Fl. Manila (1912) 239, Sp. Blancoanae (1918) 184.

*Hedysarum pulchellum* Linn. Sp. Pl. (1753) 747; Blanco Fl. Filip. (1837) 581.

*Dicerma pulchellum* DC. in Ann. Sci. Nat. I 4 (1825) 236, Prodr. 2 (1825) 339; Blanco Fl. Filip. ed. 2 (1845) 407, ed. 3, 2 (1879) 383.

*Zornia pulchella* Pers. Syn. 2 (1807) 318.

*Phyllodium pulchellum* Desv. in Mém. Soc. Linn. Paris 4 (1826) 324; A. Gray. Bot. Wilkes U. S. Explor. Exped. (1854) 431; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 260.

*Meibomia pulchella* O. Kuntze Rev. Gen. Pl. (1891) 197.

Northern Luzon to Palawan and Mindanao. Common in open thickets, waste places, etc., in the settled areas at low and medium altitudes. India to China and Formosa southward to tropical Australia.

Local names: Gaan-gaan (Sul.); kalaikai (C. Bis.); payang-payang (Tag.).

**DESMODIUM QUINQUEPETALUM** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 20, Philip. Journ. Sci. 5 (1910) Bot. 81, Fl. Manila (1912) 239, Sp. Blancoanae (1918) 184.

*Cytisus quinquepetalus* Blanco Fl. Filip. (1837) 598.

*Cajanus quinquepetalus* Blanco op. cit. ed. 2 (1845) 417, ed. 3, 2 (1879) 397.



*Glycine cajanoides* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843)

Suppl. 1: 324; F.-Vill. Novis. App. (1880) 62.

*Desmodium cephalotes* F.-Vill. Novis. App. (1880) 61, non Wall.

Northern to central Luzon (Ilocos Norte to Batangas). Common in thickets at low and medium altitudes. Endemic.

Local names: Bakiskis (Tag.); malakardís (Ilk.); marakardís (Pang., Ilk.); paispis (Tag.); pañgaldísan (Ig.); pañgardísan (Ilk.); payespes (Tag., Sbl.).

**DESMODIUM SCALPE** (Comm.) DC. Prodr. 2 (1825) 334; F.-Vill. Novis. App. (1880) 61; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 83.

*Hedysarum scalpe* Comm. ex DC. l. c. in syn.

Luzon (Bontoc, Lepanto, Benguet). In thickets, damp shaded ravines, etc., altitude 1,200 to 2,200 m. Tropical Africa, Asia, and Malaya.

Local names: Kúpat (Ig.); kupot (Ig.); pagpagbu (Ig.).

**DESMODIUM SCORPIURUS** (Sw.) Desv. in Journ. Bot. 1 (1813) 122; DC. Prodr. 2 (1825) 333; Perk. Frag. Fl. Philip. (1904) 18; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65, 5 (1910) Bot. 81, Fl. Manila (1912) 239.

*Hedysarum scorpiurus* Sw. Prodr. (1788) 107.

*Meibomia scorpiurus* O. Kuntze Rev. Gen. Pl. (1891) 198.

Bataan Islands and northern Luzon to Balabac and Panay. In open dry thickets, on cliffs, in grasslands, etc., at low and medium altitudes. Introduced from tropical America, now also in Formosa and Polynesia.

Local name: Tagum-tágum (Bik.).

**DESMODIUM STYRACIFOLIUM** (Osbeck) Merr. in Am. Journ. Bot. 3 (1916) 580.

*Hedysarum styracifolium* Osbeck Dagbok Ostind. Resa (1757) 247; Linn. Syst. ed. 10 (1759) 1169.

*Desmodium retroflexum* DC. Prodr. 2 (1825) 336; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 267, 5 (1910) Bot. 85.

*Hedysarum retroflexum* Linn. Mant. 1 (1767) 103.

*Meibomia retroflexa* O. Kuntze Rev. Gen. Pl. (1891) 197.

Luzon (Ilocos Norte, Nueva Vizcaya), *B. S. 5278 McGregor, 32741 Ramos*. In open dry grasslands at low altitudes. India to southern China.

**DESMODIUM TRIFLORUM** (Linn.) DC. Prodr. 2 (1825) 334; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 238; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 423; F.-Vill. Novis. App. (1880) 62; Vidal Rev. Pl. Vasc. Filip. (1886) 107; Perk. Frag. Fl. Philip. (1904) 19; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81, 5 (1910) Bot. 85, Fl. Manila (1912) 240, Sp. Blancoanae (1918) 183.

*Hedysarum triflorum* Linn. Sp. Pl. (1753) 749.

*Hippocrepis humilis* Blanco Fl. Filip. (1837) 585.

*Desmodium parvifolium* Blanco op. cit. ed. 2 (1845) 408, ed. 3, 2 (1879) 386, non DC.

*Meibomia triflora* O. Kuntze Rev. Gen. Pl. (1891) 197.

In open grassy places, especially in and about towns throughout the Philippines. Pantropic.

Local name: Pakpák-láñgau (Tag.).

**DESMODIUM TRIFOLIASTRUM** Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 248; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 273.

Panay, Mindanao (Zamboanga, Surigao), *B. S. 30694, 37017 Ramos & Edaña, Piper 549*. In thickets along streams at low altitudes. Malay Peninsula, Sumatra, Java, Borneo.

**DESMODIUM TRIQUETRUM** (Linn.) DC. Prodr. 2 (1825) 326; F.-Vill. Novis. App. (1880) 61; Perk. Frag. Fl. Philip. (1904) 19; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 86, Fl. Manila (1912) 240.

*Hedysarum triquetrum* Linn. Sp. Pl. (1753) 746.

*Pteroloma triquetrum* Benth. in Miq. Pl. Jungh. (1852) 220.

*Meibomia triquetra* O. Kuntze Rev. Gen. Pl. (1891) 197.

Culion, Mindanao (Bukidnon), *Merrill 519, B. S. 181 Bermejós, 15668 Féñic, 39222 Ramos & Edaña*. In thickets, secondary forests, etc., at low and medium altitudes. India to the Mascarene Islands, southern China through Malaya to northeastern Australia.

Local name: Dakot-dákot (Tag.).

**DESMODIUM UMBELLATUM** (Linn.) DC. Prodr. 2 (1825) 325; F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 106, Sinopsis Atlas (1883) 23, *t. 41, f. D*; Perk. Frag. Fl. Philip. (1904) 19; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 25, Philip. Journ. Sci. 1 (1906) Suppl. 65, 3 (1908) Bot. 409, 5 (1910) Bot. 80, Sp. Blancoanae (1918) 183.

*Hedysarum umbellatum* Linn. Sp. Pl. (1753) 747.

*Aeschynomene arborea* Linn. Sp. Pl. (1753) 713; Blanco Fl. Filip. (1837) 581, ed. 2 (1845) 406, ed. 3, 2 (1879) 381, non *Desmodium arboreum* Sweet.

*Dendrolobium umbellatum* W. & A. ex Benth. Pl. Jungh. (1852) 216; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 431; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 262.

Along the seashore throughout the Philippines, occasionally found growing inland (Batan and Babuyan Islands). Mascarene Islands and tropical Asia through Malaya to northern Australia and Polynesia.

Local names: Gógo (Ibn.); huyat-bágio (C. Bis.); kabay-kábai (Tag.); kaubol (Bag.); malakários (Sbl.); malapígas (Tag.); miágos (P. Bis.); matang-urang (Bik.); tuyat-bágio (Bis.).

**DESMODIUM VIRGATUM** Zoll. Nat. Geneesk. Arch. Ind. 3 (1846) 58; Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 143, 399; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 103, Merr. op. cit. 5 (1910) Bot. 87, Fl. Manila (1912) 240, Sp. Blancoanae (1918) 182.

*Desmodium gangeticum* Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 377*, non DC.

Luzon (Rizal, Bataan, Laguna), Palawan, Panay. In thickets at low altitudes. Burma, Malay Peninsula, Java.

**DESMODIUM ZONATUM** Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 250; Gagnep. Not. Syst. 3 (1916) 257.

*Desmodium ormocarpoides* Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 164; F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108; Perk. Frag. Fl.

Philip. (1904) 18; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 276, 5 (1910) Bot. 82, non DC.

Luzon (Laguna, Tayabas, Camarines, Sorsogon), Mindoro, Palawan, Samar, Leyte, Cebu, Panay, Mindanao. In thickets and forests at low and medium altitudes. India through Malaya to New Guinea.

Local names: Kalapikid (Bag.); torokot (Sub.).

#### EXCLUDED SPECIES

DESMODIUM ELEGANS Benth.; Hemsl. in Journ. Linn. Soc. Bot. 23 (1887) 171.

The Philippine range for this species was probably based on erroneously identified specimens of *Desmodium pulchellum* Benth.

DESMODIUM KINGIANUM Prain; Usteri Beitr. Ken. Philip. Veg. (1905) 115.

The Cebu and Panay records of Usteri were probably based on wrongly named specimens.

DESMODIUM PILOSIUSCULUM DC. Prodr. 2 (1825) 335, Ann. Sci. Nat. 4 (1825) 101; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 88.

"In Philippicis ? ex herb. Thibaud," Prodr.; "In insulis Philippinis (in herb. Thibaud ex itin. Neaei)," Ann. Sci. Nat. The type specimen in the de Candolle herbarium represents a species remote from all the known Philippine forms. In Index Kewensis it is reduced to the American *D. uncinatum* DC. The specimen was certainly not from the Philippines.

DESMODIUM RENIFORME DC.; F.-Vill. Novis. App. (1880) 62.

#### 52. MONARTHROCARPUS Merrill

MONARTHROCARPUS SECURIFORMIS (Benth.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 89.

*Desmodium securiforme* Benth. in Miq. Pl. Jungh. (1852) 226; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1855) 255; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108.

Luzon (Cagayan, Laguna, Sorsogon), Polillo, Mindoro, Mindanao, Basilan. In primary forests on slopes at low and medium altitudes, widely scattered. A monotypic endemic genus.

Var. **MONOPHYLLA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 90.

Mindanao. Habitat of the species.

#### 53. PSEUDARTHRIA Wight and Arnott

PSEUDARTHRIA VISCIDA (Linn.) W. & A. Prodr. (1834) 209; Wight Ic. t. 286; Ceron Cat. Pl. Herb. Manila (1892) 62; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 90.

*Hedysarum viscidum* Linn. Sp. Pl. (1753) 747.

*Desmodium viscidum* DC. Prodr. 2 (1825) 336.

*Desmodium timoriense* DC. op. cit. 327.

Luzon (Bulacan), Panay, Negros, *Merrill Phil. Pl. 212, 1964*. In waste places near towns, deserted clearings, coconut groves, etc. India, through Malaya to Timor.

Local names: Gunit-gunit (P. Bis.); mankit (Tag.).

## 54. TRIFIDACANTHUS Merrill

TRIFIDACANTHUS UNIFOLIOLATUS Merr. in Philip. Journ. Sci. 12 (1917) Bot. 269, op. cit. 14 (1919) 405.

Luzon (Ilocos Norte, Batangas), *B. S. 27196, 32925 Ramos, F. B. 28265 Sulit*. In dry thickets at low altitudes. A monotypic endemic genus.

## 55. PYCNOSPORA R. Brown

PYCNOSPORA NERVOSA (Grah.) W. & A. Prodr. (1834) 197; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 91.

*Crotalaria ? nervosa* Grah. in Wall. Cat. (1832) No. 5428, *nomen nudum*.

*Pycnospora hedysaroides* R. Br. ex W. & A. Prodr. (1834) 197; F.-Vill. Novis. App. (1880) 60; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108; Perk. Frag. Fl. Philip. (1904) 19.

Luzon (Benguet, Bulacan, Rizal), Culion, Semirara, Panay, Mindanao (Bukidnon, Lanao, Davao). In open grasslands at low and medium altitudes. India to southern China and Formosa, and tropical Australia.

## 56. ALYSICARPUS Necker

ALYSICARPUS BUPLEURIFOLIUS (Linn.) DC. Prodr. 2 (1825) 352; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 232; F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 91, Fl. Manila (1912) 241.

*Hedysarum bupleurifolium* Linn. Sp. Pl. (1753) 745.

*Fabricia bupleurifolia* O. Kuntze Rev. Gen. Pl. (1891) 181.

Northern Luzon to Mindanao. In open grasslands, fallow rice paddies, etc., in the settled areas at low altitudes, locally abundant. India to southern China, Mascarene Islands, through Malaya to Polynesia.

ALYSICARPUS NUMMULARIFOLIUS (Linn.) DC. Prodr. 2 (1825) 353; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 92, Fl. Manila (1912) 242.

*Hedysarum nummularifolium* Linn. Sp. Pl. (1753) 746, excl. Fl. Zeyl. 288.

*Alysicarpus vaginalis* DC. var. *nummularifolius* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 232.

*Fabricia nummularifolia* O. Kuntze Rev. Gen. Pl. (1891) 181.

Throughout the Philippines in open grasslands at low and medium altitudes; variable. Tropics of the Old World, introduced in tropical America.

Local names: Baníg-usa (Tag.); maní-manían (Tag.); maní-maní (P. Bis.); maramaní (Ik.).

ALYSICARPUS VAGINALIS (Linn.) DC. Prodr. 2 (1825) 353; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 231; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108; Perk. Frag. Fl. Philip. (1904) 19; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65, 3 (1908) Bot. 410, 5 (1910) Bot. 92, Fl. Manila (1912) 242.

*Hedysarum vaginale* Linn. Sp. Pl. (1753) 746.

Northern Luzon to Panay and Negros; habitat of the preceding species. Tropical Asia and Malaya.

## EXCLUDED SPECIES

ALYSICARPUS TETRAGONOLOBUS Edgw.; F.-Vill. Novis. App. (1880) 61.

## 57. URARIA Desvaux

URARIA LAGOPODIOIDES (Linn.) Desv. in Mém. Soc. Linn. Paris 4 (1826) 309; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 93, Fl. Manila (1912) 242.

*Hedysarum lagopodioides* Linn. Sp. Pl. (1753) 1198; Poir. in Lam. Encycl. 6 (1804) 412.

*Hedysarum lagopoides* Burm. f. Fl. Ind. (1768) 168, t. 53, f. 2.

*Uraría lagopoides* DC. Prodr. 2 (1825) 324; Vogel in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 27; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 430; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 268; Vidal Phan. Cuming. Philip. (1886) 108; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81.

Northern Luzon to Mindanao. In open grasslands at low and medium altitudes, often abundant. India to southern China and Formosa through Malaya to tropical Australia.

Local names: Basingkaran (Bag.); ikug-kuting (Sub.).

URARIA PICTA (Jacq.) Desv. Journ. Bot. 1 (1813) 123, t. 5, f. 19; DC. Prodr. 2 (1825) 324; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 267; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 430; F.-Vill. Novis. App. (1880) 61; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108; Perk. Frag. Fl. Philip. (1904) 19; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81, 5 (1910) Bot. 93.

*Hedysarum pictum* Jacq. Coll. 2 (1788) 262, Ic. 3 (1786-93) t. 567.

Northern Luzon to Mindanao, occasional in open grasslands and thickets at low and medium altitudes. Tropical Africa, Asia, and Australia, introduced in tropical America.

## 57. LOUREA Necker

LOUREA OBCORDATA (Poir.) DC. Prodr. 2 (1825) 324; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 154; F.-Vill. Novis. App. (1880) 60; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 108; Perk. Frag. Fl. Philip. (1904) 20.

*Hedysarum obcordatum* Poir. in Lam. Encycl. 6 (1804) 425.

*Hedysarum reniforme* Lour. Fl. Cochinch. (1790) 447, non Linn.

*Lourea reniformis* DC. Prodr. 2 (1825) 324; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 94, 354.

Luzon (Cagayan, Abra, Ilocos Norte, Lepanto, Bontoc, Benguet, Nueva Vizcaya), Coron, Mindanao (Davao, Zamboanga). In open grasslands at low and medium altitudes. Burma to southern China and Formosa through Malaya to tropical Australia.

LOUREA VESPERTILIONIS (Linn. f.) Desv. Journ. Bot. 1 (1813) 122, t. 5, f. 18; DC. Prodr. 2 (1825) 323; F.-Vill. Novis. App. (1880) 60; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 93, Fl. Manila (1912) 243, Sp. Blancoanae (1918) 184.

*Hedysarum vesperitilionis* Linn. f. Suppl. (1837) 331; Blanco Fl. Filip. (1837) 581, ed. 2 (1845) 407, ed. 3, 2 (1879) 382, t. 201.

An introduced species, very rarely cultivated in Manila gardens, apparently a native of Siam, but now pantropic in cultivation.

59. **PHYLACIUM** Bennett

**PHYLACIUM BRACTEOSUM** Benn. Pl. Jav. Rar. (1840) 159, t. 33; Benth. in Miq. Pl. Jungh. (1852) 231; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 228; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 423; Vidal Rev. Pl. Vasc. Filip. (1886) 108; Perk. Frag. Fl. Philip. (1904) 20; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 94, 354.

Northern Luzon to Mindanao. In thickets at low and medium altitudes, ascending to 1,400 m; locally abundant. Malay Peninsula to New Guinea.

Local names: Ditching (Ig.); ditidit (Ig.); kopkopeyes-a-limánot (Ilk.); takílis (P. Bis.).

60. **LESPEDEZA** L. C. Richard

**LESPEDEZA SERICEA** (Thunb.) Miq. Ann. Mus. Bot. Lugd.-Bat. 3 (1867) 49.

*Hedysarum sericeum* Thunb. Fl. Jap. (1784) 287.

*Lespedeza juncea* Pers. Syn. 2 (1807) 318, var *sericea* Forbes & Hemsl. in Journ. Linn. Soc. Bot. 23 (1887) 181; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 104, 5 (1910) Bot. 94.

Luzon (Bontoc, Lepanto, Benguet), *Loher 2336, Williams 1420, Vano-verbergh 458, 541, B. S. 5991 Ramos, 40204 Ramos & Edaña, 13989 Santos*. On open grassy slopes, altitude 1,200 to 2,200 m. India to Japan and Formosa; also in Australia.

Local name: Lalagim (Ig.).

61. **DALBERGIA** Linnaeus f.

**DALBERGIA CANDENATENSIS** (Dennst.) Prain in Journ. As. Soc. Beng. 70<sup>2</sup> (1901) 49, Bengal Plants (1903) 411; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 97.

*Cassia candenatensis* Dennst. Schlüs. Hort. Malabar. (1818) 32.

*Dalbergia monosperma* Dalz. in Hook. Journ. Bot. Kew Miscel. 2 (1850) 36; F.-Vill. Novis. App. (1880) 67; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 112; Perk. Frag. Fl. Philip. (1904) 82.

*Dalbergia torta* Grah. in Wall. Cat. (1832) No. 5873, *nomen nudum*; Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 120, Ann. Bot. Gard. Calcutta 10 (1904) 64, t. 42; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66.

Central Luzon (Bataan, Tayabas) to Mindanao. In thickets along tidal streams subject to the influence of salt or brackish water. India to southern China southward to New Guinea, Australia, Marianne and Caroline Islands, a strictly littoral species.

**DALBERGIA CANESCENS** (Elm.) comb. nov.

*Derris canescens* Elm. Leaf. Philip. Bot. 8 (1919) 3087.

Luzon (Laguna), *Elmer 17883*. Near the margins of forests at low altitudes. Endemic.

**DALBERGIA CUMINGIANA** Benth. in Miq. Pl. Jungh. (1852) 255; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 129; F.-Vill. Novis. App. (1880) 67; Vidal Rev. Pl. Vasc. Filip. (1886) 111, Phan. Cuming. Philip. (1885) 109; Prain in Journ. As. Soc. Beng. 70<sup>2</sup> (1901) 63, Ann. Bot. Gard.

Calcutta 10 (1904) 34, t. 7; Perk. Frag. Fl. Philip. (1904) 98; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 98.

*Dalbergia cumingii* Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 32.

Northern Luzon (Cagayan) to Mindanao. In thickets and secondary forests at low and medium altitudes, locally common. Endemic.

Local names: Bulauíni (Ibn.); ganák (Ibn.); hamuráuo (S. L. Bis.); kanák (Ibn.); karbílán (Bik.); tahid-labúyo (Tag.).

**DALBERGIA DENSA** Benth. in Hook. Lond. Journ. Bot. 2 (1843) 217; Prain. in Ann. Bot. Gard. Calcutta 10 (1904) 73, t. 53.

Cebu, Mindanao (Zamboanga), *B. S. 11021 Ramos, F. B. 9308 Whitford & Hutchinson*. In thickets at low altitudes. Moluccas to New Guinea, a variety in northeastern Australia.

**DALBERGIA FERRUGINEA** Roxb. Hort. Beng. (1814) 98, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 228; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 133; Prain in Ann. Bot. Gard. Calcutta 10 (1904) 101, t. 86; Perk. Frag. Fl. Philip. (1904) 81; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 65, 3 (1908) Bot. 410, 5 (1910) Bot. 97, Fl. Manila (1912) 247.

*Dalbergia luzonensis* Vogel in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 33; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 133.

*Dalbergia limonensis* Benth. in Miq. Pl. Jungh. (1852) 256, sphalm.

*Dalbergia stipulacea* F.-Vill. Novis. App. (1880) 67; Vidal Sinopsis Atlas (1883) t. 40, f. C, Rev. Pl. Vasc. Filip. (1886) 111, non Roxb.

*Dalbergia ferruginea* Roxb. var. *daronensis* Elm. Leaf. Philip. Bot. 2 (1910) 699.

Northern Luzon to Palawan and Mindanao. In thickets and secondary forests at low and medium altitudes, common. Borneo to New Guinea and the Caroline Islands.

Local names: Balibágan (P. Bis.); balintodok (Bag.); balitadhan (Mbo.); gipus-gipus (Sul.); kulik-manók (Pamp.).

**DALBERGIA MIMOSELLA** (Blanco) Prain in Ann. Bot. Gard. Calcutta 10 (1904) 42; Merr. Sp. Blancoanae (1918) 184.

*Amerimnon mimosella* Blanco Fl. Filip. (1837) 563, ed. 2 (1845) 393, ed. 3, 2 (1879) 358; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 40.

*Dalbergia minahassae* Koord. in Meded. Lands Plantent. 19 (1898) 430, 630; Prain in Ann. Bot. Gard. Calcutta 10 (1904) 91, t. 73; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 98.

*Dalbergia lanceolaria* Llanos in Mem. Acad. Cienc. Madr. (1858); F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103; F.-Vill. Novis. App. (1880) 67, non Linn.

*Dalbergia cassioides* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 457; Merr. in Philip. Journ. Sci. 3 (1908) 82, non Wall.

*Dalbergia davaoensis* Elm. Leaf. Philip. Bot. 2 (1910) 700.

Luzon (Bontoc, Bulacan, Rizal, Laguna, Tayabas, Bataan), Mindanao. In secondary forests at low and medium altitudes. Celebes.

Local names: Balabágan (Mang.); balaúgan (P. Bis.); balbálan (Bag.); karanapati (Bag.); langlin (Tag.); makapil (Tag.); malasampalok (Tag.); matang-buyud (Bik.); talongdang (Tag.).

**DALBERGIA PINNATA** (Lour.) Prain in Ann. Bot. Gard. Calcutta 10 (1904) 48; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 96.

*Derris pinnata* Lour. Fl. Cochinch. (1790) 432.

*Dalberia tamarindifolia* Roxb. Hort. Beng. (1814) 53, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 233, p. p.; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 131; F.-Vill. Novis. App. (1880) 67; Vidal Rev. Pl. Vasc. Filip. (1886) 111; Prain in Ann. Bot. Gard. Calcutta 10 (1904) 69, t. 48; Perk. Frag. Fl. Philip. (1904) 82.

*Endespermum scandens* Blume Cat. Gew. Buitenz. (1823) 92.

*Dalbergia dubia* Elm. Leaf. Philip. Bot. 8 (1915) 2731.

Northern Luzon to Palawan and Mindanao. In thickets and forests at low and medium altitudes, ascending to 1,400 m. India to southern China southward to Borneo, Sumatra, and Java.

Local name: Tikos-maiadon (Mbo.).

Var. **BADIA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 96.

Luzon (Tayabas), *F. B. 9649 Curran*. In thickets along the seashore. Endemic.

**DALBERGIA POLYPHYLLA** Benth. in Miq. Pl. Jungh. (1851) 256, Journ. Linn. Soc. Bot. 4 (1860) Suppl. 44; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 132; F.-Vill. Novis. App. (1880) 67; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 112; Prain in Journ. As. Soc. Beng. 70<sup>2</sup> (1901) 48, Ann. Bot. Gard. Calcutta 10 (1904) 70, t. 49; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 96.

Luzon (Ilocos Sur, Nueva Vizcaya, Bulacan, Rizal, Bataan), *Cuming 1164, B. S. 14155 McGregor, 34056 Ramos & Edaño, F. B. 2962 Ahern's collector*. In thickets and secondary forests at low and medium altitudes. Endemic.

Local name: Pakpakaouít (If.).

**DALBERGIA RETICULATA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 14.

Luzon (Laguna), *F. B. 21406 Villamil, Elmer 18340*. In primary forests, altitude 400 to 500 m. Endemic.

**DALBERGIA SUBALTERNIFOLIA** (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 14.

*Derris subalternifolia* Elm. Leaf. Philip. Bot. 5 (1913) 1801.

Palawan, Mindanao (Zamboanga), *Elmer 12965, Merrill 9345, B. S. 37005, 36740 Ramos & Edaño*. In primary forests at low and medium altitudes; closely allied to *Dalbergia densa* Benth. Borneo.

Local name: Tubalau (Sub.).

#### EXCLUDED SPECIES

**DALBERGIA DISCOLOR** Blume; F.-Vill. Novis. App. (1880) 67.

**DALBERGIA SPINOSA** Roxb.; F.-Vill. l. c.

**DALBERGIA VOLUBILIS** Roxb.; Llanos in Mem. Acad. Cienc. Madr. (1858); F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103; F.-Vill. Novis. App. (1880) 67.

**DALBERGIA ZOLLINGERIANA** Miq.; F.-Vill. l. c.



62. **PTEROCARPUS** Linnaeus

**PTEROCARPUS BLANCOI** Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 7, 27 (1905) 40, Philip. Journ. Sci. 5 (1910) Bot. 100, Sp. Blancoanae (1918) 185.

*Pterocarpus santalinus* Blanco Fl. Filip. (1837) 561, ed. 2 (1845) 392, ed. 3, 2 (1879) 356; F.-Vill. Novis. App. (1880) 67, non Linn.

Luzon (Union, Nueva Ecija, Bulacan, Rizal), *Elmer 5690*, *F. B. 11054 Saroca, 7203 Curran, Merrill Sp. Blancoanae 995* (sterile), *Decades Philip. For. Fl. 203*. In forests at low and medium altitudes; scarcely other than a large-fruited form of *Pterocarpus indicus* Willd. Endemic.

Local names: Apálit (Pamp.); asana (Tag.); nárra (Tag.); sanki (Bis.).

**PTEROCARPUS INDICUS** Willd. Sp. Pl. 3 (1800) 904; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 135; F.-Vill. Novis. App. (1880) 67; Vidal Sinopsis Atlas (1883) 23, t. 40, f. A, Rev. Pl. Vasc. Filip. (1886) 112, Phan. Cuming. Philip. (1885) 109; Perk. Frag. Fl. Philip. (1904) 20; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 410, 5 (1910) Bot. 100, Fl. Manila (1912) 246, Sp. Blancoanae (1918) 158.

*Pterocarpus pallidus* Blanco Fl. Filip. (1837) 560, ed. 2 (1845) 391, ed. 3, 2 (1879) 355, t. 205.

Throughout the Philippines at low and medium altitudes, in primary and in some regions in secondary forests. Tenasserim to New Guinea and the Caroline Islands.

Local names: Agána (Tag.); asaná (Tag.); asanáng-puti (Tag.); balauning (Mang.); bital (Sul.); daitanag (Pamp.); hagad (Neg.); kama-rág (Ibn.); nága (Bik., S. L. Bis., P. Bis., C. Bis., Mbo.); nála (Lan., Mag.); nára (Tag.); nárra (commercial, most dialects); narrang-pulá (Tag.); odiáu (Pang.); sagát (Ibn., Neg.); taggá (Ibn.); tágka (Ibn.); vitali (Lan.).

**PTEROCARPUS PUBESCENS** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 271.

Luzon (Bontoc), *Vanoverbergh 3959*. In thickets or forests along streams, altitude about 1,300 m.

Local name: Nárra (Ilk.).

**PTEROCARPUS VIDALIANUS** Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 309, Vidal Rev. Pl. Vasc. Filip. (1886) 112; Perk. Frag. Fl. Philip. (1904) 20; Gagnep. in Not. Syst. 2 (1913) 371.

*Pterocarpus erinaceus* F.-Vill. Novis. App. (1880) 68, Vidal Sinopsis Atlas (1883) t. 40, f. B, non Poir.

*Pterocarpus echinatus* Prain in Ind. Forest. 26 (1900) 10 quoad. pl. Philip.; Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 20, Philip. Journ. Sci. 5 (1910) Bot. 99, Fl. Manila (1912) 247, non Pers.

*Pterocarpus klemmei* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 198.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Bulacan, Laguna, Tayabas, Camarines, Sorsogon), Mindoro. In forests at low and medium altitudes. Endemic.

Gagnepain has shown by an examination of Persoon's type of *Pterocarpus echinatus* that the Philippine form is specifically distinct.

Local names: Antógan (Ibn.); asána (Tag.); dágga (Ibn.); nárra (commercial name, Tag., Ilk., Ibn.); nága (Bik., P. Bis., C. Bis., Mbo., Mag.); tágga (Ibn., Neg.); tagká (Ibn.).

## 63. KUNSTLERIA Prain

KUNSTLERIA ATROVIOLACEA (Elm.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 14.

*Derris atrovioleacea* Elm. Leaflet. Philip. Bot. 5 (1913) 1798.

Palawan, *Elmer 12965*. In secondary forests at low altitudes. Endemic.

KUNSTLERIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 359.

Leyte, Basilan, *Wenzel 836, 818, B. S. 16114 Reillo*. In forests, altitude up to 500 m. Endemic.

## 64. PONGAMIA Ventenat

PONGAMIA PINNATA (Linn.) Merr. Interpret. Herb. Amb. (1917) 271, Sp. Blancoanae (1918) 185.

*Cytisus pinnatus* Linn. Sp. Pl. (1753) 741.

*Robinia mitis* Linn. op. cit. ed. 2 (1763) 1044.

*Galedupa indica* Lam. Encycl. 2 (1786) 594, excl. syn. Rumph.

*Dalbergia arborea* Willd. Sp. Pl. 3 (1803) 901.

*Pongamia glabra* Vent. Jard. Malm. 1 (1803) 28, t. 28; Miq. Fl. Ind.

Bat. 1<sup>1</sup> (1855) 147; F.-Vill. Novis. App. (1880) 68; Vidal Sinopsis

Atlas (1883) 23, t. 41, f. C; Rev. Pl. Vasc. Filip. (1886) 113;

Merr. in Philip. Bureau Forestry Bull. 1 (1903) 25, Philip. Journ.

Sci. 1 (1906) Suppl. 66, 3 (1908) Bot. 82; Perk. Frag. Fl. Philip.

(1904) 21.

*Galedupa maculata* Blanco Fl. Filip. (1837) 559, ed. 2 (1845) 390,

ed. 3, 2 (1879) 353, t. 417.

*Pongamia mitis* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 101, Fl.

Manila (1912) 247.

*Galedupa pinnata* Taub. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>2</sup>

(1891) 344.

*Caju pinnatum* O. Kuntze Rev. Gen. Pl. (1891) 167.

*Pterocarpus flavus* Lour. Fl. Cochinch. (1790) 431; F.-Vill. Novis.

App. (1880) 67.

Throughout the Philippines along the seashore, common; in some localities extending inland (Laguna), near the borders of lakes. Mascarene Islands, tropical Asia, across Malaya to Australia and Polynesia.

Local names: Bagnéi (Ibn.); balikbálik (Tag.); balu-balú (Sul.); balok (Tag.); balok-bálok (Tag., Bik.); balu-bálu (Yak.); baluk-báluk (C. Bis.); balotbalot (Tag.); balutbalut (Mag.); baní (Tag., Ilk., Sbl., Pamp.); banít (Tag.); baobáo (Mbo.); bayog-báyok (Tag., C. Bis.); bayok-báyok (C. Bis.); butong (Bis.); kadel (Tag.); magit (Mag.); malok-balok (P. Bis.); marok-bárok (Bik., S. L. Bis.); maruk-bárúk (C. Bis.); marobáhai (Tagb.).

Var. XEROCARPA (Hassk.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 101.

*Pongamia xerocarpa* Hassk. Hort. Bogor. Descr. (1858) 208.

*Pongamia glabra* Vent. var. *xerocarpa* Prain in Journ. As. Soc. Beng.

66<sup>2</sup> (1897) 95.

Northern Luzon to Mindanao, rather the inland than the coastal form. Ceylon to Malaya.

## 65. DERRIS Loureiro

**DERRIS CEBUENSIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 273.

*Derris surigaensis* Elm. Leaf. Philip. Bot. 8 (1915) 2733.

Luzon (Sorsogon), Leyte, Cebu, Mindanao (Agusan), *B. S. 11014* Ramos, *Wenzel 1530*, *Elmer 13463, 16961*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Bagodon (Mbo.); bagodon-ihanon (Mbo.).

**DERRIS CUMINGII** Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 104; Vidal Phan. Cuming. Philip. (1885) 109; Perk. Frag. Fl. Philip. (1904) 82; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 104.

*Derris cumingiana* Vidal Rev. Pl. Vasc. Filip. (1886) 113.

Luzon (Ilocos Norte, Benguet, Pampanga, Rizal), *Cuming 1208*, *Merrill 1867, 2824*, *Phil. Pl. 41*, *F. B. 5133* Curran, *1140, 1129, 2986* Ahern's collector. In thickets at low and medium altitudes. Endemic.

Local names: Malakadiós (Tag.); malakagiós (Tag.); marakatúdai (Iik.).

**DERRIS ELEGANS** (Grah.) Benth. in Miq. Pl. Jungh. (1852) 252; Journ. Linn. Soc. Bot. 4 (1860) Suppl. 109; Prain ex King in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 103; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 105.

*Pongamia elegans* Grah. in Wall. Cat. (1832) No. 7540.

Culion, Palawan, Negros, Leyte, Mindanao, *Merrill 666*, *Phil. Pl. 1306*, *Elmer 7162*, *Clemens 484*, *F. B. 7249* Everett, *21990* Villamil. In thickets and forests at low and medium altitudes. Tenasserim and the Andaman Islands, to southern China southward to the Moluccas.

**DERRIS ELLIPTICA** (Roxb.) Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 111; F.-Vill. Novis. App. (1880) 68; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66, 2 (1907) Bot. 433, 5 (1910) Bot. 106, Sp. Blancoanae (1918) 186.

*Galedupa elliptica* Roxb. Hort. Beng. (1814) 53, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 242.

*Cylista piscatoria* Blanco Fl. Filip. (1837) 589.

*Galactia terminaliflora* Blanco op. cit. ed. 2 (1845) 411, ed. 3, 2 (1879) 390.

*Millettia splendissima* Vidal Cat. Pl. Prov. Manila (1880) 25, non Blume.

*Millettia piscatoria* Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 37, 29 (1905) 18; Dunn in Journ. Linn. Soc. Bot. 41 (1912) 239.

Northern Luzon to Mindanao. In thickets along streams, secondary forests, etc., at low and medium altitudes; often abundant. Chittagong through Malaya to New Guinea and the Bismarck Archipelago.

Local names: Báuit (Tag.); lapák (Bik.); malasiag (Tag.); tibalau (Tag.); tibanglán (Tag.); tubali (Bag.); tublí (P. Bis., Tag., Buk.); tuglí (Tag.); tuglíng-pulá (Tag.); tuva (Iv.); upei (Bon.).

**DERRIS HEPTAPHYLLA** (Linn.) Merr. Interpret. Herb. Amb. (1917) 273, Sp. Blancoanae (1918) 186.

*Sophora heptaphylla* Linn. Sp. Pl. (1753) 373, excl. syn. Plukenet.

*Pongamia sinuata* Wall. Cat. (1832) No. 5911, *nomen nudum*.

*Pterocarpus diadelphus* Blanco Fl. Filip. (1837) 563, ed. 2 (1845) 393, ed. 3, 2 (1879) 357; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 40.

*Derris sinuata* Thwaites Enum. Pl. Zeyl. (1859) 93; Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 113; F.-Vill. Novis. App. (1880) 68; Vidal Rev. Pl. Vasc. Filip. (1886) 112; Perk. Frag. Fl. Philip. (1904) 84; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66.

*Derris thyrsoiflora* F.-Vill. Novis. App. (1880) 68, non Benth.

*Derris floribunda* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 336, non Benth.

*Derris diadelpha* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 103, Fl. Manila (1912) 248.

Luzon (Cagayan, Union, Pangasinan, Zambales, Bataan, Rizal), Mindoro, Palawan, Negros, Leyte, Biliran, Mindanao. In thickets, secondary forests, etc., at low and medium altitudes. India to Indo-China and Malaya.

Local names: Asiasimánan (Tag.); bagalbal (Lan.); balai-lamók (Ilk.); baliotos (P. Bis.); dugo-dúgo (Tag.); dugo-rógo (Tag.); labnit (Kuy.); paian (Mbo.); rugo-rúgo (Tag.); sila-sila (Tag.); tibaláu (Tag.).

**DERRIS LIANOIDES** Elm. Leaf. Philip. Bot. 1 (1907) 228; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 106.

Northern Luzon to Palawan and Mindanao, *B. S. 17640, 33043 Ramos, Merrill 9347, 9225, Elmer 7443, 15754, 9339, Clemens 537*. In thickets and forests at low and medium altitudes. Endemic.

**DERRIS MICANS** Perk. Frag. Fl. Philip. (1904) 82; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 106.

Luzon (Ilocos Norte, Pangasinan, Bulacan, Rizal), Alabat, Palawan, *Merrill 2284, 10481, B. S. 4584, 27271, 21965 Ramos, 29530 Ramos & Edaña, 18281 Otanes, Elmer 12814, 13078*. In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Tablong (Tag.); tublí (Tag.); tuglí (Tag.).

**DERRIS MINDORENSIS** Perk. Frag. Fl. Philip. (1904) 82; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 106.

Mindoro, Mindanao (Surigao), *B. S. 39669 Ramos, Merrill 953, Bolster 406*. In thickets at low altitudes; scarcely distinguishable from *Derris ferruginea* Benth. Endemic.

Local name: Tubili (Bag.).

**DERRIS OBLONGIFOLIA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 82.

Luzon (Bontoc), *Vanoverbergh 280, 3904*. In thickets and forests, altitude 1,300 to 1,600 m. Endemic.

Local name: Kabutut (Bon.).

**DERRIS PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 104.

*Derris multiflora* Benth. var. ? *longifolia* Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 108; Vidal Phan. Cuming. Philip. (1885) 109, non *D. longifolia* Benth.

*Derris multiflora* Vidal Rev. Pl. Vasc. Filip. (1886) 112; Perk. Frag. Fl. Philip. (1904) 83; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66, non Benth.

Luzon (Cagayan, Ilocos Norte, Benguet, Rizal, Laguna, Bataan, Tayabas, Camarines), *Cuming 1162, Loher 5927, Elmer 6177, Merrill 1969, 5045, Williams 714, F. B. 24111 Velasco, 26463 Catalan*. In thickets and forests at low and medium altitudes, ascending to 1,400 m. Endemic.

Local name: Upi (Ig.).

**DERRIS POLYANTHA** Perk. Frag. Fl. Philip. (1904) 83; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 103.

Luzon (Pampanga, Pangasinan, Laguna, Rizal, Batangas), *Merrill 1457, 1366, 1692, 10599, B. S. 2188 Ramos, F. B. 430, 2653 Ahern's collector*. In thickets and secondary forests at low altitudes. Endemic.

Local names: Timalang (Tag.); tuglí (Tag.); tuglón (Tag.); tuglún (Tag.).

**DERRIS SCANDENS** (Roxb.) Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 103; F.-Vill. Novis. App. (1880) 68; Vidal Sinopsis Atlas (1883) 23, t. 44, f. F., Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 112; Perk. Frag. Fl. Philip. (1904) 84; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 40, Philip. Journ. Sci. 5 (1910) Bot. 104, Fl. Manila (1912) 248, Sp. Blancoanae (1918) 186. *Dalbergia scandens* Roxb. Pl. Coromandel 2 (1798) t. 192.

*Galedupa frutescens* Blanco Fl. Filip. (1837) 562, ed. 2 (1845) 391, ed. 3, 2 (1879) 354, t. 232.

*Deguelia timoriensis* Taub. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>3</sup> (1891) 345.

Northern Luzon to Palawan and Mindanao. In thickets and secondary forests at low and medium altitudes. India to southern China through Malaya to tropical Australia.

Local names: Lapak (Bik.); malasága (Tag.).

**DERRIS THYRSIFLORA** Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 249; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 103.

*Millettia thyrsoflora* Benth. in Miq. Pl. Jungh. (1852) 249.

Negros, Basilan, *Hallier, F. B. 23086 Pascual*. In thickets at low altitudes. Nicobar Islands, Malay Peninsula, Sumatra, Java.

**DERRIS TRIFOLIATA** Lour. Fl. Cochinch. (1790) 433; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 105, 15 (1919) 241, Fl. Manila (1912) 248, Sp. Blancoanae (1918) 185.

*Robinia uliginosa* Roxb. ex Willd. Sp. Pl. 3 (1800) 433.

*Dalbergia heterophylla* Willd. op. cit. 901.

*Galedupa uliginosa* Roxb. Hort. Beng. (1814) 53, Fl. Ind. ed. 2, 3 (1832) 243.

*Pongamia uliginosa* DC. Prodr. 2 (1825) 416.

*Pterocarpus frutescens* Blanco Fl. Filip. (1837) 562, ed. 2 (1845) 392, ed. 3, 2 (1879) 356, non Vell.

*Derris uliginosa* Benth. in Miq. Pl. Jungh. (1852) 252, Journ. Linn. Soc. Bot. 4 (1860) Suppl. 107; F.-Vill. Novis. App. (1880) 68; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 112; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 457; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 410.

*Derris diadelphus* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 161, non Blanco.

Throughout the Philippines on muddy shores, along tidal streams, etc., abundant. Tropical East Africa, Asia, through Malaya to Australia and Polynesia, a strictly littoral species.

Local names: Asiasimánan (Tag.); butong (Bis.); hiñgasín (P. Bis.); hiñgasínan (P. Bis.); mañgasín (Tag.); sabuko (Bag.); silasila (Tag.); tuba-tuba (Yak.).

#### DOUBTFUL OR EXCLUDED SPECIES

**DERRIS FERRUGINEA** Benth.; Ceron Cat. Pl. Herb. Manila (1892) 66.

The Philippine record was based on *Vidal 2576* from Isabela Province, Luzon; I suspect that the identification is erroneous.

**DERRIS DISCOLOR** Benth.; Ceron Cat. Pl. Herb. Manila (1892) 66.

The Philippine reference was based on *Vidal 2665* from Basilan. The species is an Indian one, and I suspect the Vidal specimen to have been erroneously identified.

#### 66. EUCHRESTA Bennett

**EUCHRESTA HORSFIELDII** (Lesch.) Benn. Pl. Jav. Rar. (1840) 148, t. 21; Benth. in Journ. Linn. Soc. Bot. 4 (1860) Suppl. 118; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 125; F.-Vill. Novis. App. (1880) 68; Ceron Cat. Pl. Herb. Manila (1892) 67; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 107.

*Andira horsfieldii* Lesch. in Ann. Mus. Paris 16 (1810) 481, t. 12; DC. Prodr. 2 (1825) 476.

Northern Luzon to Mindanao. Of local occurrence on the higher mountains. India to the Riu Kiu Islands and Formosa southward to Java.

Local names: Katanda (Buk.); lagúan (Tag.); makahilab (Buk.).

#### 67. INOCARPUS Forster

**INOCARPUS EDULIS** Forst. Char. Gen. (1776) 66, t. 33; F.-Vill. Novis. App. (1880) 68; Oliver in Hook. Ic. IV 9 (1839) t. 1837; Perk. Frag. Fl. Philip. (1904) 21; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 108.

*Bocoa edulis* Baill. Adansonia 9 (1868-70) 237.

*Gajanus edulis* O. Kuntze Rev. Gen. Pl. (1891) 189.

Samar, Mindanao, Sulu Archipelago, *B. S. 15398 Ramos, Piper 112, F. B. 24405 Cortez & Fernandez, Merrill 5336*. Cultivated only. Malay Archipelago and Polynesia, frequently planted.

Local name: Kayam (Sul., Mbo.).

#### 68. PISUM Tournefort

**PISUM SATIVUM** Linn. Sp. Pl. (1753) 272; F.-Vill. Novis. App. (1880) 62; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 108, Fl. Manila (1912) 249.

Cultivated only, and its Philippine occurrence dependent on imported seeds. The common pea.

Local name: Chicharo (Sp.).

69. **ABRUS** Linnaeus

**ABRUS LAEVIGATUS** E. Mey. Comm. 1 (1835-37) 126; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 109, Fl. Manila (1912) 249.

*Abrus pulchellus* Wall. Cat. (1832) No. 5819 *nomen nudum*; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 175; F.-Vill. Novis. App. (1880) 62; Perk. Frag. Fl. Philip. (1904) 84; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66.

Luzon (Abra southward to Laguna). In thickets at low and medium altitudes. Tropical and southern Africa, India, and Malaya.

Local names: Kansasága (Tag.); sága (Tag.); sagáng-kalabáu (Tag.).

**ABRUS PRECATORIUS** Linn. Syst. ed. 12 (1767) 472; Blanco Fl. Filip. (1837) 565, ed. 2 (1845) 394, ed. 3, 2 (1879) 361, *t.* 156; F.-Vill. Novis. App. (1880) 62; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 109; Perk. Frag. Fl. Philip. (1904) 84; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66, 3 (1908) Bot. 410, 5 (1910) Bot. 108, Fl. Manila (1912) 249, Sp. Blancoanae (1918) 186.

Throughout the Philippines at low and medium altitudes, common in thickets. Pantropic, although probably a native of tropical Asia.

Local names: Agaion (C. Bis.); aguiangiang (Bis.); aroiangiang (Bis.); bañgati (Tag., Bik., Bis.); bugaióng (Ilk., Bon., Pang.); bugbugaióng (Ilk.); gumaiing (Bon.); gikos-gikos (Bis.); kansasága (Pamp., Tag., Bik.); kaloo (Bis.); kasasága (Tag., Pamp.); lamodiak (Bag.); lága (C. Bis.); lása (Iv.); mañgadolong (Bis.); oiangiá (Bis.); mátang-púne (Bis.); sága (Tag.); saga-sága (Tag.); saga-mamín (Tag.).

## EXCLUDED SPECIES

**ABRUS FRUTICULOSUS** Wall.; F.-Vill. Novis. App. (1880) 62.

70. **CLITORIA** Linnaeus

**CLITORIA TERNATEA** Linn. Sp. Pl. (1753) 753; DC. Prodr. 2 (1825) 233; Blanco Fl. Filip. (1837) 590, ed. 2 (1845) 412, ed. 3, 2 (1879) 391, *t.* 301; F.-Vill. Novis. App. (1880) 65; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 226; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 109; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 109, Fl. Manila (1912) 245, Sp. Blancoanae (1918) 187.

*Clitoria philippensis* Perr. in Mém. Soc. Linn. Paris 3 (1825) 110, C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 305.

Throughout the Philippines, in thickets in the settled areas at low and medium altitudes, sometimes cultivated. An introduced plant in the Philippines. Pantropic.

Local names: Balog-balog (C. Bis.); giting-princesa (Bik.) kolokánting (Tag.); kalompági (Ilk.); pukiñgan (Tag.); samsampín (Pang.); samsampíng (Ilk.).

71. **CENTROSEMA** Benth

**CENTROSEMA PLUMIERI** (Turp.) Benth. in Ann. Wien. Mus. 2 (1838) 118; F.-Vill. Novis. App. (1880) 65; Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t.* 455; Usteri Beitr. Ken. Philip. Veg. (1905) 115;

Merr. in Philip. Journ. Sci. 5 (1910) Bot. 109, Fl. Manila (1912) 258.

*Clitoria plumieri* Turp. in Pers. Syn. 2 (1807) 303.

*Bradburya plumieri* O. Kuntze Rev. Gen. Pl. (1891) 164.

Luzon (Laguna, Manila), Cebu, *F. B. 26371 Catalan, B. S. 1111 Ramos, Elmer 13421*. In hedges, thickets, etc., naturalized from tropical America.

#### 72. DUMASIA de Candolle

DUMASIA VILLOSA DC. in Ann. Sci. Nat. I 4 (1825) 257, *t. 44*, Prodr. 2 (1825) 241; F.-Vill. Novis. App. (1880) 62; Ceron Cat. Pl. Herb. Manila (1892) 63; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 110.

Luzon (Abra, Kalinga, Lepanto, Bontoc, Benguet), *B. S. 26992 Ramos, 37569, 40514 Ramos & Edaña, Williams 1412, Merrill 4671, Vanoverbergh 891*. In thickets and ravines, altitude 1,200 to 1,600 m. India to southern China, Java, Madagascar, and Natal.

Local name: Upag (Klg.).

#### 73. SHUTERIA Wight and Arnott

SHUTERIA VESTITA (Grah.) W. & A. Prodr. (1834) 207; Benth. in Miq. Pl. Jungh. (1852) 232; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 181; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Rev. Pl. Vasc. Filip. (1886) 109; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 110, 354.

*Glycine vestita* Grah. in Wall. Cat. (1832) No. 5512, *nomen nudum*.

Luzon (Benguet, Bontoc), on open slopes and in thickets in the pine region, altitude 1,300 to 2,000 m. India to southern China.

Local names: Alitaitan (Bon.); ditidid (Ig.); táyum (Bon.).

#### 74. GLYCINE Linnaeus

GLYCINE TOMENTOSA Benth. Fl. Austral. 2 (1864) 245; Rolfe in Journ. Bot. 23 (1885) 212; Forbes & Hemsl. in Journ. Linn. Soc. Bot. 23 (1887) 189; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 109; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 110.

Luzon (Ilocos Norte), *Cuming 1238*, apparently very rare or local as it has not been collected in the Philippines since 1840. Southern China and Australia.

#### EXCLUDED SPECIES

GLYCINE JAVANICA Linn.; F.-Vill. Novis. App. (1880) 62.

GLYCINE MAX (Linn.) Merr. Interpret. Herb. Amb. (1917) 274.

*Phaseolus max* Linn. Sp. Pl. (1753) 725.

*Dolichos soja* Linn. op. cit. 727.

*Soja max* Piper in U. S. Dept. Agr. Seed Invent. 33 (1915) 42.

*Soja hispida* Moench. Meth. (1794) 153.

*Glycine hispida* Maxim. in Bull. Acad. St. Pétersb. 18 (1873) 398.

This is the common soy bean of which large amounts are annually imported into the Philippines. It generally does not thrive in the Archipelago, and I have never seen it cultivated by the Filipinos.



75. **TERAMNUS** P. Browne

**TERAMNUS ANGUSTIFOLIUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 83.

Luzon (Bontoc), *Vanoverbergh* 716. In waste places, altitude about 1,300 m. Endemic.

**TERAMNUS LABIALIS** (Linn. f.) Spreng. Syst. 3 (1826) 235; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 184; F.-Vill. Novis. App. (1880) 63; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 109; Perk. Frag. Fl. Philip. (1904) 84; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 110, Fl. Manila (1912) 257.

*Glycine labialis* Linn. f. Suppl. (1781) 325.

Northern Luzon to Mindanao. In thickets, waste places, etc., at low and medium altitudes in the settled areas. Pantropic.

Local names: Balagun (C. Bis.); mani-manían (Tag.).

76. **ERYTHRINA** Linnaeus

**ERYTHRINA FUSCA** Lour. Fl. Cochinch. (1790) 427; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 208; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 113, Fl. Manila (1912) 256, Sp. Blancoanae 1918) 187.

*Erythrina ovalifolia* Roxb. Hort. Beng. (1814) 53, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 254; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 207; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 445; F.-Vill. Novis. App. (1880) 63; Perk. Frag. Fl. Philip. (1904) 85; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81.

*Erythrina picta* Blanco Fl. Filip. (1837) 565, non Linn.

*Erythrina caffra* Blanco op. cit. ed. 2 (1845) 394, ed. 3, 2 (1879) 360, t. 326, non Thunb.

Luzon (Ilocos Norte, Union, Pangasinan, Bataan, Rizal), Mindanao (Lanao). Along streams and lakes, often in swampy places. India to Indo-China southward to Malaya and Polynesia

Local names: Aní (Tag., Ilk.); korung-kóring (Bis.); dap-dáp (Tag.); telbang (Pang.).

**ERYTHRINA STIPITATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 112.

Lubang, *Merrill* 958. In dry open places at low altitudes. Endemic.

**ERYTHRINA SUBUMBRANS** (Hassk.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 113, Fl. Manila (1912) 256.

*Hypaphorus subumbrans* Hassk. Retzia (1855) 198; Hort. Bogor. Descr. (1858) 197.

*Erythrina lithosperma* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 209; F.-Vill. Novis. App. (1880) 63; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 345; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 109, Sinopsis Atlas (1883) 23, t. 41, f. A; Perk. Frag. Fl. Philip. (1904) 85, non Blume.

Northern Luzon to Mindanao. In thickets, secondary forests, etc., at low and medium altitudes; occasionally planted. Indo-China to Malaya.

Local names: Aní (S. L. Bis.); cherving (Gad.); dádap (Bag.); dap-dap (Tag.); raráng (Bik.); sabdáng (Ig.); sabláng (Ting.); sulibang (Pamp.).

- ERYTHRINA VARIEGATA** Linn. in Stickm. Herb. Amb. (1754) 10, Amoen. Acad. 4 (1759) 122, var. **ORIENTALIS** (Linn.) Merr. Interpret. Herb. Amb. (1917) 276, Sp. Blancoanae (1918) 187.  
*Erythrina corallodendron* Linn. var. *orientalis* Linn. Sp. Pl. (1753) 706.  
*Tetradapa javanorum* Osbeck Dagbok Ostind. Resa (1757) 93.  
*Erythrina indica* Lam. Encycl. 2 (1785) 391; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 207; F.-Vill. Novis. App. (1880) 63; Perk. Frag. Fl. Philip. (1904) 85; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 111, Fl. Manila (1912) 256.  
*Erythrina carnea* Blanco Fl. Filip. (1837) 564, ed. 2 (1845) 393, ed. 3, 2 (1879) 359, t. 217, non Dryand.

Throughout the Philippines along the seashore, frequently planted inland. The typical form of *E. variegata* Linn. (*E. picta* Linn.) with mottled leaves, occurs occasionally in the Philippines (Corregidor, Manila, Palawan, Mindanao) in cultivation. India to Polynesia.

Local names: Andorogat (Bik.); bagbág (Ilk.); bagbók (Ibn.); dapdap (Tag., Pamp., Bik., Bis.); dubdúb (Ilk.); kabráb (Bik.); karápdap (Tag.); kasíndak (Tag.); sabang (Bon.); sulbang (Pamp.); vuvúk (Ibn.).

#### 77. STRONGYLODON Vogel

- STRONGYLODON AGUSANENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2738. Mindanao (Agusan), *Elmer 13461*. In forests, altitude about 225 m. Endemic.

Local name: Panidihidon (Mbo.).

- STRONGYLODON CAERULEUS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 20, Philip. Journ. Sci. 5 (1910) Bot. 115.

Luzon (Benguet), *Elmer 6097, 6438, 8908, Topping 58, Sandkuhl 277*. In forests, altitude 500 to 1,200 m. Endemic.

- STRONGYLODON CRASSIFOLIUS** Perk. Frag. Fl. Philip. (1904) 85; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 115.

Luzon (Bataan), *Warburg 12899*. This was apparently based on material from two different plants, at least as to the tendrils. Endemic.

- STRONGYLODON ELMERI** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 20, Philip. Journ. Sci. 5 (1910) Bot. 114.

Luzon (Cagayan, Benguet, Ilocos Norte), *Elmer 6260, 8984, F. B. 16676 Bacani, B. S. 27344 Ramos, Merrill 7697*. In thickets and forests at low and medium altitudes, ascending to 1,600 m. Endemic.

Local name: Bindanugan (Ig.).

- STRONGYLODON LUCIDUS** (Forst. f.) Seem. Fl. Vit. (1865) 61; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 424, 5 (1910) Bot. 115.

*Glycine lucida* Forst. f. Prodr. (1786) 51.

*Rhynchosia lucida* DC. Prodr. 2 (1825) 387.

*Strongylodon ruber* Vog. in Linnaea 10 (1836) 585; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 446, t. 48.

Panay, Balut, *Merrill 5411, B. S. 31379 Ramos & Edaña*. In forests and thickets along streams at low and medium altitudes. Ceylon, Andaman Islands to New Guinea, Fiji, and Hawaii.

**STRONGYLODON MACROBOTRYS** A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 448, t. 49; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 66, 3 (1908) Bot. 81, 5 (1910) Bot. 114.

*Strongyloдон warburgii* Perk. Frag. Fl. Philip. (1904) 85.

Luzon (Cagayan, Bataan, Cavite, Laguna, Tayabas, Sorsogon), Catanduanes, Mindoro. In damp forested ravines along streams at low and medium altitudes. Endemic.

Local names: Bayou (Neg.); tayábak (Tag.).

**STRONGYLODON MEGAPHYLLUS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 16.

Luzon (Rizal), *Loher 5935*. In forests. The leaves and flowers may have originated from different and unrelated plants. Endemic.

**STRONGYLODON PAUCINERVIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 16.

Biliran, Samar, *B. S. 18858 McGregor, 24377 Ramos, 24798 Edaña*. In damp forests at low and medium altitudes. Endemic.

Local name: Yungod-yúngod (S. L. Bis.).

**STRONGYLODON PULCHER** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 184; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 115.

*Strongyloдон mindanaensis* Elm. Leaf. Philip. Bot. 2 (1910) 696.

Mindanao (Zamboanga, Lanao, Davao), *Elmer 11818, Williams 2362, Clemens 415*. In damp forests along streams, altitude 80 to 1,200 m. Endemic.

Local name: Lípe (Bag.).

**STRONGYLODON ZSCHOKKEI** Elm. Leaf. Philip. Bot. 1 (1907) 227; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 114.

Luzon (Benguet), *Elmer 8540*. In thickets about limestone bowlders and cliffs, altitude about 1,400 m; not clearly distinguishable from *S. elmeri* Merr. Endemic.

Local name: Bindanugan (Ig.).

#### 78. MUCUNA Adanson

**MUCUNA AUREA** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 183; Merr. op. cit. 5 (1910) Bot. 118.

Luzon (Benguet), *Williams 1292, B. S. 12647 Fénix*. In thickets at medium altitudes. Endemic.

Local names: Buka-bukau (Ig.); kudirau (Ig.); sabáuil-ñga-átap (Ik.).

**MUCUNA COCHINCHINENSIS** (Lour.) A. Chev. in Bull. Agr. Inst. Sci. Saigon 1 (1919) 91.

*Marcanthus cochinchinensis* Lour. Fl. Cochinch. (1790) 461.

*Carpopogon niveum* Roxb. Hort. Beng. (1814) 54, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 285.

*Mucuna nivea* DC. Prodr. 2 (1825) 406; W. & A. Prodr. (1834) 256; F.-Vill. Novis. App. (1880) 63; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 117, Sp. Blancoanae (1918) 188; Piper & Tracy in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 179 (1910) 15, t. 4, f. A.

*Negretia mitis* Blanco Fl. Filip. (1837) 588, ed. 2 (1845) 410, ed. 3, 2 (1879) 388, t. 405bis, non Ruiz & Pav.

*Mucuna lyonii* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 197, 5 (1910) Bot. 117, Fl. Manila (1912) 259.

Luzon to Negros, probably also in other islands, in cultivation only. Introduced from tropical Asia, now widely distributed in cultivation.

Local names: Kalabántos (Tag., Bis.); gatabong (Bon.); kotlabong (Bon.); kolidái (Ilk.); sabual (Pamp.); sabúil (Ilk.).

**MUCUNA CURRANII** Elm. Leaf. Philip. Bot. 1 (1907) 230; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 116.

Luzon (Bontoc, Benguet), *Elmer 8442, Williams 1424, Merrill 4818, 9692, 7716, B. S. 12896 Félix, 31946 Santos*. In ravines and thickets, altitude 1,300 to 2,200 m. Endemic.

Local names: Babat (Bon.); bindaoñgan (Ig.); dauñgan (Ig.); lauilauan (Ig., Bon.); sabauil (Ilk.).

**MUCUNA DEERINGIANA** (Bort) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 118.

*Stizolobium deeringianum* Bort in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 141 (1909) 31, t. 2, 3.

The velvet bean, introduced from the United States, occasional in cultivation. Cultivated in most warm countries, where native uncertain.

**MUCUNA FOVEOLATA** Merr. in Philip. Journ. Sci. 20 (1922) 389.

Luzon (Tayabas), Samar, *F. B. 28379 Mabesa, 21048 Sherfesse, Cenabre, & Cortez*. Along streams and borders of forests at low altitudes. Endemic.

Local name: Danipai (S. L. Bis.).

**MUCUNA GIGANTEA** (Willd.) DC. Prodr. 2 (1825) 405; Wight in Hook. Bot. Misc. 2 (1831) 351, t. 14; F.-Vill. Novis. App. (1880) 63; Vidal Phan. Cuming. Philip. (1885) 108, Rev. Pl. Vasc. Filip. (1886) 109; Perk. Frag. Fl. Philip. (1904) 86; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 116.

*Dolichos giganteus* Willd. Sp. Pl. 3 (1803) 1041.

*Carpopogon giganteum* Roxb. Hort. Beng. (1814) 54.

*Stizolobium giganteum* Spreng. Syst. 4 (1827) Cur. Post. 281.

*Zoophthalmum giganteum* Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 68, in syn.

Northern Luzon to Mindanao, Palawan, and the Sulu Archipelago. In thickets along the seashore. India to Polynesia near the sea.

Local names: Duglo (Tag.); lípi (Bag.); lípai (Tag.); sabauil-ti-nuang (Ilk.).

**MUCUNA LONGIPEDUNCULATA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 18, Philip. Journ. Sci. 5 (1910) Bot. 117.

*Mucuna macmillanii* Elm. Leaf. Philip. Bot. 8 (1915) 2736.

Luzon (Benguet, Laguna, Rizal, Tayabas), Biliran, Panay, Mindanao (Surigao, Bukidnon, Misamis), *Elmer 8949a, 6233, 17498, 13594, Merrill Phil. Pl. 1735, Bolster 394, B. S. 18112 Robinson, 38707 Ramos & Edaña, F. B. 2955 Ahern's collector*. In ravines and forests at medium altitudes, ascending to 1,400 m. Endemic.

Local names: Baykutkut (Tag.); bunalon (Mbo.); bunalan (Mbo.); kodirau (Ig.); kanipai (Buk.); lauilauan (Ig.).

**MUCUNA MINDORENSIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 231, 5 (1910) Bot. 116.

*Mucuna acuminata* Merr. op. cit. 1 (1906) Suppl. 196, non Grah.

Mindoro, Panay, *McGregor 322, 220, Merrill 4069, F. B. 6861 Merritt, B. S. 31023 Ramos & Edaña*. In forests along rivers at low altitudes. Endemic.

**MUCUNA NIGRICANS** (Lour.) Steud. Nomencl. ed. 2, 2 (1841) 163; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 116, Sp. Blancoanae (1918) 187.

*Citta nigricans* Lour. Fl. Cochinch. (1790) 456.

*Carpopogon imbricatum* Roxb. Hort. Beng. (1814) 54.

*Mucuna imbricata* DC. Prodr. 2 (1825) 406; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 38, Philip. Journ. Sci. 1 (1906) Suppl. 67.

*Negretia urens* Blanco Fl. Filip. (1837) 586, ed. 2 (1845) 409, ed. 3, 2 (1879) 387, non Tussac.

*Mucuna monosperma* F.-Vill. Novis. App. (1880) 63, non DC.

*Stizolobium imbricatum* O. Kuntze Rev. Gen. Pl. (1891) 208.

*Zoophthalmum nigricans* Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 65, in syn.

Northern Luzon (Cagayan) to Mindanao. In thickets and secondary forests at low and medium altitudes, locally abundant. India to Indo-China and probably Malaya.

Local names: Alilipai (Sul.); baluktot (Tag.); bukitkit (Tag.); bukkáu (Ilk.); danipai (S. L. Bis.); duglo (Tag.); ipal (Tag.); lipai (Tag.); nipai (Tag., Bis.); sagapok (P. Bis.).

**MUCUNA PRURIENS** (Linn.) DC. Prodr. 2 (1825) 405; F.-Vill. Novis. App. (1880) 63; Frag. Fl. Philip. (1904) 86; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 67, 5 (1910) Bot. 117, Fl. Manila (1912) 259, Interpret. Herb. Amb. (1917) 277, Sp. Blancoanae (1918) 188.

*Dolichos pruriens* Linn. in Stickm. Herb. Amb. (1754) 23, Amoen. Acad. 4 (1759) 132, Syst. ed. 10 (1759) 1162.

*Stizolobium pruriens* Medic. in Vorles. Churpf. Phys. Ges. 2 (1797) 399.

*Carpopogon pruriens* Roxb. Hort. Beng. (1814) 54.

*Negretia pruriens* Blanco Fl. Filip. ed. 2 (1845) 411, ed. 3, 2 (1879) 389, t. 331.

*Mucuna atropurpurea* F.-Vill. Novis. App. (1880) 63, non DC.

Luzon (Rizal, Laguna), Negros. In dry thickets and secondary forests at low altitudes. India to Malaya.

Local names: Hípoi (Bik.); ípe (Pamp.); lipai (Tag.); nípai (Bis., Tag.); nípoi (Bik.).

**MUCUNA SAMARENSIS** Merr. in Philip. Journ. Sci. 20 (1922) 390.

Samar, *B. S. 34241 Ramos*. In damp forests at low altitudes. Endemic.

Local name: Malanipai (S. L. Bis.).

**MUCUNA SERICOPHYLLA** Perk. Frag. Fl. Philip. (1904) 86; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 117.

*Mucuna luzoniensis* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 196.

Luzon (Lepanto, Bontoc, Benguet, Union, Nueva Vizcaya, Nueva Ecija, Pampanga, Bataan, Laguna), Mindoro, Leyte, Mindanao, Jolo. In dry thickets at low and medium altitudes. Endemic.

Local names: Duglu (Tag.); kábit (Ilk.); nípai (Tag.); pia-pia (Sul.); sabauil-ñga-átap (Ilk.); saguagil (Ig.); uauini (Is.).

#### EXCLUDED SPECIES

**MUCUNA CAPITATA** Willd.; F.-Vill. Novis. App. (1880) 63.

#### 79. SPATHOLOBUS Hasskarl

**SPATHOLOBUS APOENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 698.

Mindanao (Agusan, Davao), *Elmer 11795, 13300*. In forests, altitude about 1,200 m. Endemic.

Local names: Balia (Bag.); panamog (Mbo.).

**SPATHOLOBUS GYROCARPUS** (Wall.) Benth. in Miq. Pl. Jungh. (1852) 238; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 204; F.-Vill. Novis. App. (1880) 63; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 110; Perk. Frag. Fl. Philip. (1904) 87; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 119.

*Butea gyrocarpa* Wall. Cat. (1832) No. 5442, *nomen nudum*.

*Spatholobus sanguineus* Elm. Leaf. Philip. Bot. 8 (1919) 3087.

Luzon (Rizal, Laguna, Albay), Leyte, *Elmer 18250, 17560, 17984, Merrill 2685, Cuming 945, Wenzel 989, F. B. 464, 1149, 2957 Ahern's collector, 26840 Mabesa*. In primary forests at low and medium altitudes. Malay Peninsula.

Local names: Ipal (Tag.); ipales (Tag.).

**SPATHOLOBUS PALAWANENSIS** (Elm.) comb. nov.

*Derris palawanensis* Elm. Leaf. Philip. Bot. 5 (1913) 1800.

*Derris leytensis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 361.

*Spatholobus philippinensis* Merr. in Philip. Journ. Sci. 13 (1918) Bot. 17.

Luzon (Apayao, Laguna, Rizal, Camarines), Palawan, Leyte, Panay, *F. B. 26055, 26841 Mabesa, 21324 Foxworthy & Catalan, 21474 Alvarez, 466 Ahern's collector, 21600 Agama, B. S. 2630 Ramos, 28217 Fénix, 30947 Ramos & Edaña, Wenzel 841, Elmer 13063, 17642 (Derris merrillii Elm.)*. Along streams in primary forests at low and medium altitudes. Endemic.

#### 80. GALACTIA P. Browne

**GALACTIA TENUIFLORA** (Klein) W. & A. Prodr. (1834) 206; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 192; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 119, Fl. Manila (1912) 259, Sp. Blancoanae (1918) 188.

*Glycine tenuiflora* Klein ex Willd. Sp. Pl. 3 (1800) 1059; DC. Prodr. 2 (1825) 241.

*Dolichos repens* Blanco Fl. Filip. (1837) 577, ed. 2 (1845) 402, ed. 3, 2 (1879) 373, non Linn.

Luzon (Benguet, Bulacan, Rizal, Batangas), *Merrill Sp. Blancoanae 1039, Phil. Pl. 702, B. S. 22415, 24080 Ramos, 31815 Santos, Elmer 6613*.

In thickets, sea level to an altitude of 2,000 m; rare and local. Tropical Asia and Africa through Malaya to Australia.

Local name: Kalumimitan (Ig.).

### 81. *DIOCLEA* Humboldt, Bonpland, and Kunth

*DIOCLEA REFLEXA* Hook. f. Niger Flora (1849) 306; Rolfe in Journ. Bot. 23 (1885) 212; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 110; Perk. Frag. Fl. Philip. (1904) 87; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 119.

Luzon (Rizal, Laguna), Mindoro, Busuanga, Palawan, Mindanao, *Merrill 4033, 9595, Cuming 521, McGregor 227, B. S. 22257 Ramos, 36821 Ramos & Edaño*. In thickets and forests at low altitudes, chiefly along small streams. Pantropic.

*DIOCLEA UMBRINA* Elm. Leaf. Philip. Bot. 1 (1907) 224; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 119.

Luzon (Benguet, Nueva Vizcaya, Laguna, Rizal), Samar, Panay, Leyte, *Elmer 7249, 8922, 17865, Merrill 1621, Phil. Pl. 708, B. S. 11236, 12394 McGregor, 24168 Ramos, 31387 Ramos & Edaño*. In forests at low and medium altitudes. Endemic.

Local name: Bai (Ig.).

### 82. *MACROPSYCHANTHUS* Harms

*MACROPSYCHANTHUS FERRUGINEUS* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 121.

Mindanao (Agusan, Zamboanga, Lanao), *Clemens 419, Elmer 13993, B. S. 36747, 36921 Ramos & Edaño* as *Dioclea*. In forests at low and medium altitudes. Endemic.

*MACROPSYCHANTHUS MINDANAENSIS* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 120.

Mindanao (Surigao, Agusan), *Elmer 11905, Bolster 330*. In forests along streams at low and medium altitudes. Endemic. The other species of the genus in New Guinea.

### 83. *PUERARIA* de Candolle

*PUERARIA PHASEOLOIDES* (Roxb.) Benth. in Journ. Linn. Soc. Bot. 9 (1865) 125; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 199; F.-Vill. Novis. App. (1880) 64; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 39, Philip. Journ. Sci. 5 (1910) Bot. 123, Fl. Manila (1912) 254, Sp. Blancoanae (1918) 189.

*Dolichos phaseoloides* Roxb. Fl. Ind. ed. 2, 3 (1832) 316.

*Pachyrhizus teres* Blanco Fl. Filip. (1837) 580.

*Pachyrhizus montanus* Blanco op. cit. ed. 2 (1845) 406, ed. 3, 2 (1879) 381, non DC.

*Dioscorea bolojonica* Blanco Fl. Filip. (1837) 800, ed. 2 (1845) 551, ed. 3, 3 (1879) 208.

Batan Islands and northern Luzon to Mindanao. In open grasslands and in thickets at low and medium altitudes. India to southern China and Malaya.

Local names: Báhai (C. Bis.); sínkamas-áso (Tag.); váai (Iv.).

**PUERARIA PULCHERRIMA** (Koord.) Merr. ex Koord.-Schum. Syst. Verzeich. 2 (1914) 132.

*Mucuna pulcherrima* Koord. in Meded. Lands Plant. 19 (1908) 440.

*Pueraria warburgii* Perk. Frag. Fl. Philip. (1904) 87; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 124.

*Glycine warburgii* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 231.

Luzon (Albay, Sorsogon), Biliran, Leyte, Mindanao (Surigao, Bukidnon, Agusan, Davao), *Warburg 14664, Elmer 16724, 19336, 10655, Merrill 5430, Wenzel 210, 1864, Williams 2953, B. S. 18869 McGregor, 15208 Ramos, 38454 Ramos & Edaña, 15856 Fénix*. In thickets and forests at low altitudes. Celebes.

Local names: Alibuñgog (Buk.); totoi (Mbo.).

**PUERARIA TETRAGONA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 122.

Palawan, *B. S. 295 Bermejos*. In old clearings at low altitudes. Endemic.

**PUERARIA THUNBERGIANA** (S. & Z.) Benth. in Journ. Linn. Soc. Bot. 9 (1865) 122; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 410, 5 (1910) 123, Fl. Manila (1912) 254.

*Dolichos hirsutus* Thunb. in Trans. Linn. Soc. 2 (1794) 339, non *Pueraria hirsuta* Kurz.

*Pachyrhizus thunbergianus* S. & Z. Fl. Jap. Fam. Nat. 2 (1846) 113.

*Neustanthus chinensis* Benth. Fl. Hongk. (1861) 86.

Batan Islands, Luzon (Benguet, Tayabas, Rizal), Biliran, Banton, Negros, Mindanao (Agusan), *B. S. 31804 Santos, Elmer 6600, 10310, 13518, Merrill Phil. Pl. 277, B. S. 28070 Merrill, 18522 McGregor*. In open grasslands and thickets at low and medium altitudes, in Benguet ascending to 2,000 m. India to Japan southward to Malaya.

Local names: Báai (Ig.); tahaunon (Mbo.).

#### 84. CANAVALIA de Candolle

**CANAVALIA ENSIFORMIS** (Linn.) DC. Prodr. 2 (1825) 404; F.-Vill. Novis. App. (1880) 64; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 125 p.p.

*Dolichos ensiformis* Linn. Sp. Pl. (1753) 725.

Occasionally planted, probably from seeds of American origin, that is, a recent introduction in the Philippines. A native of the West Indies. The jack bean.

**CANAVALIA GLADIATA** (Jacq.) DC. Prodr. 2 (1825) 404; Blanco Fl. Filip. ed. 2 (1845) 403, ed 3, 2 (1879) 376, t. 449; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 126, Fl. Manila (1912) 258, Sp. Blancoanae (1918) 189; Dunn in Kew Bull. (1922) 134.

*Dolichos gladiatus* Jacq. Coll. 2 (1788) 276.

*Dolichos ensiformis* Blanco Fl. Filip. (1837) 577, non DC.

Occasionally planted, but nowhere spontaneous. A native of tropical America, now pantropic.

Local names: Hábas (Tag.); magtambokau (Bis.); patáning-españa (Tag.).



**CANAVALIA LUZONICA** Piper in Proc. Biol. Soc. Wash. 30 (1917) 177; Dunn in Kew Bull. (1922) 136.

*Canavalia ensiformis* Perk. Frag. Fl. Philip. (1904) 88; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 125, pro majore parte, Fl. Manila (1912) 258, non DC.

Luzon (Cagayan to Batangas, Laguna, Camarines); Lubang. Common in dry thickets at low and medium altitudes, in Bontoc ascending to 1,400 m, well represented by *Merrill Phil. Pl. 90, 1596, 2050*. Endemic.

Local names: Babugíng (Ilk.); hábas-kabáyo (Tag.); kamkampilán (Ilk.); malasínkamas (Tag.); marútong (Tag.); rískapién (Ibn.); sabil-dokon (Tag.); sola (Pang.).

**CANAVALIA MACROBOTRYS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 13.

Samar, Panay, *B. S. 17517 Ramos, 31294 Ramos & Edaño*. In forests or thickets at low altitudes. Endemic.

**CANAVALIA MICROCARPA** (DC.) Piper in Proc. Biol. Soc. Wash. 30 (Oct. 23, 1917) 177; Merr. Interpret. Herb. Amb. (Nov., 1917) 280.

*Lablab microcarpus* DC. Prodr. 2 (1825) 402.

*Canavalia turgida* Grah. in Wall. Cat. (1832) No. 5534, *nomen nudum*; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 215; Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 417; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 81, 410, 5 (1910) Bot. 124, Fl. Manila (1912) 257; Dunn in Kew Bull. (1922) 139.

*Canavalia virosa* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 319, non W. & A.

*Canavalia obtusifolia* Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 63; Perk. Frag. Fl. Philip. (1904) 88; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 67, non DC.

Throughout the Philippines in thickets back of the beach, and along the margins of some lakes (Lanao, Taal) up to an altitude of about 600 m. India to southern China, Formosa, and Malaya.

I do not agree with Dunn\* that *Cacara litorea* Rumph., which is the basis of *Lablab microcarpa* DC., represents *Canavalia rosea* DC. = *C. obtusifolia* DC. Rumphius's figure is unmistakably a representation of *Canavalia turgida* Grah.

Local names: Bukáu (Ilk.); dalakorak (Tag.); daluydoi (P. Bis.); danglin (Tag.); dugho (Pamp.); malamatáng-pusa (Pamp.); palang-palang (Bis.); pia-pia (Sul.).

**CANAVALIA ROSEA** (Sw.) DC. Prodr. 2 (1825) 404; Dunn in Kew Bull. (1922) 138.

*Dolichos roseus* Sw. Fl. Ind. Occ. (1806) 1243.

*Canavalia obtusifolia* F.-Vill. Novis. App. (1880) 64; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 215, non DC. ?

*Dolichos acinaciformis* Blanco Fl. Filip. (1837) 578, non Jacq.

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\* Kew Bull. (1922) 139.

*Canavalia ensiformis* Blanco Fl. Filip. ed. 2 (1845) 404, ed. 3, 2 (1879) 377, non DC.

*Canavalia lineata* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 410, 5 (1910) Bot. 125, Fl. Manila (1912) 257, Sp. Blancoanae (1918) 187, non DC.

Batan Islands and northern Luzon to Mindanao and Palawan, trailing on sandy seashores. Pantropic.

Local names: Lagaylai (P. Bis.); magtambokau (S. L. Bis.); patáning-dágat (Tag.).

#### 85. LUZONIA Elmer

**LUZONIA PURPUREA** Elm. Leaf. Philip. Bot. 1 (1907) 220; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 120, 10 (1915) Bot. 17.

Luzon (Benguet, Tayabas, Bataan), Leyte, *Elmer 9013*, *F. B. 3050 Borden*, *Wenzel 1595*, *Merrill 9685*. In forests at low and medium altitudes, in Benguet ascending to 1,400 m. A monotypic endemic genus.

Local name: Baloktót (Tag.).

#### 86. CAJANUS de Candolle

**CAJANUS CAJAN** (Linn.) Millsp. in Field Columb. Mus. Bot. 2 (1900) 53; Merr. Fl. Manila (1912) 255, Interpret. Herb. Amb. (1917) 282, Sp. Blancoanae (1918) 190.

*Cytisus cajan* Linn. Sp. Pl. (1753) 739; Blanco Fl. Filip. (1837) 597.

*Cytisus pseudo-cajan* Jacq. Hort. Vind. 2 (1772) 54, t. 119.

*Cajan inodorum* Medic. in Vorles. Churpf. Phys. Ges. 2 (1787) 363.

*Cajanus bicolor* DC. Hort. Monsp. (1813) 85; Blanco Fl. Filip. ed. 2 (1845) 416, ed. 3, 2 (1879) 396, t. 167.

*Cajanus indicus* Spreng. Syst. 3 (1826) 248; Hook. f. in Curtis's Bot. Mag. III 35 (1879) t. 6440; F.-Vill. Novis. App. (1880) 66; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 110; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 82, 5 (1910) 126, 354.

Throughout the Philippines in the settled areas, cultivated, semicultivated, and in some regions spontaneous, occurring from sea level to 2,400 m. Probably of prehistoric introduction from tropical Asia or Malaya, now pantropic. The pigeon pea.

Local names: Gablos (Tag.); kadiós (Mang., Tag., P. Bis.); kagyós (Tag.); kagyús (Tag.); kaldís (Ig., Ilk.); kalios (Tag.); kardís (Ibn., Ilk., Ig.); kidís (Ilk., Bon.); kudis (Ig., If.); tabios (Bik., C. Bis.).

#### 87. DUNBARIA Wight and Arnott

**DUNBARIA CUMINGIANA** Benth. in Miq. Pl. Jungh. (1852) 242; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 177; F.-Vill. Novis. App. (1880) 66; Vidal Phan. Cuming. Philip. (1886) 109, Rev. Pl. Vasc. Filip. (1886) 110; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 127.

Luzon (Benguet, Union, Nueva Vizcaya, Bataan, Rizal, Laguna), Leyte. In thickets at low and medium altitudes; not common. Endemic.

Local name: Bangbangnáu (Ilk.).

**DUNBARIA MERRILLII** Elm. Leaf. Philip. Bot. 1 (1907) 225; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 127.

Luzon (Cagayan, Benguet, Ilocos Norte, Lepanto, Pampanga), *Elmer 8502*, *B. S. 7872*, *7411*, *27432 Ramos*, *Bona 425*. In thickets at medium altitudes. Endemic.

Local names: Kalat (Ig.); marapatáni (Ilk.).

**DUNBARIA ROTUNDIFOLIA** (Lour.) Merr. in Philip. Journ. Sci. 15 (1919) 242.

*Indigofera rotundifolia* Lour. Fl. Cochinch. (1790) 458.

*Dolichos punctatus* W. & A. Prodr. (1834) 247.

*Dolichos conspersus* Grah. in Wall. Cat. (1832) No. 5542, *nomen nudum*.

*Dunbaria punctata* Benth. in Miq. Pl. Jungh. (1852) 242; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 235, Fl. Manila (1912) 254.

*Dunbaria conspersa* Benth. l. c.

Luzon (Ilocos Norte, Union, Rizal), *Merrill 8039*, *Phil. Pl. 433*, *Lete 265*, *B. S. 27304 Ramos*. In open grasslands, borders of thickets, etc., at low altitudes. India to China southward to tropical Australia.

#### 88. CANTHAROSPERMUM Wight and Arnott

(*Atylosia* Wight and Arnott)

**CANTHAROSPERMUM SCARABAEOIDES** (Linn.) Baill. in Bull. Soc. Linn. Paris 1 (1883) 384 (*scarabaeoideum*); Merr. in Philip. Journ. Sci. 5 (1910) Bot. 128, Fl. Manila (1912) 128.

*Dolichos scarabaeoides* Linn. Sp. Pl. (1753) 726.

*Rhynchosia scarabaeoides* DC. Prodr. 2 (1825) 387.

*Atylosia scarabaeoides* Benth. in Miq. Pl. Jungh. (1852) 245; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 173; F.-Vill. Novis. App. (1880) 66; Vidal Phan. Cuming. Philip. (1885) 109; Perk. Frag. Fl. Philip. (1904) 88.

Northern Luzon to Mindanao. In open grasslands at low and medium altitudes. India to the Mascarene Islands, southern China, Malaya, and the Marianne Islands.

**CANTHAROSPERMUM VOLUBILE** (Blanco) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 127, Fl. Manila (1912) 127, Sp. Blancoanae (1918) 190.

*Cytisus volubilis* Blanco Fl. Filip. (1837) 599.

*Cajanus volubilis* Blanco Fl. Filip. ed. 2 (1845) 417, ed. 3, 2 (1879) 398.

*Dunbaria horsfieldii* Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 179.

*Atylosia mollis* F.-Vill. Novis. App. (1880) 66; Vidal Sinopsis Atlas (1883) 23, t. 41, f. E, Rev. Pl. Vasc. Filip. (1886) 110, Phan. Cuming. Philip. (1885) 109; Perk. Frag. Fl. Philip. (1904) 88, non Benth.

*Dolichos crassus* Grah. in Wall. Cat. (1832) No. 5563, *nomen nudum*.

*Atylosia crassa* Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 45.

Luzon (Lepanto, Union, Rizal, Nueva Vizcaya), Sulu Archipelago, *Merrill 5399*, *Sp. Blancoanae 142*, *Phil. Pl. 15*, *Elmer 5612*. In thickets at low and medium altitudes. Malay Peninsula and Archipelago.

## 89. RHYNCHOSIA Loureiro

**RHYNCHOSIA CALOSPERMA** Warb. in Engl. Bot. Jahrb. 12 (1891) 314; Perk. Frag. Fl. Philip. (1904) 88; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 128.

Luzon (Pampanga), *Merrill 1443*. In thickets at low altitudes, apparently very rare or local. New Guinea, Key Islands, Bismarck Archipelago.

Local name: Balabalatúnġan (Pamp.).

**RHYNCHOSIA MINIMA** (Linn.) DC. Prodr. 2 (1825) 385; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 223.

*Dolichos minimus* Linn. Sp. Pl. (1753) 726.

Luzon (Ilocos Norte), *B. S. 27137 Ramos*. In open grasslands at low altitudes. Pantropic.

**RHYNCHOSIA VOLUBILIS** Lour. Fl. Cochinch. (1790) 460; DC. Prodr. 2 (1825) 385; Hemsl. in Journ. Linn. Soc. Bot. 23 (1887) 196; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 82.

Luzon (Bontoc, Benguet), *B. S. 31805 Santos, Vanoverbergh 654*. In open grasslands, altitude 1,400 to 2,000 m. Japan to southern China and Formosa.

Local name: Batung (Ig.).

## 90. ERIOSEMA Desvaux

**ERIOSEMA CHINENSE** Vog. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 31; F.-Vill. Novis. App. (1880) 66; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 111; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 129.

*Dolichos biflorus* Lour. Fl. Cochinch. (1790) 441, non Linn.

Luzon (Cagayan, Isabela, Bontoc, Lepanto, Benguet, Nueva Vizcaya), Semirara, Culion, Mindanao (Bukidnon). In open grasslands chiefly at medium altitudes, ascending to 2,000 m; occasionally at sea level (Semirara). India to China through Malaya to tropical Australia.

Local names: Katil (Ig.); kitkitil (Bon.); kutil (Ilk.); okun (Ig.).

## 91. FLEMINGIA Roxburgh

**FLEMINGIA CUMINGIANA** Benth. in Miq. Pl. Jungh. (1852) 245; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 67; F.-Vill. Novis. App. (1880) 67; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 130, 354, Fl. Manila (1912) 253.

Luzon (Abra, Benguet, Pangasinan, Zambales, Bulacan, Bataan, Rizal). In thickets at low and medium altitudes; occasional and scarcely distinct from *F. macrophylla* O. Kuntze. Endemic.

Local name: Kopkopéyes-a-bálang (Ilk.).

**FLEMINGIA INVOLUCRATA** (Wall.) Benth. in Miq. Pl. Jungh. (1851) 246; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 229; F.-Vill. Novis. App. (1880) 67.

*Lespedeza involucrata* Wall. Cat. (1832) No. 5742, *nomen nudum*.

*Lepidocoma trifoliatum* Jungh. Reise (1845) 338, *nomen nudum*.

Culion, *B. S. 41326 Ramos*. In open places at low altitudes. India to Java and tropical Australia.

**FLEMINGIA LINEATA** (Linn.) Roxb. Hort. Beng. (1814) 56, Fl. Ind. ed. 2, 3 (1832) 341; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 228; F.-Vill. Novis. App. (1880) 67; Usteri Beitr. Ken. Philip. Veg. (1905) 116; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 267, 5 (1910) Bot. 129, Sp. Blancoanae (1918) 191.

*Hedysarum lineatum* Linn. Syst. ed. 10 (1759) 1170.

*Flemingia blancoana* Llanos Frag. Pl. Filip. (1851) 80; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 62.

Luzon (Bulacan, Rizal), *Merrill Sp. Blancoanae* 699, 552. In open grasslands at low altitudes. India to northern Australia.

**FLEMINGIA MACROPHYLLA** (Willd.) O. Kuntze ex Prain in Journ. As. Soc. Beng. 66<sup>2</sup> (1897) 440; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 130.

*Crotalaria macrophylla* Willd. Sp. Pl. 3 (1800) 982.

*Flemingia congesta* Roxb. ex Ait. Hort. Kew. ed. 2, 4 (1812) 349; F.-Vill. Novis. App. (1880) 67; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 164; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 111; Perk. Frag. Fl. Philip. (1904) 89.

*Rhynchosia sericea* Vidal Sinopsis Atlas (1883) 23, t. 40, f. D; F.-Vill. Novis. App. (1880) 67, non Span.

*Moghania macrophylla* O. Kuntze Rev. Gen. Pl. (1891) 199.

Northern Luzon to Palawan and Mindanao. Occasional in thickets at low and medium altitudes. India to southern China and Malaya.

Local names: Malabalatóng (Pamp.); payangka (Ig.).

**FLEMINGIA PHILIPPINENSIS** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 103; Merr. op. cit. 5 (1910) Bot. 130.

Luzon (Lepanto, Bontoc), *Merrill* 4460, *Vanoverbergh* 3850, *F. B. 16541 Curran & Merritt*. On open grassy slopes at low altitudes. Southern China.

**FLEMINGIA STROBILIFERA** (Linn.) R. Br. in Ait. Hort. Kew. ed. 2, 4 (1812) 350; DC. Prodr. 2 (1825) 351; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 161; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 227; Llanos Frag. Pl. Filip. (1851) 82; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 63; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 454; F.-Vill. Novis. App. (1880) 67; Vidal Sinopsis Atlas (1883) 23, t. 40, f. E, Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 111; Perk. Frag. Fl. Philip. (1904) 89; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 129, Fl. Manila (1912) 253, Sp. Blancoanae (1918) 190.

*Hedysarum strobiliferum* Linn. Sp. Pl. (1753) 764.

Throughout the Philippines in the settled areas, in open dry waste places, locally very abundant; probably introduced. India to Malaya, introduced in Mauritius and the West Indies.

Local names: Adoteid (Ig.); gangan (S. L. Bis.); kaliakai (Chab.); kopa-kópa (Pang.); kopkopéyes (Ilk.); kupau-kúpau (Sbl.); pakáyán (Pamp.); panapanaláhan (Tag.); panapanaráhan (Tag.); paking (Pamp.); payang-páyang (Tag.); pirágan (Sul.); tabang-bayáuak (Tag.).

## 92. PHASEOLUS Tournefort

**PHASEOLUS ADENANTHUS** G. W. F. Mey. Prim. Fl. Esseq. (1818) 239; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 200; Perk. Frag. Fl. Philip. (1904) 89; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 132, Fl. Manila (1912) 261.

*Phaseolus rostratus* Wall. Pl. As. Rar. 1 (1830) 50, t. 63; Usteri Beitr. Ken. Philip. Veg. (1905) 116.

Northern Luzon (Cagayan) to Mindanao. In thickets bordering swamps, streams, etc., at low and medium altitudes. Pantropic.

Local names: Bátong-ásò (Tag.); patáni-bákir (Ilk.); sabauil-átap (Ilk.).

**PHASEOLUS AUREUS** Roxb. Hort. Beng. (1814) 55, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 297; Merr. Interpret. Herb. Amb. (1917) 283, Sp. Blancoanae (1918) 191.

*Phaseolus mungo* Blanco Fl. Filip. (1837) 573, ed. 2 (1845) 400, ed. 3, 2 (1879) 370; F.-Vill. Novis. App. (1880) 65; Perk. Frag. Fl. Philip. (1904) 89, non Linn.

*Phaseolus radiatus* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 132, Fl. Manila (1912) 262; non Linn.

*Phaseolus mungo* Linn. var. *radiatus* Baker; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 110.

Cultivated throughout the Philippines, but not a native of the Archipelago and scarcely naturalized. India to China and Malaya, in cultivation.

Local names: Balátong (Tag., If., Ibn., Ilk.); múngo (Tag., Bis.); múngos (Tag.).

**PHASEOLUS CALCARATUS** Roxb. Hort. Beng. (1814) 54, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 289; F.-Vill. Novis. App. (1880) 65; Ceron Cat. Pl. Herb. Manila (1892) 64; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 132, Fl. Manila (1912) 261.

*Vigna luteola* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 411, non Benth.

Babuyan Islands and northern Luzon to Palawan and Mindanao. In open grasslands and thickets; some forms cultivated. India to Malaya.

Local names: Anípai (S. L. Bis.); batung-amú (Sul.); kapilan (Tag.); kilkilang (Bon.); linai (Pang.); mangulási (Buk.); pagsei (Bon.); paksai (Bon.); tauhúri (Lan.).

**PHASEOLUS LATHYROIDES** Linn. Sp. Pl. ed. 2 (1763) 1018; Merr. Fl. Manila (1912) 260.

*Phaseolus semierectus* Linn. Mant. 1 (1767) 100; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 201; Baker in Hook. f. Fl. Brit. Ind. 2 (1870) 201; Perk. Frag. Fl. Philip. (1904) 89; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 132.

Common in open grasslands about Manila, introduced from tropical America. A pantropic weed.

**PHASEOLUS LUNATUS** Linn. Sp. Pl. (1753) 724; Blanco Fl. Filip. (1837) 573, ed. 2 (1845) 400, ed. 3, 2 (1879) 370, t. 352; F.-Vill. Novis. App. (1880) 64; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1855) 194; Perk. Frag. Fl. Philip. (1904) 89; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 32, Philip. Journ. Sci. 5 (1910) Bot. 354, Fl. Manila (1912) 261, Sp. Blancoanae (1918) 191.

*Phaseolus inamoenus* Blanco Fl. Filip. (1837) 571, ed. 2 (1845) 399, ed. 3, 2 (1879) 368, non ? Linn.

*Phaseolus ilocanus* Blanco Fl. Filip. (1837) 572.

*Phaseolus tunkinensis* Lour. Fl. Cochinch. (1790) 435; Blanco Fl. Filip. ed. 2 (1845) 399, ed. 3, 2 (1879) 369, *t.* 369.

*Phaseolus vexillatus* Blanco Fl. Filip. (1837) 574, non Linn.

*Phaseolus vulgaris* Blanco Fl. Filip. ed. 2 (1845) 401, ed. 3, 2 (1879) 371, non Linn.

The lima bean. Introduced from tropical America, now thoroughly naturalized and common in thickets at low and medium altitudes, ascending to 2,000 m; some forms cultivated. Pantropic.

Local names: Bulai-patáni (Tag.); buni (Bag.); buriñgi (Tag.); butiñgi (Tag.); gulipatán (Ibn.); haba (Sp.); habichuela (Sp.); kilkilang (Bon.); kopani (Bon.); kutakút (Bon.); palpalái (Ilk.); pardá (Ilk.); patáni (Tag., Bik., Bis., Ilk.); perkoles (Ilk.); puida (Ig.); zabáche (Sp.).

**PHASEOLUS MINIMUS** Roxb. Fl. Ind. ed. 2, 3 (1832) 290; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 132, Fl. Manila (1912) 261.

Northern Luzon (Cagayan) to Mindanao. In open grasslands at low and medium altitudes; widely scattered. Southern China.

**PHASEOLUS SUBLOBATUS** Roxb. Hort. Beng. (1914) 54, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 288; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 133.

*Phaseolus trinervius* Heyne in Wall. Cat. (1832) No. 5603; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 203; F.-Vill. Novis. App. (1880) 65.

Luzon (Bontoc, Rizal, Laguna), Mindanao. In grasslands, waste places, etc., occasional; sometimes planted. India to Malaya.

Local names: Karatan (Bag.); moñgos-ihálas (C. Bis.).

**PHASEOLUS VULGARIS** Linn. Sp. Pl. (1753) 723; F.-Vill. Novis. App. (1880) 64; Merr. Fl. Manila (1912) 261.

Cultivated locally, various forms; in the Mountain Province, occasionally subspontaneous; cultivated in all warm countries. The common bean.

Local names: Habichuéla (Sp.); mula (Bon.); birinñgi (Tag.); butiñgi (Tag.).

#### DOUBTFUL SPECIES

**PHASEOLUS RICCARDIANUS** Ten.; Usteri Beitr. Ken. Philip. Veg. (1905) 116.

The Philippine record is based on a Negros specimen collected by Usteri. I have seen no material representing the species.

#### 93. VIGNA Savi

**VIGNA LUTEOLA** (Jacq.) Benth. in Thwaites Enum. Pl. Ceyl. (1859) 90; Mart. Fl. Braz. 15 (1859-62) 194, *t.* 50, *f.* 2; Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 205; Ceron Cat. Pl. Herb. Manila (1912) 64; Perk. Frag. Fl. Philip. (1904) 89; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 134.

*Dolichos luteolus* Jacq. Hort. Vind. 1 (1770) 39, *t.* 90.

Mindanao (Lanao, Cotabato), *Clemens 209, F. B. 3951 Hutchinson*. In thickets or grasslands. Pantropic.

- VIGNA MARINA** (Burm.) Merr. Interpret. Herb. Amb. (1917) 285.  
*Phaseolus marinus* Burm. Index Universalis Herb. Amb. 7 (1755) 17.  
*Dolichos luteus* Sw. Prodr. (1788) 105.  
*Vigna lutea* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 452;  
 Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 205; Perk. Frag. Fl. Philip.  
 (1904) 89; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 67, 3 (1908)  
 81, 5 (1910) Bot. 133, Fl. Manila (1912) 262.  
*Vigna retusa* Walp. Repert. 1 (1842) 778; Prain in Journ. As. Soc.  
 Beng. 66<sup>2</sup> (1897) 51.  
*Dolichos repens* Linn. Sp. Jam. Pugillus (1759) 19, Amoen. Acad. 5  
 (1760) 402.  
*Vigna repens* O. Kuntze Rev. Gen. Pl. (1891) 212, non Baker.

Throughout the Philippines along the seashore. A pantropic strand plant.

- VIGNA PILOSA** (Roxb.) Baker in Hook. f. Fl. Brit. Ind. 2 (1876) 207;  
 Ceron Cat. Pl. Herb. Manila (1892) 64; Perk. Frag. Fl. Philip.  
 (1904) 89; Usteri Beitr. Ken. Philip. Veg. (1905) 116; Merr. in  
 Govt. Lab. Publ. (Philip.) 35 (1906) 22, Philip. Journ. Sci. 5  
 (1910) Bot. 134, Fl. Manila (1912) 263.

Luzon (Ifugao, Nueva Vizcaya, Rizal, Laguna, Batangas). In dry thickets at low altitudes. India to Formosa.

- VIGNA SINENSIS** (Linn.) Savi ex Hassk. Cat. Hort. Bogor. (1844) 279;  
 Endl. ex Hassk. Pl. Jav. Rar. (1848) 386; Merr. in Philip. Journ.  
 Sci. 5 (1910) Bot. 133, Interpret. Herb. Amb. (1917) 284, Sp. Blan-  
 coanae (1918) 192; Naves in Blanco Fl. Filip. ed. 3 (1877-83)  
 t. 285.  
*Dolichos sinensis* Linn. Cent. Pl. 2 (1756) 28, Amoen. Acad. 4 (1759)  
 132, 326.  
*Dolichos sesquipedalis* Linn. Sp. Pl. ed. 2 (1763) 1019; Blanco Fl.  
 Filip. ed. 2 (1845) 402, ed. 3, 2 (1879) 375, t. 286.  
*Vigna sesquipedalis* Fruw. Unbau Huelsenfrucht. (1898) 254; Merr.  
 Fl. Manila (1912) 262.  
*Phaseolus cylindricus* Linn. Amoen. Acad. 4 (1759) 132.  
*Vigna cylindrica* Skeels in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 282  
 (1913) 32; Merr. Interpret. Herb. Amb. (1918) 284, Sp. Blancoanae  
 (1918) 192.  
*Dolichos catjang* Burm. f. Fl. Ind. (1768) 161; Linn. Mant. 2 (1771)  
 269.  
*Vigna catjang* Walp. in Linnaea 13 (1839) 533; Miq. Fl. Ind. Bat.  
 1<sup>1</sup> (1855) 188; F.-Vill. Novis. App. (1880) 65.  
*Dolichos echinulatus* Blanco Fl. Filip. ed. 2 (1845) 401, ed. 3, 2  
 (1879) 373.  
*Phaseolus caracalla* Blanco Fl. Filip. (1837) 575, ed. 2 (1845) 401, ed.  
 3, 2 (1879) 372, F.-Vill. Novis. App. (1880) 65, non Linn.

Cultivated in various parts of the Philippines, variable in its fruit characters. The yard-long bean (*V. sesquipedalis* Fruw.), the cowpea (*V. sinensis* Savi), and the catjang (*V. cylindrica* Skeels) all occur in the Philippines. Cultivated in all warm countries, native of tropical Asia.

Local names: Antá (Ibn.); balatóng (Bis., Tag.); batóng (Bon.); karakála (Tag.); hamtak (Bik., Bis.); kauat (If.); kibal (Tag.); laston (Bis.); otóng (Ilk., Bon.); sitau (Tag.).



## EXCLUDED SPECIES

**VIGNA REPENS** Baker; F.-Vill. Novis. App. (1880) 65.

**VIGNA VEXILLATA** Rich.; Perk. Frag. Fl. Philip. (1904).

This is reported from Mindanao, collected by Warburg. I do not know the species as a Philippine one.

94. **PACHYRRHIZUS** Richard

**PACHYRRHIZUS EROSUS** (Linn.) Urb. Symb. Antill. 4 (1905) 311; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 135, Fl. Manila (1912) 263, Sp. Blancoanae (1918) 193.

*Dolichos erosus* Linn. Sp. Pl. (1753) 726.

*Dolichos bulbosus* Linn. op. cit. ed. 2 (1763) 1021.

*Pachyrrhizus angulatus* Rich. ex DC. Prodr. 2 (1825) 402, Blanco Fl. Filip. ed. 2 (1845) 405, ed. 3, 2 (1879) 380, t. 249; Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 191; Oliver in Hook. Ic. III 9 (1889) t. 1842; F.-Vill. Novis. App. (1880) 65; Vidal Phan. Cuming. Philip. (1885) 109, Rev. Pl. Vasc. Filip. (1886) 110.

*Pachyrrhizus jicamas* Blanco Fl. Filip. (1837) 579.

*Pachyrrhizus bulbosus* Kurz in Journ. As. Soc. Beng. 45<sup>2</sup> (1876) 246; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 67.

*Cacara erosa* O. Kuntze Rev. Gen. Pl. (1891) 165.

In thickets, hedges, etc., throughout the settled areas of the Philippines at low and medium altitudes; sometimes planted. The yam bean, a native of tropical America, now pantropic.

Local names: Hinkamás (Tag.); kamáh (Sbl.); kamás (Ilk.); lakamás (Pang.); sikamás (Pamp.).

95. **DOLICHOS** Linnaeus

**DOLICHOS FALCATUS** Klein in Willd. Sp. Pl. 3 (1800) 1047; DC. Prodr. 2 (1825) 398; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 453; F.-Vill. Novis. App. (1880) 66; Ceron Cat. Pl. Herb. Manila (1892) 64; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 82, 5 (1910) Bot. 135, Fl. Manila (1912) 264, Sp. Blancoanae (1918) 193.

*Dolichos trilobus* Blanco Fl. Filip. ed. 2 (1845) 403, ed. 3, 2 (1879) 375, Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 39, non Linn.

Luzon (Ilocos Norte to Batangas), Cebu, Leyte. In thickets at low altitudes. India and Ceylon.

Local names: Gokot-máya (C. Bis.); paiap-gúbat (Tag.).

**DOLICHOS LABLAB** Linn. Sp. Pl. (1753) 725; F.-Vill. Novis. App. (1880) 65; Perk. Frag. Fl. Philip. (1904) 90; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 135, Fl. Manila (1912) 264, Sp. Blancoanae (1918) 193.

*Lablab vulgaris* Savi Diss. (1821) 19; DC. Prodr. 2 (1825) 401; Wight in Hook. Bot. Miscel. 2 (1831) 352, t. 15, Miq. Fl. Ind. Bat. 1<sup>a</sup> (1855) 189.

*Glycine lucida* Blanco Fl. Filip. (1837) 578, non Forst.

*Lablab cultratus* DC. Prodr. 2 (1825) 402; Blanco Fl. Filip. ed. 2 (1845) 405, ed. 3, 2 (1879) 379, t. 292.

Throughout the Philippines in the settled areas, commonly cultivated and semicultivated, in some regions naturalized. Pantropic in cultivation, a native of the Old World and an introduced plant in the Philippines.

Local names: Báglaú (C. Bis.); bátau (Tag., Bik., P. Bis.); búlai (Tag.); itab (If., Bon.); pardá (Ilk.); parda-átap (Ilk.); sibáchi (Tag.).

**DOLICHOS UNIFLORUS** Lam. *Encycl.* 2 (1786) 299; DC. *Prodr.* 2 (1825) 498; Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 135.

Luzon (Rizal), *Cuzner* 29. In old rice fields at low altitudes. Tropical Asia.

#### 96. PSOPHOCARPUS Necker

**PSOPHOCARPUS TETRAGONOLOBUS** (Linn.) DC. *Prodr.* 2 (1825) 403; Miq. *Fl. Ind. Bat.* 1<sup>1</sup> (1855) 181; F.-Vill. *Novis. App.* (1880) 66; Vidal Phan. *Cuming. Philip.* (1885) 109, *Rev. Pl. Vasc. Filip.* (1886) 110; Merr. in *Philip. Journ. Sci.* 5 (1910) Bot. 136, *Fl. Manila* (1912) 264.

*Dolichos tetragonolobus* Linn. *Sp. Pl. ed. 2* (1763) 1020; Blanco *Fl. Filip.* (1837) 576, ed. 2 (1845) 402, ed. 3, 2 (1879) 374, *t.* 293.

*Botor tetragonoloba* O. Kuntze *Rev. Gen. Pl.* (1891) 162.

Cultivated, semicultivated, and occasionally spontaneous or subsponaneous in most parts of the Philippines at low and medium altitudes; introduced. India to Malaya in cultivation. The asparagus bean.

Local names: Amalé (Ibn.); batung-baimbing (Sul.); cigarillas (Pang., Tag.); bulígan (If., Bon.); beyed (Bon.); kalamismis (Tag.); kamaluson (Bis.); segadilla (P. Bis.); sererélla (P. Bis.); palag (Ilk.); palam (Ilk.); parupagulung (Bik.).

#### EXCLUDED SPECIES

**PSOPHOCARPUS PALUSTRIS** Desv.; F.-Vill. *Novis. App.* (1880) 66.

#### EXCLUDED GENERA

**ACROCARPUS FRAXINIFOLIUS** Wight; F.-Vill. *Novis. App.* (1880) 74.

**CICER ARIETINUM** Linn.; F.-Vill. *op. cit.* 62.

**CYTISUS PHILIPPINENSIS** Hort. et **PHILIPPENSIS** Hort. ex Lindl. in *Gard. Chron.* (1841) 365, sphalm.=*C. philippi* Lindl.=*C. canariensis* Steud.

**DIALUM LAURINUM** Baker; F.-Vill. *op. cit.* 351.

**LUPINUS INTEGRIFOLIUS** DC.; Llanos ex F.-Vill. & Naves in Blanco *Fl. Filip.* ed. 3, 4<sup>1</sup> (1880) 102.

**MECOPUS NIDULANS** Benn.; F.-Vill. *Novis. App.* (1880) 61.

**PAROCHETUS COMMUNIS** Ham.; F.-Vill. *op. cit.* 58.

**HAEMATOXYLON CAMPECHIANUM** Linn.

A recently introduced species cultivated in Manila and at Los Baños.

**TRIFOLIUM HYBRIDUM** Linn.

*Trifolium hybridum* Linn., alsike clover; *T. incarnatum* Linn., crimson clover; *T. pratense* Linn., red clover; and *T. repens* Linn., white clover, occur as casual introductions, or as purposely introduced species at higher altitudes in Benguet; there is no evidence that any of these clovers have become naturalized.

TRIFOLIUM PALLIDUM Walldst. & Kit.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 102.

## GERANIACEAE

## 1. ERODIUM L'Héritier

ERODIUM CICUTARIUM (Linn.) L'Hérit. ex Ait. Hort. Kew. 2 (1789) 414; Knuth in Engl. Pflanzenreich 53 (1912) 274.

*Geranium cicutarium* Linn. Sp. Pl. (1753) 680.

Luzon, Benguet, *Bur. Sci. 31669 Santos*. In waste places, altitude about 2,300 m. A weed of wide distribution in temperate regions, unquestionably a recently introduced plant in Benguet.

The so-called rose-geranium, *Pelargonium radula* (Cav.) L'Hérit., is commonly cultivated in the Philippines and is locally known as *malva rosa*; it rarely or never produces flowers in the Philippines. It was described by Blanco as *Malva moschata* Blanco, Fl. Filip. (1837) 551, ed. 2 (1845) 385, ed. 3, 2 (1879) 344, non Linn., which was reduced by F.-Villar, Novis. App. (1880) 32, to *Pelargonium odoratissimum* Ait.; see Merrill Sp. Blancoanae (1918) 194.

## OXALIDACEAE

## 1. OXALIS Linnaeus

OXALIS REPENS Thunb. Diss. Oxal. (1781) 16; B. L. Rob. in Journ. Bot. 44 (1906) 391; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 431, 3 (1908) Bot. 411, 5 (1910) Bot. 355, Fl. Manila (1912) 265, Interpret. Herb. Amb. (1917) 288, Sp. Blancoanae (1918) 195.

*Oxalis acetosella* Blanco Fl. Filip. (1837) 388, ed. 2 (1845) 272, ed. 3, 2 (1878) 141; F.-Vill. Novis. App. (1880) 33, non Linn.

*Oxalis corniculata* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 135; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 320; F.-Vill. Novis. App. (1880) 32; Vidal Phan. Cuming. Philip. (1885) 100, non Linn.

Throughout the Philippines, in waste places, open grasslands, etc., sea level to an altitude of 2,200 m. Warmer parts of the Old World.

Local names: Daraisig (Bik.); iayo (Pamp.); kuñgi (Pamp.); kanapa (Ig.); malabalúbug-dagis (Pamp.); marasiksík (Ilk.); pikhik (Iv.); sala-mági (Bon.); susokoyili (Tag.); taíngang-dagá' (Tag.).

OXALIS MARTIANA Zucc. in Denkschr. Akad. Muench. 9 (1823-24) 144; Merr. Fl. Manila (1912) 265.

In old gardens, an occasional escape from cultivation. Introduced from tropical America.

## 2. BIOPHYTUM de Candolle

BIOPHYTUM APODISCIAS (Turcz.) Edgw. & Hook. f. in Hook. f. Fl. Brit. Ind. 1 (1874) 437; Rolfe in Journ. Bot. 23 (1885) 211.

*Oxalis apodiscias* Turcz. in Bull. Soc. Nat. Mosc. 36<sup>1</sup> (1863) 430.

*Oxalis sessilis* Ham. in Wall. Cat. (1831) No. 4344, *nomen nudum*; Vidal Phan. Cuming. Philip. (1885) 100.

Luzon (Bontoc, Lepanto, Benguet), Panay, Mindanao (Lanao, Bukidnon, Davao). In open grasslands, chiefly at medium altitudes. India to New Guinea.

Local names: Babain (Ilk., Bon.); baín-baín (Ilk.).

**BIOPHYTUM SENSITIVUM** (Linn.) DC. Prodr. 1 (1824) 690; Blanco Fl. Filip. ed. 2 (1845) 272, ed. 3, 2 (1878) 142; F.-Vill. Novis. App. (1880) 33; Ceron Cat. Pl. Herb. Manila (1892) 35; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 67, Fl. Manila (1912) 266, Sp. Blancoanae (1918) 195.

*Oxalis sensitiva* Linn. Sp. Pl. (1753) 434; Blanco Fl. Filip. (1837) 389; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 321; Vidal Phan. Cuming. Philip. (1885) 100.

*Oxalis cumingiana* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 426.

*Oxalis reinwardtii* F.-Vill. Novis. App. (1880) 33, non Zucc.

Northern Luzon to Mindanao and Sulu. In grasslands, open thickets, etc., at low and medium altitudes. Pantropic.

Local names: Damóng-bingkálat (Tag.); damong-húya (Bis.); guyan-kan (Sub.); hoya-hoya (P. Bis.); makahiáng-laláki (Tag.); mahihifin (Ilk.); makahiá (Tag.); niug-niug (Sul.).

### 3. AVERRHOA Linnaeus

**AVERRHOA BILIMBI** Linn. Sp. Pl. (1753) 428; Blanco Fl. Filip. (1837) 391, ed. 2 (1845) 273, ed. 3, 2 (1878) 144, t. 138; F.-Vill. Novis. App. (1880) 33; Vidal Sinopsis Atlas (1883) 18, t. 23, f. A; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 28, 27 (1905) 27, Fl. Manila (1912) 266, Sp. Blancoanae (1918) 195.

Throughout the settled areas of the Philippines, cultivated and semi-cultivated. Introduced from tropical America. Pantropic in cultivation.

Local names: iba (Tag., Sul., P. Bis.); íbag (Mbo.); kalamiás (Tag.); kalanuas (Tag.); kalingiua (Bis.); kamiás (Tag.); kolonanas (Tag.); kolonauas (Tag.); kilingíba (Bik.); íbe (Yak.); piás (Ilk.); puis (Ig.).

**AVERRHOA CARAMBOLA** Linn. Sp. Pl. (1753) 428; Blanco Fl. Filip. (1837) 391, ed. 2 (1845) 274, ed. 3, 2 (1878) 145, t. 139; F.-Vill. Novis. App. (1880) 33; Vidal Sinopsis Atlas (1883) 18, t. 23, f. B; Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 73; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 28, 27 (1905) 27, Fl. Manila (1912) 266, Sp. Blancoanae (1918) 195.

*Averrhoa pentandra* Blanco Fl. Filip. (1837) 392, ed. 2 (1895) 274, ed. 3, 2 (1878) 145.

Cultivated and semicultivated throughout the Philippines. Introduced from tropical America. Pantropic in cultivation.

Local names: Ba'ímbing (Sul.); balimbíng (Tag., Bik.); balingbíng (Bik., C. Bis.); bilimbin (Tag.); daligán (Ilk.); dalihan (Ibn.); galañgán (P. Bis.); galurán (Ibn.); garáhan (Bis.); garulán (Ibn.); malimbín (S. L. Bis.); sirinate (Ting.).

### 4. SARCOTHECA Blume

**SARCOTHECA PHILIPPICA** (F.-Vill.) Hallier f. in Meded. Rijks Herb. (1911) 2.

*Conmaropsis philippica* F.-Vill. Novis. App. (1880) 33; excl. syn. Blanco; Merr. Sp. Blancoanae (1918) 19.

Panay, *vide* F.-Villar. A species of wholly doubtful status, known

only from F.-Villar's description which, however, conforms well to the characters of *Sarcotheca*. Endemic.

Local names: Balabangkilin (P. Bis.); malabangkilin (P. Bis.).

#### LINACEAE

##### 1. PHILBORNEA Hallier f.

**PHILBORNEA PALAWANICA** Hallier f. in Arch. Néerl. Sci. Exact. Nat. III B 1 (1912) 111, Fedde Repert. 13 (1914) 415.

Palawan, *Elmer 12870*. In forests. Endemic; the genus with one other known species in Borneo.

##### 2. IXONANTHES Jack

**IXONANTHES LONGIPEDUNCULATA** Merr. in Philip. Journ. Sci. 17 (1920) 264.

Mindanao (Surigao), *B. S. 34488 Ramos & Pascasio*. On ridges at low altitudes. Endemic.

Another species is represented by *Elmer 17234* from Sorsogon Province, Luzon, apparently allied to *Ixonanthes grandiflora* Hochr. and *I. reticulata* Jack.

##### 3. CTENOLOPHON Oliver

**CTENOLOPHON PHILIPPINENSE** Hallier f.; Schneider in Philip. Bureau Forestry Bull. 14 (1916) 127.

Samar, Leyte, Mindanao (Surigao, Agusan), *F. B. 23586 Lasquety, 21041 Sherfese, 20827 Oro, 26870 Franco, 20338 Rafael, 23030 Ponce, 28527 Cenabre, 24028 Razon, 26235 Ponce & Mallonga*. In forests at low altitudes. Endemic.

Local names: Mahalan (Mbo.); súdyang (S. L. Bis., C. Bis.); súdyang babáe (S. L. Bis., C. Bis.); súdyang-laláki (S. L. Bis.).

#### ERYTHROXYLACEAE

##### 1. ERYTHROXYLUM P. Browne

**ERYTHROXYLUM CUNEATUM** (Wall.) Kurz in Journ. As. Soc. Beng. 43<sup>2</sup> (1874) 135; Diels in Engl. Pflanzenreich 29 (1907) 146, f. 26; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 232.

*Ficus cuneata* Wall. Cat. (1831) No. 4534, *nomen nudum*.

*Urostigma ? cuneatum* Miq. in Hook. Lond. Journ. Bot. 6 (1847) 585.

*Erythroxylum burmanicum* Griff. Not. 4 (1854) 468, t. 581, f. 3; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 25.

Luzon (Ilocos Norte, Ilocos Sur, Bulacan, Rizal, Camarines). In secondary forests, especially on limestone formations at low and medium altitudes. Tenasserim, Malay Peninsula, Sumatra, Java.

Local names: Baransiágau (Ilk.); manambo (Bik.); sáleng (Tag.); salñgen (Ilk.).

**ERYTHROXYLUM IWAHIGENSE** Elm. Leaf. Philip. Bot. 5 (1913) 1776.

Palawan, *Elmer 18227*. On forested river banks, altitude about 150 m. Endemic.

**ERYTHROXYLUM PLATYPHYLLUM** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 232.

Mindanao (Zamboanga, Misamis), *F. B. 9285 Whitford & Hutchinson*,

17948 *Miranda*, 20102 *Stadtmiller*, 13908 *Foxworthy*, B. S. 11820 *Robinson*, *Merrill* 11637. In thickets back of the mangrove swamps. Endemic.

In addition to the above indigenous species *Erythroxylon coca* Lam., the cocaine plant, is a recent introduction and is occasionally found in cultivation; *Merrill* Fl. Manila (1912) 267.

## ZYGOPHYLLACEAE

### 1. TRIBULUS Tournefort

**TRIBULUS CISTOIDES** Linn. Sp. Pl. (1753) 387; DC. Prodr. 1 (1824) 703; F.-Vill. Novis. App. (1880) 32; Vidal Phan. Cuming. Philip. (1885) 99, Rev. Pl. Vasc. Filip. (1886) 73; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 411, Fl. Manila (1912) 268, Sp. Blancoanae (1918) 196.

*Tribulus lanuginosus* Blanco Fl. Filip. (1837) 350, ed. 2 (1845) 245, ed. 3, 2 (1878) 91; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 321, non Linn.

*Tribulus macranthus* Hassk. in Flora 48 (1865) 403.

Babuyan Islands (Fuga), Luzon (Cavite, Rizal, Tayabas), Mindoro. Local in waste places, in towns, near the seashore, etc., apparently introduced. Pantropic.

## RUTACEAE

### 1. ZANTHOXYLUM Linnaeus

**ZANTHOXYLUM ALATUM** Roxb. Fl. Ind. ed. 2, 3 (1832) 768; Hook. f. Fl. Brit. Ind. 1 (1875) 493.

Luzon (Benguet), *Merrill Phil. Pl. 774*, B. S. 20244 *Sandkuhl*. In thickets about limestone cliffs and boulders, altitude 1,300 to 1,500 m. India to southeastern China.

Local names: Chi-it (Ig.); sibit-paklaut (Ig.).

**ZANTHOXYLUM AVICENNAE** (Lam.) DC. Prodr. 1 (1824) 726; F.-Vill. Novis. App. (1880) 34, Rev. Pl. Vasc. Filip. (1886) 74, Phan. Cuming. Philip. (1885) 100; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 27.

*Fagara avicennae* Lam. Encycl. 2 (1788) 445; Merr. Sp. Blancoanae (1918) 196.

*Fagara pterota* Blanco Fl. Filip. (1837) 66, ed. 2 (1845) 47, ed. 3, 1 (1877) 88, non Linn.

*Zanthoxylum iwahigense* Elm. Leaf. Philip. Bot. 5 (1913) 1833.

Luzon (Benguet, Zambales, Nueva Ecija, Rizal, Batangas, Camarines), Palawan, Mindanao (Misamis, Cotabato), *Merrill Sp. Blancoanae 1060*, 1002, B. S. 32025 *Santos*, 26303 *Ramos & Edaño*, 20983, 22342 *Ramos*, 905 *Foxworthy*, F. B. 22464 *Klemme*, 23044 *Ferraris*, 28756 *Simeon*, *Elmer 12751*. In thickets and forests, chiefly at medium altitudes, in Benguet ascending to 2,200 m. Southeastern China, ? Moluccas.

Local names: Bagatambal (Bis.); buñgai (Tagb.); itañgan (Ig.); kaytána (Tag.); kañgai (Pamp.); kayutána (Bik., Pamp.); salai (Pamp.); salai-kañgai (Pamp.); salai-marbar (Bis.).

**ZANTHOXYLUM DIABOLICUM** Elm. Leaf. Philip. Bot. 2 (1908) 477.

Leyte, Samar, *Elmer 1027*, *F. B. 12866 Rosenbluth*, *Phil. Pl. 1680 Merrill*.  
In forests at low and medium altitudes, ascending to 1,250 m. Endemic.  
Local names: Madbad (S. L. Bis.); salai (C. Bis.).

**ZANTHOXYLUM INTEGRIFOLIOLUM** (Merr.) comb. nov.

*Fagara integrifoliola* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 68,  
3 (1908) Bot. 411.

Batan Islands and northern Luzon southward to Mindoro, Sibuyan, and Samar. In forests at low and medium altitudes. Formosa, Botel-Tobago.

Local names: Bagilambag (Tag.); barok (Iv.); duso (Tag.); kagasáka (Cag.); kayetána (Tag.); kayutána (Tag.); kaytána (Tag.); panahauon (S. L. Bis.); salai (P. Bis., S. L. Bis.); silai (P. Bis.); tambilukau (Tag.); titána (Tag.).

**ZANTHOXYLUM RHETSA** (Roxb.) DC. Prodr. 1 (1824) 728; F.-Vill.

Novis. App. (1880) 35; Vidal Sinopsis Atlas (1883) 18, t. 24, f. B.  
*Fagara rhetsa* Roxb. Hort. Beng. (1814) 11, *nomen nudum*, Fl. Ind.  
1 (1820) 438; Merr. Sp. Blancoanae (1918) 196.

*Fagara piperita* Blanco Fl. Filip. (1837) 64, ed. 2 (1845) 47, ed. 3, 1  
(1877) 87, non Linn.

*Zanthoxylum oxyphyllum* F.-Vill. Novis. App. (1880) 34, non Edgw.

Northern Luzon (Cagayan) to Palawan and Mindanao, *Cuming 1218*,  
*1356*, *F. B. 6920 Curran*, *1455 Ahern's collector*, *1565 Borden*, *7715 Curran*  
& *Merritt*, *1710 Clark*, *Merrill Phil. Pl. 961*, *872*, *Elmer 18231* (as *Clau-*  
*senae*). In thickets and forests at low and medium altitudes. India to  
Indo-China and (?) Malaya.

Local names: Kasabáng (Ilk.); kasalang (Sbl.); kayetána (Tag.); kay-  
tána (Tag.); kayutána (Tag.); sarai (P. Bis.); sagai-kañgai (Pamp.);  
salai (Bis.).

**ZANTHOXYLUM TORVUM** F.-Muell. Fragm. 7 (1871) 140; Hochr. Pl.

Bogor. Exsic. (1904) 18.

*Zanthoxylum glandulosum* T. & B. Cat. Hort. Bogor. (1866) 234,  
*nomen nudum*.

*Fagara torva* Engl. in Engl. & Prantl Nat. Pflanzenfam. 3' (1895)  
119; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 424.

*Fagara warburgii* Perk. Frag. Fl. Philip. (1905) 160.

Luzon (Tayabas, Isabela), Leyte, Mindanao (Lanao), *Warburg 11784*,  
*B. S. 13261 Ramos*, *Wenzel 1232*, *Clemens 667*, *Elmer 7278*. In forests and  
thickets at low and medium altitudes. Java, Moluccas, tropical Australia.

## EXCLUDED SPECIES

**ZANTHOXYLUM BUDRUNGA** Wall.; F.-Vill. Novis. App. (1880) 35.

2. **EVODIA** Forster

**EVODIA ACUMINATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 183.

Luzon (Laguna, Camarines, Sorsogon), *F. B. 10530 Curran*, *B. S. 23808*  
*Ramos*, *33800*, *33734*, *33482 Ramos & Edaña*. In thickets or forests at low  
altitudes. Endemic.

**EVODIA ARBOREA** Elm. Leaf. Philip. Bot. 8 (1915) 2806.

Palawan, *Elmer 18159*. In forests, altitude about 225 m. Endemic.

**EVODIA BENGUETENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2808.

Luzon (Benguet), *Elmer 14276, F. B. 4965 Curran, Sandkuhl 245, Merrill Phil. Pl. 771* (as *E. retusa* Merr.). On ridges, altitude 1,800 to 2,200 m. Endemic.

**EVODIA BINTOCO** Blanco Fl. Filip. ed. 2 (1845) 50, ed. 3, 1 (1877) 93; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 27, Sp. Blancoanae (1918) 197.

*Evodia latifolia* F.-Vill. Novis. App. (1880) 34; Vidal Sinopsis Atlas (1883) 18, t. 24, f. D, Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 74, non DC.

*Evodia mindanaensis* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 25.

Mindoro, Sibuyan, Tablas, Panay, Leyte, Bohol, Mindanao, Basilan. In thickets and secondary forests at low altitudes. Borneo.

Local names: Basoloi (Bag.); bintóko (C. Bis.); botong (P. Bis.); bulong (P. Bis.); káhoi-dalága (Tag.); maliko (Bis.); tankapan (Bik.).

**EVODIA CAMIGUINENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 296.

Camiguin de Misamis, *B. S. 14664 Ramos*. In thickets or forests. Endemic.

**EVODIA CONFUSA** Merr. in Philip. Journ. Sci. 20 (1922) 391.

*Evodia glabra* F.-Vill. Novis. App. (1880) 34; Vidal Rev. Pl. Vasc. Filip. (1886) 74; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 68, Sp. Blancoanae (1918) 197, non Blume.

? *Melicope tetrandra* Blanco Fl. Filip. (1837) 293, non Roxb.

? *Evodia triphylla* Blanco op. cit. ed. 2 (1845) 50, ed. 3, 1 (1877) 92, non DC.

? *Cissus frutescens* Blanco Fl. Filip. (1837) 70.

? *Cissus arborea* Blanco op. cit. 2 (1845) 51, ed. 3, 1 (1877) 95, non Forst.

Luzon (Cagayan, Bontoc, Bataan, Rizal, Laguna, Camarines, Tayabas, Sorsogon), Polillo, Mindoro, Samar, Leyte, Panay, Mindanao. In forests at low and medium altitudes; common. Celebes.

Local names: Anino (P. Bis.); batukás (S. L. Bis.); bituko (S. L. Bis.); bugáuak (Tag.); káhoi-dalága (Tag.); kalabugau (P. Bis.); kamál (Tag.); kamálan (Tag.); katkatódai (Ig.); lablab (Neg); magayañga (Mbo.); malatadiáng (Tag.); mamunug (Sul.); mañggúiau (Bik.); mangkáu (Bik., Tag.); matáng-árau (Tag.); tunko-tunko (Tag.); ulié' (Ibn.).

**EVODIA CORIACEA** Merr. in Philip. Journ. Sci. 17 (1920) 265.

Dinagat, *B. S. 35172 Ramos & Pascasio*. In forests at low altitudes. Endemic.

**EVODIA CRASSIFOLIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 362.

Samar, Leyte, Mindanao (Surigao), *Merrill Phil. Pl. 1608, Wenzel 715, 912, 1690, 1718, F. B. 26865 Tomeldan*. In forests, old clearings, etc., at low and medium altitudes. Endemic.

Local names: Balasbas (S. L. Bis.); kampo pod (S. L. Bis.).



- EVODIA DUBIA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 23, Philip. Journ. Sci. 5 (1910) Bot. 355.  
Luzon (Lepanto, Benguet). In thickets and forests, altitude 1,200 to 2,400 m. Endemic.  
Local name: Sidi-sidi (Ig.).
- EVODIA GLABERRIMA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 18.  
Luzon (Tayabas, east coast), *B. S. 28864 Ramos & Edaña*. In forests along streams at low altitudes. Endemic.
- EVODIA LAXA** Elm. Leaf. Philip. Bot. 4 (1912) 1509.  
Sibuyan, *Elmer 12306, 12562*. In forests, altitude about 375 m. Endemic.
- EVODIA LAXIRETA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 295.  
Mindanao (Bukidnon), *B. S. 21407 Escritor*. In thickets or forests. Endemic.
- EVODIA MELIAEFOLIA** (Hance) Benth. Fl. Hongk. (1861) 58; Merr. in Philip. Journ. Sci. 14 (1919) 409.  
*Megabotrya meliaefolia* Hance in Walp. Ann. 2 (1851-52) 259.  
*Boymia glabrifolia* Champ. in Hook. Kew Journ. Bot. 3 (1851) 330.  
*Eurycoma dubia* Elm. Leaf. Philip. Bot. 2 (1908) 481.  
Luzon (Benguet), Negros, *Elmer 10120, B. S. 31968 Santos*. On slopes and forested ridges, altitude 900 to 1,800 m. Southern Japan, Riu Kiu Islands, Formosa, southern China.  
Local name: Galiuigiuan (Ig.).
- EVODIA MONOPHYLLA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 269.  
Mindoro (Mt. Halcon), *Merrill 6169*. In forests, altitude about 750 m. Endemic.
- EVODIA PERGAMENTACEA** Elm. Leaf. Philip. Bot. 2 (1908) Bot. 479.  
Negros, *Elmer 9504*. In mossy thickets, altitude about 1,500 m. Endemic.  
Local name: Tañgulimus (C. Bis.).
- EVODIA PULGARENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1831.  
Palawan, *Elmer 13216*. In thickets, exposed ridges and peaks, altitude about 1,300 m. Endemic.
- EVODIA RETICULATA** Merr. in Philip. Journ. Sci. 2 (1907) Bot. 277, 5 (1910) Bot. 355.  
Mindoro, *Merrill 5711*. In open heaths, altitude about 2,400 m. Endemic.
- EVODIA RETUSA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 68.  
Luzon (Abra, Bontoc, Apayao, Nueva Ecija, Zambales, Bataan, Laguna, Tayabas), Mindoro, Panay. On forested ridges, altitude 1,200 to 1,800 m. Endemic.  
Local names: Ubu-úbug (Ting.); taruñgatau (Neg.).
- EVODIA SEMECARPIFOLIA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 23.  
? *Evodia roxburghiana* F.-Vill. Novis. App. (1880) 34; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 74, non Benth.

Luzon (Bontoc, Benguet, Pampanga, Tayabas, Rizal, Laguna, Sorsogon). In thickets and forests, altitude 1,300 to 2,000 m. Endemic.

Local names: Babata (Neg.); pili (Ig.); luos (Bon.); tiklad (Klg.).

**EVODIA SESSILIFOLIOLA** Merr. in Philip. Journ. Sci. 14 (1919) 410.

Luzon (Benguet), *B. S.* 31788 Santos, 40332 Ramos & Edaña, Williams 1531, Clemens, Sandkuhl. In forests, altitude 2,000 to 2,400 m. Endemic.

Local name: Atipan (Ig.).

**EVODIA SUBCAUDATA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 298.

Mindanao (Butuan), *B. S.* 15922 Fenix. In thickets or forests. Endemic.

**EVODIA TERNATA** (Blanco) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 297, Sp. Blancoanae (1918) 197.

*Oriza ternata* Blanco Fl. Filip. (1837) 62, ed. 2 (1845) 45, ed. 3, 1 (1877) 84.

*Evodia robusta* F.-Vill. Novis. App. (1880) 34, non Hook. f.

Luzon (Cagayan, Laguna, Bataan, Rizal), Palawan, Mindanao, Merrill Sp. Blancoanae 906, 913, F. B. 20402 Villamil, 1474 Ahern's collector, 2055 Borden, B. S. 13601 Ramos. In thickets or forests at low and medium altitudes. Endemic.

Local names: Gilo (Kuy.); matang-árau (Tag.).

**EVODIA VILLAMILII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 296.

Luzon (Laguna), Mindanao (Lanao), F. B. 20653, 20880 Villamil, 25207 Alvarez. In primary forests, altitude 300 to 1,000 m. Endemic.

**EVODIA VILLOSA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 84.

Luzon (Abra, Bontoc), Vanoverbergh 1002, 2197, 3084, B. S. 27012, 37827, 37039 Ramos & Edaña. In forests, altitude 1,300 to 1,700 m. Endemic.

Local names: Paákan (Bon.); palidpíd (Bon.).

#### EXCLUDED SPECIES

**EVODIA FRAXINIFOLIA** Hook. f.; F.-Vill. Novis. App. (1880) 34.

**EVODIA RIDLEYI** Hochr.

Rarely cultivated in Manila; a recent introduction from Singapore; probably but a form of the exceedingly variable *Evodia hortensis* Forst., of Polynesia.

#### 3. TETRACOMIA Hooker f.

**TETRACOMIA ACUMINATA** Merr. in Philip. Journ. Sci. 17 (1920) 265.

Mindanao (Surigao), Bucas Grande, B. S. 35135, 35106, 34707 Ramos & Pascasio. In forests at low altitudes. Endemic.

**TETRACOMIA PACHYPHYLLA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 19.

Mindanao (Surigao), F. B. 26985 Ponce. In semiopen forests at low altitudes. Endemic.

**TETRACTOMIA PHILIPPINENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2813.

Leyte, Mindanao (Agusan), *Elmer 13702, 13751, B. S. 15280 Ramos*.  
On exposed forested ridges, altitude 1,600 to 1,700 m. Endemic.

Local names: Aliayan (Mbo.); yadagon (Mbo.).

4. **MELICOPE** Forster**MELICOPE CURRANII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 234.

Luzon (Tayabas), *F. B. 9663 Curran, B. S. 29224 Ramos & Edaña, Baker 3269*. In forests at low altitudes. Endemic.

**MELICOPE DENSIFLORA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 182.

Batan and Babuyan Islands, *B. S. 3235 Mearns, 3603 Fénix, 10195, 16682 McGregor*. In thickets at low altitudes.

Local name: Idakakayo (Iv.).

**MELICOPE MINDANAENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2809.

Mindanao (Agusan, Bukidnon), *Elmer 13844, B. S. 38456 Ramos & Edaña*. In forests, altitude about 1,350 m. Endemic.

Local names: Liuaan (Mbo.); palpalan (Buk.).

**MELICOPE MONOPHYLLA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 139;

Elm. Leaf. Philip. Bot. 8 (1915) 2810 (var. *glabra* Elm.).

Panay, Mindanao (Bukidnon, Butuan, Cotabato, Lanao, Davao, Zamboanga), *B. S. 21469, 21472, 39039, 38871, 38818 Ramos & Edaña, Escritor, Clemens 491, Elmer 11083, 10977, 13897, Weber 1109*. In forests at low and medium altitudes. Endemic.

Local names: Dalou (Bag.); kulasi (Buk.); poagan (Bag.); tulagak (Buk.).

**MELICOPE NITIDA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 362.

Leyte, *Wenzel 822, 1002*. In forests, altitude about 500 m. Endemic.

**MELICOPE OBTUSA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 24.

Luzon (Benguet, Bontoc), *Elmer 6370, Vanoverbergh 1220*. In thickets, altitude 1,200 to 1,600 m. Endemic.

**MELICOPE TRIPHYLLA** (Lam.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 375, Sp. Blancoanae (1918) 198.

*Fagara triphylla* Lam. Encycl. 2 (1788) 447, excl. syn. Rumph.; Willd. Sp. Pl. 1<sup>2</sup> (1797) 666.

*Evodia triphylla* DC. Prodr. 1 (1824) 724; Hook. f. Fl. Brit. Ind. 1 (1875) 448, quoad Philip.; F.-Vill. Novis. App. (1880) 34; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 74.

*Zanthoxylum lamarckianum* Cham. in Linnaea 5 (1830) 58.

*Fagara octandra* Blanco Fl. Filip. (1837) 67, ed. 2 (1845) 48, ed. 3, 1 (1877) 90, non Linn.

*Bergera ternata* Blanco op. cit. 360, 254, 108.

*Zanthoxylum zeylanicum* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 671, quoad Philip., non DC.

*Zanthoxylum pteleaefolium* Champ. ex Benth. in Hook. Kew Journ. Bot. 3 (1851) 330, p. p.; quoad Philip.

*Melicope ternata* Vidal Cat. Pl. Prov. Manila (1880) 21, Sinopsis Atlas (1883) 18, t. 24, f. A; F.-Vill. Novis. App. (1880) 34, non Forst.

*Melicope luzonensis* Engl. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1897) 122, *nomen nudum*; Perk. Frag. Fl. Philip. (1905) 161; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 24, Philip. Journ. Sci. 1 (1906) Suppl. 69, 2 (1907) Bot. 431, 3 (1908) Bot. 411, 6 (1910) Bot. 355.

*Melicope odorata* Elm. Leaf. Philip. Bot. 2 (1908) 476.

Babuyan Islands and northern Luzon to Palawan, Samar, and Leyte. In forests at low and medium altitudes, in Benguet ascending to 2,000 m; common. Endemic.

Local names: Aglimai (Ig.); agui (Bik.); alibuñgug (C. Bis.); baliñgua (Bik.); binting-dalága (Tag.); bulig (Klg.); katúdai-bakés (Ilk.); matang-árau (Tag.); nangmagan (Ig.); pahikat (Klg.); salimutbut (S. L. Bis.); tikala-na-ihalas (C. Bis.); tamiling (Ig.); ulatan (Ig.).

##### 5. LUNASIA Blanco

LUNASIA AMARA Blanco Fl. Filip. (1837) 783, ed. 3, 3 (1879) 191; F.-Vill. Novis. App. (1880) 35; Vidal Sinopsis Atlas (1883) 18, t. 24, f. C, Rev. Pl. Vasc. Filip. (1886) 75, Phan. Cuming. Philip. (1885) 100; Merr. in Philip. Bureau. Forestry Bull. 1 (1903) 26, Govt. Lab. Publ. (Philip.) 27 (1905) 27, Philip. Journ. Sci. 1 (1906) Suppl. 69, 9 (1914) Bot. 302, Sp. Blancoanae (1918) 198.

*Pilocarpus amara* Blanco Fl. Filip. ed. 2 (1845) 540.

*Rabelaisia philippinensis* Planch. in Hook. Lond. Journ. Bot. 4 (1845) 519 t. 17, 18; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 673.

*Lunasia philippinensis* F.-Vill. Novis. App. (1880) 35.

*Lunasia reticulata* Elm. Leaf. Philip. Bot. 4 (1912) 1511.

Northern Luzon (Cagayan) to Mindanao and Palawan. In thickets and forests at low and medium altitudes; common. Endemic.

Local names: Apdong-káhoi (Tag.); bungláí (Bik.); dayangdang (Ilk.); labau (S. L. Bis.); lubi-lubi (C. Bis.); lunas (Tag.); pait (Bik., Tag.); paítan (Bis., Ilk.); palatáñgan (Gad.); papaít (Bik.); saltiki (Tag.); santiki (Tag.).

Var. REPANDA Merr. in Philip. Journ. Sci. 4 (1909) Bot. 302.

Luzon (Nueva Vizcaya), Mindoro, Mindanao (Davao). Habitat of the species. Endemic.

LUNASIA BABUYANICA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 411.

Babuyan Islands (Camiguin), *B. S. 4050 Févix*. In thickets near the sea. Endemic.

LUNASIA MACROPHYLLA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 300.

? *Lunasia grandifolia* F.-Vill. Novis. App. (1880) 35, non Miq.

Mindanao (Zamboanga), *F. B. 9299 Whitford & Hutchinson, Ahern 559, 643*. In primary forests at low altitudes. Endemic.

Local name: Sagit (Sul.).

LUNASIA MOLLIS Merr. in Philip. Journ. Sci. 9 (1914) Bot. 299.

Cebu, Bohol, *B. S. 11026 Ramos, F. B. 25110 Cateban*. In thickets and forests at low altitudes. Endemic.

**LUNASIA NIGROPUNCTATA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 301.

Luzon (Tayabas, east coast), *B. S. 21188 Escritor*. In forests at low altitudes. Endemic.

**LUNASIA OBTUSIFOLIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 300.

Bohol, *B. S. 1237 McGregor*. On cliffs along the seashore. Endemic.

#### EXCLUDED SPECIES

**LUNASIA COSTULATA** Miq.; F.-Vill. Novis. App. (1880) 35.

**LUNASIA PARVIFOLIA** (Planch.) F.-Vill. l. c.; Vidal Rev. Pl. Vasc. Filip. (1886) 75.

*Rabelaisia parvifolia* Planch. in Hook. Lond. Journ. Bot. 4 (1845) 519.

The specimens cited by Vidal represent a form of *Lunasia amara* Blanco.

#### 6. BOENNINGHAUSENIA Reichenbach

**BOENNINGHAUSENIA ALBIFLORA** Reichb. Conspect. (1828) 197; Hook. f. Fl. Brit. Ind. 1 (1875) 486; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 355.

Luzon (Benguet). In the mossy forest on the higher mountains, altitude 2,000 to 2,400 m. Himalayan region through China to Japan and Formosa.

#### 7. TODDALIA Jussieu

**TODDALIA ASIATICA** (Linn.) Lam. Tabl. Encycl. 2 (1793) 116.

*Paullinia asiatica* Linn. Sp. Pl. (1753) 365.

*Toddalia aculeata* Pers. Syn. 1 (1805) 249; F.-Vill. Novis. App. (1880) 35; Vidal Sinopsis Atlas (1883) 18, t. 24, f. E, Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 75.

*Toddalia effusa* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 443; F.-Vill. Novis. App. (1880) 35.

*Toddalia ? ambigua* Turcz. op. cit. 444; F.-Vill. l. c.

Luzon (Benguet, Bontoc, Rizal, Laguna, Nueva Vizcaya), Palawan. In thickets at low and medium altitudes, ascending to 1,700 m. India to southern China and Malaya.

Local names: Atañgen (Ig.); bugkáu (Ig.); bukáu (Ig.); dauag (Tag.); guiot (Ig.); kaboat (Tagb.); palina (Bon.); subit (Ig.).

#### 8. ACRONYCHIA Forster

**ACRONYCHIA OBOVATA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 274.

Mindanao (Surigao), *F. B. 26473 Mallonga*. On slopes at low altitudes. Endemic.

**ACRONYCHIA PEDUNCULATA** (Linn.) Miq. Fl. Ind. Bat. Suppl. (1861-62) 532; Merr. Sp. Blancoanae (1918) 199.

*Jambolifera pedunculata* Linn. Sp. Pl. (1753) 349 p.p.

*Cyminosma pedunculata* DC. Prodr. 1 (1824) 722.

*Gela lanceolata* Lour. Fl. Cochinch. (1790) 232.

*Selas lanceolatum* R. & S. Syst. 2 (1825) 216.

*Cyminosma ankenda* Gaertn. Fruct. 1 (1788) 280, t. 58, f. 6.

*Acronychia laurifolia* Blume Cat. Gew. Buitenz. (1823) 27, 63, Bijdr. (1825) 245; F.-Vill. Novis. App. (1880) 35; Vidal Rev. Pl. Vasc. Filip. (1886) 75; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 69.

*Melicope conferta* Blanco Fl. Filip. ed. 2 (1845) 205, ed. 3, 2 (1878) 19.

Northern Luzon (Cagayan) to Palawan, Mindanao, and the Sulu Archipelago. In forests at low and medium altitudes, ascending to 1,400 m. India to southern China and Malaya.

Local names: Alibóbo (Tag.); kolakolat (Neg.); pamalatuñgan (Ibn.); panglungbúyen-a-babái (Ilk.); uás (Ibn.); úto (Ibn.).

#### 9. SKIMMIA Thunberg

**SKIMMIA JAPONICA** Thunb. Nov. Gen. (1783) 58; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 201, 5 (1910) Bot. 355; Skan in Curtis's Bot. Mag. IV 1 (1905) *t.* 8038.

Luzon (Abra, Lepanto, Bontoc, Benguet). In the mossy forests on the higher mountains, altitude 1,700 to 2,400 m. Japan, China, Formosa.

Local names: Bañgung (Ting.); bultik (Ting.); danetket (Ig.); talobto (Bon.).

#### 10. GLYCOSMIS Correa

**GLYCOSMIS PENTAPHYLLA** (Retz.) Correa in Ann. Mus. Hist. Nat. Paris 6 (1805) 386; DC. Prodr. 1 (1824) 538; Oliver in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 37; F.-Vill. Novis. App. (1880) 35; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 76, Sinopsis Atlas (1883) 18, *t.* 25, *f.* A; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 26.

*Limonia pentaphylla* Retz. Obs. 5 (1789) 24.

*Toluifera cochinchinensis* Lour. Fl. Cochinch. (1790) 262.

*Glycosmis citrifolia* Lindl. in Trans. Hort. Soc. 6 (1826) 72; F.-Vill. Novis. App. (1880) 35; Usteri Beitr. Ken. Philp. Veg. (1905) 113; Ridl. in Journ. Str. Branch Roy. As. Soc. 75 (1917) 11.

*Murraya cerasiformis* Blanco Fl. Filip. (1837) 363.

*Murraya exotica* Blanco op. cit. ed. 2 (1845) 266, ed. 3, 2 (1878) 110, *t.* 137, non Linn.

*Murraya lobata* Blanco Fl. Filip. (1837) 363, ed. 2 (1845) 256, ed. 3, 2 (1878) 112.

*Bursera ? nitida* F.-Vill. Novis. App. (1880) 41.

*Marignia ? nitida* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 475.

*Glycosmis cochinchinensis* Pierre ex Engl. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1895) 185, *f.* 106; Merr. Fl. Manila (1912) 268, Sp. Blancoanae (1918) 199.

*Glycosmis angularis* Elm. Leaf. Philip. Bot. 2 (1908) 489.

*Glycosmis greenii* Elm. op. cit. 4 (1912) 1512.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces; often common. Usually in thickets and secondary forests at low and medium altitudes, ascending to 1,100 m. India to Indo-China and Malaya; polymorphous.

Local names: Aniñguái (Pang.); gingging (Tag.); linauin (Ilk.); mayongtung (P. Bis.); mabutan (Sul.); panigíran (Ibn.); patuláutuláu (Ibn.); panalayápen (Ilk.).

**GLYCOSMIS PLATYPHYLLA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 273.

Leyte, Samar, *Wenzel 1611, B. S. 17472 Ramos*. In forests at low altitudes. Endemic.

## DOUBTFUL SPECIES

**GLYCOSMIS BILOCULARIS** Thwaites; F.-Vill. Novis. App. (1880) 35.

**GLYCOSMIS RUPESTRIS** Ridl. in Journ. Str. Branch Roy. As. Soc. 75 (1917) 15.

Ridley cites *Loher 6767, 6774* from Rizal Province, Luzon, as possibly representing his species, which is characterized by having all the leaves unifoliate. I have not seen the specimens. *Loher 5710* and *5704* probably represent the same form, which is not uncommon in Luzon.

## 11. MICROMELUM Blume

**MICROMELUM CURRANII** Elm. Leaf. Philip. Bot. 2 (1908) 480.

Luzon (Bontoc, Benguet, Union), *Elmer 8530, Loher 5717, Merrill Phil. Pl. 1797, B. S. 37644, 38010 Ramos & Edaño*. In thickets, altitude 1,200 to 1,450 m. Endemic.

Local name: Alas (Ig.).

**MICROMELUM MINUTUM** (Forst. f.) Seem. Mission Fiji (1862) 434, Fl. Vit. (1865) 31.

*Limonia minuta* Forst. f. Prodr. (1786) 33.

*Micromelum pubescens* Blume Bijdr. (1825) 137; Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 380; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 235; Vidal Sinopsis Atlas (1883) 18, t. 25, f. B; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 67, 3 (1908) Bot. 79, Sp. Blancoanae (1918) 200.

*Bergera inodora* Blanco Fl. Filip. (1837) 361.

*Bergera koenigii* Blanco op. cit. ed. 2 (1845) 254, ed. 3, 2 (1878) 108, non Linn.

*Micromelum glabrescens* Benth. in Hook. Journ. Bot. 2 (1843) 212; Walp. Repert. 5 (1845) 140; F.-Vill. Novis. App. (1880) 36.

*Cookia* ? *glabrescens* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 524; Walp. Ann. 7 (1868) 534.

*Micromelum molle* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 380; Oliv. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 41; F.-Vill. Novis. App. (1880) 36; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 76.

*Micromelum hirsutum* F.-Vill. Novis. App. (1880) 36, non ? Oliv.

*Bergera compressa* Blanco Fl. Filip. (1837) 360, ed. 2 (1845) 254, ed. 3, 2 (1878) 107.

*Andromeda japonica* Blanco op. cit. 371, 261, 120, non Thunb.

*Micromelum tephrocarpum* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 379; Oliv. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 41; F.-Vill. Novis. App. (1880) 36; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 76; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 26, Philip. Journ. Sci. 3 (1908) Bot. 412.

*Micromelum compressum* Merr. Sp. Blancoanae (1918) 200.

Throughout the Philippines, in most or all islands and provinces. Common in thickets and in secondary forests at low and medium altitudes.

India to southern China through Malaya to tropical Australia and Polynesia.

Local names: Amián (Ting.); ayu-ayu (Sul.); basar-básar (Ilk.); bialong (Sub.); binting-dalága (Tag.); buntog (Bik.); buringot (Bik.); gindoan (Bag.); hagasin (S. L. Bis.); karinbuboá (Ilk.); kalambahin (Tag.); kiting-kiting (Tag.); kulai-manók (Tag.); lamlamúyot (Ilk.); lañgin (Tag.); luyong-lúyong (Kuy.); makabañgon (Bik.); malalúpai (Pamp.); malígang (Sub.); malimus (Mbo.); mayumud (Sul.); pait-pait (Sul.); panias-panias (C. Bis.); parinlas (Tag.); patukod-lañgit (Tag.); piris (Tag.); pulét (Ibn.); tabas (P. Bis.); taboatkobing (Bag.); tulibas (Tag.).

This widely distributed species is variable in its indumentum ranging from nearly glabrous (*M. tephrocarpum* Turcz.=*M. compressum* Merr.) to softly pubescent (*M. molle* Turcz.); but I am now satisfied that but a single species is represented, after comparing a large series of specimens from India, Indo-China, China, Malaya, Australia, and Polynesia together with about 150 individual collections from the Philippines. Forster's type was from the Tonga or Friendly Islands.

## 12. MURRAYA Linnaeus

**MURRAYA CRENULATA** (Turcz.) Oliv. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 29; F.-Vill. Novis. App. (1880) 36; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 76; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 412.

*Glycosmis crenulata* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 250.

Luzon (Union, Laguna, Rizal), *Lobb 469, Merrill Phil. Pl. 1074, F. B. 22959 Calacosa, B. S. 15059 Ramos*. On forested slopes at low and medium altitudes. Northeastern Australia, New Caledonia.

**MURRAYA PANICULATA** (Linn.) Jack in Malay Miscel. 1 (1820) 31; Merr. Interpret. Herb. Amb. (1917) 292, Sp. Blancoanae (1918) 201.

*Chalceas paniculata* Linn. Mant. 1 (1767) 68.

*Chalceas camuneng* Burm. f. Fl. Ind. (1768) 104.

*Murraya exotica* Linn. Mant. 2 (1771) 563; DC. Prodr. 1 (1824) 536; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 522; F.-Vill. Novis. App. (1880) 36; Vidal Sinopsis Atlas (1883) 18, t. 25, f. D, Rev. Pl. Vasc. Filip. (1886) 76; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 235; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 69, 3 (1908) Bot. 79, 412, Fl. Manila (1912) 269.

*Connarus foetens* Blanco Fl. Filip. (1837) 525.

*Connarus santaloides* Blanco op. cit. ed. 2 (1845) 366, ed. 3, 2 (1879) 314, t. 155.

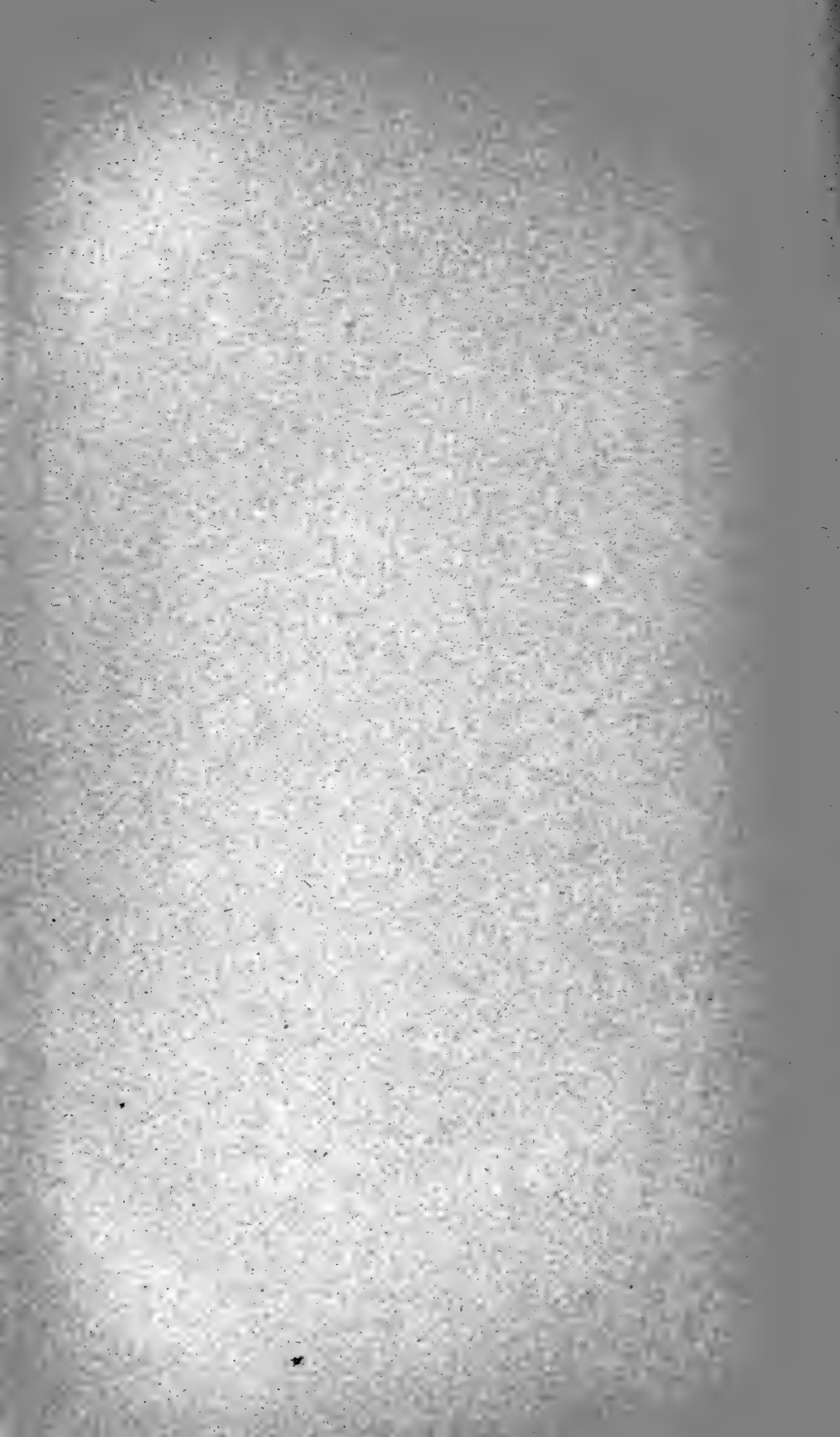
*Murraya odorata* Blanco Fl. Filip. ed. 2 (1845) 256, ed. 3, 2 (1878) 111.

*Murraya banati* Elm. Leaf. Philip. Bot. 8 (1915) 2812.

Batan Islands and northern Luzon to Palawan and Mindanao, in most or all islands and provinces, often common. In thickets and secondary forests at low and medium altitudes, sometimes planted. India to Malaya, now pantropic in cultivation.







# AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

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EXPLANATORY NOTE

The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., August 25, 1921.

Local names: Banásik (Ilk.); banaási (Ilk.); banaot (Sbl.); banási (Bik., Ibn.); banáti (C. Bis., Bik., Mag., Mbo.); kamúning (Tag., Bik., Bis., Pamp.); vanaii (Iv.).

## EXCLUDED SPECIES

MURRAYA KOENIGII Spreng.; F.-Vill. Novis. App. (1880) 36.

## 13. CLAUSENA Burman f.

**CLAUSENA ANISUM-OLENS** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 21, 27 (1905) 28, Philip. Journ. Sci. 1 (1906) Suppl. 69, 2 (1907) Bot. 431, Fl. Manila (1912) 269, Sp. Blancoanae (1918) 201.

*Cookia anisum-olens* Blanco Fl. Filip. (1837) 359.

*Cookia anisodora* Blanco op. cit. ed. 2 (1845) 253, ed. 3, 2 (1878) 106.

*Clausena indica* Vidal Sinopsis Atlas (1883) 18, t. 25, f. H, non Oliv.

*Clausena warburgii* Perk. Frag. Fl. Philip. (1905) 162.

*Clausena excavata* F.-Vill. Novis. App. (1880) 37, non Burm. f.

*Clausena todayensis* Elm. Leaf. Philip. Bot. 8 (1915) 2805.

Luzon (Bontoc, Benguet, Pampanga, Batangas, Bataan, Laguna, Rizal, Sorsogon), Masbate, Mindanao, Basilan, Merrill 7756, 2509, Phil. Pl. 1919, 1791, Sp. Blancoanae 1012, Elmer 5961, 10530, B. S. 13667, 23346 Ramos, 36677, 37978 Ramos & Edaña, F. B. 21989, 21377 Villamil, 1796, 1231, 3065 Borden, 27197 Udasco, 26151 Amarillas. In forests at low and medium altitudes, ascending to 1,500 m. Endemic.

Local names: Danglais (Bag.); kandulong (Sub.); kayumánis (Tag.); kalomáta (Tag.); kamañgianis (Tag.); maisipaísi (Tag.).

**CLAUSENA EXCAVATA** Burm. f. Fl. Ind. (1768) 87, t. 20; DC. Prodr. 1 (1824) 538; Vidal Rev. Pl. Vasc. Filip. (1886) 77; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 26.

Mindoro, Culion, Palawan, Sulu Archipelago, Merrill 673, 2207, Phil. Pl. 1265, Elmer 12782, F. B. 4143, 3602 Curran, B. S. 771, 827 Foxworthy. In thickets and old clearings at low altitudes. India to Indo-China and Malaya.

Local name: Buriñgit (Tagb.).

**CLAUSENA GRANDIFOLIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 294.

Palawan, Merrill 9544. On forested talus slopes, altitude about 800 m. Endemic.

**CLAUSENA LANSIUM** (Lour.) Skeels in U. S. Dept. Agr. Bur. Plant Ind. Bull. 176 (1909) 29; Merr. Sp. Blancoanae (1918) 201.

*Quinaria lansium* Lour. Fl. Cochinch. (1790) 272.

*Cookia punctata* Sonn. Voy. Ind. Or. 2 (1782) 231, t. 130, non *Clausena punctata* Voigt.

*Cookia wampi* Blanco Fl. Filip. (1837) 358, ed. 2 (1845) 253, ed. 3, 2 (1878) 105.

*Clausena wampi* Oliv. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 34; F.-Vill. Novis. App. (1880) 36; Vidal Sinopsis Atlas (1883) 18, t. 25, f. I, Rev. Pl. Vasc. Filip. (1886) 77; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 28.

*Clausena punctata* Rehder & Wils. in Sargent Pl. Wils. 2 (1914) 140, non W. & A.

Blanco's description was based on specimens from a tree cultivated at Pasig, introduced from southern China. It is rare in cultivation.

Local names: Galumpi (Tag.); huampít (Tag.); uampí (Tag.); uampít (Tag.); all from its Chinese name.

**CLAUSENA MOLLIS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 181.

Luzon (Cagayan, Bontoc, Benguet, Nueva Vizcaya), *F. B. 16530 Curran & Merritt, 28557 Cenabre, B. S. 7863 Ramos, 37928, 37876 Ramos & Edaño, Elmer 6352*. In thickets and forests at medium altitudes, ascending to 1,200 m. Endemic.

**CLAUSENA WORCESTERI** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 180.

Luzon (Cagayan), *B. S. 10743 Worcester, F. B. 17247 Curran*. In forests at low altitudes. Endemic.

Local name: Aromáta (Ibn.).

#### EXCLUDED SPECIES

**CLAUSENA INDICA** Oliv.; F.-Vill. Novis. App. (1880) 37.

**CLAUSENA HEPTAPHYLLA** W. & A.; F.-Vill. op. cit. 36.

**CLAUSENA PENTAPHYLLA** DC.; F.-Vill. l. c.

**CLAUSENA WILLDENOWII** W. & A.; F.-Vill. l. c.

#### 14. LUVUNGA Hamilton

**LUVUNGA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 233.

Mindanao (Lanao, Zamboanga), Palawan, *F. B. 9104, 9267 Whitford & Hutchinson, Merrill 8139, Clemens 993*. In primary forests at low and medium altitudes. Endemic.

**LUVUNGA SCANDENS** (Roxb.) Ham. in Wall. Cat. (1832) No. 6382.

*Limonia scandens* Roxb. Fl. Ind. ed. 2, 2 (1832) 380; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 302.

Palawan, *Merrill 9405*. In primary forests at low altitudes. India to Indo-China and the Malay Peninsula.

#### 15. TRIPHASIA Loureiro

**TRIPHASIA TRIFOLIA** (Burm. f.) P. Wils. in Torreyia 9 (1909) 33; N. Am. Fl. 25 (1911) 221; Merr. Fl. Manila (1912) 270, Sp. Blancoanae (1918) 202.

*Limonia trifolia* Burm. f. Fl. Ind. (1768) 103.

*Limonia trifoliata* Linn. Mant. 2 (1771) 237; Blanco Fl. Filip. (1837) 357, ed. 2 (1845) 252, ed. 3, 2 (1878) 103, t. 129.

*Triphasia trifoliata* DC. Prodr. 1 (1824) 536; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 519; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 234; F.-Vill. Novis. App. (1880) 37; Vidal Sinopsis Atlas (1883) 18, t. 25, f. C, Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 77.

*Triphasia aurantiola* Lour. Fl. Cochinch. (1790) 153; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 26.

Throughout the Philippines in the settled areas, in thickets, in some places gregarious and abundant; apparently introduced. Pantropic in cultivation, in many countries naturalized.

Local names: Kalamansito (Ilok., Ibn.) kamalitos (Tag.); limoncito (Sp.); limonsitong-kastila (Bik.); sua-sua (Bik.); suang-kastila (Bik.); tagimunau (Neg.).

#### 16. PARAMIGNYA Wight

**PARAMIGNYA LONGIPEDUNCULATA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 24.

*Paramignya monophylla* F.-Vill. Novis. App. (1880) 37; Vidal Rev. Pl. Vasc. Filip. (1886) 77; Ceron Cat. Pl. Herb. Manila (1892) 38, non Wight.

*Atalantia longipedunculata* Guillam. in Not. Syst. 1 (1910) 221.

Luzon (Pampanga, Rizal, Bataan, Laguna), Mindoro, *Merrill 1370, 7479, Phil. Pl. 39, Loher 234, F. B. 20664 Villamil, 2146 Ahern's collector, B. S. 14939, 39693 Ramos*. In forested ravines and in secondary forests at low and medium altitudes. Endemic.

Local names: Kalulut (Pamp.); tahid-labúyo (Tag.).

**PARAMIGNYA MINDANAENSIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 140.

Mindanao (Lanao), *Clemens 591*. On forested slopes along streams, altitude about 700 m. Endemic.

#### 17. WENZELIA Merrill

**WENZELIA BREVIPES** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 273.

Leyte, Samar, Mindanao (Surigao), *Wenzel 1116, B. S. 24320 Ramos*. In damp forests, ascending to 500 m. A monotypic endemic genus; perhaps, however, with another representative in New Guinea, fide Dr. Swingle.

#### 18. ATALANTIA Correa

**ATALANTIA DISTICHA** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 28, Philip. Journ. Sci. 1 (1906) Suppl. 69, 3 (1908) Bot. 79, Sp. Blancoanae (1918) 202.

*Limonia disticha* Blanco Fl. Filip. (1837) 356.

*Limonia corymbosa* Blanco op. cit. ed. 2 (1848) 251, ed. 3, 2 (1878) 102.

*Sclerostylis nitida* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 249.

*Atalantia nitida* Oliv. in Journ. Linn. Soc. Bot. 5 (1861) Suppl. 2: 25; Rolfe in Journ. Bot. 23 (1883) 211; Vidal Phan. Cuming. Philip. (1885) 100, Rev. Pl. Vasc. Filip. (1886) 77.

*Atalantia racemosa* F.-Vill. Novis. App. (1880) 37; Vidal Sinopsis Atlas (1883) 18, t. 25, f. G, non W. & A.

*Triphasia monophylla* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 234, non DC.

*Sclerostylis atalantioides* A. Gray l. c. quoad *Cuming 991*, non W. & A.

Luzon (Cagayan to Sorsogon, all or most provinces), Mindoro, Panay, Guimaras, Negros, Masbate, Cebu, Leyte, Samar, Mindanao (Misamis). Often common in forests at low and medium altitudes, in Benguet ascending to 1,500 m. Endemic.

Local names: Dalárap (Sbl.); dáyap-ámo (Tag.); dáyap-dáyapan (Tag.); kaldemon (P. Bis.); kulkulnat (Pang.); kirikimit (Neg.); labiran (C. Bis.); malabak (Bik., Bis.); malakabuyau (Tag.); malaráyap (Tag.); malaráyat (Tag.); maladáyap (Tag.); malatúgan (Bik.); maṅgatsápai (P. Bis.); panalayápan (Ilk.); sua-sua (C. Bis.); samon (P. Bis.).

**ATALANTIA LINEARIS** (Blanco) Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 200, 2 (1907) Bot. 431, Sp. Blancoanae (1918) 202.

*Limonia linearis* Blanco Fl. Filip. (1837) 357.

*Limonia monophylla* Blanco op. cit. ed. 2 (1845) 252, ed. 3, 2 (1878) 103, non Linn.

*Atalantia monophylla* F.-Vill. Novis. App. (1880) 37; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 28, non Corr.

*Atalantia jagoriana* Engl. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1895) 192, *nomen nudum*, Bot. Jahrb. 21 (1906) Beibl. 54: 29.

Luzon (Bulacan, Rizal, Laguna, Tayabas), Samar, *Elmer 12576, 18085, Merrill 5044, Phil. Pl. 72, Sp. Blancoanae 746, B. S. 9656 Robinson, 1783, 3301 Ramos*. On ledges and rocky river banks along swift-running streams in places subject to overflow in the times of heavy rains. Endemic.

**ATALANTIA MARITIMA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 293.

*Sclerostylis atalantioides* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 234, excl. *Cuming 991*, non W. & A.

Apo, Palawan, Negros, Panay, Ticao, Bohol, Dinagat, Mindanao (Zamboanga), Sulu Archipelago, *F. B. 26991 Fernandez, 25895 Tamesis & Azurin, 21896 Villamil, 1060 Clark, 3796 Curran, B. S. 32414, 32198 McGregor, 31525 Ramos & Edaña, 35230 Ramos & Pascasio, 178 Bermejos, 1278 McGregor, 623 Foxworthy*. In beach forests, borders of mangrove swamps, etc. Endemic.

Local name: Kurukabúyau (P. Bis.).

**ATALANTIA RETUSA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 200, 3 (1908) Bot. 79.

? *Atalantia monophylla* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 234, non DC.

Mindoro, Palawan, Panay, *Elmer 12912, B. S. 21279 Escritor, F. B. 3609 Curran*. In old clearings, second-growth forests, etc., at low altitudes. Endemic.

#### EXCLUDED SPECIES

**ATALANTIA CAUDATA** Hook. f.; F.-Vill. Novis. App. (1880) 37.

**ATALANTIA MONOPHYLLA** Corr.; Vidal Rev. Pl. Vasc. Filip. (1886) 77.

#### 19. CHAETOSPERMUM (Roem.) Swingle

**CHAETOSPERMUM GLUTINOSUM** (Blanco) Swingle in Journ. Wash. Acad. Sci. 3 (1913) 102; Merr. Sp. Blancoanae (1918) 203.

*Limonia glutinosa* Blanco Fl. Filip. (1837) 358.

*Feronia ternata* Blanco op. cit. ed. 2 (1845) 252, ed. 3, 2 (1878) 104, t. 124.

*Aegle decandra* Naves ex F.-Vill. Novis. App. (1880) 38; Vidal Cat. Pl. Prov. Manila (1880) 21, Sinopsis Atlas (1883) 18, t. 25, f. j; Ceron Cat. Pl. Herb. Manila (1892) 39; Merr. Sp. Blancoanae (1918) 19.



*Aegle glutinosa* Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 12, 27 (1905) 29, Fl. Manila (1912) 271.

*Limonia engleriana* Perk. Frag. Fl. Philip. (1905) 163.

*Belou glutinosa* Skeels in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 162 (1909) 26.

Luzon (Isabela to Tayabas). In thickets and secondary forests at low and medium altitudes. An endemic monotypic genus.

Local names: Boyag (Tag.); kabúyau-áso (Tag.); kabúyok (Ilk.); kalandán (Ibn.); tabóg (Tag.); tabók (Tag.); talubok (Tag.); urátan (Ilk.); malakabúyau (Tag.).

#### 20. CITRUS \* Linnaeus

**CITRUS AURANTIFOLIA** (Christm.) Swingle in Journ. Wash. Acad. Sci. 3 (1913) 465; Merr. Interpret. Herb. Amb. (1917) 296, Sp. Blancoanae (1918) 203.

*Limonia aurantifolia* Christm. Pflanzensyst. 1 (1777) 618.

*Limonia acidissima* Houtt. Nat. Hist. II 2 (1774) 444, non Linn.

*Limonia spinosum* Mill. Gard. Dict. ed. 8 (1768), non *Citrus spinosa* Gmel.

*Citrus lima* Lunan Hort. Jamaic. (1814) 451; Merr. Fl. Manila (1912) 271.

*Citrus javanica* Blume Bijdr. (1825) 140; Usteri Beitr. Ken. Philip. Veg. (1905) 113.

*Citrus acida* Roxb. Fl. Ind. ed. 2, 3 (1832) 390, non ? Pers.

*Citrus notissima* Blanco Fl. Filip. (1837) 607, ed. 2 (1845) 424, ed. 3, 2 (1879) 406.

*Citrus limetta* Risso var. *aromatica* Wester in Philip. Agr. Review 8 (1915) 25.

*Citrus excelsa* Wester in Philip. Agr. Review 8 (1915) 26, incl. var. *davaoensis* Wester l. c.

Throughout the Philippines in the settled areas, usually planted. Pan-tropic, but native of the Indo-Malayan region, although apparently not a native of the Philippines. The lime.

Local names: Bilolo (Tag.); daláya' (Ibn.); daláyap (Ilk.); dáyap (Tag.); dulugot (Neg.); gorong-gorong (Ilk.); gugulo (If.); limón (Sp.); muyong (Bon.); suá (Bik.).

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\* Following horticultural rather than strictly botanical usage the orange, the mandarin orange, the lime, the lemon, the citron, and the pomelo are here enumerated as species. It is highly probable that some of these fruits are of hybrid origin. In essential characters they are certainly no more distinct from each other than are some of the species recently proposed by Wester. I can see no really valid reasons for considering the sweet and sour oranges and the mandarin orange as other than forms of a single species. Without exception Wester's species were based on cultivated plants and are, I believe, simple or complex hybrids or at most varieties of older species. It is a well-known fact that the various *Citrus* species freely hybridize. The only strictly native species in the Philippines is apparently *Citrus hystrix* DC.

*Citrus gaoganensis* Hayata, *C. limonelloides* Hayata, *C. depressa* Hayata, *C. tankan* Hayata, *C. natsudaidai* Hayata, and *C. kotokan* Hayata, all recently described from Formosan material, Ic. Pl. Formos. 8 (1919) 14-31, are, I believe, not true species but merely hybrids.

**Var. MIARAY** (Wester) comb. nov.

*Citrus miaray* Wester in Philip. Agr. Review 10 (1917) 457.

Mindanao (Bukidnon), Wester. Cultivated.

Local name: Miarai (Buk.).

*Citrus miaray* Wester, here reduced as a variety of *C. aurantifolia* Swingle, is probably a hybrid between *C. aurantifolia* and some other species. Of Wester's species I have seen only specimens with very young fruits. *Citrus excelsa* Wester is apparently also a hybrid with *C. aurantifolia* Swingle as one of its parents.

**CITRUS AURANTIUM** Linn. Sp. Pl. (1753) 783; Blanco Fl. Filip. (1837) 609, ed. 2 (1845) 425, ed. 3, 2 (1879) 408; F.-Vill. Novis. App. (1880) 37; Wester in Philip. Agr. Review 8 (1915) 9; Merr. Sp. Blancoanae (1918) 204.

*Citrus vulgaris* Risso in Ann. Mus. Hist. Nat. Paris 20 (1813) 190; Wester in Philip. Agr. Review 8 (1915) 10.

*Citrus longispina* Wester in Philip. Agr. Review 8 (1915) 15, t. 2a, 3a.

*Citrus sinensis* Osbeck Reise Ostind. China (1765) 148; Swingle Pl. Wils. 2 (1917) 148.

Throughout the Philippines, usually or always planted; all warm countries, but native of the Old World. The sweet and sour orange.

Local names: Dalandán (Tag.); cajel (Tag., Bik., Ibn., Bis.); talamisan (C. Bis.); tamisan (C. Bis.); valachinuk (Iv.); volatino (Iv.).

*Citrus longispina* Wester, which I refer to *C. aurantium* Linn., is perhaps hybrid between *Citrus aurantium* and some other species.

**CITRUS HYSTRIX** DC. Cat. Hort. Monsp. (1813) 97; Prodr. 1 (1824) 359; F.-Vill. Novis. App. (1880) 37; Vidal Sinopsis Atlas (1883) 18, t. 25, f. F, Rev. Pl. Vasc. Filip. (1886) 77; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 70, 3 (1908) Bot. 412, Sp. Blancoanae (1918) 204, var.; Wester in Philip. Agr. Review 8 (1915) 17, t. 5b, f. I.

Northern Luzon to Palawan and Mindanao, in most or all islands and provinces. In secondary and primary forests, sometimes in or near settlements, at low and medium altitudes, often rather common and truly native of the Archipelago. Widely distributed in the Malayan region.

Local names: Amongpong (C. Bis.); amontau (C. Bis.); buyak (Tag.); buyog (Tag.); daruga (Sul.); duroga (Sul.); kabúgau (Tag.); kabuan (Tag.); kalo-oi (C. Bis.); kabog (Bik.); kabúyau (Tag.); kamúgau (Ilk.); kapitán (Ilk., Ibn.); kamúlau (Ilk.); kamuntai (Bik.); kopalían (C. Bis.); kobot (Tag.); kolobot (Tag., Bis.); kolison (Bis.); kolong-kolong (Tag.); malatbas (Sbl.); mayagarin (C. Bis.); muntai (Sub.); piris (Pang.); pinukpuk (Klg.).

The type of *Citrus hystrix* DC. (*hístrix*) was a sterile specimen from a tree cultivated at Montpellier, originating in Mauritius. It may well have been of Malayan origin. *Citrus papeda* Hassk. is doubtless the same.

**Var. BOHOLENSIS** Wester in Philip. Agr. Review 8 (1915) 19, t. 4a, 5a.

Bohol, Wester 4824, 2525, cultivated. This is clearly but a slight variant of *C. hystrix* DC. and is apparently very close to if not identical with *Citrus celebica* Koord. in Meded. Lands Plant. 19 (1898) 370, 639, *Koorders 18751* β !

Var. **MACROPHYLLA** (Wester) comb. nov.

*Citrus macrophylla* Wester in Philip. Agr. Review 8 (1915) 16, t. 3b, 6c.

Cebu, Wester 4820. Cultivated. This is in all probability a hybrid between *Citrus hystrix* DC. and some other species, perhaps *C. maxima* (Burm.) Merr.

Local name: Alimau (C. Bis.).

Var. **MICRANTHA** (Wester) comb. nov.

*Citrus micrantha* Wester in Philip. Agr. Review 8 (1915) 20 t. 5c, 6b, 7c.

Cebu, Bohol, Negros, Mindanao (Misamis, Zamboanga). Sparingly cultivated. Apparently merely a form of *Citrus hystrix* DC. or perhaps a hybrid between it and *C. aurantifolia* Swingle.

Local names: Biasong (C. Bis.); balinkolong (C. Bis.).

Var. **MICROCARPA** (Wester) comb. nov.

*Citrus micrantha* Wester var. *microcarpa* Wester op. cit. 21, t. 7b.

Cebu, Bohol. Cultivated for its very fragrant fruits which are from 1.5 to 2 cm in diameter.

Local name: Samuyau (C. Bis.).

Var. **SOUTHWICKII** (Wester) comb. nov.

*Citrus southwickii* Wester in Philip. Agr. Review 8 (1915) 16, t. 3c, 4c.  
*Citrus limao* Wester l. c. sub. t. 3c.

Bohol, Mindanao (Surigao). Occasionally cultivated. Apparently but a variety of *Citrus hystrix* DC. or perhaps but a hybrid between it and some other species.

Local name: Limau (C. Bis.).

Var. **TOROSA** (Blanco) Wester in Philip. Agr. Review 8 (1915) 19.

*Citrus torosa* Blanco Fl. Filip. (1837) 609, ed. 2 (1845) 425, ed. 3, 2 (1879) 407, t. 408; Merr. Sp. Blancoanae (1918) 204.

Scattered here and there in the settled areas, and in secondary forests; characterized by its very rough fruits, *Merrill Sp. Blancoanae* 46, *Phil. Pl.* 1092.

Local name: Kolobot (Tag.).

**CITRUS LIMONIA** Osbeck Reise Ostind. China (1765) 250; Swingle in Sargent Pl. Wils. 2 (1916) 146.

*Citrus limonum* Risso in Ann. Mus. Paris 20 (1813) 201; Wester in Philip. Agr. Review 8 (1915) 24.

Rarely cultivated, the fruits rather inferior. All warm countries. The lemon.

Var. **PSEUDOLIMONUM** (Wester) comb. nov.

*Citrus pseudolimonum* Wester in Philip. Agr. Review 8 (1915) 24, t. 7a.

Siquijor, Bohol. Occasionally planted; perhaps a hybrid between *Citrus limonia* Osbeck and some other species.

Local names: Kolokolo (C. Bis.); kunot (C. Bis.); lombog (C. Bis.).

**CITRUS MAXIMA** (Burm.) Merr. Interpret. Herb. Amb. (1917) 296, Sp. Blancoanae (1918) 204.

*Aurantium maximum* Burm. Auctuarium Herb. Amb. (1755) 16.

*Citrus grandis* Osbeck Dagbok Ostind. Resa (1757) 98; Swingle in Sargent Pl. Wils. 2 (1914) 144.

*Citrus aurantium grandis* Linn. Sp. Pl. (1753) 783.

*Citrus aurantium decumana* Linn. Sp. Pl. ed. 2 (1763) 1101.

*Citrus decumana* Linn. Syst. ed. 12 (1767) 508; Blanco Fl. Filip. (1837) 608, ed. 2 (1845) 424, ed. 3, 2 (1879) 406, t. 304; F.-Vill. Novis. App. (1880) 38; Merr. Fl. Manila (1912) 271; Wester in Philip. Agr. Review 8 (1915) 11 (incl. var. *panuban* Wester op. cit. 12).

Throughout the Philippines in the settled areas, usually planted; probably not a native of the Archipelago. All warm countries, but native of the Old World. The pomelo.

Local names: Gunal (Ting.); luban (If.); lubbán (Ibn.); lukban (Tag., Bik., Ilk.); panubang (Bon.); súha (Tag.); suá (Ilk.); taboyog (Bon.).

**CITRUS MEDICA** Linn. Sp. Pl. (1753) 782; F.-Vill. Novis. App. (1880) 37; Vidal Rev. Pl. Vasc. Filip. (1886) 78, Phan. Cuming. Philip. (1885) 100; Wester in Philip. Agr. Review 8 (1915) 22, incl. var. *nana* Wester l. c., and var. *odorata* Wester l. c. t. 7a.

Occasionally planted, but nowhere spontaneous. The citron.

Local names: Bulíd (Tag., Bik.); cidro (Sp.); sidras (Bis., Bik.); ti-hi-tihi (C. Bis.).

**CITRUS MITIS** Blanco Fl. Filip. (1837) 610, ed. 2 (1845) 426, ed. 3, 2 (1879) 409, t. 185; Merr. Fl. Manila (1912) 270, Sp. Blancoanae (1918) 204; Wester in Philip. Agr. Review 8 (1915) 12.

*Citrus medica* Linn. var. *limetta* F.-Vill. Novis. App. (1880) 37; Vidal Sinopsis Atlas (1883) 18, t. 25, f. E, non Hook. f.

Scattered here and there in cultivation but not known wild; southern Japan and China, introduced in tropical America and the southern United States.

Local names: Aldonisis (Tag.); kalamondín (Tag.); kalamansí (Tag.).

**CITRUS NOBILIS** Lour. Fl. Cochinch. (1790) 466; Vidal Cat. Pl. Prov. Manila (1880) 21; Wester in Philip. Agr. Review 8 (1915) 10; Merr. Sp. Blancoanae (1918) 203.

*Citrus reticulata* Blanco Fl. Filip. (1837) 610, ed. 2 (1845) 425, ed. 3, 2 (1879) 408.

*Citrus deliciosa* Ten. Ind. Sem. Hort. Bot. Neapal. (1840) 9.

*Citrus nobilis* Lour. var. *deliciosa* Swingle in Sargent Pl. Wils. 2 (1914) 143.

*Citrus papillaris* Blanco Fl. Filip. (1837) 160, ed. 2 (1845) 425, ed. 3, 2 (1879) 409.

*Citrus nobilis* Lour. var. *papillaris* Wester in Philip. Agr. Review 8 (1915) 11.

*Citrus aurantium* Linn. var. *mandarinum* Perr. in Mém. Soc. Linn. Paris 3 (1824) 110; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 305.

*Citrus aurantium* Linn. var. *bergamina* F.-Vill. Novis. App. (1880) 37, non Hook. f.

*Citrus webberi* Wester in Philip. Agr. Review 8 (1915) 13, incl. var. *montana* Wester op. cit. 14.

Widely scattered in cultivation, but planted on a large scale in Batangas Province, Luzon. All warm countries but probably a native of southern China. Perhaps not specifically distinct from *Citrus aurantium* Linn. The loose-skinned or mandarin orange.

Local names: Alsem (Bon.); daraṅgita (Ilk.); naranjita (Sp.); dalaṅgita (Tag.); ránsas (Bik.); sintonis (Tag.); tison (Tag.).

*Citrus webberi* Wester, here reduced to *C. nobilis* Lour., may be a hybrid between *C. nobilis* Lour. and *C. hystrix* DC.

#### EXCLUDED SPECIES

CITRUS MADURENSIS Lour.; F.-Vill. Novis. App. (1880) 38.

This is *Fortunella japonica* (Thunb.) Swingle, and does not occur in the Philippines.

#### EXCLUDED GENERA

FERONIA ELEPHANTUM Correa; F.-Vill. Novis. App. (1880) 38=*Feronia limonia* (Linn.) Swingle.

The wood apple is not a native of the Philippines; it is now cultivated at the Agricultural Station at Lamao, Bataan Province, Luzon.

RUTA GRAVEOLENS Linn.; F.-Vill. Novis. App. (1880) 34.

This European plant is very rarely cultivated in Manila gardens; it has no claims to be considered as a Philippine species.

CASIMIROA EDULIS La Llave.

A native of Mexico, recently introduced and cultivated at Lamao.

### SIMARUBACEAE

#### 1. SURIANA Plumier

SURIANA MARITIMA Linn. Sp. Pl. (1753) 284; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 307; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 274.

Lumbucan (Sulu Sea), *Merrill Phil. Pl. 403*. On sandy seashores. A pantropic strand plant, yet often very local, in the Old World chiefly on small isolated islands.

#### 2. SAMADERA Gaertner

SAMADERA INDICA Gaertn. Fruct. 2 (1791) 352, t. 156; F.-Vill. Novis. App. (1880) 38; Vidal Sinopsis Atlas (1883) 19, t. 26, f. C, Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 78; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 29, Sp. Blancoanae (1918) 206.

*Manungala pendula* Blanco Fl. Filip. (1837) 306.

*Niota tetrapetala* Poir. in Lam. Encycl. 4 (1798) 490; Blanco Fl. Filip. ed. 2 (1845) 213, ed. 3, 2 (1878) 35.

Luzon (Cagayan), Mindoro, Palawan, Mindanao (Lanao), *F. B. 27227 Peñas, 11879 Amarillas, 4061, 3738 Merritt, 12208 Rosenbluth, 3819 Curran, 25498 Cruz, 23136 Acuña*. In forests at low altitudes. India to Malaya.

Local names: Daraput (Bis.); linatog-anat (Bis.); linton-gamai (Bis.); malun̄ggál (Tag.); manun̄ggál (Tag., Bik., Pamp., P. Bis., Lan., Ibn.); món̄gal (Tag.); mabingdato (Bis.); palagarium (Bis.); palagium (Bis.); ponoan (Bis.).

### 3. QUASSIA Linnaeus

**QUASSIA AMARA** Linn. Sp. Pl. ed. 2 (1762) 552; F.-Vill. Novis. App. (1880) 38; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904), Fl. Manila (1912) 272.

Occasionally cultivated in Manila and in other towns for ornamental purposes; a native of tropical America.

Local name: Corales (Sp.).

### 4. EURYCOMA Jack

**EURYCOMA EGLANDULOSA** Merr. in Philip. Journ. Sci. 17 (1920) 266.

Mindanao (Surigao), Dinagat, *B. S. 34592, 35207 Ramos & Pascasio*. In forests at low altitudes. Endemic.

#### EXCLUDED SPECIES

**EURYCOMA LONGIFOLIA** Jack; F.-Vill. Novis. App. (1880) 39; Vidal Rev. Pl. Vasc. Filip. (1886) 78.

The Philippine reference was based on a specimen collected by Lobb in the Malay Peninsula or Borneo and erroneously localized as Philippine.

### 5. HARRISONIA R. Brown

**HARRISONIA BROWNEI** A. Juss. in Mém. Mus. Paris 12 (1825) 540; Gaudich. Bot. Freyc. Voy. (1826) *t. 103*; Walp. Ann. 1 (1848) 165; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 677; F.-Vill. Novis. App. (1880) 39; Vidal Rev. Pl. Vasc. Filip. (1886) 78, Phan. Cuming. Philip. (1885) 101.

Palawan, Cebu, Siquijor, Bohol, Mindanao (Zamboanga, Cotabato), *Cuming 1780, 1828, B. S. 186 Bermejos, 887 Foxworthy, 11083 Ramos, 1269 McGregor, 11740, 16397 Reillo, Merrill Phil. Pl. 1173, F. B. 19892 Danao, 19002 Everett, 18282 Miranda*. In thickets and forests at low altitudes. Andaman Islands, Timor, tropical Australia.

Local names: Kankasira (Tagb.); malomanhak (C. Bis.).

**HARRISONIA PERFORATA** (Blanco) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 236, Fl. Manila (1912) 272, Sp. Blancoanae (1918) 206.

*Paliurus perforatus* Blanco Fl. Filip. (1837) 174, ed. 2 (1845) 122, ed. 3, 1 (1877) 220.

*Paliurus dubius* Blanco op. cit. 175, 123, 221.

*Fagara piperita* Naves in Blanco Fl. Filip. ed. 3 (1877-83) *t. 23*, non Linn.

*Lasiolepis paucijuga* Benn. Pl. Jav. Rar. (1844) 202, *t. 42*; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1855-56) 678.

*Lasiolepis multijuga* Benn. l. c.

*Harrisonia bennetii* Hook. f. Fl. Brit. Ind. 1 (1875) 519; F.-Vill. Novis. App. (1880) 39 (incl. var. *paucijuga* F.-Vill. et *multijuga* F.-Vill.); Vidal Sinopsis Atlas (1883) 19, *t. 26, f. A*, Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 78.

*Harrisonia citrinaecarpa* Elm. Leaf. Philip. Bot. 8 (1915) 2828.

Luzon (Ilocos Sur, Nueva Vizcaya, Pangasinan, Rizal, Batangas), Samar, Mindanao, *Merrill 3001, 2687, 1718, Phil. Pl. 300, Elmer 13448, F. B. 7215 Curran, 3140 Ahern's collector*. In thickets at low altitudes. Burma to southern China and Java.

Local names: Asimau (Tag.); bákit (Ilk., Pang.); dagiangas (Mbo.); kamuñgi (Sul.); laiya (Tag.); mamígil (Tag.); muntani (Bis.); sapléng (Sbl.); sapsapáng (Ilk.).

#### 6. BRUCEA J. F. Miller

**BRUCEA AMARISSIMA** (Lour.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 18.

*Gonua amarissimus* Lour. Fl. Cochinch. (1790) 658.

*Brucea sumatrana* Roxb. Hort. Beng. (1814) 12, Fl. Ind. 1 (1820) 469; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 680; F.-Vill. Novis. App. (1880) 39; Vidal Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 78; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 27.

Luzon (Pangasinan), Leyte, Palawan, Negros, Mindanao (Surigao, Bukidnon, Cotabato, Misamis), Basilan, *F. B. 26145 Hirro, 17963 Miranda B. S. 16329 Reillo, 24956 Félix, 11503 Robinson, Ahern 512, Wenzel 1913*. In thickets at low altitudes. India to southern China through Malaya to Australia.

Local names: Balaniog (Chab.); bogo-bogo (P. Bis., C. Bis.); magkaypayos (S. L. Bis.); manongao-bobi (C. Bis.); selte (Yak.).

**BRUCEA MACROBOTRYS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 19.

Samar, Panay, *Merrill Phil. Pl. 1626, B. S. 31398, 31052, 30827 Ramos & Edaño*. In forests along small streams at low altitudes. Endemic.

**BRUCEA MOLLIS** Wall. Cat. (1848) No. 8483; Benn. in Hook. f. Fl. Brit. Ind. 1 (1875) 521; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 104.

*Brucea luzoniensis* Vidal Sinopsis Atlas (1883) 19, t. 26, f. B; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 26, Philip. Journ. Sci. 1 (1906) Suppl. 70.

*Brucea membranacea* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 70.

Northern Luzon (Cagayan) to Mindanao. In forests at low and medium altitudes; common. India.

Local names: Makamara (Tag.); suga (Ig.).

**BRUCEA STENOPHYLLA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 274.

Luzon (Benguet), *F. B. 26396 Oteyza & Garcia, 22903 Leaño*. In thickets along small streams, altitude about 1,500 m. Endemic.

#### 7. PICRASMA Blume

**PICRASMA JAVANICA** Blume Bijdr. (1825) 247; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 679; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 27.

*Picrasma philippinensis* Elm. Leaf. Philip. Bot. 5 (1913) 1837.

Palawan, Leyte, Mindanao, *Elmer 13094, 10841, Ahern 557, 696, Clemens 536, B. S. 15221 Ramos, F. B. 26595 Sandique*. In forests at low and medium altitudes. India to Malaya.

Local names: Nalis (Sul.); palumpang (Bag.).

## 8. HEBONGA Radlkofer

**HEBONGA MOLLIS** Radlk. in Philip. Journ. Sci. 6 (1911) Bot. 367; Boas Beitr. Anat. Syst. Simarub. (1912) 49, Fedde Repert. 13 (1914) 290.

Mindanao (Zamboanga), *F. B. 9443 Whitford & Hutchinson*. In forests at low altitudes. Endemic.

**HEBONGA OBLIQUA** Radlk. in Philip. Journ. Sci. 6 (1911) Bot. 366; Boas Beitr. Anat. Syst. Simarub. (1912) 49, Fedde Repert. 13 (1914) 290.

Mindoro, *Merrill 2176, Hickman 6*. In forests at low altitudes. The material is very incomplete and is remarkably suggestive of *Ailanthus philippinensis* Merr.; the fruits are unknown. Endemic. A third species of the genus occurs in Siam.

Local name: Hebong (Tag.).

## 9. AILANTHUS Desfontaines

**AILANTHUS BLANCOI** Merr. Sp. Blancoanae (1918) 205.

*Ailanthus pongelion* Blanco Fl. Filip. (1837) 380, ed. 2 (1845) 268, ed. 3, 2 (1878) 134, non Gmel.

*Ailanthus malabarica* F.-Vill. Novis. App. (1883) 349, non DC.

Luzon (Laguna), *F. B. 20881 Villamil, 2500 Mabesa, 22337 Mariano, 20350 Celestino, Merrill Sp. Blancoanae 606*. In forests and along mountain streams at low altitudes. Endemic.

Local names: Balokas (Tag.); makaisa (Tag.); malasapsáp (Tag.).

**AILANTHUS PHILIPPINENSIS** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 25, Philip. Journ. Sci. 1 (1906) Suppl. 70, 2 (1907) Bot. 431, excl. syn. Blanco.

*Ailanthus moluccanus* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 27, non DC.

Luzon (Laguna, Camarines, Tayabas), Palawan, *Merrill 2137, Ahern 93, F. B. 3847 Curran, 20972, 20973 Villamil*. In forests at low altitudes. Endemic.

Local names: Empau (Tag.); kalauag (Bik.); malaaduás (Tag.); makaisa (Tag.).

## BURSERACEAE

## 1. PROTIUM Burman f.

**PROTIUM CONNARIFOLIUM** (Perk.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 30.

*Canarium connarifolium* Perk. Frag. Fl. Philip. (1904) 92.

*Protium philippinense* Elm. Leaf. Philip Bot. 7 (1915) 2571.

Palawan, *B. S. 548, 866, 737, 753, 754 Foxworthy, F. B. 21604 Agama, Merrill 787, Elmer 12760, 13225*. In forests along streams at low altitudes. Endemic.

Local name: Maraṅgub (Tagb.).



## 2. CANARIUM Linnaeus

**CANARIUM AGUSANENSE** Elm. Leaf. Philip. Bot. 7 (1915) 2564.

Samar, Mindanao (Agusan), *Elmer 73275, B. S. 24385, 24497 Ramos*. In forests at low and medium altitudes. Endemic.

Local names: Binsauan (Mbo.); milipiliai (S. L. Bis.).

**CANARIUM AHERNIANUM** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 70.

Luzon (Bataan, Rizal, Laguna, Sorsogon), *F. B. 123 Barnes, 422 Ahern's collector, 19958 Villamil, B. S. 22833 McGregor, 2654 Ramos, Merrill Phil. Pl. 1930, Whitford 1254, Williams 363, Elmer 15527, 17093*. In primary forests at low altitudes. Endemic.

**CANARIUM APOENSE** Elm. Leaf. Philip. Bot. 3 (1911) 1083.

Mindanao (Davao), *Elmer 11638*. In forests, altitude about 1,200 m. Endemic.

Local name: Ogát (Bag.).

**CANARIUM BARNESII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 22.

Luzon (Sorsogon), Masbate, *Merrill 2617, Elmer 15659, B. S. 23634 Ramos*. In forests at low altitudes. Endemic.

Local names: Milipili (P. Bis.); pili-pili (Bik.).

**CANARIUM CALOPHYLLUM** Perk. Frag. Fl. Philip. (1904) 91.

Luzon (Ilocos Norte, Benguet, Pangasinan, Tayabas, Bataan, Laguna, Batangas, Rizal), *Merrill 1858, Phil. Pl. 480, Williams 1373, Elmer 9234, F. B. 24218 Lopez, 25422 Duldulao, 25403 Labitag, 17622 Curran, 12969, 12927 Alvarez, 22978 Adduru*. In forests at low and medium altitudes. Endemic.

Local names: Antén (Ilk.); bakiáu (Pang.); chaiket (Ig.); pagsahingimáliit (Tag.); pilauai bulog (Tag.).

**CANARIUM CLEMENTIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 142.

*Canarium clementis* Merr. var. *perumbrinum* Elm. Leaf. Philip. Bot. 3 (1911) 1078.

Mindanao (Lanao, Davao), *Clemens 759, 1175, Elmer 11730, F. B. 25263 Alvarez*. In forests, altitude 700 to 1,200 m. Endemic.

Local names: Ogát (Bag.); pulutan (Lan.).

**CANARIUM COMMUNE** Linn. Mant. 1 (1767) 127; Engl. in DC. Monog.

Phan. 4 (1883) 112; Merr. Interpret. Herb. Amb. (1917) 301.

Mindanao (Zamboanga), *B. S. 29255 Wester*; a single tree in Talisayan said to have been grown from seeds brought from the Moluccas. Malay Archipelago.

**CANARIUM COSTULATUM** Elm. Leaf. Philip. Bot. 3 (1911) 1080.

Mindanao (Davao), *Elmer 11215*. On forested ridges, altitude about 1,000 m. Endemic.

Local name: Kalaua (Bag.).

**CANARIUM DOLICHOPHYLLUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 20.

Mindanao (Butuan), *F. B. 20749 Rafael & Ponce*. In secondary forests at low altitudes; doubtfully distinct from *C. williamsii* C. B. Rob. Endemic.

**CANARIUM ELLIPSOIDEUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 26.

Luzon (Bulacan, Laguna), *B. S. 21968 Ramos, F. B. 28233 Salvosa & Masias*. In forests at low altitudes. Endemic.

**CANARIUM EUPHLEBIUM** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 372.

Samar, Leyte, Cebu, Panay, *Wenzel 293, 388, 1394, 1725, F. B. 6447 Everrett, 24585 Phasis, B. S. 31124 Ramos & Edaña*. In forests at low and medium altitudes. Endemic.

**CANARIUM EURYPHYLLUM** Perk. Frag. Fl. Philip. (1904) 99.

Luzon (Tayabas, east coast), *Merrill 1045, 1081*. In forests at low altitudes. Endemic.

Local names: Mayakyat (Tag.); tabuali (Tag.).

**CANARIUM GRACILE** Engl. in DC. Monog. Phan. 4 (1883) 140; Vidal Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 80; Perk. Frag. Fl. Philip. (1904) 93; Elm. Leaf. Philip. Bot. 3 (1911) 1078.

*Santiria* sp.; Vidal Sinopsis Atlas (1883) 19, t. 28, f. C.

Northern Luzon (Cagayan) to Mindanao incl. *Elmer 15823* as *C. sorogonense* Elm. and *16133* as *C. antonii* Elm. In primary forests at low and medium altitudes. Endemic.

Local names: Gisauan (Mbo.); kiod (Mbo.); pagsahingán-dáगत (Tag.); palaspas (Tag.); patsahingín (Tag.); piling-okai (Bik.); piling-langgám (Tag., P. Bis.); sahing-sáhing (Mang.); salong-igbabau (P. Bis.); tiui (Tag.); tumagasag (Bag.).

**CANARIUM HETEROPHYLLUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 19.

Luzon (Cagayan, ? Laguna), *B. S. 13878 Ramos, ? Elmer 18312*. In forests at low altitudes. Endemic.

**CANARIUM LACINIATUM** Elm. Leaf. Philip. Bot. 3 (1911) 1084.

*Canarium fuscum* C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 185, non Engl.

Mindanao (Surigao, Agusan, Butuan, Lamao, Davao, Zamboanga), *Basilan, Elmer 11122, 13291, Williams 2181, 2870, Wenzel 1832, F. B. 20742 Rafael & Ponce, 15446 Pray, 18843 Miranda, 25809 Tecson & Roque*. In forests at low and medium altitudes.

Local names: Kalisau (Mbo.); lancha-lancha (Sul.); lankañgan (Lan.); ogat (Bag.).

**CANARIUM LAGUNENSE** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 21.

Luzon (Laguna), *B. S. 14945, 20579, 20468 Ramos, F. B. 19722 Barber*. In forests at low altitudes. Endemic.

Local name: Pagsahingín (Tag.).

**CANARIUM LUCIDUM** Perk. Frag. Fl. Philip. (1904) 94; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 171.

*Calophyllum sibuyanense* Elm. Leaf. Philip. Bot. 4 (1912) 1502.

Luzon (Benguet, Tayabas, Bataan, Laguna), Sibuyan, *Merrill 1056*, *F. B. 18348 Alvarez, Whitford 296, 1154, 1309, Elmer 12225, 17586*; doubtfully distinct from *C. calophyllum* Perk. In forests at low and medium altitudes. Endemic.

Local names: Chamusil (Ig.); kihu (Ig.); malapilauai (Tag.); milipili (Tag., Bis.); pagsahingín (Tag.).

**CANARIUM LUZONICUM** (Blume) A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 374; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 651; Engl. in DC. Monog. Phan. 4 (1883) 150; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 30, 29 (1905) 53, Philip. Journ. Sci. 1 (1906) 71, 3 (1908) Bot. 80, Sp. Blancoanae (1918) 207.

*Pimela luzonica* Blume Mus. Bot. Lugd.-Bat. 1 (1850) 220.

*Canarium album* Blanco Fl. Filip. (1837) 793, ed. 2 (1845) 546, ed. 3, 3 (1879) 201, non Raeusch.

*Canarium commune* F.-Vill. Novis. App. (1880) 40; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 27, non Linn.

*Canarium carapifolium* Perk. Frag. Fl. Philip. (1904) 91.

*Canarium polyanthum* Perk. op. cit. 95.

*Canarium triandrum* Engl. DC. Monog. Phan. 4 (1883) 145.

Northern Luzon (Cagayan) to Mindoro, Ticao, and Masbate. In primary forests at low and medium altitudes; common. Endemic.

Local names: Alánġi (Ilk.); alánki (Ilk.); antáng (Ibn.); anténg (Ilk.); bakán (Ting.); bakóog (Ilk.); belis (Tag.); bulau (Pang.); malapili (Bik.); pilauai (Tag.); pili (Tag., Bik., S. L. Bis., P. Bis., Ibn.); pisa (Tag.); sahing (Tag.); tugtúgin (Tag.).

**CANARIUM MELIOIDES** Elm. Leaf. Philip. Bot. 3 (1911) 1079.

Mindanao (Danao), *Elmer 11007*. In forests, altitude about 450 m. Endemic.

Local name: Biauan (Bag.).

**CANARIUM MICROPHYLLUM** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 304.

Catanduanes, *B. S. 30351 Ramos*. In forests at low altitudes. Endemic.

**CANARIUM MINUTIFLORUM** Engl. in DC. Monog. Phan. 4 (1883) 123; Vidal Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 80.

Luzon (Pangasinan), *Cuming 1006*; not satisfactorily distinguishable from *C. villosum* F.-Vill. Endemic.

**CANARIUM MULTIPINNATUM** Llanos Frag. Pl. Filip. (1851) 107, et in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 87; Merr. Sp. Blancoanae (1918) 207; F.-Vill. Novis. App. (1880) 40.

*Canarium radlkoferi* Perk. Frag. Fl. Philip. (1904) 96; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 71.

*Canarium bersamifolium* Perk. op. cit. 90.

Luzon (Ilocos Sur to Tayabas), Mindoro, Palawan, Negros, Samar, Basilan. In primary forests at low and medium altitudes; locally common. Endemic.

Local names: Aduas (Tag.); bugo (P. Bis.); dulit (Tag.); hagushus (Bik.); ibeng (Klg.); kal-lág (Ibn.); katong-matsíng (Tag.); kiñao-tao (Neg.); kiñao-aeta (Tag.); kuyag (Tag.); mala-apayos (Pang.); pala-táñgan (Ilk.); salong (Bis.).

**CANARIUM NERVOSUM** Elm. Leaf. Philip. Bot. 2 (1908) 482, 7 (1915) 2566.

Leyte, Negros, Mindanao, Basilan, *Elmer 7242, 12015, 10817, 11069* as *C. longiflorescens* Elm., *Wenzel 761, 1555, F. B. 22824 Ponce, 24527 Miras & Ponce*. In forests at low and medium altitudes; allied to *Canarium multipinnatum* Llanos. Endemic.

Local names: Bakayan (P. Bis.); ibu (Mbo.); paluahan (C. Bis.).

**CANARIUM NITENS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 24.

Mindanao (Zamboanga), *F. B. 13772 Foxworthy, De Mesa, & Villamil*. In forests near sea level. Endemic.

Local name: Baúli (Sul.).

**CANARIUM OGAT** Elm. Leaf. Philip. Bot. 3 (1911) 1086.

Mindanao (Davao), *Elmer 11859*. In open grasslands and secondary forests, altitude about 1,000 m. In the *Canarium villosum* group, not allied to *C. nervosum* Elm. Endemic.

Local name: Ogát (Bag.).

**CANARIUM OLIGANTHUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 23.

Masbate, *Merrill 2618*. In forests at low altitudes. Endemic.

Local name: Pili (P. Bis.).

**CANARIUM OVATUM** Engl. in DC. Monog. Phan. 4 (1883) 110; Vidal Phan. Cumíng. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 79; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 206.

*Canarium pachyphyllum* Perk. Frag. Fl. Philip. (1904) 94.

Luzon (Tayabas, Laguna, Camarines, Albay, Sorsogon), Polillo, Samar, Leyte, Mindanao (Surigao). In primary forests at low and medium altitudes; also cultivated in abacá plantations. The source of the pili nut of commerce. Endemic.

Local names: Basiad (Tag.); liputi (Tag.); pilauí (Tag.); píli (Tag., Bik., S. L. Bis., C. Bis.); pili-pilauai (Tag.).

**CANARIUM PALAWANENSE** Elm. Leaf. Philip. Bot. 5 (1913) 1754.

Palawan, *Elmer 12889*. In primary forests, altitude about 225 m; allied to *Canarium racemosum* Merr. Endemic.

**CANARIUM PAUCINERVIUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 364.

Leyte, Samar, Mindanao (Surigao), *Wenzel 825, 1517, 1671, 1884, B. S. 24496 Ramos*. In primary forests at low and medium altitudes. Endemic.

Local names: Malapiliai (S. L. Bis.); milipiliai (S. L. Bis.).

**CANARIUM PERKINSIAE** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 27; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 206.

*Canarium ovatum* Perk. Frag. Fl. Philip. (1904) 94, non Engl.

*Canarium purpureum* Elm. Leaf. Philip. Bot. 4 (1912) 1503.

*Canarium todayense* Elm. op. cit. 3 (1911) 1087.

Luzon (Nueva Vizcaya, Laguna), Mindoro, Sibuyan, Panay, Samar, Mindanao (Lanao, Davao). In primary forests at low and medium altitudes. Endemic.

Local names: Analian (C. Bis.); buntirau (P. Bis.); ogát (Bag.); magosayong (P. Bis.).

**CANARIUM POLYNEURUM** Perk. Frag. Fl. Philip. (1904) 96.

Palawan, Merrill 723, Elmer 12658, B. S. 736, 764, 910 Foxworthy, F. B. 3604, 3605 Curran. In forests at low altitudes; scarcely distinguishable from *C. villosum* F.-Vill. Endemic.

Local names: Saleng (Tagb.); salong (Tagb.).

**CANARIUM RACEMOSUM** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 141; Elm. Leaf. Philip. Bot. 3 (1911) 1077.

Negros, Mindanao (Lanao, Davao), Clemens 1231, F. B. 5541 Everett, Elmer 10763. In forests at medium altitudes. Endemic.

Local names: Salong (P. Bis.); somagasa (Bag.).

**CANARIUM RAMOSII** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 374.

Leyte, Merrill Phil. Pl. 1168, Wenzel 468.

Var. **PARVUM** Merr. op. cit. 375.

Leyte, Wenzel 103. In forests at low altitudes; to be compared with *C. paucinervium* Merr. Endemic.

**CANARIUM RETICULATUM** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 141.

*Canarium subvelutinum* Elm. Leaf. Philip. Bot. 7 (1915) 2566.

Mindanao (Butuan, Bukidnon, Agusan, Misamis, Lanao, Davao, Zamboanga), Clemens 1150, F. B. 26540 Rola, 11884, 1799 Miranda, 26602 Ceballos, B. S. 15669 Félix, Merrill 7321, 38458 Ramos & Edaña. In primary forests at low and medium altitudes. Endemic.

Local names: Dañganarai (Sub.); gagnan (Buk.); gapog (Sub.); gotkuton (Mbo.); malolugna (Buk.); sagasa (Buk.).

**CANARIUM ROBUSTUM** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 184.

Samar, Mindanao (Lanao) B. S. 24512, 24450 Ramos, F. B. 12833 Rosenbluth, 25177 Alvarez. In primary forests at low altitudes. Endemic.

Local names: Búang-amú (Lan.); malapiliai (S. L. Bis.).

**CANARIUM SAMARENSE** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 183.

Samar, B. S. 24191, 24214, 24149 Ramos. In primary forests at low altitudes. Endemic.

Local name: Pañganhauon (S. L. Bis.).

**CANARIUM SANCHEZII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 27.

Mindanao (Bukidnon), Sanchez. In forests at low altitudes. Endemic. Local name: Sauañgan (Buk.).

**CANARIUM SIBULANENSE** Elm. Leaf. Philip. Bot. 3 (1911) 1085.

Mindanao (Davao), Elmer 11206. In forests, altitude about 475 m. Endemic.

Local name: Biauan (Bag.).

**CANARIUM STENOPHYLLUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 25.

Luzon (Camarines, Sorsogon), *Merrill Phil. Pl. 1550, Elmer 14644 (C. falcatum Merr.)*, *F. B. 14272 Aguilar*. In forests at low altitudes. Endemic.

**CANARIUM TONCALINGII** Elm. Leaf. Philip. Bot. 3 (1911) 1082.

Mindanao (Davao), *Elmer 10996*. In forests, altitude about 450 m. Endemic.

Local name: Magasurud (Bag.).

**CANARIUM UNIFOLIOLATUM** Merr. in Philip. Journ. Sci. 17 (1920) 267.

Mindanao (Surigao), *B. S. 34720 Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

**CANARIUM URDANETENSE** Elm. Leaf. Philip. Bot. 7 (1915) 2568.

Mindanao (Agusan), *Elmer 14074*. In forests, altitude about 1,675 m; allied to *Canarium calophyllum* Perk. Endemic.

Local name: Sagasag (Mbo.).

**CANARIUM VILLOSUM** (Blume) F.-Vill. Novis. App. (1880) 40; Vidal Sinopsis Atlas (1883) 19, t. 28, f. A; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 30, 35 (1906) 27, Philip. Journ. Sci. 1 (1906) Suppl. 71, Fl. Manila (1912) 273, Sp. Blancoanae (1918) 207.

*Pimela villosa* Blume Mus. Bot. Lugd.-Bat. 1 (1850) 223.

*Canariopsis villosa* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 652; Engl. in DC.

Monog. Phan. 4 (1883) 151; Vidal Cat. Pl. Prov. Manila (1880) 22.

*Canarium commune* Blanco Fl. Filip. (1837) 791, non Linn.

*Canarium pimela* Blanco op. cit. ed. 2 (1845) 545, ed. 3, 3 (1879) 201, t. 343, non Koenig.

*Canarium cumingii* Engl. in DC. Monog. Phan. 4 (1883) 132; Vidal

Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 79;

Perk. Frag. Fl. Philip. (1904) 93; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 27; Elm. Leaf. Philip. Bot. 3 (1911) 1077.

*Canarium luxurians* Engl. in DC. Monog. Phan. 4 (1883) 146 (incl. f. *monstrosa* Engl.); Vidal Phan. Cuming. Philip. (1885) 101, Rev.

Pl. Vasc. Filip. (1886) 80; Perk. Frag. Fl. Philip. (1904) 94.

*Canarium thyrsoides* Perk. Frag. Fl. Philip. (1904) 98.

*Canarium stachyanthum* Perk. op. cit. 97.

*Canarium juglandifolium* Perk. op. cit. 93.

Northern Luzon to Palawan and Mindanao. Common in thickets and secondary forests at low and medium altitudes, and considering its abundance (more than 150 specimens available), rather constant in its characters. Endemic.

Local names: Alagatli (Tag.); anagatli (Tag.); anañggi (Tag.); an-táng (Ibn., Neg.); antél (Ilk.); anténg (Ilk.); anuñggi (Tag.); bakayan (Bis.); bua (C. Bis.); bulo (Pamp.); dolit (Ilk.); dulit (Sbl.); giret (Neg.); koribo (Neg.) lonai (C. Bis.); magsagiod (C. Bis.); milipili (P. Bis.); pacharíngeñ (Tag.); pachaiñgeñ (Tag.); pagsaiñgeñ (Tag.); pag-saiñgeñ (Tag.); paksahíngeñ (Tag.); paksaiñgeñ (Tag.); palasahíngeñ

(Tag.); palsañíngin (Tag.); palsaíngin (Sbl.); panhínhin (Tag.); patsaiñgin (Tag.); pisa (Ting.); sáhing (Tag.); sáleng (P. Bis.); salñgán (C. Bis.); sáling (Tagb.); sálong (P. Bis., C. Bis.); salosadugan (C. Bis.); sanai (Bis.); saong-saong (C. Bis.); sulusalúngan (Bis.); tabul (Ig.).

**CANARIUM WARBURGIANUM** Perk. Frag. Fl. Philip. (1904) 99.

Luzon (Cagayan, Isabela, Apayao), *Warburg 11795, F. B. 17911 Bernardo, 17899 Barros, B. S. 28197 Fénix*. In forests at low altitudes; similar to *C. multipinnatum* Llanos, but the fruits terete, not 3-angled. Endemic.

Local names: Kalág (Ap.); ibéng (Ibn.).

**CANARIUM WENZELII** Merr. in Philip. Journ. Sci. 9 (1914) Bot 363.

Leyte, *Wenzel 351, 392, Elmer 7274* as *C. leytense* Elm. In forests at low altitudes. Endemic.

**CANARIUM WILLIAMSII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 185.

*Canarium villosiflorum* Elm. Leaf. Philip. Bot. 7 (1915) 2569.

Mindanao (Agusan, Butuan, Lanao, Zamboanga), *Williams 2111, Elmer 13644, 13347, F. B. 20508 Rafael & Ponce, 28843 Mallonga, B. S. 36680 Ramos & Edaña*. In primary forests at low altitudes. Endemic.

Local names: Gisau (Sul.); gapog (Sub.); sagasa (Mbo.); sagasak (Mbo.).

#### EXCLUDED SPECIES

**CANARIUM ALTISSIMUM** Blume; F.-Vill. Novis. App. (1880) 40.

**CANARIUM MERRILLII** Perk. Frag. Fl. Philip. (1904) 98, in nota, *nomen nudum*.

**CANARIUM RUBIGINOSUM** Benn.; F.-Vill. Novis. App. (1880) 40.

**CANARIUM ZEPHYRINUM** Rumph.; F.-Vill. l. c.

#### 3. SANTIRIA Blume

**SANTIRIA CAUDATA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 30.

Luzon (Camarines), *F. B. 21211, 21217 Alvarez*. In forests at low altitudes. Endemic.

**SANTIRIA ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 13 (1918) Bot 305.

Luzon (Camarines), *F. B. 27097 Alambra*. In forests at low altitudes. Endemic.

**SANTIRIA GLABRA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 143.

Leyte, Mindanao (Lanao), *Clemens 994, Wenzel 772*. In forests, altitude 500 to 800 m. Endemic.

**SANTIRIA LAGUNENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 31.

Luzon (Laguna), *B. S. 20505, 15098, 21987 Ramos, F. B. 7872, 7920 Curran & Merritt*. In forests at low and medium altitudes, ascending on Mt. Banahao to 900 m. Endemic.

**SANTIRIA NITIDA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 29, Philip. Journ. Sci. 1 (1906) Suppl. 71.

Luzon (Zambales, Bataan, Laguna), Mindoro, Sibuyan, Panay, Negros. In primary forests at low and medium altitudes. Endemic.

Local names: Alúpag-matsing (Tag.); kamingi (Tag.); korig (Tag.); kurig (Tag.); kuragal (Sbl.); mayagyat (Tag.); sáyong (P. Bis.).

**SANTIRIA SAMARENSIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 31. *Canarium caudatifolium* Merr. op. cit. 315.

*Canarium crassifolium* Merr. op. cit. 274.

Luzon (Camarines), Palawan, Leyte, Samar, Mindanao (Lanao, Agusan, Bukidnon, Surigao), *Merrill Phil. Pl. 1641* (as *Canarium*), *Wenzel 1090, F. B. 21098 Abellanos, 21136 Miranda, 21670 Sherfese, Cenabre, & Ponce, 22827 Ponce, 15455 Pray, Elmer 13354* as *Canarium polyanthum, 13071* as *S. palawanensis* Elm., *B. S. 33804 Ramos & Edaña, 15784 Fénix*. In damp forests at low and medium altitudes. Borneo.

Local names: Lunai (Lan.); palaspas (Bik.); pili-hanai (C. Bis.).

#### EXCLUDED SPECIES

**SANTIRIA LAEVIGATA** Blume; F.-Vill. Novis. App. (1880) 40.

**SANTIRIA MAINGAYI** Benn.; F.-Vill. l. c.

#### 4. GARUGA Roxburgh

**GARUGA ABILO** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 35 (1905) 73, Philip. Journ. Sci. 2 (1907) Bot. 432, Sp. Blancoanae (1918) 208.

*Guaiacum abilo* Blanco Fl. Filip. (1837) 364.

*Icica abilo* Blanco op. cit. ed. 2 (1845) 256, ed. 3, 2 (1878) 113.

*Garuga mollis* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 475; Engl. in DC. Monog. Phan. 4 (1883) 6; Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 101; Perk. Frag. Fl. Philip. (1904) 100.

Northern Luzon to Mindanao. In thickets and secondary forests at low and medium altitudes. Celebes.

Local names: Abilo (Tag.); bagulibas (Tag.); barus (Ibn.); bió (Ilk.); bitaurang (Bag.); biú (Ilk.); bogo (P. Bis., C. Bis., Mag.); bugo (P. Bis., C. Bis., Chab.); búgu (Ibn.); burús (Ilk.); dulit (Pang.); gabílo (Tag.) malabolo (Bik.); taliñḡanan (Sul.).

**GARUGA CLARKII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 29.

Masbate, Cebu, *F. B. 1700 Clark, B. S. 11112 Ramos*. In thickets and secondary forests at low altitudes; very close to *G. littoralis* Merr. Endemic.

Local name: Bugo (P. Bis.).

**GARUGA LITTORALIS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 27.

*Garuga floribunda* F.-Vill. Novis. App. (1880) 40; Vidal Sinopsis Atlas (1883) 19, t. 28, f. B, Rev. Pl. Vasc. Filip. (1886) 79, non Decne.

Luzon (Batangas), Mindoro, Palawan, Balabac, Masbate, Negros, Cebu, Mindanao. Along the seashore and on hills near the sea. Endemic.



Var. **PAUCIJUGA** Merr. op. cit.

Cagayan Sulu, *Merrill 5301*. Along the seashore. Endemic.

Local names: Abílo (Tag.); baro (Sul.); bogo (Kuy., P. Bis., C. Bis.); bugo (P. Bis.); bulu (Sul.); ligason (Tag.); tumberila (Tagb.).

## EXCLUDED SPECIES

**GARUGA PINNATA** Roxb.; F.-Vill. Novis. App. (1880) 40.

## EXCLUDED GENERA

**AMYRIS ? MARITIMA** Jacq.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103.

**BOSWELLIA** sp.; F.-Vill. Novis. App. (1880) 40.

**BURSERA JAVANICA** F.-Vill. op. cit. 41.

## MELIACEAE

1. **TOONA** Roemer

**TOONA CALANTAS** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 105, Sp. Blancoanae (1918) 208.

*Cedrela odorata* Blanco Fl. Filip. (1837) 184, ed. 2 (1845) 130, ed. 3, 1 (1877) 233, non Linn.

*Cedrelo toona* F.-Vill. Novis. App. (1880) 45; Vidal Sinopsis Atlas (1883) 20, t. 29, f. G., non Roxb.

*Toona ciliata* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 27, non Roem.

*Cedrela febrifuga* C. DC. in Rec. Bot. Surv. India 3 (1908) 372, quoad Philip. non Blume.

Batan Islands, Luzon (Cagayan to Sorsogon), Mindoro, Samar, Negros, Leyte, Cebu, Mindanao. In primary forests at low and medium altitudes. Endemic, but very closely allied to the Malayan *Toona sureni* (Blume) Merr. (*T. febrifuga* Roem.).

Local names: Añipla (Iv.); daniggá (Ibn.); danuprá (Ilk.); kalantás (Pang., Sbl., Tag.); kantínġen (Ilk., Sbl.); lanigdá' (Bik.); lanigpá' (Bik.); lanipgá' (Bik., S. L. Bis., C. Bis.); porak (Ilk.).

**TOONA PAUCIJUGA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 279.

Leyte, *F. B. 12618 Rosenbluth*. In thickets at low altitudes, endemic, but scarcely more than a variety of the preceding species.

**TOONA SURENI** (Blume) Merr. Interpret. Herb. Amb. (1917) 305.

*Swietenia sureni* Blume Cat. Gew. Buitenz. (1823) 72.

*Cedrela febrifuga* Blume Bijdr. (1825) 180; C. DC. Monog. Phan. 1 (1878) 744.

*Surenus febrifuga* O. Kuntze Rev. Gen. Pl. 1 (1891) 111.

*Toona febrifuga* M. Roem. Syn. 1 (1846) 139.

Luzon (Ilocos Norte, Ilocos Sur, Zambales), Mindoro, *F. B. 13256, 23853 Paraiso, 5881 Curran, 9721, 8669 Merritt*. In forests at low altitudes. India to Indo-China, Malay Peninsula, Sumatra, Java.

Local names: Danúpra (Ilk.); kalantás (Tag.).

## DOUBTFUL AND EXCLUDED SPECIES

*CEDRELA GLABRA* C. DC.; F.-Vill. Novis. App. (1880) 45.

*CEDRELA TARATARA* Blanco Fl. Filip. ed. 2 (1845) 131, ed. 3, 1 (1877) 234; F.-Vill. Novis. App. (1880) 45; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 31, Sp. Blancoanae (1918) 213.

The status of this species is undeterminable. It was apparently based on wood specimens of *Pterocarpus* and leaf specimens of some meliaceous plant, perhaps *Dysoxylum* or *Aglaiia*. The fruits and flowers are not described.

## 2. XYLOCARPUS Koenig

*XYLOCARPUS GRANATUM* Koenig in Naturf. 20 (1784) 2; Blanco Fl. Filip. (1837) 298, ed. 2 (1845) 207, ed. 3, 2 (1878) 24; Merr. Interpret. Herb. Amb. (1917) 306, Sp. Blancoanae (1918) 208.

*Carapa obovata* Blume Bijdr. (1825) 179; C. DC. Monog. Phan. 1 (1878) 718.

*Xylocarpus obovatus* Juss. Mém. Mus. Paris 19 (1830) 244; Perk. Frag. Fl. Philip. (1904) 30, Merr. in Philip. Bureau Forestry Bull. 1 (1903) 28.

Northern Luzon (Cagayan) to Palawan and Mindanao. In mangrove swamps bordering tidal streams, throughout the Archipelago, the bark thin and smooth. India and Ceylon through Malaya to New Caledonia.

Local names: Bigi (Tagk.); kolimbaning (Ilk.); lubanáyong (Ibn.); nígi (Tagb.); níge (Tag., Bik., Tagb.); mígi (Pamp.); piadak (Tagb.); piágau (Tag., P. Bis., Sul.); pulit (Yak.); tabígi (Tag., Bik., Tagb., P. Bis., S. L. Bis., C. Bis., Lan., Sul., Mag.); tibígi (Tag., Bik.); tambo-tambo (Sub., Mag., Sul.); tambu-tambu (Mag.).

*XYLOCARPUS MOLUCCENSIS* (Lam.) M. Roem. Syn. Hesper. (1846) 124; Merr. Interpret. Herb. Amb. (1917) 307.

*Carapa moluccensis* Lam. Encycl. 1 (1785) 621, quoad descr. excl. Rumph. t. 61; DC. Prodr. 1 (1824) 626; C. DC. Monog. Phan. 1 (1878) 719, excl. syn. Koen. et Willd. F.-Vill. Novis. App. (1880) 44; Vidal Sinopsis Atlas (1883) 20, t. 29, f. F, Rev. Pl. Vasc. Filip. (1886) 84.

*Carapa rumphii* Kostel. Allg. Med.- Pharm. Fl. 5 (1836) 1988.

Luzon (Tayabas, Bataan) to Palawan, Mindanao, and the Sulu Archipelago. Along open beaches, not in the mangrove; trees with thick, very rough bark. India to Madagascar, through Malaya to Polynesia.

Local names: Lagutut (P. Bis.); mígi (Pamp.); miki (Pamp.); piadak (Tagb.); piágau (Tag., P. Bis., Sul., Mag.); puyugau (P. Bis.); sangku-yong (Sul.); tabígi (Tag.).

## 3. CIPADESSA Blume

*CIPADESSA BACCIFERA* (Roth) Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 6; C. DC. Monog. Phan. 1 (1878) 426.

*Melia baccifera* Roth Nov. Pl. Sp. (1821) 215.

*Ekebergia indica* Roxb. Hort. Beng. (1814) 33, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 392.

*Cipadessa fruticosa* Blume Bijdr. (1825) 162; Ceron Cat. Pl. Herb. Manila (1892) 42.

Luzon (Bontoc, Benguet, Nueva Vizcaya), Panay, Mindanao (Zamboanga, Davao). In thickets and forests, at low and medium altitudes, ascending to 2,200 m. India to Java.

Local names: Bieum (Ig.); taboat (Bag.); banaibag (Ig.).

**CIPADESSA WARBURGII** Perk. in Notizbl. Kgl. Bot. Gart. Berlin 3 (1903) 79, Frag. Fl. Philip. (1904) 30.

Luzon (Cagayan), *Warburg 12357* in Herb. Berlin; not certainly distinct from *C. baccifera* Miq.; if distinct, endemic.

#### 4. TURRAEA Linnaeus

**TURRAEA HUMILIS** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 30, Fl. Manila (1912) 274, Sp. Blancoanae (1918) 208.

*Plagianthus humilis* Blanco Fl. Filip. (1837) 526, ed. 2 (1845) 367, ed. 3, 2 (1879) 315, t. 181.

*Turraea pumila* F.-Vill. Novis. App. (1880) 41; Vidal Rev. Pl. Vasc. Filip. (1886) 81, non ? Benn.

Luzon (Batangas, Rizal, Laguna), *Merrill 6232*, Sp. Blancoanae 509, B. S. 14994 *Ramos*. In open ravines and thickets at low altitudes, rare and local. Endemic.

**TURRAEA MEMBRANACEA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 306.

*Turraea pubescens* Rolfe in Journ. Bot. 23 (1885) 211; Vidal Rev. Pl. Vasc. Filip. (1886) 81, non Hellen.

Luzon (Rizal, Pampanga), *Merrill 3913*, F. B. 9619 *Zschokke*, B. S. 977 *Ramos*. On forested slopes, ascending to 700 m; rare and local. Endemic.

**TURRAEA PALAWANENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 307.

Palawan, B. S. 15563 *Fénix*. Near the seashore. Endemic.

#### 5. VAVAEA Bentham

**VAVAEA AMICORUM** Benth. in Hook. Lond. Journ. Bot. 2 (1843) 212; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 44, t. 16, f. B; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 301.

Luzon (Ilocos Norte, Apayao, Zambales, Nueva Ecija, Cavite, Batangas, Camarines, Sorsogon, incl. *Elmer 16475*, 14941 as *V. sorsogonensis* Elm.), Mindoro, Palawan, *Elmer 12970* as *V. harveyi* Seem., Samar, Panay, Negros, Mindanao, Sulu Archipelago (Sibutu). In forests at low and medium altitudes, locally abundant. Polynesia.

Local names: Miáu (P. Bis.); nanka-nánka (Sul.); namog-pulá (Tagb.); sandána (Sbl., Tag.); sandánan (Sul.); tanankanánka (Sul.).

**VAVAEA ARDISIODES** Elm. Leaf. Philip. Bot. 8 (1915) 2767; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 301.

Mindanao (Agusan), *Elmer 13974*. On exposed forested ridges and peaks, altitude 1,200 m. Endemic.

Local name: Bagodan (Mbo.).

**VAVAEA HETEROPHYLLA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 303.

Luzon (Camarines), *F. B. 27062 Magistrado*. In forests at low altitudes. Endemic.

Local name: Piñgan-piñgan (Tag.).

**VAVAEA PACHYPHYLLA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 304.

Luzon (Tayabas, east coast), *B. S. 28816, 28757 Ramos & Edaña*. In the mossy forest, altitude about 1,000 m. Endemic.

**VAVAEA PILOSA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 302.

Luzon (Benguet, Nueva Vizcaya, Bulacan, Tayabas, Nueva Ecija, Rizal, Camarines), Masbate, *Merrill 9647, 2652, 2329, Phil. Pl. 1589, F. B. 3391, 3094 Ahern's collector, Loher 6172*. In forests at low and medium altitudes, ascending to 1,300 m. Endemic.

Local names: Alakai (Tag.); halupait (Bik.); kurokumpol (Neg.); magtalisai (Bik.).

**VAVAEA RETUSA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 301.

Negros, *F. B. 23402 Contreras*. On forested slopes, altitude about 200 m. Endemic.

Local name: Sagibunon (P. Bis.).

**VAVAEA SURIGAOENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2768; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 301.

Luzon (Tayabas), Samar, Mindanao, *Elmer 13636, 13940, B. S. 19414, 19470, 17482 Ramos, Ahern 405*. In forests, ascending to 1,000 m altitude. Endemic.

Local names: Kondiman (Mbo.); magotamoying (Mbo.); tañgisan (C. Bis.).

## 6. MELIA Linnaeus

**MELIA AZEDARACH** Linn. Sp. Pl. (1753) 384; DC. Prodr. 1 (1824) 621; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 533; F.-Vill. Novis. App. (1880) 41; Vidal Sinopsis Atlas (1883) 20, t. 29, f. E, Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 420; Merr. Fl. Manila (1912) 276.

Cultivated in the larger towns for its fragrant flowers, but nowhere naturalized; introduced from China. Universally known by its Spanish name, *paraíso*.

**MELIA DUBIA** Cav. Diss. 7 (1789) 364; Hiern in Hook. f. Fl. Brit. Ind. 1 (1875) 545; C. DC. Monog. Phan. 1 (1878) 453; F.-Vill. Novis. App. (1880) 41; Vidal Cat. Pl. Prov. Manila (1880) 22.

*Melia candollei* Juss. in Mém. Mus. Paris 19 (1830) 258; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 532; F.-Vill. Novis. App. (1880) 41; C. DC. Monog. Phan. 1 (1878) 456; Vidal Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 81; Perk. Frag. Fl. Filip. (1904) 30; Merr. Fl. Manila (1912) 276, Sp. Blancoanae (1918) 209.

*Melia azedarach* Blanco Fl. Filip. (1837) 345, non Linn.

*Melia composita* Willd. Sp. Pl. 2 (1799) 559; Blanco op. cit. ed. 2 (1845) 241, ed. 3, 2 (1878) 84, t. 420.

Luzon (Ilocos Norte, Tayabas, Bulacan, Bataan, Rizal, Camarines), Mindoro, Negros, Cebu, Siquijor, Bohol, Mindanao. Along the seashore, and in

thickets, second-growth forests, etc., inland, at low and medium altitudes; locally common. I fail to see how *Melia candollei* Juss. can be distinguished from *M. dubia* Cav. India to tropical Africa, southern China and Formosa through Malaya to tropical Australia.

Local names: Bagalñga (C. Bis.); bagaluñgá (Bis.); balagañgo (Tag.); bulilising (Ilk.); gañgo (Tag.); kintana (Tag.); malabuáya (Chab.); malaíba (Tag.); maluñggáian (Tag.); mañguliñgau (Lan.); sili-sili (Tag.).

#### 7. AZADIRACHTA A. Jussieu

**AZADIRACHTA INTEGRIFOLIOLA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 272.

Palawan, Masbate, Basilan, *Elmer 12638, F. B. 11248 Curran, 5186 Manalo, 25758 Natividad, 22510 Pray, Merrill 2577*. In forests at low altitudes. Endemic.

Local names: Danggo (Tagb.); kalantás (Tagb., P. Bis.); marángo (Tagb.).

#### 8. SANDORICUM Cavanilles

**SANDORICUM KOETJAPE** (Burm. f.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 237, Fl. Manila (1912) 274, Interpret. Herb. Amb. (1917) 308, Sp. Blancoanae (1918) 209.

*Melia koetjape* Burm. f. Fl. Ind. (1768) 101.

*Trichilia nervosa* Vahl Symb. 1 (1790) 31.

*Sandoricum indicum* Cav. Diss. 4 (1787) 359, t. 202, 203; DC. Prodr. 1 (1824) 621; Blanco Fl. Filip. ed. 2 (1845) 242, ed. 3, 2 (1878) 85, t. 127; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 591; C. DC. Monog. Phan. 1 (1878) 461; F.-Vill. Novis. App. (1880) 42; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 82; Perk. Frag. Fl. Philip. (1904) 31; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 71.

*Sandoricum ternatum* Blanco Fl. Filip. (1837) 346.

Throughout the settled areas of the Philippines, planted and semicultivated, abundant in some second-growth forests. Perhaps an introduced species in the Philippines, but now thoroughly established. Siam and Indo-China throughout the Malayan region, often cultivated.

Local names: Santól, santór (most dialects); katúl (Sbl.).

Burman's type, examined by Dr. Hochreutiner, represents this form. See Ridley, Journ. Bot. 60 (1922) 273, for his views on the application of the specific name.

**SANDORICUM VIDALII** Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 8.

*Sandoricum borneense* F.-Vill. Novis. App. (1880) 43; Vidal Cat. Pl. Prov. Manila (1880) 22, non Miq.

*Sandoricum harmsianum* Perk. Frag. Fl. Philip. (1904) 31, 152.

Luzon (Nueva Vizcaya, Zambales, Nueva Ecija, Tayabas, Bataan, Rizal, Laguna, Camarines, Sorsogon), Mindoro, Palawan, Samar, Negros, Mindanao. In primary forests at low and medium altitudes. Endemic.

Local names: Bago-santól (Tag.); bañgon-santól (Tag.); biot (Gad.); magsantól (Sbl.); malabobonau (S. L. Bis.); malasantól (Tag. Bik.); malapakhi (Tagb.); malarambo (Tag.).

## 9. DYSOXYLUM Blume

**DYSOXYLUM ALTISSIMUM** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 25, Philip. Journ. Sci. 1 (1906) Suppl. 72; C. B. Rob. op. cit. 6 (1911) Bot. 207.

Babuyan Islands, Luzon (Cagayan, Apayao, Tayabas, Bataan, Laguna), Polillo, Palawan, Samar, Panay, *F. B. 11300 Klemme, 26690 Peñas, 624 Borden, B. S. 10233 McGregor, Elmer 13162*. In primary forests at low and medium altitudes. Endemic.

Local names: Guso (Tag.); malatabulian (S. L. Bis.).

**DYSOXYLUM ARBORESCENS** (Blume) Miq. in Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 24; C. DC. Monog. Phan. 1 (1878) 489.

*Goniocheton arborescens* Blume Bijdr. (1825) 177.

*Dysoxylum rubrum* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 32, Philip. Journ. Sci. 1 (1906) Suppl. 72.

*Dysoxylum kunthianum* Perk. Frag. Fl. Philip. (1904) 31, non Miq.

Northern Luzon (Cagayan) to Palawan, Mindanao, and Sulu Archipelago. Common in primary forests at low and medium altitudes, ascending to 1,400 m. Malay Peninsula, Andaman Islands, Indo-China, Sumatra, Java, Timor, Celebes, Ceram.

Local names: Abubulí (P. Bis.); baginabot (P. Bis.); bauai-baúai (Tag.); buahan-buáhan (Sul.); darai (Tag.); gogo (C. Bis.); kalimútain (Tag.); katabatába (Bik.); kupel (Neg.); larang (Neg.); malakbalak (Bik.); malasantól (Ig.); mangramáyen (Ibn.); maradaláya' (Ilk.); marasabá (Ibn.); maryalinabo (Lan.); ñgarau-na-busag (S. L. Bis.); paria (Tagb.); sasaba (Neg.); tabataba (Bik.).

**DYSOXYLUM BIFLORUM** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 185.

Luzon (Isabela), *F. B. 18563 Alvarez*. In forests at low altitudes. Endemic.

**DYSOXYLUM CAPIZENSE** Merr. in Philip. Journ. Sci. 17 (1920) 268.

Mindoro, Panay, *B. S. 35631 Martelino & Edaño, 40959 Ramos*. In primary forests, altitude about 650 m. Endemic.

**DYSOXYLUM CUMINGIANUM** C. DC. Monog. Phan. 1 (1878) 498; F.-Vill.

Novis. App. (1880) 41; Vidal Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 81; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 72.

*Hartigsea cauliflora* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 412, non *Dysoxylum cauliflorum* Hiern.

*Dysoxylum cauliflorum* Perk. Frag. Fl. Philip. (1904) 31, non Hiern.

*Dysoxylum testaceum* Elm. Leaf. Philip. Bot. 8 (1919) 3093.

Luzon (Cagayan to Camarines), Mindoro, Tablas, Samar, Panay, Negros, Siargao, Mindanao, incl. *Elmer 10928* as *D. sulphureum* Elm. Rather common in primary forests at low and medium altitudes. Botel Tobago, *Kanehira & Sasaki!* The Malayan *D. cauliflorum* Hiern is closely allied.

Local names: Igai (Mang.); malañgi (Bil.); suha-suha (P. Bis.); tara-tára (Tag.); tarublang (Bik.); timatiñgan (Tag.).

**DYSOXYLUM DECANDRUM** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 30, Fl. Manila (1912) 276, Philip. Journ. Sci. 11 (1916) Bot. 279, Sp. Blancoanae (1918) 209.

*Turraea decandra* Blanco Fl. Filip. (1837) 347.

*Turraea virens* Blanco op. cit. ed. 2 (1845) 243, ed. 3, 2 (1878) 88, t. 130, non Linn.

*Dysoxylum amooroides* Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 16; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 130; Perk. Frag. Fl. Philip. (1904) 31.

*Dysoxylum blancoi* Vidal Cat. Pl. Prov. Manila (1880) 22, Sinopsis Atlas (1883) 19, t. 29, f. A, Rev. Pl. Vasc. Filip. (1886) 81.

*Dysoxylum salutare* F.-Vill. Novis. App. (1880) 42, non Blume.

Luzon (Cagayan to Sorsogon), Mindoro, Palawan, Masbate, Leyte, Negros, Mindanao, Basilan. Common in thickets and forests at low altitudes. Java to New Guinea.

Local names: Agáru (Pang.); agúiu (Pamp.); ananangtang (Bik.); bakúgan (Bik.) bundúgon (Bik.); buntóg (Bik.); buntógan (Bik.); bongliu (Bik.); basiloág (Ilk.); bolong-tambag (Bik.); íkuo (Tag.); ígiu, (Tag., Pamp.); kugiug (Tag.); malaadúas (P. Bis.); manangtang (Bik.); malabañgau (Pamp.); makasisi (Bik.); malabaga (Pamp.); palo-hambobokag (Bik.); paluahan (P. Bis.); pamatágin (Ibn.); pasiloág (Ilk.); tadiang-kalabáu (Tag.); tauing-tauing (Mbo.); taliktan (Tag., Pamp.).

**DYSOXYLUM EUPHLEBIUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 305, Interpret. Herb. Amb. (1917) 308.

Luzon (Cagayan, Laguna), Negros, Mindanao (Surigao, Lanao), *Merrill Phil. Pl. 1404, F. B. 26038 Mabesa, 25442 Santos, B. S. 15102, 10033 Ramos*. In forests at low and medium altitudes. Moluccas (Amboina).

Local names: Kalimutain (Tag.); kuling-babui (Tag.); kuling-manók (Tag.); marsédo (Ibn.); palatangin (Ibn.); paluahan (P. Bis.); uahau (P. Bis.).

**DYSOXYLUM FLORIBUNDUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 450.

Luzon (Bontoc, Benguet), *Vanoverbergh 1470, Merrill 9677*. In forested ravines, altitude 1,300 to 1,500 m. Endemic.

**DYSOXYLUM GRANDIFOLIUM** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 23.

Luzon (Tayabas), *Whitford 632*. In forests at low altitudes. Endemic.

**DYSOXYLUM HEXANDRUM** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 297.

Luzon (Bontoc, Rizal, Sorsogon), Catanduanes, Samar, *B. S. 23429, 24392, 30214, 30272 Ramos, 29582, 37904 Ramos & Edaña*. In primary forests at low altitudes. Endemic.

Local name: Dalaganan (S. L. Bis.).

**DYSOXYLUM ILOCANUM** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 298.

Luzon (Ilocos Norte), *F. B. 25091 Paraiso*. On forested slopes, altitude 300 m. Endemic.

Local name: Adukág (Ilk.).

**DYSOXYLUM KLEMMEI** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 273.

Luzon (Cagayan, Camarines), Samar, *F. B.* 13127 Bernardo, 7079 Klemme, 20475 Barros, 25960 Cortes, 21465 Alvarez, *B. S.* 33754 Ramos & Edaño. In primary forests at low altitudes. Endemic.

Local names: Kambolok (Neg.); malaguás (Bik.); patcharagon (S. L. Bis.); tibuñgau (Neg.).

**DYSOXYLUM LAXUM** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 279.

Camiguin de Misamis, Mindanao (Agusan, Lanao, Davao), *B. S.* 14694 Ramos, *F. B.* 28214 Ramos & Edaño, Elmer 13339, 11084, Clemens. In primary forests at low and medium altitudes. Endemic.

**DYSOXYLUM LEYTENSE** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 376.

Leyte, Samar, Siargao, Mindanao (Agusan, Surigao), *Wenzel* 10, 77, *B. S.* 24419, 17460, 15241 Ramos, *F. B.* 12746 Rosenbluth, Elmer 13436. In primary forests at low altitudes. Endemic.

Local names: Bagolan (S. L. Bis.); bagulan (S. L. Bis.); malaságing (Tag.).

**DYSOXYLUM LONGIFLORUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 538.

Luzon (Cagayan, Apayao, Sorsogon, Tayabas), *F. B.* 7480, 23618 Ramos, 28196 Fénix. In primary forests at low altitudes. Endemic.

Local name: Kabo-kábo (Ibn.).

**DYSOXYLUM OCTANDRUM** (Blanco) Merr. Sp. Blancoanae (1918) 209.

*Turraea octandra* Blanco Fl. Filip. (1837) 349, ed. 2 (1845) 244, ed. 3, 2 (1878) 89.

*Hartighsea schizochitodes* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 412.

*Dysoxylum schizochitode* C. DC. Monog. Phan. 1 (1878) 519; F.-Vill. Novis. App. (1880) 42; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 81.

*Scyphostigma philippinense* M. Roem. Syn. Hesper. (1846) 94.

Luzon (Laguna, Bataan, Camarines Sur), Mindoro, Mindanao, *Cuming* 1560, *Merrill Sp. Blancoanae* 856, *F. B.* 20595 Villamil, 19732 Whitford, 11929 Tamesis, Elmer 11707, 11731. In primary forests at low and medium altitudes. Endemic.

Local names: Himamau (Tag.); malaadúas (Bik.); mata-matá (Tag.).

**DYSOXYLUM PALAWANENSE** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 538.

Palawan, *Merrill* 9608. In primary forests at low altitudes. Endemic.

**DYSOXYLUM PALLIDUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 366.

Luzon (Camarines), Leyte, *Wenzel* 771, 606, *F. B.* 21722 Peña, Soriano, & Abellanosa. In primary forests at low altitudes. Endemic.

Local name: Kadañgisol (Bik.).

**DYSOXYLUM PANAYENSE** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 299.

Panay, *F. B.* 23951 Hirro, 31472 Ramos & Edaño. In primary forests up to 400 m altitude. Endemic.

Local name: Balik (P. Bis.).



**DYSOXYLUM PAUCIFLORUM** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 32.

Luzon (Rizal, Tayabas), Mindoro, *F. B. 2430, 3109 Ahern's collector, Loher 6825, F. B. 9837, 9727 Merritt*. In primary forests at low and medium altitudes. Endemic.

Local name: Amau (Mang.).

**DYSOXYLUM PLATYPHYLLUM** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 375.

Luzon (Camarines), Leyte, Samar, Mindanao, *Wenzel 118, 593, F. B. 23883 Cruz, B. S. 33775 Ramos & Edaña, Elmer 11834*. In primary forests at low and medium altitudes. Endemic.

Local name: Takanalon (Buk.).

**DYSOXYLUM PYRIFORME** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 149.

Luzon (Pangasinan), Mindanao (Lanao, Cotabato), *B. S. 30014 Fénix, Clemens 1100, 1221*. In forests, altitude 400 to 800 m. Endemic.

**DYSOXYLUM RAMOSII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 539.

Luzon (Laguna), *B. S. 20538, 20512 Ramos*. In primary forests at low altitudes. Endemic.

**DYSOXYLUM ROBINSONII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 540.

Luzon (Laguna), Mindanao (Davao), *B. S. 19510 Ramos, 6055, 9870 Robinson, Elmer 9303, 11628 as D. fragrans Elm., 10689 as D. glochidioides Elm*. In primary forests, altitude 600 to 1,000 m. Endemic.

**DYSOXYLUM ROSTRATUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 304.

Luzon (Laguna, Rizal), Samar, *Merrill Phil. Pl. 1386, 1473, B. S. 16552, 24296 Ramos, F. B. 23986 Maneja*. In primary forests at low altitudes. Endemic.

**DYSOXYLUM SIARGAOENSE** Merr. in Philip. Journ. Sci. 17 (1920) 269.

Siargao, *B. S. 35021 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

**DYSOXYLUM TRIANGULARE** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 148.

Mindanao (Lanao), *Clemens 981, F. B. 15452 Pray*. In forests, altitude about 800 m. Endemic.

Local name: Bitog (Lan.).

**DYSOXYLUM TURCZANINOWII** C. DC. Monog. Phan. 1 (1878) 501; [F.-Vill. Novis. App. (1880) 41; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 81.

*Hartighsea* sp. Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 412.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Nueva Vizcaya, Pangasinan, Zambales, Laguna, Batangas, Rizal), Mindoro, Mindanao, *Cuming 1145, B. S. 33176; 33168 Ramos, 29303 Ramos & Edaña, F. B. 10085, 17739 Curran*,

9818 Merritt, 24205 Barros, 9170 Whitford & Hutchinson. In forests at low and medium altitudes. Endemic.

Local names: Agaró (Ilk.); agarú (Pang.); bungloi (P. Bis.); iranin (Sbl.); kayatau (Sul.); lasona (S. L. Bis.); matá-na-úttá (Ibn.); pupuut (Ilk.); adupar (Ibn.).

**DYSOXYLUM VENOSUM** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 185.

Luzon (Cagayan), Polillo, *F. B. 16839 Curran, 6666 Klemme, B. S. 10770 McGregor*. In primary forests at low altitudes. Endemic.

Local name: Tabokálau (Ibn.).

**DYSOXYLUM VERRUCULOSUM** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 377.

Leyte, *Wenzel 28*. In forests at low altitudes. Endemic.

**DYSOXYLUM WENZELII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 367.

Luzon (Sorsogon), Leyte, Mindanao, *Wenzel 642, 688, 740, Elmer 17211, 15700, B. S. 34696 Ramos & Pascasio*. In primary forests at low and medium altitudes. Endemic.

#### DOUBTFUL AND EXCLUDED SPECIES

**DYSOXYLUM GAUDICHAUDIANUM** Miq.; F.-Vill. Novis. App. (1880) 42.

*Didymochiton gaudichaudianum* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 241.

The Wilkes expedition specimen is sterile, and does not represent Miquel's species; it was referred here with doubt by Gray. See Merrill in Philip. Journ. Sci. 3 (1908) Bot. 79.

**DYSOXYLUM** sp.?

*Boswellia ? integra* Blanco Fl. Filip. ed. 2 (1845) 242, ed. 3, 2 (1878) 86; Merr. Sp. Blancoanae (1918) 210.

F.-Villar referred Blanco's species to *Protium javanicum* Burm. f., with which it has nothing in common. Blanco's imperfect description apparently applies to *Dysoxylum*, but even this reduction must be considered as uncertain.

**DYSOXYLUM** sp.?

*Boswellia ? obliqua* Blanco Fl. Filip. ed. 2 (1845) 243, ed. 3, 2 (1878) 87; Merr. Sp. Blancoanae (1918) 210.

F.-Villar referred Blanco's species to *Ganophyllum falcatum* Blume, and misled by this reduction I erroneously adopted the binomial *Ganophyllum obliquum* (Blanco) Merr. for Blume's species. However, Blanco's imperfect description certainly does not appertain to *Ganophyllum*, but apparently refers to *Dysoxylum*. Its further identification from the description alone is impossible.

#### 10. CHISOCHETON Blume

**CHISOCHETON CAULIFLORUS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 188.

Samar, *B. S. 17625, 24457, 24519 Ramos*. In primary forests at low altitudes. Endemic.

Local name: Malapauhauhi (S. L. Bis.).

**CHISOCHETON CLEMENTIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 145.

Luzon (Cagayan, Apayao, Sorsogon), Samar, Mindanao, incl. *Elmer 16698* as *C. vulcanicus* Elm. and *Elmer 13487* as *C. caesifolius* Elm. In forests at low and medium altitudes. Endemic.

**CHISOCHETON CUMINGIANUS** (C. DC.) Harms in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1896) 296; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 72.

*Dasycoleum cumingianum* C. DC. Monog. Phan. 1 (1878) 451; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 84; F.-Vill. Novis. App. (1880) 42.

Luzon (Cagayan to Albay), Catanduanes, Samar, Leyte, Camiguin de Misamis, Mindanao. Common in primary forests at low and medium altitudes. Endemic.

Local names: Balibisan (Mand.); balíta (Buk.); balokanág (Bik.); balukanág (Tag.); batuakan (Ig.); dagau (Mand.); bayóngboi (Gad.); dualat (Tag.); dododo (Bik.); dudos (Bik.); kalimotain (Tag.); kaniknik (S. L. Bis.); kapboñgau (Ap.); kató (Tag.); kogod (Bik.); makalasa (Neg.); malakalád (C. Bis.); maramabólo (Ibn.); pakalsa (Neg.); salakín (Tag.).

**CHISOCHETON CURRANII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 234.

Luzon (Benguet), *F. B. 4865, 4923 Curran*. In thickets, limestone region, altitude about 1,500 m. Endemic.

**CHISOCHETON FULVUS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 146.

Luzon (Apayao), Mindanao, *Clemens 554, 583, 1046, 1062, F. B. 27050 Jimenez, 25905 Alviar, B. S. 28188 Fénix, 37000 Ramos & Edaña*. In forests at medium altitudes. Endemic.

Local names: Kalamatá (Ting.); malasantól (Lan.); sapanauak (Sub.).

**CHISOCHETON PARVIFOLIOLUS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 297.

Luzon (Ilocos Sur), *F. B. 25467 Paraiso*. In forests, altitude 300 m. Endemic.

**CHISOCHETON PENTANDRUS** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 31, Sp. Blancoanae (1918) 210.

*Trichilia pentandra* Blanco Fl. Filip. (1837) 355, ed. 2 (1845) 249, ed. 3, 2 (1878) 97.

*Dasycoleum philippinum* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 415; C. DC. Monog. Phan. 1 (1878) 540; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 84, Sinopsis Atlas (1883) 20, t. 29, f. C.

*Chisocheton philippinus* Harms in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1896) 296; Perk. Frag. Fl. Philip. (1904) 32; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 72, 3 (1908) Bot. 412.

*Chisocheton ceramicus* F.-Vill. Novis. App. (1880) 42, non Miq.

Babuyan Islands, Luzon (Cagayan to Albay), Mindoro, Masbate, Leyte, Samar, Negros, Panay, Mindanao, incl. *Elmer 14395* as *C. sorsogonensis* Elm. Common in forests at low altitudes. Endemic.

Local names: Agapañga (Tag.); anablog (Mang.); bagoloyak (Bik.); balasinan (Tagk.); balor (Tag.); balukanág (Bik.); baróngan (Ibn.); bihuak (Sbl.); dinalat-na-itim (Tag.); galtiano (S. L. Bis.); ginalat-na-itim (Tag.); ibó (C. Bis.); igiu (Tag.); katong-bakuláu (Tag.); katong-matsing (Tag.); kurabdab (Bik.); kurnug (Sul.); lagisan (Sul.); lapirigubat (Tag.); maguliok (Tag.); malabáhai (Tag.); malágai (Tag.); malaságing (Tag.); malatumbága (Tag.); palatáñgan (Ilk.); palatáñgen (Ilk.); pamalatáñgen (Ilk.); panatang (Tag.); paniaman (Tag.); pau (Tag.); salaki (Tag.); salaking-pulá (Tag.); sansuyud (P. Bis.); saplúnghan (Sul.); tagimúnau (Neg.); totonakálau (Neg.); tutonakálau (Neg.); uidauid (Ilk.).

**CHISOCHETON TETRAPETALUS** (Turcz.) C. DC. Monog. Phan. 1 (1878) 530; F.-Vill. Novis. App. (1880) 42; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 82; Merr. in Philip. Forestry Bureau Bull. 1 (1903) 28, Philip. Journ. Sci. 1 (1906) Suppl. 72. *Schizochiton tetrapetalus* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 411.

Luzon (Cagayan to Sorsogon), Mindoro, Palawan, Samar, Leyte, Masbate, Negros, Mindanao, incl. *Elmer 10884* as *C. apoensis* Elm. and *13592* as *C. urdanetensis* Elm. Common in forests at low and medium altitudes. Endemic.

Local names: Agogoi (Tag.); andeket (Pang.); balokanág (Bik.); bugoloyak (Bis.); hagupáñga (Tag.); ibó (Bis.); kató (Tag.); katong-matsing (Tag.); malabalukók (Ilk.); malapius (Pang.); malayba (Tag.); pantabañgon (Tag.); ulandig (Kuy.).

#### EXCLUDED SPECIES

**CHISOCHETON PANICULATUS** Hiern; F.-Vill. Novis. App. (1880) 42.

#### 11. LANSIUM Correa

**LANSIUM DUBIUM** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 23.

Luzon (Nueva Ecija, Tayabas, Bulacan, Laguna, Camarines, Sorsogon), Alabat, Ticao, Samar, Masbate, Leyte, Negros, Mindanao, Basilan, *Merrill 10448*, *Phil. Pl. 1502*, *Elmer 15890, 15198*, *B. S. 28593 Ramos & Edaño*, *F. B. 21456 Alvarez*. In primary forests at low and medium altitudes; common locally. Endemic.

Local names: Aráñgan (Bik.); bisik (Sul.); buáhan (Sul.); buláhan (P. Bis.); malakanasi (Bik.); mamatá-babáe (P. Bis.); tulánan (S. L. Bis.); uban-úban (Bik.).

**LANSIUM DOMESTICUM** Correa in Ann. Mus. Hist. Nat. Paris 10 (1807) 157, *t. 10, f. 1*; Poir. in Lam. Encycl. Suppl. 3 (1813) 299; Jack in Trans. Linn. Soc. 14 (1823) 115, *t. 4*; Blanco Fl. Filip. ed. 2 (1845) 228, ed. 3, 2 (1878) 62, *t. 117*; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 545; F.-Vill. Novis. App. (1880) 43; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 31, Fl. Manila (1912) 275, Sp. Blancoanae (1918) 211.

? *Baccaurea sylvestris* Lour. Fl. Cochinch. (1790) 662, ed. Willd. (1793) 813; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 457.

? *Melia parasitica* Osbeck Dagbok Ostind. Resa (1757) 278; Merr. in Am. Journ. Bot. 3 (1916) 582.

Luzon (Tayabas, Laguna, etc., planted), Mindanao, Basilan, *Merrill 3464, Sp. Blancoanae 53, Elmer 11211, F. B. 24464 Miras & Mariano, 27466 De Mesa, B. S. 15432 Reillo*. Indo-China, Malay Peninsula and Archipelago, in general cultivation for its desirable edible fruit.

Local names: Boboa (Bis.); buahan (Mbo., Sul.); bulahan (Bis.); buan (Mbo.); bukan (Bis.); kaliboñgan (Mbo.); lansónes (Tag., Bik.); tubua (Bag.).

## 12. REINWARDTIODENDRON Koorders

**REINWARDTIODENDRON CELEBICUM** Koord. in Meded. Lands Plant. 19 (1898) 389.

*Reinwardtiodendron merrillii* Perk. Frag. Fl. Philip. (1904) 74; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 72.

*Lansium monophyllum* Merr. ex Perk. l. c. in syn.

Luzon (Benguet, Ilocos Sur, Nueva Ecija, Bataan, Laguna), Mindoro, Leyte, Camiguin de Misamis, Mindanao. In primary forests at low and medium altitudes, locally abundant. With a cotype of Koorders's genus and species before me, I can see no valid reason for distinguishing the Philippine form from the Celebes one. A monotypic genus, known otherwise from Celebes.

Local names: Balibisan (Mbo.); bianti (Tag.); malakamánga (Tag.).

## 13. APHANAMIXIS Blume

**APHANAMIXIS CORIACEA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 14.

Luzon (Sorsogon), *B. S. 23576 Ramos, Elmer 16054, 15505, 17321*. In primary forests at low and medium altitudes. Endemic.

**APHANAMIXIS CUMINGIANA** (C. DC.) Harms in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1896) 296.

*Amoora cumingiana* C. DC. Monog. Phan. 1 (1878) 580; F.-Vill. Novis. App. (1880) 43; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 83; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 72.

Luzon, Cagayan to Sorsogon, *Loher 5668, Baker 3143, B. S. 28095, 28143 Félix, 12387, 20169 McGregor, 18304 Otanes, F. B. 6705 Kobbe, 2861 Ahern's collector, 25307 Bawan, Merrill Phil. Pl. 1005*. In forests at low and medium altitudes. Endemic.

Local names: Balukanág (Bik.); balokanág (Tag.); busenlog (Ting.); búngliu (C. Bis.); dugarang (Pamp.); guguloi (Sbl.); malatádiang (Tag.); palatáñgan (Ilk.); pamalatáñgen (Ilk.); palang-batú (Tag.); salakin (Tag.); taliántan (Tag.).

**APHANAMIXIS PERROTTETIANA** A. Juss. in Mém. Mus. Hist. Nat. Paris 19 (1830) 244, 260, t. 14, f. 9a.

*Amoora perrottetiana* Walp. Repert. 1 (1842) 429; C. DC. Monog. Phan. 1 (1878) 580; F.-Vill. Novis. App. (1880) 43.

Luzon (Laguna and Bataan to Sorsogon), Mindoro, Palawan, Samar, Leyte, Mindanao, Basilan, *Elmer 18258, F. B. 10745 Curran, B. S. 21981*

*Ramos, 21525 Escritor, 15912 Fénix.* In forests at low and medium altitudes. Endemic.

Local names: Balukanág (S. L. Bis.); bohankúya (Yak.); kangko (Bil.); tañgalinau (Lan.); tolagak (Mbo.).

**APHANAMIXIS POLILLENSIS** (C. B. Rob.) comb. nov.

*Amoora polillensis* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 206.

Polillo, Mindanao (Surigao), *B. S. 6939 Robinson, Ahern 324.* In forests at low altitudes. Endemic.

Local name: Búngliu (C. Bis.).

**APHANAMIXIS TRIPETALA** (Blanco) Merr. Sp. Blancoanae (1918) 211.

*Trichilia tripetala* Blanco Fl. Filip. (1837) 354, ed. 2 (1845) 248, ed. 3, 2 (1878) 97.

*Amoora cucullata* Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 106; ? F.-Vill. Novis. App. (1880) 43, non Roxb.

*Amoora rohituka* F.-Vill. Novis. App. (1880) 43, non W. & A.

*Amoora elmeri* Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 23.

*Aphanamixis elmeri* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 15.

Luzon (Cagayan to Sorsogon), Mindoro, Mindanao. In forests at low and medium altitudes. Endemic.

Local names: Agakák (Bis.); malaságing-putí (Tag.); palatáñgan (Ilk.); pamalatáñgen (Ilk.); saláging-pulá (Tag.).

#### 14. AMOORA Roxburgh

**AMOORA AHERNIANA** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 24, Philip. Journ. Sci. 1 (1906) Suppl. 72.

Luzon (Bataan, Zambales, Laguna), *F. B. 823 Borden, 6509 Aguilar, 7360 Curran, 21828 Medina.* In primary forests up to 300 m altitude; material from other provinces and islands identified as this does not belong here. Endemic.

Local names: Kató (Tag.); malatumbága (Tag.).

**AMOORA CUPULIFERA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 365.

Leyte, *Wenzel 311, 1042.* In primary forests up to 500 m altitude. Endemic.

**AMOORA FULVA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 187.

Samar, *B. S. 24497 Ramos.* In primary forests at low altitudes. Endemic.

**AMOORA MACROCARPA** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 24.

*Dysoxylum turczaninowii* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 72, non C. DC.

Luzon (Bataan), *Merrill 3731, Whitford 474, 1199, 1217, F. B. 1365 Borden, 2634 Meyer, Elmer 6908, Williams 396.* In primary forests, altitude 400 to 900 m; erroneously reduced by me to *Dysoxylum turczaninowii* C. DC. Endemic.

## EXCLUDED SPECIES

AMOORA CANARANA Hiern; F.-Vill. Novis. App. (1880) 43.

AMOORA GRANDIFOLIA C. DC.; F.-Vill. l. c.

AMOORA RUBIGINOSA Hiern; F.-Vill. l. c.

AMOORA TIMORENSIS F.-Vill. Novis. App. (1880) 43; Vidal Sinopsis Atlas (1883) 20, t. 29, f. D, Rev. Pl. Vasc. Filip. (1886) 83.

Vidal refers here his No. 1020, from Bulacan Province, Luzon, with expressed doubt. I have not seen the specimen, but it probably does not represent Miquel's species, which is an *Aphanamixis*.

## 15. CLEMENSIA Merrill

CLEMENSIA MACRANTHA Merr. in Philip. Journ. Sci. 3 (1908) Bot. 144.

Mindanao (Bukidnon, Davao, Lanao), Malamaui, Siargao, Basilan, *Clemens* 725, B. S. 14144, 16369 *Reillo*, 15759 *Fénix*, 34954 *Ramos & Pascasio*, 36990 *Ramos & Edaño*, *Elmer* 10697, 11082 as *Dysoxylum dehiscens* Elm. In primary forests at low and medium altitudes. A monotypic genus, now known also from Borneo.

Local names: *Babañganon* (Buk.); *bubunao* (Sub.).

## 16. AGLAIA Loureiro

AGLAIA ACUMINATA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 531.

Palawan, Panay, *Merrill* 9306, B. S. 35369, 35592 *Martelino & Edaño*. In primary forests at low altitudes. Endemic.

AGLAIA AFFINIS Merr. in Philip. Journ. Sci. 3 (1908) Bot. 235.

Balabac, Mindanao (Zamboanga), B. S. 446 *Mangubat*, F. B. 9160, 9272 *Whitford & Hutchinson*, *Merrill* 8199. In forests at low and medium altitudes. Endemic.

AGLAIA AHERNIANA Perk. Frag. Fl. Philip. (1904) 32; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 206.

Luzon (Tayabas, east coast, Camarines, Sorsogon, Albay), Polillo, Sibuyan, Dinagat, *Merrill* 1025, *Ahern* 481, F. B. 27092 *Fajatin*, 10690 *Curran*, B. S. 9137 *Robinson*, 10232 *McGregor*, *Elmer* 12343, 17292 as *A. irosinensis* Elm. In primary forests at low and medium altitudes. Endemic.

Local name: *Manabá* (Bik.).

AGLAIA ALTERNIFOLIOLA Merr. in Philip. Journ. Sci. 9 (1914) Bot. 532.

Palawan, Mindanao (Agusan), Basilan, F. B. 18996, 18952 *Miranda*, 23672 *Razon*, 25844 *Natividad*. In forests near the seashore. Endemic.

Local name: *Malabuhan* (Mbo.).

AGLAIA APOANA Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 30.

Mindanao (Davao), *Copeland*, *Elmer* 11643, *Williams* 2637. In forests, altitude 900 to 1,400 m. Endemic.

**AGLAIA BADIA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 270.

Luzon (Cagayan), *F. B. 7082, 11305 Klemme, 20450 Bernardo*. In primary forests at low altitudes. Endemic.

Local names: Masaleng (Neg.); panuhan (Neg.); salotói (Ibn.).

**AGLAIA BERNARDOI** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 302.

Luzon (Cagayan, Cavite, Rizal), Palawan, *F. B. 15205 Bernardo, 4513 Curran, B. S. 24113 Ramos & Deroy, Loher 5866, Elmer 13121* as *A. perfulva* Elm. In primary forests at low and medium altitudes. Endemic.

**AGLAIA BICOLOR** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 270.

Luzon (Cagayan, Ilocos Sur, Pangasinan, Pampanga, Tayabas, Rizal), Leyte, Negros, Mindanao, Basilan, *F. B. 4288, 4117 Klemme, 24315 Labitag, 23965 Maneja, 23401 Contreras, 413 Ahern's collector, Merrill 1659, Phil. Pl. 1337, B. S. 15469, 16100 Reillo*. In primary forests at low and medium altitudes. Endemic.

Local names: Bakaláu (Pang.); basináu (Lan.); batukanág (Ilk.); malaságing (Tag.); mata-na-úttá (Neg.); salamiñgai (S. L. Bis.); salamóñgai (Tag.); salapuyud (Ilk.); taratara-babáe (C. Bis.).

**AGLAIA BRACHYBOTRYS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 274.

Luzon (Cagayan), Mindanao (Agusan, Davao), *F. B. 15497 Bernardo, Adduru 242, 252, Elmer 13626a, 11207*. In primary forests at low altitudes. Endemic.

Local name: Talisáyan (Ibn.).

**AGLAIA BREVIPETIOLATA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 14.

Luzon (Sorsogon), *B. S. 23522 Ramos*. In primary forests at low altitudes; very close to *A. luzoniensis* Merr. & Rolfe. Endemic.

**AGLAIA CAGAYANENSIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 275.

Luzon (Cagayan, Isabela), *B. S. 13801 Ramos, 21156 Escritor*. In forests at low altitudes. Endemic.

**AGLAIA CLARKII** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 21.

Luzon (Ilocos Sur, Zambales, Tayabas, Batangas, Camarines, Albay), Palawan, Sibuyan, Masbate, Burias, Tablas, Cebu, *F. B. 988, 1717 Clark, 23601 Paraiso, 8368 Curran & Merritt, 10590 Curran, B. S. 22392 Ramos, Merrill 2028, Elmer 12457*. In forests at low altitudes. Endemic.

Local names: Alamag (Bik.); balúi (Pang.); batukanág (Ilk.); baroñgisan (Tagb.); kansúlod (P. Bis.); kansúyud (Bik.); saldana (C. Bis.); tibkal (Sbl.); tukang-kálaw (Tag., Bik., P. Bis.).

**AGLAIA COSTATA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 146.

Luzon (Camarines) Samar, Mindanao (Agusan, Lanao), *Merrill Phil. Pl. 1576, 1658, Elmer 13770* as *A. umbrina* Elm., *Clemens 568*. In forests at low and medium altitudes. Endemic.

Local names: Manabiog (Bik.); paralakát (S. L. Bis.).

**AGLAIA CUMINGIANA** Turcz. in Bull. Soc. Nat. Mosc. 31<sup>2</sup> (1858) 409.

*Hearnia cumingiana* C. DC. Monog. Phan. 1 (1878) 629; F.-Vill. Novis. App. (1880) 44; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 83.



Luzon (Cagayan, Ilocos Norte, Benguet, Nueva Vizcaya, Nueva Ecija, Bulacan, Rizal), Bancalan, Panay, Negros, Mindanao, incl. *Elmer 10956* as *A. subcoriacea* Elm. In primary forests at low and medium altitudes. Endemic.

Local names: Alauñhau (P. Bis.); balbalan-amo (P. Bis.).

**AGLAIA CUPREO-LEPIDOTA** Merr. in Philip. Journ. Sci. 20 (1922) 393.

Mindoro, *B. S. 39579, 39758 Ramos*. In dry primary forests at low altitudes. Endemic.

**AGLAIA CURRANII** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 276.

Luzon (Bataan), Mindanao (Davao), *F. B. 17580 Curran, 27715 Angeles & Selorio*. In primary forests at low and medium altitudes. Endemic.

**AGLAIA DENTICULATA** Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 410; C. DC. Monog. Phan. 1 (1878) 612; F.-Vill. Novis. App. (1880) 44; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 83; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 73.

Luzon (Cagayan, Ilocos Norte, Tayabas, Bataan, Laguna, Rizal), Mindoro, Mindanao (Davao, Agusan, incl. *Elmer 13609* as *A. subviridis* Elm.). In primary forests at low and medium altitudes, locally abundant. Endemic.

Local names: Bosilák (Ibn.); dauáng (Ilk.); gasátin (Ilk.); salaking-putí (Tag.); sarálo (Ilk.).

**AGLAIA DIFFUSA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 277.

Luzon (Cagayan to Sorsogon), Mindoro, Masbate, Burias, Leyte, Negros, Mindanao, Basilan, incl. *Elmer 13668* as *A. urdanetensis* Elm. and *Elmer 7522* as *A. banahaensis* Elm. Common in forests at low and medium altitudes. Endemic.

Local names: Agulásin (Ibn.); aráñgen (Ilk.); balambán-ñga-puráu (Ilk.); batilan (Sul.); bugalbal (Tag.); kaniui (Tag.); dauéng (Ilk.); kamatamata (Mag.); kuping (Tag.); luñgan (Sul.); malaságing (Tag.); maligang (Sul.); mata-matá (P. Bis.); mamatá (Sub.); oksa (Neg.); palatáñgan (Ibn.); parusapil (Neg.); salaking-pulá (Tag.); salñgén (Ilk.); saplúgan (Sul.); sarálo (Ilk.); tal-lán (Ibn.); tibuñgau (Neg.); ugis (Kal.).

**AGLAIA DIFFUSIFLORA** Merr. in Philip. Journ. Sci. 14 (1919) 410.

Panay, Luzon (Sorsogon), *B. S. 31098 Ramos & Edaño, Elmer 14934, 16596* as *A. bulusanensis* Elm. In primary forests at low and medium altitudes. Endemic.

**AGLAIA ELAEAGNOIDEA** (Juss.) Benth. Fl. Austral. 1 (1863) 383; C. DC. Monog. Phan. 1 (1878) 611; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 296.

*Nemadra elaeagnoidea* A. Juss. in Mém. Mus. Hist. Nat. Paris 19 (1830) 259, t. 14.

Palawan, Bancalan, Balabac, Malamaui, Jolo, Basilan, Mindanao (Zamboanga). In thickets and forests along the seashore. Java to New Caledonia and northeastern Australia.

Local names: Begna (Tag.); malaságing (Tag.); mata-máta (Sul.).

**AGLAIA ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 413, 5 (1910) Bot. 355.

Y'Ami, Batan and Babuyan Islands, Luzon (Cagayan, Benguet). In thickets and forests at low altitudes. Formosa (*Kanehira*, as *A. roxburghiana* Miq.).

Local names: Rerei-nu-kurai (Iv.); saybong (Ig.); tuyu-túyu (Ibn.).

**AGLAIA EVERETTII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 271.

Negros, Cebu, Leyte, Camiguin de Misamis, Mindanao (Davao, Surigao, Agusan, incl. *Elmer 14028* as *A. agusanensis* Elm.). In primary forests at low and medium altitudes. Endemic.

Local names: Bagasantól (S. L. Bis.); bubúa (P. Bis.); bubúnau (Mbo.); bulóg (P. Bis.); buñguás (C. Bis.); kúnau (Bag.); lumbanáu (C. Bis.); malasantól (C. Bis.).

**AGLAIA FORMOSANA** Hayata Ic. Pl. Formos. 3 (1913) 52.

*Aglaiia elaeagnoides* Benth. var. *formosana* Hayata ex Matsum. & Hayata in Journ. Coll. Sci. Univ. Tokyo 22 (1906) 78.

*Aglaiia elaeagnoides* Benth var. *pallens* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 413.

*Aglaiia pallens* Merr. in Philip. Journ. Sci. 13 (1918) Bot. 297.

Batan and Babuyan Islands, Luzon (Ilocos Norte), *B. S. 4122, 3831 Fénix, F. B. 19365 Agudo, 26816 Paraiso*. In thickets in ravines and forests at low altitudes. Formosa.

Local name: Alúi (Iv.).

**AGLAIA GLOMERATA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 30.

*Argophilum pinnatum* Blanco Fl. Filip. (1837) 186, ed. 2 (1845) 131, ed. 3, 1 (1877) 235.

*Aglaiia palembanica* Vidal Sinopsis Atlas (1883) 19, t. 29, f. B, Rev. Pl. Vasc. Filip. (1886) 82; F.-Vill. Novis. App. (1880) 44; Perk. Frag. Fl. Philip. (1904) 34, non Miq.

*Aglaiia pinnata* Merr. Sp. Blancoanae (1918) 212, non Druce (1914).

Luzon (Isabela to Albay), Alabat, Catanduanes, Mindoro, Palawan, Leyte, Panay, Negros, Mindanao, Basilan. Common in primary forests at low and medium altitudes. Endemic, but closely allied to the extra-Philippine *Aglaiia palembanica* Miq. and *A. cordata* Hiern.

Local names: Bayánti (Tag.); bulóg (P. Bis.); kaniuing-putí (Tag.); karamiras (Tag.); kuling-manók (Tag.); karayap (Buk.); mata-máta (Sul.); sapluñgan (Sul.); tibuñgao (Klg.).

**AGLAIA GRANDIFOLIOLA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 293.

Luzon (Tayabas, Camarines, east coast), *B. S. 26551, 28981, 33900, 33557 Ramos & Edaño*. In primary forests at low altitudes.

**AGLAIA HARMSIANA** Perk. in Notizbl. Kgl. Bot. Gart. Berlin 3 (1903) 78, Frag. Fl. Philip. (1904) 32; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 73.

Luzon (Cagayan to Sorsogon), Mindoro, Palawan, Catanduanes, Leyte, Panay, Guimaras, Mindanao, Basilan. Common in primary forests at low and medium altitudes. Endemic.

Local names: Balinsiagau (Pang.); batukanág (Ilk.); bubuiakit (Sub.); daiamiras (Tag.); hagásan (S. L. Bis.); kagatóñgan (Tag.); kamata-

máta (Lan.); kaniui (Tag.); lumbunau (Kuy.); malaságing (Tag.); malatumbága (Tag.); mamonak (Sul.); mamonau (Sul.); mata-máta (Bik.); matang-úlang (Tag.); odling (P. Bis.); palatánġan (Ilk.); salamúnġai (Tag.); salapúgud (Ilk.); saplúnġan (Sul.); sulmin (Tag.); tadiáng-kalabau (Tag.); tibúnġau (Neg.).

**AGLAIA ILOILO** (Blanco) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 533, Sp. Blancoanae (1918) 212.

*Melia iloilo* Blanco Fl. Filip. ed. 2 (1845) 241, ed. 3, 2 (1878) 85.

*Aglaia argentea* F.-Vill. Novis. App. (1880) 44; Perk. Frag. Fl. Philip. (1904) 32; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 31, non Blume.

Luzon (Cagayan, Nueva Ecija, Pampanga, Laguna, Sorsogon, *Elmer 17169* as *A. nivea* Elm.), Mindoro, Mindanao (Cotabato). In primary forests at low altitudes. Endemic, unless referable to the Malayan *A. argentea* Blume.

Local name: Iloilo (Pamp.).

Var. **AMPLA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 533.

Luzon (Laguna), Mindanao (Lanao), Basilan. In primary forests at low altitudes, ascending to 800 m. Endemic.

**AGLAIA LAEVIGATA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 31.

Luzon (Ilocos Norte, Ilocos Sur, Pangasinan, Nueva Ecija, Bulacan, Bataan, Rizal), Mindoro, Negros. In primary forests at low and medium altitudes. Endemic.

Local names: Agai (Tag.); ásat (Ilk.); gisihán (Tag.); salġġén (Ilk.); taratara (P. Bis.); tondong (P. Bis.).

**AGLAIA LANCEOLATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 184.

Luzon (Cagayan, Nueva Vizcaya, Rizal), *F. B. 28489, 28541 Cenabre, B. S. 8141 Ramos, Loher 5667, Adduru 82, 191*. In forests at low and medium altitudes. Endemic.

**AGLAIA LANCILIMBA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 294.

Luzon (Camarines), *F. B. 26509 De Mesa & Magistrado*. In primary forests at low altitudes. Endemic.

**AGLAIA LANGLASSEI** C. DC. in Ann. Conserv. Jard. Bot. Genève 10 (1907) 151.

*Aglaia lagunensis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 537.

Luzon (Laguna, Tayabas, incl. *Merrill Phil. Pl. 1129* as *A. macrobotrys*, non Turcz.). In primary forests at low and medium altitudes. Endemic.

Local names: Balánti (Tag.); malaságing (Tag.).

**AGLAIA LLANOSIANA** C. DC. Monog. Phan. 1 (1878) 621; F.-Vill. Novis. App. (1880) 44.

*Aglaia turczaninowii* C. DC. op. cit. 1 (1878) 623; F.-Vill. Novis. App. (1880) 44; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 83; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 73.

*Nemedra* ? sp. Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 410.

*Amoora lepidota* Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 23.

Babuyan Islands, Luzon (Cagayan to Sorsogon), Alabat, Mindoro, Sibuyan (*Elmer 12466, 12243* as *A. sibuyanensis* Elm.), Palawan, Romblon, Ticao, Guimaras, Panay, Negros, Mindanao, Sibutu. In forests at low and medium altitudes, sometimes along the seashore; common. Endemic.

Local names: Adi-oás (Ilk.); aránġen (Ilk.); bayánti (Tag.); bulóg (P. Bis.); kaniue (Tag.); libanau (Sul.); magitlúmboi (P. Bis.); malatum-bága (Tag.); mata-máta (Bik., P. Bis.); mata-úttá (Ibn.); salamúñġi (Tag.) taba-tába (Bik.); tagasléng (Ilk.); tapuyi (P. Bis.).

**AGLAIA LOHERI** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 533.

Luzon (Rizal), *Loher 5682*. In forests. Endemic.

**AGLAIA LUZONIENSIS** (Vidal) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 105.

*Beddomea luzoniensis* Vidal Rev. Pl. Vasc. Filip. (1886) 84; Ceron Cat. Pl. Herb. Manila (1892) 44.

*Aglaiá unifoliolata* Koord. Meded. Lands Plant. 19 (1898) 635.

*Aglaiá monophylla* Perk. Frag. Fl. Philip. (1904) 33.

*Beddomea simplicifolia* F.-Vill. Novis. App. (1880) 43, non Bedd.

Luzon (Cagayan to Sorsogon), southward to Palawan and Mindanao. Common in primary forests at low and medium altitudes. Borneo, Celebes, New Guinea.

Local names: Arupag-nalabága (Ilk.); aparang (C. Bis.); bulóg (P. Bis.); lanzones-gúbat (Tag.); madiabug (Tag.); maragutau (Neg.); mata-máta (Bik.); panapipi (Neg.); patu (Tagb.); sandana (P. Bis.); talán (Ibn.).

Var. **TRIFOLIATA** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 105.

Mindanao (Zamboanga, Misamis), *F. B. 9117 Whitford & Hutchinson, 4724 Mearns & Hutchinson*. In dipterocarp forests. Endemic.

**AGLAIA MACROBOTRYS** Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 409; C. DC. Monog. Phan. 1 (1878) 609; F.-Vill. Novis. App. (1880) 44; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 82.

Luzon (Cagayan, Laguna, Camarines, Albay), *Cuming 902, F. B. 5269 Klemme, 24239 Santos, B. S. 15033 Ramos*. In primary forests at low altitudes. Celebes.

Local names: Balánti (Tag.); botgó (Tag.).

**AGLAIA MICRANTHA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 22, Philip. Journ. Sci. 1 (1906) Suppl. 73.

Luzon (Bataan), *Whitford 104, 215, 1230, 477, Merrill 3724, Williams 404, F. B. 1195 Borden, 3120 Meyer, 25770 Borromco*. In primary forests at medium altitudes. Endemic.

Local names: Busilák (Tag.); lansonis-búndok (Tag.).

**AGLAIA MIRANDAE** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 295.

Basilan, Malamaui, *F. B. 18970 Miranda, 25224 Ceballos & Tecson*. In primary forests at low altitudes. Endemic.

**AGLAIA MULTIFLORA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 73.

Luzon (Bataan, Laguna), *F. B. 1420 Ahern's collector, 22707 Gangan, B. S. 21978 Ramos*. In primary forests at low or medium altitudes. Endemic.

Local name: Malatumbága (Tag.).

**AGLAIA MULTIFOLIOLA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 534, 11 (1916) Bot. 280.

Leyte, Panay, Negros, Cebu, Mindanao, Basilan, *F. B. 9208 Whitford & Hutchinson, 6458 Everett, 18964 Miranda, Hallier*. In primary forests at low altitudes. Moluccas.

Local names: Bankagnian (Sul.); gupak (C. Bis.); kansúlud (P. Bis.); magsayap (Sul.); pilukau (S. L. Bis.).

**AGLAIA MYRIANTHA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 295.

Luzon (Tayabas, east coast), *B. S. 26593 Ramos & Edaña*. In primary forests at low altitudes. Endemic.

Local name: Garororõgon (Neg.).

**AGLAIA ODORATA** Lour. Fl. Cochinch. (1790) 173; DC. Prodr. 1 (1824) 537; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 543; C. DC. Monog. Phan. 1 (1878) 602; F.-Vill. Novis. App. (1880) 43; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 410; Perk. Frag. Fl. Philip. (1904) 34; Merr. Fl. Manila (1912) 275.

*Aglaiia pinnata* Druce Bot. Exch. Club (1914) 413, non *Vitex pinnata* Linn.

Introduced from southeastern Asia, cultivated for its fragrant flowers in the larger towns of the Archipelago, but nowhere established. Commonly known as *cinamomo* and as *cinamomo de China* (Sp.).

**AGLAIA OLIGANTHA** C. DC. Monog. Phan. 1 (1878) 603; F.-Vill. Novis. App. (1880) 44; Vidal Phan. Cuming. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 83.

*Aglaiia bordenii* Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 22, Philip. Journ. Sci. 1 (1906) Suppl. 72.

Luzon (Cagayan to Sorsogon), Alabat, Leyte, Mindanao (Lanao, Cotabato, Agusan, *Elmer 14116* as *A. anonoides* Elm. fruct. juv.). Common in primary forests at low and medium altitudes. Endemic.

Local names: Ansa (Pang.); malalansónes (Tag.); malaráyap (Tag.); malaságing (Tag.); manggalukbán (Pang.); manalau (Tag.); potían (Tag.).

**AGLAIA PALAWANENSIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 235.

Palawan, *B. S. 689 Foxworthy*. In primary forests, altitude about 300 m; not certainly distinct from *A. diffusa* Merr. Endemic.

Local name: Pauasan (Tagb.).

**AGLAIA PALLIDA** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 147.

Mindanao (Lanao, Davao), *Clemens 1228, Elmer 10735* as *A. reticulata* Elm. In forests, altitude about 700 m. Endemic.

**AGLAIA PARVIFOLIA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 21.

Luzon (Taybas), Burias, *F. B. 986 Clark, 15267 Rosenbluth, 22718 Manuel*. On forested slopes at low altitudes; allied to *A. elaeagnoidea* Benth. Endemic.

Local name: Mata-máta (Tag., P. Bis.).

**AGLAIA PAUCIFLORA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 31, Philip. Journ. Sci. 1 (1906) Suppl. 73.

Luzon (Bataan, Tayabas, Bulacan, Rizal), Mindanao (Agusan, Davao), *Elmer 6699, 9307, 13986, 10687, F. B. 24738 Leuterio, B. S. 1490 Ramos*. In primary forests at low altitudes; to be compared with *Aglaiia harmsiana* Perk. Endemic.

Local name: Malasaging (Tag.).

**AGLAIA PUNCTICULATA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 290.

Luzon (Nueva Ecija), *B. S. 26306 Ramos & Edaño*. In forests, altitude about 400 m. Endemic.

Local name: Amponayan (Neg.).

**AGLAIA PYRIFORMIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 290.

Luzon (Tayabas, east coast), *B. S. 26604 Ramos & Edaño*. In primary forests, altitude about 300 m. Endemic.

**AGLAIA RIMOSA** (Blanco) Merr. Sp. Blancoanae (1918) 212.

*Portesia rimosa* Blanco Fl. Filip. (1837) 297.

*Trichilia rimosa* Blanco op. cit. ed. 2 (1845) 250, ed. 3, 2 (1878) 99.

*Aglaiia hexandra* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 410;

C. DC. Monog. Phan. 1 (1878) 614; F.-Vill. Novis. App. (1880)

44; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 82.

*Aglaiia polystachya* Naves ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 106, non Spreng.

Luzon (Cagayan, Pangasinan, Nueva Ecija, Cavite, Laguna, Batangas), Mindoro, *Cuming 1410, 1583, Baker 3671, Elmer 17709, Merrill 2868, Sp. Blancoanae 765, F. B. 24874 Mabesa, 21506 Tamesis, B. S. 24112 Ramos & Deroy*. In primary forests at low and medium altitudes. Endemic.

Local names: Balubar (Pang.); busilák (Tag.); doranai (Neg.); taláng (Ibn.).

**AGLAIA RIZALENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 289.

Luzon (Rizal), *B. S. 29640 Ramos & Edaño*. In primary forests above an altitude of 800 m; closely allied to *Aglaiia luzoniensis* Merr. & Rolfe. Endemic.

**AGLAIA ROBINSONII** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 291.

Luzon (Tayabas, east coast), *B. S. 9438 Robinson, 26562, 28634 Ramos & Edaño*. In primary forests, altitude about 900 m. Endemic.

Local name: Maraampinit (Neg.).

**AGLAIA SAMARENSIS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 186.

Samar, Luzon (Sorsogon), *B. S. 24197 Ramos, Elmer 16814, 17147*. In forests at low altitudes; very similar to *Aglaiia diffusa* Merr. Endemic.

**AGLAIA STELLATO-TOMENTOSA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 535.

Mindanao (Cotabato), Basilan, *F. B. 20085 Miranda, 14917 Tarrosa, Hallier*. In primary forests at low altitudes; apparently very closely allied to *Aglaiia hemsleyi* Koord. of Celebes. Endemic.

**AGLAIA STENOPHYLLA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 185.

Samar, Mindanao (Agusan), *B. S. 24182 Ramos, F. B. 28984 Mallonga*. In damp forests at low altitudes. Endemic.

**AGLAIA TAYABENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 292.

Luzon (Tayabas, east coast), *B. S. 23133 Ramos & Edaña*. In primary forests at low altitudes. Endemic.

**AGLAIA TRUNCIFLORA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 303.

Leyte, *B. S. 15232 Ramos*. In primary forests at low or medium altitudes. Endemic.

**AGLAIA VILLAMILII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 536.

Luzon (Laguna), Mindanao (Zamboanga), *F. B. 21866 Villamil, 26178 Mabesa*. In primary forests at low altitudes. Endemic.

Local name: Sándalo (Chab.).

#### EXCLUDED SPECIES

**AGLAIA ANGUSTIFOLIA** Miq.; *F.-Vill. Novis. App. (1880) 44*.

**AGLAIA GRANDIS** Miq.; *F.-Vill. l. c.*

**AGLAIA MINUTIFLORA** Bedd.; *F.-Vill. l. c.*

**AGLAIA ROXBURGHIANA** Bedd.; *F.-Vill. l. c.*

**AGLAIA TENUICAULIS** Hiern.; *F.-Vill. l. c.*

#### 17. WALSURA Roxburgh

**WALSURA AHERNIANA** Perk. *Frag. Fl. Philip. (1904) 34*.

*Walsura robusta* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 29, non Roxb.

Luzon (Cagayan, Isabela, Tayabas, Rizal, Camarines, Sorsogon), Palawan, Samar, Leyte, Negros, Basilan. Locally common in forests at low and medium altitudes. Endemic.

Local names: Baniui (Tag.); bayít (Tag.); bukaláu (Ilk.); kalibáian (Bik.); kuráuit (Ibn.); makan-ugsá (Klg.); malatúba (Bik.); painá' (Tag.); palinghuai (Bik.); panigibuli (P. Bis.); saraksák (Ibn.); urisép (Ilk.).

**WALSURA BRACHYBOTRYS** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 378.

Leyte, Samar, Mindanao, *Wenzel 295, 1621, B. S. 24140 Ramos, Williams 2093, F. B. 17934 Miranda*. In primary forests at low altitudes. Endemic.

**WALSURA MULTIJUGA** King in Journ. As. Soc. Beng. 64<sup>2</sup> (1895) 83; Valetón in Ic. Bogor. 2 (1906) 156, t. 135; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 148.

Palawan, Mindanao (Bukidnon, Lanao), *Clemens, F. B. 27052 Jimenez, 23173 Agama, 23137 Acuña, B. S. 39167 Ramos & Edaño, Elmer 13158* as *W. palawanensis* Elm. In forests up to 800 m altitude. Malay Peninsula, Sumatra, Banca.

**WALSURA VILLAMILII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 308.

Mindanao (Zamboanga), *F. B. 21888 Villamil, 24159 Miranda, 13764 Foxworthy, De Mesa, & Villamil*. On forested slopes at low altitudes. Endemic.

Local name: Sasá (Sul.).

#### 18. HEYNEA Roxburgh

**HEYNEA SUMATRANA** Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 60; C. DC. Monog. Phan. 1 (1878) 714; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 273.

*Scutinanthe engleri* Elm. Leaf. Philip. Bot. 1 (1908) 298.

Luzon (Tayabas, Camarines), Mindanao (Agusan), Basilan, *Elmer 9179, 14054 (H. engleri Elm.), B. S. 19534 Ramos, 15422, 16304 Reillo, F. B. 25315 Bawan, 6702 Kobbe, 18746 Darling, 18845 Miranda, 24947 Tecson*. In forests at low and medium altitudes. Sumatra, Borneo.

#### EXCLUDED GENERA

**BEDDOMEA INDICA** Hook. f.; F.-Vill. Novis. App. (1880) 43.

**CHLOROXYLON SWIETENIA** DC.; F.-Vill op. cit. (1883) 349.

**TRICHILIA VOLUBILIS** Blanco Fl. Filip. ed. 2 (1845) 249, ed. 3, 2 (1878) 98.

The description is in part based on *Derris elliptica* Benth., in part on *Albizzia saponaria* Blume, and on the fruit of some undeterminable plant.

#### MALPIGHIACEAE

##### 1. ASPIDOPTERIS Jussieu

**ASPIDOPTERIS ELLIPTICA** (Blume) A. Juss. in Ann. Sci. Nat. II 13 (1840) 266, Arch. Mus. Hist. Nat. Paris 3 (1843) 509; Hutch. in Kew Bull. (1917) 99, f. 15.

*Hiraea elliptica* Blume Bijdr. (1825) 225.

*Ryssopteris ovata* Turcz. in Bull. Soc. Nat. Mosc. 36<sup>1</sup> (1863) 568.

*Aspidopteris ovata* Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 106.

*Combretum sczalatum* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 212, quoad fruct.

Luzon (Pangasinan, Laguna, Tayabas, Rizal, Sorsogon), Masbate, Biliran, Leyte, Mindanao. In thickets and second-growth forests at low and medium altitudes. Java, Borneo.

Local names: Laplapsot (Ilk.); lampei (Mbo.); mayetbong (Tag.); tauag-amó (Tag.).

##### 2. TRISTELLATEIA Thouars

**TRISTELLATEIA AUSTRALASIAE** A. Rich. Sert. Astrolab. Atlas (1833) t. 15; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 236, Fl. Manila (1912) 278, Sp. Blancoanae (1918) 213.

*Tristellateia australasica* auct. plur.; F.-Vill. Novis. App. (1880) 32; Vidal Sinopsis Atlas (1883) 18, t. 22, f. B, Rev. Pl. Vasc. Filip. (1886) 73.



*Gaertneria laurifolia* Wall. Cat. (1832) No. 7265, *nomen nudum*.

*Tristellateia australia* A. Rich. Sert. Astrolab. (text) 2 (1834) 38;

Sprague in Curtis's Bot. Mag. IV 6 (1910) t. 8334.

*Platynema laurifolium* W. & A. in Edinb. New Philos. Journ. (Apr.-June, 1833) 179, Prodr. (1834) 107.

*Hiraca reclinata* Blanco Fl. Filip. (1837) 378, non Jacq.

*Tristellateia malintana* Blanco op. cit. ed. 2 (1845) 267, ed 3, 2 (1878) 132, t. 435.

Along tidal streams, borders of mangrove swamps, etc., throughout the Philippines. Malay Peninsula and Archipelago to tropical Australia and Caledonia.

Local names: Añgasin (Bik.); bagnit (Tagb.); bagit (Bik., Tag.); bahau (Sul.); bauing (Tag.); binusisi (Tag.); ibud-ibud (Bis.); kaulog-pau (Bag.); magbuaya (C. Bis.); mapinit (Neg.); sigíd (S. L. Bis.).

### 3. HIPTAGE Gaertner

**HIPTAGE CEBUENSIS** Elm. Leaf. Philip. Bot. 2 (1910) 683.

Panay, Leyte, Cebu, *Elmer 12029*, *Wenzel 1694*, *1771*, *Merrill Phil. Pl. 1704*, *B. S. 31158 Ramos & Edaño*, *11044 Ramos*, *F. B. 28330*, *28331 Cenabre & Cruz*. In thickets and open forests at low altitudes. Endemic.

**HIPTAGE CUMINGII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 190.

*Hiptage madablota* Vidal Phan. Cuming. Philip. (1885) 99, non Gaertn.

Luzon (Pangasinan, Pampanga, Laguna, Camarines), Mindoro, Palawan, Romblon, *Cuming 971*, *Elmer 12156*, *B. S. 22440 Ramos*, *F. B. 25702 Foxworthy*, *23778 Alvarez*. In thickets and forests at low altitudes. Endemic.

Local names: Kalaripang (P. Bis.); komimpol (P. Bis.).

**HIPTAGE CURRANII** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 188.

Luzon (Zambales), *F. B. 6951 Curran*, in dry stream bed. Endemic.

**HIPTAGE JAVANICA** Blume Bijdr. (1825) 224; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 586; Hochr. Pl. Bogor. Exsic. No. 32.

Mindanao (Cotabato), *F. B. 3914 Hutchinson*. In forests at low altitudes. Java.

Local name: Boloñgog (Mag.).

**HIPTAGE LOHERI** Merr. Sp. Blancoanae (1918) 213.

*Triopteris jamaicensis* Blanco Fl. Filip. (1837) 350, ed. 2 (1845) 267, ed. 3, 2 (1878) 133, non Linn.

*Hiptage madablota* F.-Vill. Novis. App. (1880) 32; Vidal Sinopsis Atlas (1883) 17, t. 22, f. A., Rev. Pl. Vasc. Filip. (1886) 73, non Gaertn.

Luzon (Bulacan, Rizal, Bataan, Batangas, Tayabas), *B. S. 34161 Ramos & Edaño*, *Merrill 1704*, *5046*, *Sp. Blancoanae 824*, *F. B. 420*, *2660 Ahern's collector*, *Loher 5768*, *5786*, *5789*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Komimpol (Bis.); malaskag (Tag.).

**HIPTAGE LUZONICA** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 33, Philip. Journ. Sci. 1 (1906) Suppl. 74, 5 (1910) Bot. 191.

Luzon (Bataan), *Whitford 1148*. On exposed ridges, altitude 900 m. Endemic.

**HIPTAGE MACROPTERA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 189.

Mindanao (Lanao), *Clemens 1056*. In thickets and forests along the lake shores. Endemic.

**HIPTAGE PINNATA** Elm. Leaff. Philip. Bot. 5 (1913) 1810.

Palawan, *Elmer 12589*. In thickets and forests at low altitudes. The leaves are simple, not pinnate! The fruits are unknown. Endemic.

Local name: Tagabu (Tagb.).

**HIPTAGE PUBESCENS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 187.

Luzon (Abra, Ilocos Norte, Bontoc, Benguet), *B. S. 7257 Ramos, 37946 Ramos & Edaña, F. B. 11263 Klemme, 13979 Merritt & Darling, Loher 178*. In thickets and forests, altitude 1,000 to 1,200 m. Endemic.

**Var. LANCEOLATA** Merr. l. c.

Luzon (Ilocos Norte, Ilocos Sur), *F. B. 13955, 13943 Merritt & Darling, 25865 Adduru, 5632 Klemme*. In thickets, altitude 100 to 700 m. Endemic.

Local names: Dalúnit (Ilk.); pañgardisen (Ilk.); panunianáyen (Ilk.).

**HIPTAGE RETICULATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 186.

Luzon (Zambales), *Loher 2243*. Endemic.

**HIPTAGE TETRAPTERA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 188.

Palawan, *Merrill 1791*. In thickets at low altitudes. Endemic.

#### 4. RYSSOPTERYS Blume

**RYSSOPTERYS ALBIDA** (Blume) comb. nov.

*Heteropterys albida* Blume Bijdr. (1825) 226.

*Rysopterys microstema* A. Juss. in Arch. Mus. Paris 3 (1843) 384;

Walp. Repert. 5 (1845) 221; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 583;

F.-Vill. Novis. App. (1880) 32; Vidal Phan. Cuming. Philip. (1885) 99.

Bohol, Mindanao, Basilan, *Cuming 1845, Merrill 8177, 8247, B. S. 16345 Reillo*. In thickets at low and medium altitudes. Java and probably other parts of the Malay Archipelago.

**RYSSOPTERYS CUMINGIANA** A. Juss. in Arch. Mus. Paris 3 (1843) 386;

Walp. Repert. 5 (1845) 221; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 584;

F.-Vill. Novis. App. (1880) 32; Vidal Phan. Cuming. Philip. (1885) 99.

*Rysopterys timoriensis* Walp. Repert. 5 (1845) 222, quoad Philip.;

F.-Vill. Novis. App. (1880) 32, non Juss.

Luzon (Tayabas), Mindoro, Panay, Masbate, Tablas, Samar, Mindanao, Sulu Archipelago, *Cuming 1489, Merrill 3042, Williams 294bis, Elmer 11055, B. S. 26618, 29136 Ramos & Edaña, 17403 Ramos, 32253, 32230 McGregor*. In thickets and forests at low altitudes. Formosa.

Local names: Bugtung-áhas (Tag.); lagun (Bag.); laumus (Bag.).

**RYSSOPTERYS DEALBATA** A. Juss. in Arch. Mus. Paris 3 (1843) 386;

Walp. Repert. 5 (1845) 221; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 584;

F.-Vill. Novis. App. (1880) 32; Vidal Phan. Cuming. Philip. (1885) 99.

Luzon (Bontoc, Union), Panay, Cebu, *Cuming 1775, Lete 251, 376, 360, B. S. 21248 Escritor*. In thickets at low and medium altitudes. Celebes.

## 5. THRYALLIS Linnaeus

**THRYALLIS GLAUCA** (Cav.) O. Kuntze Rev. Gen. Pl. (1891) 89; Small in North Am. Flora 25 (1910) 150.

*Galphimia glauca* Cav. Ic. 5 (1799) 61, t. 489, Anal. Hist. Nat. 1 (1799) 37; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 29, Fl. Manila (1912) 277.

*Galphimia gracilis* Bartl. in Linnaea 13 (1839) 552.

Cultivated in Manila and other large towns for ornamental purposes, but nowhere spontaneous. A native of Mexico and Central America, naturalized in the West Indies.

Local name: Kuisia (Tag.).

## POLYGALACEAE

## 1. POLYGALA Tournefort

**POLYGALA CARDIOPARPA** Kurz in Journ. As. Soc. Beng. 41<sup>2</sup> (1872) 293; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 42; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1909) 253; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 20.

Negros, *Esckridge*. At low altitudes; rare. Burma, Indo-China.

Local name: Chikati (P. Bis.).

**POLYGALA CHINENSIS** Linn. Sp. Pl. (1753) 704; DC. Prodr. 1 (1824) 331; Rolfe in Journ. Bot. 23 (1885) 210; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 51; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 385, t. 29, f. 45-46; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 74, Fl. Manila (1912) 278, Sp. Blancoanae (1918) 214; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1909) 258.

*Polygala linearifolia* Willd. Sp. Pl. 3<sup>2</sup> (1803) 877; DC. Prodr. 1 (1824) 326; F.-Vill. Novis. App. (1880) 14.

*Polygala chinensis* Linn. var. *linearifolia* Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 386; Merr. Sp. Blancoanae (1918) 214.

*Polygala monspeliaca* Blanco Fl. Filip. (1837) 557, ed. 2 (1845) 388, ed. 3, 2 (1879) 350, non Linn.

*Polygala tranquebarica* Mart. in Denkschr. Bot. Ges. Regensb. 1 (1815) 186; Hassk. in Ann. Mus. Bot. Ludg.-Bat. 1 (1863-64) 158.

Luzon (Bataan, Rizal, Laguna, Cavite), Mindanao, *Cuming 699, Williams 58, 2958, Merrill 3092, Sp. Blancoanae 473, B. S. 1055, 14942 Ramos*. India to China through Malaya to tropical Australia.

Local name: Kaiutdiuata (Bag.).

**POLYGALA ELONGATA** Klein in Willd. Sp. Pl. 3<sup>2</sup> (1803) 879; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 387, t. 29, f. 47-48; Merr. in Philip. Journ. Sci. 13 (1918) Bot. 20.

Mindanao (Bukidnon, Cotabato), *B. S. 26016 Fénix, Copeland*. In open grasslands at low altitudes; rare. India.

**POLYGALA GLOMERATA** Lour. Fl. Cochinch. (1790) 426; DC. Prodr. 1 (1824) 386; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 201; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1909) 257.

*Polygala densiflora* Blume Bijdr. (1825) 59; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 380.

Luzon (Pangasinan), Golo, Mindanao (Lanao), *B. S. 30060 Félix, 28479 Ramos & Edaño, Clemens 36, Merrill 11541*. On open grassy slopes; rare. India to southern China, Malay Peninsula, Sumatra, Borneo, and Java.

Local name: Malamaní (Pang.).

**POLYGALA JAPONICA** Houtt. Handleid. 10 (1779) 89, *t. 62, f. 1*; DC. Prodr. 1 (1824) 324; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 353; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 106; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1909) 255.

*Polygala luzoniensis* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 202.

Luzon (Bontoc, Benguet, Lepanto), Mindanao (Bukidnon). On open grassy slopes, altitude 700 to 2,400 m. Japan and China, Formosa, Celebes.

**POLYGALA LONGIFOLIA** Poir. in Lam. Encycl. 5 (1904) 501; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 358; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 451; Gagnep. in Lecomte Fl. Gén. Indo-Chine 1 (1909) 257.

*Polygala leptalea* DC. Prodr. 1 (1824) 325.

Luzon (Bontoc, Nueva Vizcaya), Culion, Mindanao, (Cotabato), *Vanoverbergh 1745, B. S. 20135 McGregor, 41331 Ramos, Copeland*. In open grasslands, ascending to 1,300 m; rare. India to Indo-China, Java, and tropical Australia.

**POLYGALA PERSICARIAEFOLIA** DC. Prodr. 1 (1824) 326, var **WALLICHIANA** Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 331; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 106.

*Polygala septemnervia* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 202.

Luzon (Lepanto, Bontoc, Benguet, Cavite), *Merrill 4401, 4263, Williams 959, B. S. 1349 Mangubat*. On open grassy slopes, altitude 500 to 1,800 m. India to southern China; Timor; with some forms in tropical Australia.

**POLYGALA POLIFOLIA** Presl Rel. Haenk. 2 (1830) 101; F.-Vill. Novis. App. (1880) 14.

*Polygala warburgii* Chodat in Engl. Bot. Jahrb. 13 (1891) 346, Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 315, *t. 27, f. 9*.

*Polygala telephioides* F.-Vill. Novis. App. (1880) 14; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 51. (?) non Willd.

Luzon (Cagayan, Ilocos Norte, Benguet, Bontoc, Lepanto, Tarlac, Rizal), Semirara, Mindanao. In open grasslands at low and medium altitudes; to be critically compared with *P. telephioides* Willd. Marianne Islands, Amboina, New Guinea.

**POLYGALA TRIPHYLLA** Ham. in D. Don Prodr. Fl. Nepal. (1825) 200; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 41; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 106.

Luzon (Bontoc, Benguet), Mindanao (Bukidnon). In open grasslands, ascending to 1,300 m; rare. India to southern China and Japan.

**POLYGALA VENENOSA** Juss. ex Poir. in Lam. Encycl. 5 (1804) 493; DC. Prodr. 1 (1824) 331; Ceron Cat. Pl. Herb. Manila (1892) 18; Chodat in Mém. Soc. Phys. Hist. Nat. Genève 31<sup>2</sup> (1893) 98; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 277.

Mindoro, Palawan, Leyte, Negros, Camiguin de Misamis, Dinagat, Mindanao, Sulu Archipelago. In damp primary forests at low and medium altitudes, scattered. Malay Peninsula and Archipelago.

Local names: Taram (Bag.); hagnaya (P. Bis.).

#### EXCLUDED SPECIES

**POLYGALA GLAUCOIDES** Linn.; Willd. Sp. Pl. 3<sup>3</sup> (1804) 896 "In Zeylonia inque Philippinis."

The Philippine reference was undoubtedly based on an erroneously identified or localized specimen.

#### 2. SECURIDACA Linnaeus

**SECURIDACA ATRO-VIOLACEA** Elm. Leaf. Philip. Bot. 5 (1913) 1671.

Palawan, *Elmer 12774, 13236* (or *13238*). In forests at and above 225 m altitude. Endemic.

**SECURIDACA CORYMBOSA** Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 360; F.-Vill. Novis. App. (1880) 14; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 51; Merr. Sp. Blancoanae (1918) 214.

*Securidaca volubilis* Blanco Fl. Filip. (1837) 556, non Linn.

*Securidaca complicata* Blanco op. cit. ed. 2 (1845) 388, ed. 3, 2 (1879) 349, non HBK.

*Securidaca cumingii* Hassk. in Ann. Mus. Bot. Lugd.-Bat. 1 (1863) 180.

*Securidaca tavoyana* F.-Vill. Novis. App. (1880) 14; Vidal Sinopsis Atlas (1883) 13, t. 9, f. A, non Wall.

Luzon (Benguet, Nueva Vizcaya, Pangasinan, Tayabas, Bataan, Rizal, Laguna), Mindoro, Negros. In forests at low and medium altitudes. Endemic.

Local names: Balágon (Pamp.); baut (Ilk.); gogong-bakai (Bik.); gogong-bisáya (Tag.); hinaki (P. Bis.); udok (Ig.); oyañgya (Tag.).

**SECURIDACA PHILIPPINENSIS** Chodat in Bull. Herb. Boiss. 4 (1896) 233.

Luzon (Sorsogon), Leyte, Panay, Bohol, Mindanao (Lanao), *Cuming 1852, Elmer 17235, F. B. 10552 Curran, Wenzel 840, 940, 1053, Clemens 488, B. S. 35466 Ramos & Edaña*. In primary forests at low and medium altitudes. Endemic.

Local names: Balunos (Bik.); salabi (Bag.).

#### 3. SALOMONIA Loureiro

**SALOMONIA CANTONIENSIS** Lour. Fl. Cochinch. (1790) 14; DC. Prodr. 1 (1824) 334; Benth. Fl. Hongk. (1861) 44; Benn. in Hook. f. Fl. Brit. Ind. 1 (1872) 206; Hassk. in Ann. Mus. Bot. Lugd.-Bat. 1 1863-64) 144.

Luzon (Bontoc), Panay, Mindanao (Lanao), *Vanoverbergh 3797, Clemens 16, B. S. 30953 Ramos*. On open slopes and in thickets at medium altitudes; rare. India to southern China, Malaya, and tropical Australia.

**SALOMONIA CILIATA** (Linn.) DC. Prodr. 1 (1824) 334; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 237, Fl. Manila (1912) 279, Sp. Blancoanae (1918) 214.

*Polygala ciliata* Linn. Sp. Pl. (1753) 705; DC. Prodr. 1 (1824) 334.

*Salomonina oblongifolia* DC. Prodr. 1 (1824) 334; F.-Vill. Novis. App. (1880) 14; Vidal Phan. Cuming. Philip. (1885) 95, Rev. Pl. Vasc. Filip. (1886) 50, Trimen Fl. Ceyl. 1 (1893) 83; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 19.

*Amorpha pedalis* Blanco Fl. Filip. (1837) 553, ed. 2 (1845) 387, ed. 3, 2 (1879) 348.

*Salomonina ramosissima* Turcz. in Bull. Soc. Nat. Mosc. 27<sup>2</sup> (1854) 352; F.-Vill. Novis. App. (1880) 14.

*Salomonina horneri* Hassk. in Miq. Pl. Jungh. (1852) 123, Ann. Mus. Bot. Lugd.-Bat. 1 (1863-64) 149.

Luzon (Ilocos Sur, Lepanto, Benguet, Bulacan, Rizal), *Merrill Phil. Pl. 706, 1987, Sp. Blancoanae 332, Cuming 1118, B. S. 10893, 13754 Ramos*. In open grasslands at low and medium altitudes. India to southern China through Malaya to tropical Australia.

#### 4. EPIRIXANTHES \* Blume

**EPIRIXANTHES CYLINDRICA** Blume Cat. Gew. Buitenz. (1823) 82, Flora (1825) 133; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 128, t. 15; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 203; Penzig in Ann. Jard. Bot. Buitenz. 17 (1901) 146, t. 20-23.

*Salomonina cylindrica* Kurz in Journ. As. Soc. Beng. 43<sup>3</sup> (1874) 79.

Luzon (Benguet, Laguna, Sorsogon), Negros, Mindanao. On slopes in primary forests at low and medium altitudes; rare or at least very difficult to detect. Malay Peninsula, Sumatra, Java, Borneo, New Guinea.

Local name: Bunokbañgat (Bag.).

#### 5. XANTHOPHYLLUM Roxburgh

**XANTHOPHYLLUM BRACTEATUM** Chodat in Bull. Herb. Boiss. 4 (1896) 258.

Luzon (Laguna, Tayabas, Camarines), *B. S. 28512, 33774, 33575, 33680 Ramos & Edaña, (Vidal 968)*. In primary forests at low and medium altitudes. Endemic.

Local name: Duróg (Tag.).

**XANTHOPHYLLUM CORDATUM** Korth. in Ann. Mus. Bot. Lugd.-Bat. 1 (1863-64) 274.

*Xanthophyllum palawanense* Elm. Leaf. Philip. Bot. 5 (1913) 1673.

Palawan, *Elmer 12931, 13170, F. B. 21572 Danao*. In forests at low and medium altitudes. Borneo.

**XANTHOPHYLLUM EXCELSUM** (Bl.) Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858) 129.

*Jackia excelsa* Blume Bijdr. (1825) 62.

*Xanthophyllum affine* Korth. ex Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1864) 271; F.-Vill. Novis. App. (1880) 14; King in Journ. As. Soc. Beng. 59<sup>2</sup> (1890) 142.

\* Spelled by various other authors *Epirhizanthos*, *Epirhizanthus*, *Epirhizantho*, *Epirrhizanthos*, *Hyperizanthos*, and *Epieryanthos*.

*Xanthophyllum glandulosum* Merr. in Govt. Lab. Publ. (Philipp.) 35 (1906) 34; Gagnep. in Journ. de Bot. II 1 (1908) 252.

*Xanthophyllum multiramum* Elm. Leaflet. Philipp. Bot. 5 (1913) 1676.

Luzon (Cagayan, Benguet, Zambales, Bataan, Rizal, Laguna, Sorsogon), Mindoro, Busuanga, Culion, Palawan, Guimaras, Masbate, Negros, Mindanao (Zamboanga). In primary forests at low and medium altitudes. Tenasserim to the Malay Peninsula, Sumatra, Borneo, and Java.

Local names: Anono (Tag.); bagaulán (Tag.); baníg (Tag.); barakbák (Ilk.); batobato-babáe (P. Bis.); bokbók (Tag., C. Bis.); bultigito (Ig.); butoñgan (Tag.); dayap-gúbat (Bis.); kabot (Tag.); malagitung-gitung (Tag.); managbak (Tagb.); mogbok (Bis.); pagpágan (Ilk.).

**XANTHOPHYLLUM PHILIPPINENSE** Chodat in Bull. Herb. Boiss. 4 (1896) 261.

Luzon (Cagayan, Bataan, Nueva Ecija, Zambales, Albay), *F. B. 24831 Barros, 12954, 22139 Alvarez, 17538 Curran*. In primary forests at low altitudes. Endemic.

Local names: Karamai (Neg.); malatadiáng (Tag.).

**XANTHOPHYLLUM PSEUDOSTIPULACEUM** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 316.

Luzon (Isabela, Nueva Ecija, Bulacan), *B. S. 21135 Escritor, 34118 Ramos & Edaño, F. B. 22403 Alvarez*. On forested slopes at low altitudes. Endemic.

**XANTHOPHYLLUM ROBUSTUM** Chodat in Bull. Herb. Boiss. 4 (1896) 262.

*Xanthophyllum flavescens* F.-Vill. Novis. App. (1880) 14; Vidal Sinopsis Atlas (1883) 13, t. 9, f. B, non Roxb.

*Xanthophyllum griffithii* Rolfe in Journ. Bot. 23 (1885) 210; Vidal Rev. Pl. Vasc. Filip. (1886) 51, non Hook. f.

Luzon (Cagayan, Ilocos Norte, Tayabas, Rizal, Laguna, Camarines, Albay), Mindoro, Leyte, Panay, Mindanao, *B. S. 2629 Ramos, F. B. 6819 Merritt, 3167 Ahern's collector, Warburg 12366*. In primary forests at low and medium altitudes.

The specimens cited have been identified by Chodat; in the original description of the species he states: "In Malacca, Borneo et Philippinis \* \* \* Hb. Kew.," but he apparently failed to write up the sheets in the Kew Herbarium, so that there is some doubt as to the actual type and, further, whether the Philippine form is really identical with the Malacca and Bornean ones.

Local names: Bokbók (Tag.); dugi (Ilk.); kamót (Ilk.); daramai (Neg.); pugáui (Tag.); sagaksák (Neg.).

## DICHAPETALACEAE

### 1. DICHAPETALUM Thouars

**DICHAPETALUM CILIATUM** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 279.

Mindanao (Zamboanga), Siargao, *F. B. 9139, 9234 Whitford & Hutchinson, B. S. 11819 Robinson, 34987, 34951 Ramos & Edaño*. In forests at low altitudes. Endemic.

**DICHAPETALUM EUPHLEBIUM** Merr. in Philip. Journ. Sci. 20 (1922) 391.

Mindanao (Zamboanga), *B. S. 37284, 36702 Ramos & Edaña*. In secondary forests at low altitudes. Endemic.

**DICHAPETALUM GLABRUM** Elm. Leaf. Philip. Bot. 2 (1908) 483.

Leyte, *Elmer 7275, Wenzel 282, 342, 1282, 1518*. In forests at low altitudes. Endemic.

**DICHAPETALUM HOLOPETALUM** Merr. in Philip. Journ. Sci. 17 (1920) 271.

Mindanao (Lanao), *Clemens 1039, F. B. 23320 Agama, 23382 Acuña*. In thickets and forests up to 670 m altitude. Borneo.

**DICHAPETALUM LUZONIENSE** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 106.

Luzon (Bataan, Rizal, Laguna, Batangas, Camarines), *F. B. 24291 Bawan & Borromeo, 3157 Ahern's collector, 27091 Mabesa, 21542 Tamesis, B. S. 33481, 33465, 33506 Ramos & Edaña, 1128 Ramos*. In secondary forests at low and medium altitudes. Endemic.

**DICHAPETALUM MONOSPERMUM** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 34.

Mindoro, Palawan, Sibuyan, *Merrill 1801, 3323, McGregor 230, Cuming 1551, F. B. 6177, 6807 Merritt, 11870 Amarillos, Elmer 12616, 12121, 12211, B. S. 39365, 39518, 39708 Ramos*. In forests at low altitudes. Endemic.

Cochinchina material referred here by Pellegrin in Lecomte Fl. Gen. Indo-Chine 1 (1911) 798, *Thorel 608*, does not appear to me to represent this species.

Local names: Bagakolon (P. Bis.); buta-buta (Tagb.); makahaboi (P. Bis.).

**DICHAPETALUM NITIDUM** Merr. in Philip. Journ. Sci. 17 (1920) 270.

Mindanao (Surigao), *B. S. 34596 Ramos & Pascasio*. In forests at low altitudes. Endemic.

**DICHAPETALUM OBLONGIFOLIUM** Merr. in Philip. Journ. Sci. 17 (1920) 271.

Bucas Grande, *B. S. 35044 Ramos & Pascasio*. In thickets along streams at low altitudes. Endemic.

**DICHAPETALUM ROBINSONII** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 280.

Mindanao (Zamboanga), *B. S. 11771 Robinson*. In forests at low altitudes. Endemic.

**DICHAPETALUM SERICEUM** (Blanco) Merr. Sp. Blancoanae (1918) 215.

*Quilesia sericea* Blanco Fl. Filip. (1837) 177, ed. 2 (1845) 125, ed. 3, 1 (1877) 224; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1857) 788.

*Chailletia benthamiana* Turcz. in Bull. Soc. Nat. Mosc. 36<sup>1</sup> (1863) 610; Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 102.

*Chailletia griffithii* F.-Vill. Novis. App. (1880) 45.



*Dichapetalum benthamianum* Engl. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1896) 348.

*Dichapetalum olivaceum* Elm. Leaf. Philip. Bot. 5 (1913) 1769.

Luzon (Ilocos Norte), Palawan, *Merrill Sp. Blancoanae* 991, *B. S.* 7721, 7710 *Ramos, Elmer* 12919. In forests and thickets along streams. Endemic.

Local name: Dekdek (Ilk.).

**DICHAPETALUM SUBMARITIMUM** Elm. Leaf. Philip. Bot. 4 (1912) 1493.

Sibuyan, *Elmer* 12245. In thickets and forests at low altitudes, sometimes back of the mangrove. Endemic.

Local name: Alibotbot (P. Bis.).

**DICHAPETALUM TIMORIENSE** (DC.) Engl. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>4</sup> (1896) 348.

*Chaillietia timoriensis* DC. Prodr. 2 (1825) 57; Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 85.

Mindoro, Palawan, Cebu, Mindanao (Davao, Zamboanga, Lanao), *Cuming* 1788, *Merrill* 2254, 9398, *Clemens* 1192a, *Warburg* 14637, *F. B.* 19890 *Danao*, 9115 *Whitford & Hutchinson*, 23172, 23182 *Agama*. In forests at low and medium altitudes, ascending to 800 m. Timor and probably other parts of the Malay Archipelago.

Local name: Ariskis (Tagb.).

**DICHAPETALUM TRICAPSULARE** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 35, Philip. Journ. Sci. 1 (1906) Suppl. 74, 2 (1907) 432, *Sp. Blancoanae* (1918) 215.

*Riana* ? *tricapsularis* Blanco Fl. Filip. (1837) 850, ed. 2 (1845) 126, ed. 3, 1 (1877) 225.

Luzon (Zambales, Bataan, Bulacan), Camiguin de Mindanao, *Merrill* 5190, 3191, *Williams* 441, *Elmer* 6642, *B. S.* 26852, 26851 *Edaño, F. B.* 8121 *Curran & Merritt*, 27295 *Udasco*, 145 *Barnes*, 2824 *Meyer*. In primary forests at low and medium altitudes. Endemic.

#### EXCLUDED SPECIES

**CHAILLETIA HELFERIANA** Kurz; F.-Vill. Novis. App. (1880) 45.

**CHAILLETIA GELONIODES** Hook. f.; F.-Vill. l. c.

#### EUPHORBIACEAE

##### 1. ANDRACHNE Linnaeus

**ANDRACHNE AUSTRALIS** Zoll. & Mor. in Nat. Geneesk. Arch. Neerl. Ind. 2 (1845) 17; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 235, quoad Philip.; F.-Vill. Novis. App. (1880) 187; Vidal Phan. Cuming. Philip. (1885) 141 (incl. var. *angustifolia* Muell.-Arg.); Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 172.

*Andrachne fruticosa* Decne in Nov. Ann. Mus. Paris 3 (1835) 484; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 235; Hook. f. Ic. III 8 (1887) t. 1704, non Linn.

Luzon (Isabela, Ilocos Norte, Ifugao), Mindoro, Golo, Palawan, Masbate, Mindanao (Misamis), *Cuming* 1528, 1600, *Merrill* 3023, 11538, *B. S.*

7985, 33223, 27530, 41055 Ramos, 20009 McGregor. On slopes and in thickets at low and medium altitudes, rare or at least very local. Malay Peninsula, Indo-China, Java.

## 2. ACTEPHILA Blume

**ACTEPHILA EXCELSA** (Dalz.) Muell.-Arg. var. **JAVANICA** (Miq.) Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 192.

*Actephila javanica* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1859) 359.

*Actephila dispersa* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 276; Elm. Leaf. Philip. Bot. 4 (1911) 1273.

*Actephila gitingensis* Elm. Leaf. Philip. Bot. 3 (1910) 903.

*Pimeleodendron dispersum* Elm. Leaf. Philip. Bot. 1 (1908) 308; Pax in Engl. Pflanzenreich 52 (1912) 56.

*Actephila gigantifolia* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 29, non (?) Koord.

Luzon (Cagayan), Palawan, Bancalan, Sibuyan, Leyte, Siargao, Dinagat, Mindanao, Jolo, *Elmer* 7215, 12621, 12141, *F. B.* 17047 *Curran*, 26592 *Sandique*, *B. S.* 13936 Ramos, 34832, 35249 Ramos & Pascasio, 36673, 37417, 36657 Ramos & Edaño. In primary forests at low and medium altitudes. Java, Borneo, the species in India and Ceylon.

Local names: Toyokan (C. Bis.); lambonan (Tagb.); lita (Sub.); tungkaling (Sub.).

**ACTEPHILA MAGNIFOLIA** Elm. Leaf. Philip. Bot. 3 (1910) 904; Pax & Hoffm. in Engl. Pflanzenreich 81 (1922) 193.

Sibuyan, Luzon (Camarines), *Elmer* 12303, *B. S.* 22154 Ramos. In primary forests at low altitudes, ascending to 300 m. Endemic.

Local name: Tuman (P. Bis.).

## 3. SECURINEGA Commerson

**SECURINEGA FLEXUOSA** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 450; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 491.

*Flüggea flexuosa* Muell.-Arg. in Linnaea 34 (1865) 76; F.-Vill. Novis. App. (1880) 189; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 238; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 74.

*Phyllanthus acuminatissimus* C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 200.

*Securinega acuminatissima* C. B. Rob. op. cit. 4 (1909) Bot. 73.

Luzon (Tayabas, Camarines, Sorsogon), Samar, Leyte, Negros, Bohol, Cebu, Camiguin de Misamis, Mindanao (Surigao, Agusan, Bukidnon, Davao, Misamis). In primary forests at low altitudes. Endemic.

Local names: Anislág (Bik., S. L. Bis., C. Bis., Mbo., Mand.); anisláng (Bik.); hamislág (Bik.); katamañgan (Mbo.); malañgau (Mbo.); tras (Mag.).

## 4. FLÜGGEA Willdenow

**FLÜGGEA VIROSA** (Roxb.) Baill. Étud. Gén. Euphorb. (1858) 593; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 415, Fl. Manila (1912) 289, Sp. Blancoanae (1918) 215; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 74; Elm. Leaf. Philip. Bot. 4 (1911) 1287.

- Phyllanthus virosus* Roxb. ex Willd. Sp. Pl. 4 (1805) 578.  
*Xylophylla obovata* Willd. Enum. Hort. Berol. (1809) 329.  
*Flüggea obovata* Wall. ex F.-Vill. Novis. App. (1880) 189; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 238; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 74.  
*Flüggea microcarpa* Blume Bijdr. (1825) 580.  
*Cicca pentandra* Blanco Fl. Filip. (1837) 701, ed. 2 (1845) 486, ed. 3, 3 (1879) 105.  
*Securinega microcarpa* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 434; Ceron Cat. Pl. Herb. Manila (1892) 149.  
*Securinega obovata* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 449.  
*Flüggea leucopyrus* F.-Vill. Novis. App. (1880) 189, non Willd.  
*Securinega ovata* Vidal Cat. Pl. Prov. Manila (1880) 44, sphalm.

Throughout the Philippines in dry thickets at low and medium altitudes; common. Tropical Africa through India to China and Malaya to tropical Australia.

Local names: Arusít (Ilk.); barasiksík (Ilk.); barsít (Ig.); barsík (Ilk.); barusík (Ilk.); bayasít (Tag.); boisét (Tag.); botolan (Tag.); bugbugutut (Ig.); kabukabukas (Mag.); magaspáng (P. Bis.); máluuit (Ibn.); tulitañgalong (P. Bis.).

#### 5. PHYLLANTHUS Linnaeus

**PHYLLANTHUS APICULATUS** Merr. in Philip. Journ. Sci. 16 (1920) 540.

Luzon (Camarines), *B. S. 33813 Ramos & Edaño*. In forests at low altitudes. Endemic.

**PHYLLANTHUS BENGUETENSIS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 78; Merr. op. cit. 5 (1910) Bot. 356.

Luzon (Lepanto, Bontoc, Benguet), *Williams 1081, 966, Merrill 6528, 9684, Elmer 6632 p. p., B. S. 5520 Ramos, 14117 Robinson, 37917 Ramos & Edaño*. On dry open banks, altitude 1,200 to 1,600 m. Endemic.

**PHYLLANTHUS BLANCOANUS** Muell.-Arg. in Linnaea 32 (1863) 49; DC. Prodr. 15<sup>2</sup> (1866) 420; F.-Vill. Novis. App. (1880) 189; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 74, 2 (1907) Bot. 435, Sp. Blancoanae (1918) 217; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 83.

*Phyllanthus niruri* Blanco Fl. Filip. (1837) 690, non Linn.

*Phyllanthus tetrande* Blanco op. cit. ed. 2 (1845) 480, ed. 3, 3 (1879) 95, non Roxb.

Luzon (Pangasinan, Pampanga, Rizal, Bataan), *Merrill 3880, 3179, 3751, Phil. Pl. 784, Sp. Blancoanae 160, Loher 6847, Williams 423*. On forested slopes and ridges, altitude 600 to 1,000 m. Endemic.

**PHYLLANTHUS BUXIFOLIUS** (Blume) Muell.-Arg. in Linnaea 32 (1863) 50; DC. Prodr. 15<sup>2</sup> (1866) 426; F.-Vill. Novis. App. (1880) 189; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 236; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 74; C. B. Rob. op. cit. 4 (1909) Bot. 85; Elm. Leaf. Philip. Bot. 3 (1910) 927.  
*Scepasma buxifolium* Blume Bijdr. (1825) 583.

Luzon (Cagayan, Isabela, Bontoc, Benguet, Pangasinan, Tayabas, Bataan, Rizal, Laguna), Alabat, Leyte, Cebu. In primary forests, often along streams at low altitudes, in Benguet ascending to 1,800 m. Java.

Local names: Baliñgasag (S. L. Bis.); fugayúng (Ibn.); lagíren (Ibn.); marasapapi (Tag.); agauyoi (Tag.).

**PHYLLANTHUS CORDATULUS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 76.

Luzon (Zambales), *B. S. 5106 Ramos*. Endemic.

**PHYLLANTHUS CURRANII** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 77.

Luzon (Cagayan, Ilocos Norte, Nueva Vizcaya, Pampanga, Rizal), *F. B. 10889 Curran, 18027 Merritt, B. S. 33202 Ramos, 5175 Foxworthy, Loher 4770*. In primary forests, altitude 700 to 900 m. Endemic.

Local name: Baluha (If.).

**PHYLLANTHUS DUMOSUS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 79.

Luzon (Ilocos Norte), *F. B. 13978, 13974 Merritt & Darling*. On exposed ridges, altitude about 1,100 m. Endemic.

**PHYLLANTHUS ERYTHROTRICHUS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 80, 6 (1911) Bot 333.

Luzon (Cagayan, Ilocos Norte, Ifugao, Bontoc, Benguet, Tayabas, Pampanga, Rizal), Panay, *F. B. 16834, 10996 Curran, B. S. 33220 Ramos & Edaña, Merrill Phil. Pl. 47*. On open slopes, at low altitudes, ascending to 1,300 m. Endemic.

Local name: Gomgom (If.).

**PHYLLANTHUS EVERETTII** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 80.

Luzon (Nueva Vizcaya, Tayabas), Negros, *F. B. 4301 Everett, 19412 Curran, B. S. 13306 Ramos, Merrill 164, 2885*. On forested stream banks at low and medium altitudes. Endemic.

Local name: Miagos (P. Bis.).

**PHYLLANTHUS GLOCHIDIoidES** Elm. Leaf. Philip. Bot. 4 (1911) 1302.

Palawan, *Elmer 13104*. Along streams in shaded ravines at low altitudes. Endemic.

**PHYLLANTHUS GREENEI** Elm. Leaf. Philip. Bot. 3 (1910) 929.

Luzon (Batangas), Sibuyan, *Elmer 12399, Merrill 10645*. In ravines about boulders, sea level to an altitude of 500 m; very local. Endemic.

**PHYLLANTHUS INDICUS** (Dalz.) Muell.-Arg. in Linnaea 32 (1863) 52; DC. Prodr. 15<sup>2</sup> (1866) 417; Merr. in Philip. Journ. Sci. 16 (1920) 541.

*Prosorus indicus* Dalz. in Hook. Kew Journ. Bot. 4 (1852) 346.

Luzon (Cagayan, Camarines), Palawan, Mindanao, *B. S. 15589 Fénix, F. B. 22655 Alvarez, 9237 Whitford & Hutchinson, 23361 Natividad, 22943*

*Miranda*, 27438 *Alejandro*, *Weber* 1195. In primary forests at low altitudes. India, Ceylon, Java.

Local names: Buñgas (P. Bis.); bakap (Mbo.); manglas (Tagb.); maraséda (Ilk.).

**PHYLLANTHUS LACINIATUS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 84.

Luzon (Tayabas, Albay, Batan Island), Samar, *B. S.* 6230 *Robinson*, 25584 *Yates*, 17466 *Ramos*, *F. B.* 28670 *Bautista*. In forests at low altitudes. Endemic.

Local name: Laioán (Bik.).

**PHYLLANTHUS LAMPROPHYLLUS** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 324; *F.-Vill. Novis. App.* (1880) 188; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 76; *Elm. Leafl. Philip. Bot.* 4 (1911) 1302.

Palawan, *F. B.* 4156 *Curran*, *B. S.* 12733 *Elmer*. Along streams at low altitudes. Java.

**PHYLLANTHUS LANCIFOLIUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 489.

Samar, Siquijor, *B. S.* 17465 *Ramos*, *Piper* 382. On dry slopes. Endemic.

**PHYLLANTHUS LEYTENSIS** *Elm. Leafl. Philip. Bot.* 1 (1908) 307; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 85.

Leyte, *Elmer* 7267, *Wenzel* 1696. In forests at low altitudes. Endemic.

**PHYLLANTHUS LUZONIENSIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 404.

Luzon (Pangasinan, Pampanga, Nueva Ecija, Bataan, Batangas, Cavite), *F. B.* 17696, 8435, 8348, 8391 *Curran*, *B. S.* 17834, 17955 *Otanes*, 26282 *Ramos & Edaña*. On dry slopes at low altitudes. Endemic.

Local names: Magarau (Tag.); pamayauasen (Ilk.); pamayabásen (Ilk.).

**PHYLLANTHUS MACGREGORII** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 334.

Babuyan Islands (Dalupiri), *B. S.* 10128 *McGregor*. Endemic.

**PHYLLANTHUS MEGALANTHUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 335.

Luzon (Cagayan, Ilocos Norte, Tayabas), *F. B.* 17242 *Curran*, *B. S.* 32697, 27621, 27498 *Ramos*, 25430 *Yates*, 20753 *Escritor*. In thickets and forests at low and medium altitudes. Endemic.

Local name: Bagbagútot (Ilk.).

**PHYLLANTHUS MICROCARPUS** (Benth.) Muell.-Arg. in *Linnaea* 32 (1863) 51; DC. Prodr. 15<sup>2</sup> (1866) 343.

*Cicca microcarpa* Benth. *Fl. Hongk.* (1861) 312.

*Kirganelia sinensis* Baill. *Étud. Gén. Euphorb.* (1858) 614, *nomen nudum*.

*Phyllanthus dalbergioides* Wall. *Cat.* (1847) No. 7934, *nomen nudum*; *J. J. Sm.* in *Meded. Dept. Landbouw* 10 (1910) 67.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Abra, Benguet, Lepanto, Isabela, Union, Bataan, Albay), Mindoro, Polillo, Negros, Mindanao. In thickets at low altitudes, often near the sea, but ascending to 1,400 m altitude; confused with *P. reticulata* Poir. India to southern China, through Malaya to Celebes, Flores, and Timor.

Local names: Bagbagútot (Ilk.); pagbagótot (Ilk.); tulug-tulug (P. Bis.).

**PHYLLANTHUS MINDORENSIS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 82.

Luzon (Nueva Vizcaya, Pampanga, Bulacan, Rizal), Mindoro, *F. B. 5370, 8789 Merritt, 19333, 19329 Curran, 8194, 21667, 13593 Ramos, Merrill Phil. Pl. 731*. In primary forests up to 800 m altitude. Endemic.

**PHYLLANTHUS NIRURI** Linn. Sp. Pl. (1753) 981; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 406; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 369; F.-Vill. Novis. App. (1880) 188; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 238; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 74, 3 (1908) Bot. 414, Fl. Manila (1912) 285, Sp. Blancoanae (1918) 216; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 81.

*Phyllanthus carolinianus* Blanco Fl. Filip. (1837) 691, non Walt.

*Phyllanthus kirganelia* Blanco op. cit. ed. 2 (1845) 480, ed. 3, 3 (1879) 96, non Willd.

? *Kirganelia pumila* Blanco Fl. Filip. (1837) 713, ed. 2 (1845) 493, ed. 3, 3 (1879) 117.

? *Phyllanthus pumilus* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 349; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 81, 86.

Throughout the Philippines at low and medium altitudes, a common weed. Pantropic, but probably introduced in the New World.

Local names: Kurukalunggái (Bik.); malakirum-kirum (S. L. Bis.); ñgingihel (If.); sampasampalúkan (Tag.); San Pedro (P. Bis.); suru-sampálok (Bik.); talikód (Ilk.); taltalikod (Ilk.); turutalikod (Bik.).

**PHYLLANTHUS PANAYENSIS** Merr. in Philip. Journ. Sci. 16 (1920) 539.

Panay, *B. S. 35655, 35679 Ramos & Edaña*. In forests, altitude about 650 m. Endemic.

**PHYLLANTHUS RETICULATUS** Poir. in Lam. Encycl. 5 (1804) 298; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 344; F.-Vill. Novis. App. (1880) 188; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 29, Govt. Lab. Publ. (Philip.) 27 (1905) 76, Philip. Journ. Sci. 1 (1906) Suppl. 75, 3 (1908) Bot. 414, 5 (1910) Bot. 356, Fl. Manila (1912) 284, Sp. Blancoanae (1918) 216; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 77.

*Cicca decandra* Blanco Fl. Filip. (1837) 701, ed. 2 (1845) 487, ed. 3, 3 (1879) 106, t. 239.

*Phyllanthus chamissonis* Klotz. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 420.

Throughout the Philippines in thickets at low and medium altitudes, usually common. India to southern China and Formosa southward through Malaya to Timor and Celebes.

Local names: Malatinta (Tag.); matáng-buiúd (Bik.); nípin (Sul.); sunḡot-óláng (Bis.); tinatináan (Tag.); tintatintáhan (Tag., Bik.).

**PHYLLANTHUS ROBINSONII** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 405.

Cebu, *B. S. 11058 Ramos*. On dry slopes. Endemic.

**PHYLLANTHUS RUPICOLA** Elm. Leaf. Philip. Bot. 3 (1910) 927.

Sibuyan, Cebu, Panay, *Elmer 12240, Merrill 6709, B. S. 11077 Ramos*. On shaded cliffs and on bowlders along streams, altitude 100 to 225 m. Endemic.

**PHYLLANTHUS SAMARENSIS** Muell.-Arg. in Linnaea 34 (1865) 73, DC. Prodr. 15<sup>2</sup> (1866) 295; F.-Vill. Novis. App. (1880) 188; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 79.

Samar, *Jagor, B. S. 24460 Ramos*. In damp ravines along streams at low altitudes. Endemic.

Local name: Malaantagum (S. L. Bis.).

**PHYLLANTHUS SECURINEGIOIDES** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 490.

*Phyllanthus urdanetensis* Elm. Leaf. Philip. Bot. 7 (1915) 2650.

Luzon (Tayabas), Mindanao (Agusan), *Elmer 13936, 14163, B. S. 20725 Escritor, 13270 Ramos*. In forests at low altitudes in Tayabas, ascending to 1,500 m in Mindanao.

Local names: Halong-halong (Mbo.); kamahodan (Mbo.).

**PHYLLANTHUS SIBUYANENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 928.

Sibuyan, *Elmer 12113*. In forested ravines along streams, altitude about 225 m. Endemic.

**PHYLLANTHUS SIMPLEX** Retz. Obs. 5 (1789) 29; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 391; F.-Vill. Novis. App. (1880) 188; Vidal Rev. Pl. Vasc. Filip. (1886) 236; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 81; Merr. Fl. Manila (1912) 285.

Throughout the Philippines, in open grasslands, fallow ricelands, etc., at low and medium altitudes; common. India to southern China, Malaya, and Polynesia.

Local names: Kaya-an (Bag.); kayut-búlan (Bag.).

**PHYLLANTHUS STIPULARIS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 75; C. B. Rob. op. cit. 4 (1909) 82.

Luzon (Bataan), *Baker 3560, Whitford 1102, 282, Williams 608, F. B. 6280 Curran, 2841 Meyer, 2087 Borden*. On ridges and slopes in primary forests on Mount Mariveles, altitude 500 to 900 m. Endemic.

**PHYLLANTHUS TENUIPES** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 78.

Luzon (Benguet), *Merrill 4419, 6680, B. S. 5758 Ramos, F. B. 15879 Bacani*. On cliffs, in ravines, and on banks, altitude 1,200 to 1,500 m. Endemic.

**PHYLLANTHUS TRIPHLEBIUS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 82.

Luzon (Nueva Vizcaya, Laguna, Rizal, Tayabas), *Topping 510, Merrill 170, B. S. 1001 Ramos, 28975 Ramos & Edaña, 23157 McGregor*. On bowl-dens and cliffs in shaded ravines along streams at low and medium altitudes. Endemic.

**PHYLLANTHUS URINARIA** Linn. Sp. Pl. (1753) 982; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 364; Miq. Fl. Ind. Bat. 1<sup>3</sup> (1858-59) 369; F.-Vill. Novis. App. (1880) 188; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 79; Merr. Fl. Manila (1912) 285.

*Phyllanthus verrucosus* Elm. Leaf. Philip. Bot. 7 (1915) 2649.

Throughout the Philippines, a weed in open waste places at low and medium altitudes. Pantropic; probably introduced in tropical America.

Local names: Apoy-apóyan ginsog (Sub.); ibaibá-an (Tag.); laioloaóan (Bik.); luruloaioán (Bik.); minuhminuh (Sul.); payog (Mbo.); surusampálok (Bik.); tabi (Mag.); takum-takum (P. Bis.); talindanon (Pang.); turutalikod (Bik.).

#### EXCLUDED SPECIES

**PHYLLANTHUS COMPRESSICAULIS** Muell.-Arg.; F.-Vill. Novis. App. (1880) 187.

**PHYLLANTHUS ERIOCARPUS** Muell.-Arg.; F.-Vill. l. c.

**PHYLLANTHUS GAUDICHAUDII** Muell.-Arg.; F.-Vill. l. c.

**PHYLLANTHUS INSULANUS** Muell.-Arg.; F.-Vill. op. cit. 188.

**PHYLLANTHUS LEUCOGYNUS** Muell.-Arg.; F.-Vill. op. cit. 187.

**PHYLLANTHUS MARIANUS** Muell.-Arg.; F.-Vill. op. cit. 188.

**PHYLLANTHUS MULTILOULARIS** Muell.-Arg.; F.-Vill. op. cit. 187.

**PHYLLANTHUS PHILLYREAEFOLIUS** Muell.-Arg.; F.-Vill. op. cit. 188.

**PHYLLANTHUS PULCHER** Muell.-Arg.; F.-Vill. op. cit. 189.

#### 6. **CICCA** Linnaeus

**CICCA ACIDA** (Linn.) Merr. Interpret. Herb. Amb. (1917) 314, Sp. Blancoanae (1918) 216.

*Averrhoa acida* Linn. Sp. Pl. (1753) 428.

*Cicca disticha* Linn. Mant. 1 (1767) 124; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 87, 6 (1911) Bot. 322; Merr. Fl. Manila (1912) 288.

*Cicca acidissima* Blanco Fl. Filip. (1837) 700, ed. 2 (1845) 486, ed. 3, 3 (1879) 105, t. 303.

*Phyllanthus distichus* Muell.-Arg. in DC. Monog. Phan. 15<sup>3</sup> (1866) 413; F.-Vill. Novis. App. (1880) 188; Vidal Sinopsis Atlas (1883)



38, t. 82, f. D, Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 237.

*Phyllanthus acidissimus* Muell.-Arg. in Linnaea 32 (1863) 50, DC. Prodr. 15<sup>2</sup> (1866) 417.

*Phyllanthus acidus* Skeels in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 148 (1909) 17.

Planted in most or all parts of the Philippines for its acid edible fruits, but nowhere abundant; of prehistoric introduction from Malaya. India to Malaya and Polynesia in common cultivation, where native uncertain; introduced in tropical America.

Local names: Bagbagútut (Ilk.); bangkiling (Bis., Tag.); iba (Tag., Pamp.); kagindi (Bis.); karamái (Ilk.); karmái (Ilk., Tag.); layoan (Bik.); poras (Bis.).

#### 7. GLOCHIDION Forster

**GLOCHIDION ALBUM** (Blanco) Boerl. Handl. Fl. Nederl. Ind. 3 (1900) 275; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 75, Philip. Journ. Sci. 1 (1906) Suppl. 75, Sp. Blancoanae (1918) 217; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 99; Hayata in Journ. Col. Sci. Tokyo 30<sup>1</sup> (1911) 264.

*Kirganelia alba* Blanco Fl. Filip. (1837) 713, ed. 2 (1845) 494, ed. 3, 3 (1879) 117.

*Phyllanthus albus* Muell.-Arg. in Flora 48 (1865) 387, DC. Prodr. 15<sup>2</sup> (1866) 306; F.-Vill. Novis. App. (1880) 188.

*Zarcoa philippica* Llanos in Bot. Zeit. 15 (1857) 423, Mem. Acad. Cienc. Madr. 4 (1858) 501, pl.; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 102.

*Glochidion cumingii* Muell.-Arg. in Linnaea 32 (1863) 61 (*cuminghii*); Merr. in Philip. Bureau Forestry Bull. 1 (1903) 29.

*Phyllanthus cumingii* Muell.-Arg. in Flora 48 (1865) 371, DC. Prodr. 15<sup>2</sup> (1866) 285; F.-Vill. Novis. App. (1880) 237; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 237.

*Phyllanthus gigantifolius* Vidal Rev. Pl. Vasc. Filip. (1886) 236, pro minore parte, quoad Vidal 1734, excl. descr.

*Glochidion leytense* Elm. Leaf. Philip. Bot. 1 (1908) 303.

*Glochidion mindanaense* Elm. op. cit. 7 (1915) 2642.

Luzon (Cagayan to Sorsogon), Mindoro, Panay, Leyte, Samar, Siargao, Dinagat, Mindanao. In primary forests at low and medium altitudes, ascending to 1,200 m. Formosa, Celebes.

Local names: Ba'gang-ba'gáng (Bik.); bognák (Mbo.); baroan (Bag.); bugná (C. Bis.); bugná-kolorádo (C. Bis.); handadaog (Mbo.); hudáan Ig.); kalnag (Tag.); obog (Bag.); polopíñon (P. Bis.).

**GLOCHIDION ANGULATUM** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 91.

Leyte, Panay, Mindanao (Lanao, Davao, Zamboanga), Basilan, *F. B. 9487 Whitford & Hutchinson, Elmer 7279, Clemens, De Vore & Hoover 21, 213, B. S. 31114 Ramos & Edaña*. In thickets or forests at low altitudes. Endemic.

**GLOCHIDION BENGUETENSE** Elm. Leaf. Philip. Bot. 1 (1908) 304; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 97, 6 (1911) Bot. 208, 328.  
*Glochidion sablanense* Elm. Leaf. Philip. Bot. 1 (1908) 306.

Luzon (Benguet, Bontoc, Nueva Ecija, Tayabas, Laguna), *Elmer 8770, 8665, Merrill Phil. Pl. 1720, B. S. 12709 Félix, 26431 Ramos & Edaño, Whitford 996*. In forests and forested ravines, altitude 600 to 1,400 m. Endemic.

Local names: Pedpéd (Ilk.); petpetén (Ilk.); sangi (Ig.); sangki (Ig.).

**GLOCHIDION BRACHYSTYLUM** Merr. in Philip. Journ. Sci. 16 (1920) 543.

Panay, *B. S. 31374 Ramos & Edaño*. In forests along small streams at low or medium altitudes. Endemic.

**GLOCHIDION BREYNOIDES** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 95.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Pangasinan, Bataan, Rizal, Laguna, Camarines, Sorsogon), Mindoro, Palawan, Leyte, Negros, Dinagat. In forests, ascending to 1,300 m. Borneo, Moluccas.

Local names: Bagiróro (Bik.); karkarmái (Ilk.); matáng-buíú (Bik.); salanisín (Bik.).

**GLOCHIDION CAGAYANENSE** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 328.

Luzon (Cagayan), *B. S. 7390 Ramos, F. B. 16715, 16726 Curran*. In forests at low altitudes. Endemic.

**GLOCHIDION CAMIGUINENSE** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 414; C. B. Rob. op. cit. 4 (1909) Bot. 100.

Babuyan Islands (Camiguin), *B. S. 4026, 4108 Félix*. On slopes. Endemic.

**GLOCHIDION CANESCENS** Elm. Leaf. Philip. Bot. 8 (1919) 3082.

Luzon (Laguna), *F. B. 25397 Mubesa, Gates 5235*. In low wet places along the shores of Lake Bay. Endemic.

**GLOCHIDION CAULIFLORUM** Merr. in Philip. Journ. Sci. 16 (1920) 545.

Leyte, Mindanao (Lanao, Zamboanga), *B. S. 15352 Ramos, 36611, 36630 Ramos & Edaño, F. B. 25183 Alvarez*. In primary forests at medium altitudes. Endemic.

**GLOCHIDION CORONULATUM** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 94.

*Glochidion balsahanense* Elm. Leaf. Philip. Bot. 4 (1911) 1289.

Luzon (Cagayan, Ilocos Norte, Abra, Benguet, Nueva Ecija), Leyte, Palawan, *F. B. 13937, 13948, 12498 Merritt & Darling, 20059 Curran, B. S. 7102, 5830 Ramos, 26284 Ramos & Edaño, Elmer 12856*. In second-growth forests and thickets at low altitudes. Endemic.

**GLOCHIDION CURRANII** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 102, 6 (1911) Bot. 329.

Culion, Palawan, *F. B. 3502, 3474 Curran, B. S. 783, 906 Foxworthy, 235 Bermejós, Merrill 696*. In thickets at low altitudes. Endemic.

**GLOCHIDION DOLICHOSTYLUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 483.

Palawan, *Merrill 9408*. In forests at low altitudes. Endemic.

**GLOCHIDION FALCATILIMBUM** Merr. in Philip. Journ. Sci. 16 (1920) 542.

Luzon (Pangasinan), *B. S. 30056 Fénix*. On open slopes, altitude about 60 m. Endemic.

**GLOCHIDION GIGANTIFOLIUM** (Vidal) comb. nov.

*Phyllanthus gigantifolius* Vidal Rev. Pl. Vasc. Filip. (1886) 237, quoad descr. et Vidal 1743, excl. Vidal 1734.

Luzon (Ilocos Norte, Ifugao, Zambales, Pangasinan, Rizal, Bataan, Laguna, Tayabas), Negros, Mindanao (Zamboanga), *F. B. 3374 Ahern's collector, 1765 Borden, 20013 Topacio, B. S. 27337, 13394 Ramos, 20027 McGregor, 29940 Fénix, Merrill 1681, 1329, Loher 4754, 6855*. In primary forests at low and medium altitudes. Endemic.

**GLOCHIDION GLAUDESCENS** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 381.

Leyte, *Wenzel 188*. In forests at low altitudes. Endemic.

**GLOCHIDION HUMILE** Merr. in Philip. Journ. Sci. 16 (1920) 544.

Mindanao (Bukidnon), *B. S. 26112 Fénix, 38450 Ramos & Edaña*. In open grasslands at medium altitudes. Endemic.

**GLOCHIDION LANCIFOLIUM** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 90.

? *Kirganelia nigrescens* Blanco Fl. Filip. (1837) 712, ed. 2 (1845) 493, ed. 3, 3 (1879) 115; Merr. Sp. Blancoanae (1918) 218.

? *Phyllanthus nigrescens* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 348. *Glochidion subangulatum* Elm. Leaf. Philip. Bot. 7 (1915) 2644.

Luzon (Cagayan to Camarines), Mindoro, Polillo, Leyte, Panay, Mindanao, Basilan. In forests and in forested ravines at low and medium altitudes. Endemic.

Local names: Analdong (Pang.); bugná (Bik., S. L. Bis., P. Bis.); dampul (Tag.); kakaua (Tag.); kaluag (Tag.); mambulau (P. Bis.); silbulau (P. Bis.); sarirab (Bag.).

**GLOCHIDION LATISTYLUM** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 93.

Mindanao (Lanao), *Clemens 340*. On slopes, altitude about 800 m. Endemic.

**GLOCHIDION LIGULATUM** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 329.

Luzon (Ilocos Norte), *B. S. 7746 Ramos*. In forests. Endemic.

**GLOCHIDION LITTORALE** Blume Bijdr. (1825) 585; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 377; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 30, Philip. Journ. Sci. 1 (1906) Suppl. 75; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 92, 6 (1911) Bot. 208; Elm. Leaf. Philip. Bot. 4 (1911) 1288.

*Phyllanthus littoralis* Muell.-Arg. in Flora 48 (1865) 370, DC. Prodr. 15<sup>2</sup> (1866) 280.

Luzon (Tayabas), Polillo, Mindoro, Palawan, Leyte, Panay, Mindanao, Jolo. In thickets along the seashore and along tidal streams. India to Java and Borneo.

Local names: Kayong (Bis.); kayongkong (P. Bis.); nigad (Sul.); padi-padi (Tagb.); sagasa (C. Bis.); tabaṅgo (Tagb.).

**GLOCHIDION LLANOSII** Muell.-Arg. in Linnaea 32 (1863) 68; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 75, Philip. Journ. Sci. 1 (1906) Suppl. 75, Sp. Blancoanae (1918) 217; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 94.

*Kirganelia villosa* Blanco Fl. Filip. (1837) 712, ed. 2 1845) 493, ed. 3, 3 (1879) 116, t. 399, non *Glochidion villosum* Miq.

*Phyllanthus llanosii* Muell.-Arg. in Flora 48 (1865) 387, DC. Prodr. 15<sup>2</sup> (1866) 308; F.-Vill. Novis. App. (1880) 188; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 237.

*Phyllanthus pubescens* Klotz. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 420, non Moon.

*Glochidion molle* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 29, non Blume.

*Phyllanthus mollis* F.-Vill. Novis. App. (1880) 188, non Muell.-Arg. *Sauropus llanosii* Gage in Rec. Bot. Surv. India 9 (1922) 223.

Luzon (Isabela, Ilocos Norte, Pangasinan, Nueva Ecija, Bulacan, Zambales, Bataan, Rizal, Laguna, Camarines), Panay, Bohol, Mindanao (Bukidnon, Davao). In open forests at low altitudes. Malay Peninsula.

Local names: Banitan (Tag.); kamiaskamiásan (Tag.); malakámias (Tag.); talikúd (Tag.); taltalikód (Pang.).

**GLOCHIDION LONGISTYLUM** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 96.

Luzon (Zambales), *B. S. 5057 Ramos*. At low altitudes. Endemic.

**GLOCHIDION LUZONSENSE** Elm. Leaflet. Philip. Bot. 1 (1908) 301; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 100; Merr. op. cit. 5 (1910) Bot. 356.

Luzon (Ilocos Norte, Ilocos Sur, Bontoc, Benguet, Nueva Vizcaya, Union, Pangasinan, Nueva Ecija, Tarlac, Zambales, Rizal, Bataan, Laguna). In forested ravines at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Apaped (Bon.); gaṅgaṅgan (Bon.); kakadli (Tag.); kalambonóg (Ilk.); marabakét (Ilk.); pedpéd (Ig., Ilk.); perpér (Pang.); pidpíd (Ilk.); salsáleng (Bon.).

**GLOCHIDION MALINDANGENSE** Merr. ex C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 101.

Mindanao (Misamis), *F. B. 4696 Mearns & Hutchinson*. In forests, altitude about 1,600 m. Endemic.

**GLOCHIDION MERRILLII** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 100; Merr. op. cit. 5 (1910) Bot. 356.

Luzon (Benguet, Laguna), *Williams 1356, Merrill 4804, 7520, B. S. 31718 Santos*. In forests, altitude 1,500 to 2,000 m. Endemic.

Local name: Pudpúd (Ig.).

**GLOCHIDION MINDORENSE** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 98, 6 (1911) Bot. 208.

Luzon (Tayabas), Polillo, Mindoro, Palawan, Samar, Leyte, *F. B. 12031 Merritt, 21628 Lopez, 12223 Rosenbluth, B. S. 9293 Robinson, Merrill 9382*. In thickets and forests at low altitudes. Endemic.

Local name: Litok (S. L. Bis.).

**GLOCHIDION MOLLE** Blume Bijdr. (1825) 586; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 95; Elm. Leaf. Philip. Bot. 4 (1911) 1288.

*Phyllanthus mollis* Muell.-Arg. in Flora 48 (1865) 387, DC. Prodr. 15<sup>2</sup> (1866) 308; Vidal Rev. Pl. Vasc. Filip. (1886) 236.

Mindanao (Lanao, Davao, Zamboanga), Palawan, Basilan, Jolo, *F. B. 9161 Whitford & Hutchinson, 27763 De la Cruz, Elmer 12605*. In thickets and forests at low altitudes. Java, Celebes.

Local names: Bugná (Sul.); piaas (Tag.); ubal (Sul.).

**GLOCHIDION NITIDUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 483.

Luzon (Laguna, Tayabas, Camarines), Polillo, Samar, *B. S. 20543 Ramos, F. B. 25568 Duldulao, 21753 Fischer, 20490 Villamil, Elmer 17750, 17910*. On forested slopes at low and medium altitudes. Endemic.

Local name: Bagnang-gúbat (Tag.).

**GLOCHIDION PALAWANENSE** Elm. Leaf. Philip. Bot. 4 (1911) 1290.

Palawan, *Elmer 12804*. In forests along streams, altitude about 150 m. Endemic.

**GLOCHIDION PHILIPPICUM** (Cav.) C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 103; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 139; Merr. Sp. Blancoanae (1918) 218.

*Bradleya philippica* Cav. Ic. 3 (1797) 48, t. 371; Spreng. Syst. 3 (1826) 19.

*Bradleya philippensis* Willd. Sp. Pl. 4 (1805) 592.

*Gyrostemon blancoi* Llanos Frag. Fl. Filip. (1851) 74; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 58.

*Phyllanthus philippinensis* Muell.-Arg. in Flora 48 (1865) 376 (incl. var. *mollis* Muell.-Arg.), DC. Prodr. 15<sup>2</sup> (1866) 295 (incl. var. *mollis*, *pubescens*, et *glaber*); F.-Vill. Novis. App. (1880) 187; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 236.

*Glochidion philippinense* Benth. Fl. Hongk. (1861) 314; Muell.-Arg. in Linnaea 32 (1863) 65.

Northern Luzon (Cagayan) to Mindanao and Palawan. Common in thickets, forested ravines, etc., at low and medium altitudes. Formosa to Sumatra, Java, Celebes, and New Guinea.

Local names: Alipapó (Ibn.); anám (Ilk.); antobanag (Tag.); bagná (Tag.); baringkokórun (Sbl.); bonot-bónot (C. Bis.); bugná (C. Bis.); dampól (Tag.); gádil (Ilk.); hamugun (P. Bis., Tag.); ibaibáan (Tag.); kágil (Neg.); kalian (Tag.); kásin (Neg.); kásil (Ibn.); matang-hípon (Tag.); piás (Ilk.); polumanáyen (Ig.); takuanis (P. Bis.); tayom-táyom (Tag.); uang-uang (Tag.); yamog-yamog (P. Bis.).

**GLOCHIDION PHYLLANTHOIDES** Merr. in Philip. Journ. Sci. 16 (1920) 541.

Luzon (Batangas), *B. S. 22358 Ramos*. On dry slopes, altitude about 190 m. Endemic.

**GLOCHIDION PSIDIOIDES** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 92.

Luzon (Abra, Bontoc, Benguet, Union, Nueva Vizcaya), *F. B. 4856 Curran, B. S. 31729 Santos, 14010 Robinson, 20072 McGregor, 37654 Ramos & Edaño, Merrill 9640*. In thickets on ridges and about boulders and ledges, altitude 1,200 to 2,000 m. Endemic.

Local names: Anám (Ig.); kupkupít (Bon.); ped-péd (Ilk.); sudsúd (Ig.).

**GLOCHIDION PULGARENSE** Elm. Leaf. Philip. Bot. 4 (1911) 1291.

Palawan (Mt. Pulgar), *Elmer 13215, F. B. 3868 Curran*. On exposed ridges, altitude about 1,300 m. Endemic.

**GLOCHIDION RETICULATUM** Elm. Leaf. Philip. Bot. 1 (1908) 302; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 104.

Luzon (Laguna, Cavite), *Elmer 8198, Baker 2697, Alberto, B. S. 22491 Ramos & Deroy, F. B. 28942 Willie & Salvosa*. In thickets at low altitudes. Endemic.

**GLOCHIDION ROBINSONII** Elm. Leaf. Philip. Bot. 7 (1915) 2643.

Luzon (Apayao, Benguet, Rizal, Laguna, Sorsogon), Leyte, Panay, Siargao, Mindanao (Agusan, Cotabato, Davao), *Elmer 6189, 11243, 15307* as *G. sorsogonense* Elm., *Wenzel 1108, 978, Baker 2424, F. B. 405 Ahern's collector, B. S. 20407 Ramos, 34931 Ramos & Pascasio, 12734 Fénix*. In thickets and second-growth forests at low and medium altitudes. Endemic.

Local name: Kelkel (Ig.).

**GLOCHIDION RUBRUM** Blume Bijdr. (1825) 586; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 101; Merr. Fl. Manila (1912) 286.

*Phyllanthus diversifolius* Miq. Fl. Ind. Bat. Suppl. (1861) 448; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 297; F.-Vill. Novis. App. (1880) 187; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 236.

*Glochidion diversifolium* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 29.

Northern Luzon (Cagayan) to Palawan and Mindanao. In thickets and secondary forests at low and medium altitudes. Malay Peninsula, Sumatra, Java, Borneo.

Local names: Barabakít (Ilk.); bonot-bónot (C. Bis.); bugná (P. Bis.); dampól (Tag.); gayang-bakíro (Tag.); kabarauan (Sul.); karmái (Tag.); matang-hipon (Tag.); sulad-bágio (Sul.); toñgau-tóñgau (P. Bis.).

**GLOCHIDION SUBFALCATUM** Elm. Leaf. Philip. Bot. 1 (1908) 305; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 98.

Luzon (Benguet, Pangasinan), *Elmer 6221, 8915*. On dry ridges at medium altitudes. Endemic.

Local name: Nadong (Pang.).

**GLOCHIDION TRIANDRUM** (Blanco) C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 92; Elm. Leaf. Philip. Bot. 3 (1910) 920; Merr. Sp. Blancoanae (1918) 217.

*Kirganelia triandra* Blanco Fl. Filip. (1837) 711, ed. 2 (1845) 492, ed. 3, 3 (1879) 115.

*Phyllanthus triandrus* Muell.-Arg. in Flora 48 (1865) 379, DC. Prodr. 15<sup>2</sup> (1866) 299; F.-Vill. Novis. App. (1880) 187; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 236.

*Glochidion eleutherostylum* Muell.-Arg. in Linnaea 32 (1863) 69.

*Glochidion quinquestylum* Elm. Leaf. Philip. Bot. 1 (1908) 303; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 89.

Luzon (Cagayan, Benguet, Zambales, Tayabas, Pampanga, Bataan, Rizal, Laguna, Camarines, Albay), Polillo, Mindoro, Biliran, Sibuyan, Guimaras, Negros. In thickets and secondary forests at low and medium altitudes. Endemic.

Local names: Bagná (Tag.); dampól (Tag.); hagud (P. Bis.); kásil (Ibn.); marabagét (Ilk.); marakabíbi (Ibn.); pañgo (Ibn.); shimei (Ig.).

**GLOCHIDION TRICHOGYNUM** Muell.-Arg. in Linnaea 32 (1863) 66; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 97; Elm. Leaf. Philip. Bot. 3 (1910) 921.

*Phyllanthus trichogynus* Muell.-Arg. in Flora 48 (1865) 380, DC. Prodr. 15<sup>2</sup> (1866) 301; F.-Vill. Novis. App. (1880) 187; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 238.

Luzon (Tayabas), Mindoro, Palawan, Leyte, Mindanao (Misamis, Lanao, Davao, Zamboanga). In forests at low and medium altitudes. Endemic.

Local names: Ananok (P. Bis.); tabañgan (Tagb.).

**GLOCHIDION TRICHOPHORUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 484.

Luzon (Tayabas, Camarines), *B. S. 20831 Escritor, 33682, 33731, 33796 Ramos & Edaña*. In forests along small streams at low altitudes. Endemic.

**GLOCHIDION UROPHYLLOIDES** Elm. Leaf. Philip. Bot. 1 (1908) 300, 3 (1910) 920; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 90.

*Glochidion fenicis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 414.

Batan Islands, Luzon (Cagayan, Benguet, Isabela, Rizal), Mindanao (Davao), *Elmer 8677, 8758, 10569, B. S. 3696 Fénix, F. B. 11278 Klemme*. In forests at low and medium altitudes. Endemic.

Local names: Anam (Iv.); banak (Bag.); halakan (Ig.); kaloag (Tag.); kañgil (Neg.); sañgi (Ig.).

**GLOCHIDION WEBERI** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 330.

Mindanao (Agusan, Butuan, Lanao, Davao), *Weber 1012, 1442, Elmer 13764, F. B. 25916 Alviar, 23140 Acuña, 28217 Eluniv*. In forests along streams, up to 500 m altitude. Endemic.

Local name: Pasogonon (Mbo.).

**GLOCHIDION WILLIAMSII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 199, 4 (1909) Bot. 95.

Luzon (Bontoc, Benguet, Zambales, Bataan, Laguna), *Williams 953, Whitford 1172, 1327, Merrill Phil. Pl. 421, F. B. 18382 Alvarez, 17005*

*Curran*. In forested ravines and on ridges, altitude 1,000 to 1,500 m. Endemic.

Local names: Sangki (Ig.); tumuhan (Bon.).

#### DOUBTFUL SPECIES

*GLOCHIDION ZEYLANICUM* Juss. var. *MALAYANUM* J. J. Sm. in *Koord. & Val. Bijdr. Boom. Java* 12 (1910) 118.

The Philippine specimen referred here by Smith is probably *Glochidion leytense* Elm.; see C. B. Robinson in *Philip. Journ. Sci.* 6 (1911) Bot. 331.

#### 8. BREYNIA Forster

**BREYNIA ACUMINATA** Muell.-Arg. in DC. *Prodr.* 15<sup>2</sup> (1866) 442; F.-Vill. *Novis. App.* (1880) 189; Vidal *Phan. Cuming. Philip.* (1885) 142, *Rev. Pl. Vasc. Filip.* (1886) 238; Merr. in *Philip. Journ. Sci.* 1 (1906) *Suppl.* 76; C. B. Rob. *op. cit.* 4 (1909) Bot. 104. *Melanthesia acuminata* Muell.-Arg. in *Linnaea* 32 (1863) 74.

Luzon (Cagayan to Laguna, common), Mindoro, Samar, Leyte, Negros. In thickets and forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local names: Atiluag (Ting.); kalkaldia (Bon.); kármai (Ilk.); kármai-búgkau (Ilk.); marakarómai (Ilk.); mátang-úlang (Tag.); palin (Pang.); pertik (Bon.).

**BREYNIA CERNUA** (Poir.) Muell.-Arg. in DC. *Prodr.* 15<sup>2</sup> (1866) 439; F.-Vill. *Novis. App.* (1880) 189; Vidal *Phan. Cuming. Philip.* (1885) 142, *Rev. Pl. Vasc. Filip.* (1886) 238; Merr. in *Philip. Journ. Sci.* 1 (1906) *Suppl.* 75, 3 (1908) Bot. 415, *Fl. Manila* (1912) 286; C. B. Rob. in *Philip. Journ. Sci.* 4 (1909) Bot. 105.

? *Phyllanthus cernuus* Poir. in *Lam. Encycl.* 5 (1804) 298.

*Breynia cernua* Muell.-Arg. var. *acutifolia* Muell.-Arg. in DC. *Prodr.* 15<sup>2</sup> (1866) 439.

*Melanthesia cernua* Muell.-Arg. var. *acutifolia* Muell.-Arg. in *Linnaea* 32 (1863) 74.

Batan Islands and northern Luzon to Palawan and Mindanao. Common in thickets at low and medium altitudes, ascending to 1,500 m. Java to the Moluccas, New Guinea, and Australia.

Local names: Añgayugayong (Iv.); antimtinid (Iv.); bagbagótot (Ilk.); chimí (Ig.); hinuyop (If.); kalamyásan (Tag.); karamanas (Tag.); mátang-buiú (Bik.); mátang-hípon (Tag.); mátang-úlang (Tag., Sbl.); nipin (Sul.); ñgagá (Ibn.); oyunñya (P. Bis.); sága (Tag.); saga-sága (Tag.); saga-ságang-káhoi (Tag.); sitsit (Ig.); tambuiú (Bik.); saipantug (Sul.); songut-ólang (Bis.); tolog-tolog (P. Bis.); tintug (Sul.); tugtug (C. Bis.); turog (Buk.); tutulog (Sub.).

**BREYNIA RHAMNOIDES** (Retz.) Muell.-Arg. in DC. *Prodr.* 15<sup>2</sup> (1866) 440; F.-Vill. *Novis. App.* (1880) 189; Vidal *Rev. Pl. Vasc. Filip.* (1886) 238; C. B. Rob. in *Philip. Journ. Sci.* 4 (1909) Bot. 104; Merr. *op. cit.* 5 (1910) 356, *Fl. Manila* (1912) 286; Elm. *Leaflet. Philip. Bot.* 3 (1910) 906.

*Phyllanthus rhamnoides* Retz. *Obs.* 5 (1791) 30.

Habitat and Philippine distribution of the preceding species, and not always clearly distinguishable from it. India to China and Malaya.



Local names: Dagum (Sub.); gungumayi (Bon.); kabaong (Bon.); mátang-hípon (Tag.); mátan-sága (Kuy.); matang-úlang (Tag.); sala-mági (Bon.); santing (Sul.); sintug (Sul.); tañgísan-bágio (Bag.); torog-torog (P. Bis.); tulug-tulug (P. Bis.).

#### 9. SAUROPUS Blume

**SAUROPUS ANDROGYNUS** (Linn.) Merr. in Philip. Bureau Forestry Bull. 1 (1903) 30; C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 72; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 217, f. 19.

*Clutya androgyna* Linn. Mant. 1 (1767) 30.

*Sauropus albicans* Blume Bijdr. (1825) 596; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 366; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 241; F.-Vill. Novis. App. (1880) 187; Vidal Sinopsis Atlas (1883) 38, t. 82, f. E, Rev. Pl. Vasc. Filip. (1886) 235.

*Sauropus macranthus* F.-Vill. Novis. App. (1880) 187, non Hassk.

Luzon (Camarines), Mindoro, Samar, Leyte, *Ahern 132, 288, Merrill 3329, B. S. 24500, 24501, 17538 Ramos, Wenzel 105, 370, 1583*. In thickets at low altitudes. India to Sumatra, Java, and Borneo.

Local name: Binahían (Tag.).

**SAUROPUS ROBINSONII** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 407; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 220.

Luzon (Benguet, Rizal), Mindanao (Lanao), *Elmer 5907, 6308, 6441, Clemens 939, B. S. 29782 Ramos & Edaño*. In thickets and forests, altitude 700 to 1,400 m. Endemic,

**SAUROPUS SCANDENS** C. B. Rob. in Philip. Journ. Sci. 4 (1909) Bot. 72; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 224.

Luzon (Amburayan, Nueva Ecija, Bataan), *Vanoverbergh 3794, F. B. 1934 Borden, B. S. 2649 Ramos & Edaño*. In forests and forested ravines at low altitudes, ascending to 300 m. Celebes.

#### 10. CYCLOSTEMON Blume

**CYCLOSTEMON BORDENII** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 26, Philip. Journ. Sci. 1 (1906) Suppl. 76.

*Cyclostemon macrophyllus* Vidal Sinopsis Atlas (1883) 38, t. 82, f. B, non Blume.

*Cyclostemon merrittii* Elm. Leaf. Philip. Bot. 3 (1910) 913.

*Drypetes bordenii* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 244.

Babuyan Islands, Luzon (Cagayan, Apayao, Nueva Ecija, Nueva Vizcaya, Pampanga, Bataan, Tayabas, Camarines), Mindoro, Samar, Leyte, Panay, Mindanao (Surigao). In primary forests at low altitudes; common; allied to *C. macrophyllus* Blume. Endemic; a closely allied form in New Guinea.

Local names: Bagatáro (Bik.); butong-manók (Tag.); damol (S. L. Bis.) dila-díla (Tag.); gakákan (Ibn.); káoal (Neg.); malatámban (S. L. Bis.); palapnurgín (Ilk.); talimárun (Sbl.); talimórong (Pamp.); talú-long (Tag.); talumórun (Tag.).

**CYCLOSTEMON BAWANII** Merr. in Philip. Journ. Sci. 20 (1922) 397.

Luzon (Tayabas), *F. B. 25357, 25034 Bawan*. In forests at low altitudes. Endemic.

**CYCLOSTEMON CUMINGII** Baill. Étud. Gén. Euphorb. (1858) 485, *nomen nudum* (*cumingii*); Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 485; F.-Vill. Novis. App. (1880) 189; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 238.

*Drypetes cumingii* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 238, excl. syn. *C. littoralis* C. B. Rob. and *C. iwahigensis* Elm.

Samar, Mindanao (Misamis), *Cuming 1695*, *F. B. 19548 Klemme*. In forests near the seashore. Endemic.

Local name: Magataru (Lan.).

**CYCLOSTEMON ELLIPSOIDEUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 369.

*Drypetes ellipsoidea* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 250.

Luzon (Tayabas), Bancalan, Leyte, Samar, *Wenzel 828*, *B. S. 24359*, *24523 Ramos*, *Warburg 13094*. In forests at low altitudes. Endemic.

Local names: Busag-busag (S. L. Bis.); kalugkugan (S. L. Bis.); putian (S. L. Bis.).

**CYCLOSTEMON FALCATUS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 415.

*Drypetes falcata* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 250.

Babuyan Islands (Camiguin), *B. S. 4033 Fénix*. Along the seashore. Endemic.

**CYCLOSTEMON GITINGENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 912.

*Drypetes gitingensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 250.

Sibuyan, *Elmer 12317*. In forests along streams, altitude about 300 m. Endemic.

Local name: Lakong (P. Bis.).

**CYCLOSTEMON GLOBOSUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 478.

*Drypetes globosa* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 247.

Luzon (Sorsogon), Cuyo, Mindoro, Masbate, Mindanao (Zamboanga), *B. S. 21362 Eseritor*, *F. B. 26157 Miranda*, *9336 Whitford & Hutchinson*, *Elmer 16103*, *16036*. In thickets and forests at low altitudes. Endemic.

Local names: Bato-bató (Kuy.); matobató (P. Bis.).

**CYCLOSTEMON GRANDIFOLIUS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 197.

*Drypetes grandifolia* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 245.

Panay, Mindanao, Sulu Archipelago, *F. B. 6554 Hutchinson*, *21881 Villamil*, *11778 Whitford*, *15232 Almagro*, *B. S. 15415 Reillo*, *11824 Robinson*. In primary forests at low altitudes. Endemic unless referable to the Malayan *C. macrophyllus* Blume.

Local names: Banáui (Sul., Mag.); magapisa (Mag.); taomo (Sul.).

**CYCLOSTEMON IWAHIGENSIS** Elm. Leaf. Philip. Bot. 4 (1911) 1278 p. p., excl. descr. fl., et No. 13175.

Palawan, Luzon (Sorsogon), *Elmer 12695, 17290, 17282, 17347*. In forests along streams, altitude about 150 m. Endemic, but to be compared with *C. minahassae* Koord.

Local name: Giraṅgan (Tagb.).

The first specimen cited in Elmer's original description is his 13175, which is *Taraktogenos heterophylla* (Blume) Van Slooten; the description of the flowers must be eliminated from his description. Under the circumstances I interpret the second specimen cited, 12696, as the type of the species, as it is a *Cyclostemon*. Reduced by Pax and K. Hoffmann to *Drypetes cumingii* Pax & Hoffm.

**CYCLOSTEMON LITTORALIS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 198.

*Cyclostemon cumingii* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 76, non Baill.

Luzon (Cagayan, Ilocos Sur, Union, Batangas, Bataan, Laguna, Camarines, Sorsogon), Mindoro, Palawan, *Williams 377, Whitford 1269, 1275, Merrill Phil. Pl. 1906, Elmer 17166, 15358, F. B. 28834 Sulit*. In forests at low altitudes. Endemic.

Local names: Balikbikan (Tag.); bato-bató (Tagb.); butong-manók (Bik.); paṅgapasútín (Ibn.); pasaklák (Ilk.); putig (Sul.); tayum-táyum (Tag.); tombong-uák (Tagb.).

**CYCLOSTEMON MAQUILINGENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 477.

*Drypetes maquilingensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 240.

Luzon (Laguna), Mindanao (Butuan, Zamboanga, Davao), *Elmer 17655, F. B. 20877 Villamil, 20585, 20772, 25349 Miranda, 25345 Franco, 26599 Ceballos*. In primary forests, ascending to 700 m. Endemic.

Local names: Bagabolo (Bik.); marinau (Buk.); talon-manók (P. Bis.); tangísang-bágio (Tag.); tinaán-pantai (Tag.).

**CYCLOSTEMON MEGACARPUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 387.

*Cyclostemon ramiflorus* Merr. op. cit. 7 (1912) Bot. 387.

*Cyclostemon incarnatus* Elm. Leaf. Philip. Bot. 7 (1915) 2639.

*Drypetes megacarpa* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 248.

*Drypetes ramiflora* Pax & K. Hoffm. l. c.

Luzon (Tayabas, Laguna, Camarines), Mindoro, Samar, Panay, Leyte, Negros, Mindanao. In primary forests at low and medium altitudes. Borneo.

Local names: Balakúbung (Lan.); himlapbágio (S. L. Bis.); kalmol (Neg.); malagsak (Mbo.); margabúlo (Tag.).

**CYCLOSTEMON MICROPHYLLUS** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 27, Philip. Journ. Sci. 1 (1906) Suppl. 76.

*Drypetes microphylla* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 237.

Luzon (Cagayan to Sorsogon), Mindoro, Samar, Masbate, Panay, Mindanao. In primary forests at low and medium altitudes. Endemic.

Local names: Agolásin (Ibn.); apálong (Tag.); butong-manók (Tag.); daginíran (Neg.); dañgíran (Neg.); futoradinat (Klg.); gulasíng (Ibn.); gulipápa (Ilk.); irani (Tag.); matobato (S. L. Bis.); pañgírāñging (Tag.); pañgírāni (Tag.); pañgaránin (Tag.); salipag (Mbo.); talamórung (Tag.); talang-idong (Tag.); talimúrong (Tag.); talumórung (Tag.); tangnaránig (Tag.).

**CYCLOSTEMON MINDANAENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 479.

*Drypetes mindanaensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 248.

Mindanao (Davao, Zamboanga), *F. B. 12458 Tarrosa, 22752 Nave, Ahern 547, Elmer 11009*, some distributed as *Stemonurus*. In primary forests at low altitudes. Endemic.

Local names: Bakad (Bag.); banáui (Sul.); tingkál (Sul.).

**CYCLOSTEMON MINDORENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 479.

*Drypetes mindorensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 274.

Luzon (Nueva Ecija, Camarines), Mindoro, *B. S. 21278, 21311 Escritor, F. B. 25606 Tungol, 9733 Merritt, Ahern 27*. In forests at low altitudes. Endemic.

Local names Bato-bató (Tag.); tináan-pantái (Tag.).

**CYCLOSTEMON MONOSPERMUS** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 76.

*Drypetes monosperma* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 255.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Nueva Ecija, Bulacan, Bataan, Rizal, Laguna, Camarines), Mindoro. In primary forests at low and medium altitudes, ascending to 1,300 m. Endemic.

Local names: Butig-bábui (Tag.); lumakau (Bik.).

**CYCLOSTEMON OLIGOPHLEBIUM** Merr. in Philip. Journ. Sci. 20 (1922) 398.

Mindoro, *F. B. 4036 Merritt, 12210 Rosenbluth*. In forests at low altitudes. Endemic.

Local name: Bato-bató (Tag.).

**CYCLOSTEMON PALAWANENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 480.

*Drypetes palawanensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 249.

Palawan, *Merrill 9451, F. B. 27980 Cenabre, Baldemor, & Aduviso*. In dry forests at low altitudes. Endemic.

**CYCLOSTEMON SIBUYANENSIS** Elm. Leaf. Philip. Bot. 3 (1910) 914.

*Drypetes sibuyanensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 247.

Sibuyan, *Elmer 12275*. In forests, altitude about 225 m. Endemic.

Local name: Bagbog (P. Bis.).

## 10a. HEMICYCLIA Wight and Arnott

**HEMICYCLIA OVALIS** J. J. Sm. in Meded Dept. Landbouw 10 (1910) 221 (Koord. & Val. Bijdr. Boomsoort. Java 12: 221).

*Cyclostemon calcicola* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 478.

*Drypetes calcicola* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 266.

Mindoro, Palawan, Negros, Malamaui, *Merrill 9430, 9427, Phil. Pl. 2100, F. B. 24182 Medina, 20697 Tamesis, 23412 Contreras, 25577 Hirro*. In thickets and forests at low altitudes on limestone formations. Java.

Local names: Butigan (C. Bis.); pugúran (P. Bis.).

J. J. Smith describes the Javan form as having glabrous fruits; my Javan specimens, *Backer 27839, 28136*, have puberulent fruits. I can see no reason for distinguishing the Philippine form.

**HEMICYCLIA SUBCRENATA** (Merr.) comb. nov.

*Cyclostemon subcrenatus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 388.

*Drypetes subcrenata* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 274.

Luzon (Batangas, Camarines, Albay), Bancalan, *F. B. 21567 Tamesis, 10588 Curran, 897 Van Wickle, Weber*. In forests at low altitudes. Endemic.

## 11. APOROSA Blume

**APOROSA ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 16 (1920) 546.

Luzon (Laguna), *F. B. 26185 Amarillas*. In primary forests, altitude about 450 m. Endemic.

**APOROSA ALVAREZII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 470.

Luzon (Laguna, Camarines), Samar, *F. B. 21245 Alvarez, 26793 Mabeza, B. S. 20567, 24218, 24281 Ramos*. In primary forests at low altitudes. Endemic.

**APOROSA AURITA** (Tul.) Miq. Fl. Ind. Bat. 1<sup>1</sup> (1858-59) 431; Baill. Étud. Gén. Euphorb. (1858) 645; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 474; F.-Vill. Novis. App. (1880) 190; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 100.

*Seepa aurita* Tul. in Ann. Sci. Nat. Bot. III 15 (1851) 254.

*Aporosa microcalyx* Hassk. in Bull. Soc. Bot. France 6 (1859) 714; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 471; F.-Vill. Novis. App. (1880) 190; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 239; C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 208; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 101.

*Tetractinostigma microcalyx* Hassk. in Flora 40 (1857) 533, Hort. Bogor. Descr. (1858) 55.

*Aporosa cumingiana* Baill. Étud. Gén. Euphorb. (1858) 645, *nomen nudum*.

Luzon (Isabela), Polillo, Samar, Leyte, *Cuming 1724, B. S. 8055 Ramos, 9074, 9306 Robinson, 10275 McGregor, Wenzel 1387, Merrill Phil. Pl. 1681*. In forests at low altitudes. Andaman Islands, Malay Peninsula. Sumatra, Bangka, Borneo, Java, Celebes.

**APOROSA BANAHAENSIS** (Elm.) comb. nov.

*Baccaurea banahaensis* Elm. Leaf. Philip. Bot. 4 (1912) 1475; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 70.

*Aporosa similis* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 472; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 92.

*Aporosa agusanensis* Elm. Leaf. Philip. Bot. 7 (1915) 2636.

Luzon (Tayabas, Laguna, Camarines), Mindoro, Leyte, Negros, Panay, Mindanao (Agusan), *Elmer 9106, 13415, B. S. 29210, 28728, 30860, 31010, 31248 Ramos & Edaña, 13519, 20514, 15112, 41076, 40857 Ramos, F. B. 7279, 7254 Everett, Wenzel 919, 776, 716, 687*. In primary forests at low altitudes; closely allied to *A. frutescens* Blume. Endemic.

Local names: Agúsip (Bik.); hágúsip (Bik.); hauai (Mbo.).

**APOROSA BASILANENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 471;

Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 94.

Basilan, *B. S. 16168 Reillo*. In forests at low altitudes. Endemic.

**APOROSA ELLIPTIFOLIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 472.

Palawan, *Merrill 9609*. On forested slopes at low altitudes. Endemic.

**APOROSA LEYTENSIS** Merr. in Philip. Journ. Sci. 9 (1914) 368.

Leyte, Biliran, *Wenzel 587, 614, B. S. 18641 McGregor*. In forests, altitude 500 to 600 m. Endemic.

**APOROSA LUNATA** (Miq.) Kurz in Journ. Asiat. Soc. Bengal 42<sup>2</sup> (1873)

239; Pax & Hoffm. in Engl. Pflanzenreich 81 (1922) 82, var.

**STIPULOSA** (Merr.) comb. nov.

*Aporosa stipulosa* Merr. in Philip. Journ. Sci. 16 (1920) 547.

*Aporosa lunata* Kurz. var. *philippinensis* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 82.

Biliran, Leyte, Mindanao (Lanao, Agusan), *Clemens 968, Elmer 13474, 14042, Wenzel 637, B. S. 18642 McGregor, F. B. 22029 Sherfessee, Cenabre, & Cortes*. In primary forests at low altitudes, ascending to 800 m; the variety endemic, the species in the Malay Peninsula, Sumatra, Java, and Borneo.

Local names: Manlobadon (Mbo.); sungsung (Mbo.).

**APOROSA SPHAERIDOPHORA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl.

76, 11 (1916) Bot. 283; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 86.

*Aporosa campanulata* J. J. Sm. in Ic. Bogor. 3 (1907) 71, t. 229, Meded. Dept. Landbouw 10 (1910) 237.

Luzon (Cagayan, Benguet, Zambales, Bataan, Tayabas, Laguna, Sorsogon), Palawan, Samar, Leyte, Negros, Panay, Mindanao (Lanao), incl. *Elmer 17237* as *A. bulusanensis* Elm., *15563* as *A. rotundifolia* Elm., and *15654* as *A. sorsogonensis* Elm. In primary forests at medium altitudes, ascending to 1,600 m. Sumatra, Java, Moluccas.

Local names: Apnu (Neg.); kaliuas (Tag.).

**APOROSA SYMPLICIFOLIA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl.

77 (*symplocosifolia*); Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 88.

Luzon (Cagayan, Ilocos Norte, Pangasinan, Zambales, Bataan, Rizal, Albay, Sorsogon), Mindoro. Common in primary forests at low and medium altitudes. Endemic.

Local names: Alásan (Sbl.); bakuringan (Neg.); bígloi (Tag.); bohukan (Bik.); kandong (Pang.); kaping-gúbat (Ilk.); kuya-káya (Tag.); lasgas (Bik.); pamugnayen (Pang.); putían (Pang.); siriki (Tag.).

## EXCLUDED SPECIES

APOROSA LATIFOLIA Thwaites; F.-Vill. Novis. App. (1880) 190.

APOROSA MACROPHYLLA Muell.-Arg.; F.-Vill. l. c.

APOROSA VILLOSA Baill.; F.-Vill. l. c.

## 11a. RICHERIELLA Pax &amp; K. Hoffmann

**RICHERIELLA GRACILIS** (Merr.) Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 30.

*Baccaurea gracilis* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 203.

Palawan, Bancalan, *B. S.* 218, 258 *Bermejos*, *F. B.* 24037 *Natividad*, 3828, 4123, 4137 *Curran*, *Weber*. In flat forests at low altitudes. A monotypic endemic genus.

## 12. BACCAUREA Loureiro

**BACCAUREA GLABRIFLORA** Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 59.

*Baccaurea lanceolata* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 277, non Muell.-Arg.

Palawan, *Merrill* 853. In forests at low altitudes. Endemic.

**BACCAUREA LANCEOLATA** (Miq.) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 457; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 60.

*Hedycarpus lanceolatus* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 359.

*Adenocrepis lanceolata* Muell.-Arg. in Linnaea 32 (1863) 82.

Jolo, *Link* 212. Probably planted for its edible fruits. Malay Peninsula, Sumatra, Java, Borneo.

Local name: Limpahung (Sul.).

**BACCAUREA ODORATISSIMA** Elm. Leaf. Philip. Bot. 4 (1911) 1276; Pax & Hoffm. in Engl. Pflanzenreich 81 (1922) 59.

Palawan, *Elmer* 12864, 13160. In forests, altitude about 225 m. Endemic.

**BACCAUREA PHILIPPINENSIS** (Merr.) Merr. in Philip. Journ. Sci. 10 (1915) Bot. 275; Pax & Hoffm. in Engl. Pflanzenreich 81 (1922) 68.

*Everettiodendron philippinense* Merr. op. cit. 4 (1909) Bot. 279; Elm. Leaf. Philip. Bot. 3 (1910) 916.

Luzon (Cagayan, Ilocos Norte, Pangasinan, Zambales, Tayabas, Laguna, Camarines), Biliran, Leyte, Negros, Mindanao (Surigao). In forests at low altitudes; allied to *Baccaurea bracteata* Muell.-Arg. Endemic.

Local names: Balóyboi (Sbl.); ebeo (Pang.); kaluñgalon (S. L. Bis.); kuya-kuya (S. L. Bis.); loslospit (Pang.); mangkáu (Bik.); marikau-napulá (Tag.).

**BACCAUREA TETRANDBRA** (Baill.) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 465; F.-Vill. Novis. App. (1880) 190; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 239; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 30, Philip. Journ. Sci. 1 (1906) Suppl. 77; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 49. *Adenocrepis tetrandra* Baill. Étud. Gen. Euphorb. (1858) 601, *nomen nudum*, Adansonia 4 (1863) 135.

*Baccaurea terminalifolia* Elm. Leaf. Philip. Bot. 4 (1911) 1277.

Luzon (Cagayan, Apayao, Zambales, Bataan, Tayabas, Sorsogon), *Elmer* 12704, 13089, 15580, 15589, 15821 as *B. bakeri* Elm., Samar, Leyte, Negros, Panay, Mindanao (Surigao, Davao, Zamboanga), Palawan. Common in forests at low and medium altitudes. Endemic.

Local names: Amitan (Neg.); arumbidon (Tagb.); bigtey (Ilk.); dilak (Tag.); gilak (Tag.); gililak (Tag.); girañgan (Tagb.); malatayótes-lain (S. L. Bis.); palpalan (C. Bis.); papadásen (Ibn.).

#### EXCLUDED SPECIES

**BACCAUREA SUMATRANA** Muell.-Arg.; F.-Vill. Novis. App. (1880) 190.

#### 13. ANTIDESMA Burman

**ANTIDESMA AGUSANENSE** Elm. Leaf. Philip. Bot. 7 (1915) 2632; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 151.

Luzon (Sorsogon), Mindanao (Agusan, Surigao), Siargao, *Elmer* 13549, 14865, 15950, 15881, *B. S.* 34928, 34927, 34371, 34694 *Ramos & Pascasio*. In thickets and forests at low and medium altitudes. Endemic.

Local name: Mataindo (Mbo.).

**ANTIDESMA ANGUSTIFOLIUM** (Merr.) Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 165.

*Antidesma pentandrum* Merr. var. *angustifolium* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 464.

Luzon (Benguet, Nueva Vizcaya), *Elmer* 6320, 6327, *Williams* 940, *B. S.* 14400 *McGregor*. In thickets at medium altitudes. Endemic.

**ANTIDESMA BUNIUS** (Linn.) Spreng. Syst. 1 (1825) 826; Tul. in Ann. Sci. Nat. III 15 (1851) 186; Presl Epim. (1851) 234; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 423; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 262; F.-Vill. Novis. App. (1880) 191; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 239; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 77, Fl. Manila (1912) 287, Sp. Blancoanae (1918) 218; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 160.

*Stilago bunius* Linn. Mant. 1 (1767) 122; Blanco Fl. Filip. (1837) 782, ed. 2 (1845) 539, ed. 3, 3 (1879) 189, t. 361.

*Antidesma ciliatum* Presl Epim. (1851) 234.

*Antidesma cordifolium* Presl l. c.

*Antidesma bunius* Spreng. var. *cordifolium* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 262.

*Sapium crassifolium* Elm. Leaf. Philip. Bot. 2 (1908) 485.

*Antidesma crassifolium* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 383; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 139.

Northern Luzon to Mindanao, common in thickets, etc., in the vicinity of towns and settlements, occasional in forests.



Local names: Bignai (Tag., Sbl., Bik., Mang.); bignai-kalabáu (Tag.); bugnái (Ilk., Bon., Ibn., P. Bis., C. Bis.); búgnei (Bon., If.); búndei (Ibn.); dokodoko (Bag.); isip (Pamp.); mutagtamanuk (Bag.); oyhip (Sbl.); pag-iñgá (Ibn.); vunnai (Ibn.).

**ANTIDESMA CATANDUANENSE** Merr. in Philip. Journ. Sci. 16 (1920) 549.

Catanduanes, *B. S. 30515 Ramos*. In forests along streams at low or medium altitudes. Endemic.

**ANTIDESMA CLEMENTIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 467; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 119.

Mindanao (Lanao), *Clemens 339, 884*. In forested ravines along streams, altitude about 700 m. Endemic.

**ANTIDESMA CORDATO-STIPULACEUM** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 275.

Mindoro, *Merrill 1807, McGregor 179, 311, F. B. 6794, 6841 Merritt, B. S. 39605, 39423, 41060, 41086, 40899 Ramos*. In humid primary forests at low altitudes. Endemic.

Pax and Hoffmann reduce this to *Antidesma stipulare* Blume, from which species it is apparently sufficiently distinct.

Var. **LANCIFOLIUM** var. nov.

A typo differt foliis lanceolatis, 12 ad 18 cm longis, 2 ad 3.5 cm latis.

Mindoro, *B. S. 40732, 40733 Ramos & Edaña*. In forests, altitude about 700 m. Endemic.

**ANTIDESMA CUMINGII** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 249; F.-Vill. Novis. App. (1880) 190; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 240; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 416; Elm. Leaf. Philip. Bot. 3 (1910) 905; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 120.

*Antidesma membranæfolium* Elm. Leaf. Philip. Bot. 1 (1908) 313.

Babuyan Islands, Luzon (Cagayan, Apayao, Isabela, Tayabas, Laguna, Camarines), Catanduanes, Palawan, Samar, Leyte, Negros, Panay, Mindanao, Basilan. In forests at low and medium altitudes. Endemic.

Local names: Bugnai-to-kálau (Ibn.); buñgoi (Bag.); iñgalao (Klg.); liputing-gúbat (Tag.); magbúgnai (Klg.); magotambís (C. Bis.); marabutau (Neg.); ñgalao (Ap.); pamution (C. Bis.); tupuk (Mag.).

**ANTIDESMA CURRANII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 466; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 129.

Luzon (Benguet), *F. B. 5087 Curran, Baker 4105*. In thickets, stream depressions, altitude about 1,400 m. Endemic.

**ANTIDESMA DIGITALIFORME** Tul. in Ann. Sci. Nat. III 15 (1851) 191; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 423; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 262; F.-Vill. Novis. App. (1880) 191; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 151.

*Antidesma lucidum* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 78; Elm. Leaf. Philip. Bot. 3 (1910) 905; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 164.

Luzon (Ilocos Norte, Benguet, Bontoc, Bataan), Callery, Merrill *Phil. Pl.* 893, as *A. japonicum*, Williams 974, 1139, 1140, 1141, Loher 4651, F. B. 2642, 2775 Meyer, B. S. 37886 Ramos & Edaña, Elmer 7005. In forests and thickets, altitude 700 to 1,800 m. Endemic.

**ANTIDESMA FUSICARPUM** Elm. Leaf. Philip. Bot. 8 (1919) 3080.

Luzon (Laguna), Elmer 18083. In forested ravines, altitude about 300 m. Endemic.

**ANTIDESMA GHAESEMBILLA** Gaertn. Fruct. 1 (1788) 189, t. 39; Tul. in Ann. Sci. Nat. III 15 (1851) 228; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 427; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 251; F.-Vill. Novis. App. (1880) 190; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 240; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 76; Philip. Journ. Sci. 1 (1906) Suppl. 78, Fl. Manila (1912) 287, Sp. Blancoanae (1918) 218; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 26; Elm. Leaf. Philip. Bot. 4 (1911) 1271; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 155.

*Cansjera grossularioides* Blanco Fl. Filip. (1837) 73, ed. 2 (1845) 53, ed. 3, 1 (1877) 99, t. 26; Meissn. in DC. Prodr. 14 (1857) 519; Valetton Crit. Overzicht Olac. (1886) 160.

*Antidesma paniculatum* Roxb. Fl. Ind. ed. 2, 3 (1832) 770; Presl Epim. (1851) 232.

*Antidesma pubescens* Roxb. Pl. Coromandel 2 (1798) 35, t. 167; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 424.

Throughout the Philippines at low and medium altitudes, a common and characteristic tree of open cogonales (grasslands) at low and medium altitudes. India to tropical Africa, southern China, through Malaya to tropical Australia.

Local names: Aniam (Tagb.); arosép (Ilk.); arosíp (Ilk.); arsép (Ilk.); arusi' (Ibn.); arusi'p (Ilk.); arúsit (Ig.); ayúsip (Bon.); bananóyo (Sbl.); baniyúyo (Tag.); banumyo (Sbl.); baroñgasi (Mang.); bayet (Tag.); bignayóko (Tag.); binaú-u (Tag.); binayóyo (Tag.); binayúyo (Sbl.); binayúyu (Tag.); dampol (Kuy.); dañgul (Bag.); inyam (P. Bis.); kabogbog (Tag.); kiuyan (P. Bis., Tag.); limyang (Tag.); minul (Sul.); nignul (Mag.); ninol (Mag.); ninul (Mag.); parusit (Ting.); pinang (Tag.); tinuyung (Tag.); tubo-túbo (Bik.).

Var. **VESTITUM** (Presl) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 251; Vidal Phan. Cuming. Philip. (1885) 142.

*Antidesma vestitum* Presl Epim. (1851) 232.

Luzon (Pangasinan), Cuming 986. This variety endemic.

**ANTIDESMA ILOCANUM** Merr. in Philip. Journ. Sci. 16 (1920) 549.

Luzon (Ilocos Norte), B. S. 32998 Ramos. In secondary forests at low altitudes. Endemic.

**ANTIDESMA IMPRESSINERVE** Merr. in Philip. Journ. Sci. 16 (1920) 548.

Panay, B. S. 31409, 31268, 31020 Ramos & Edaña. In forests along small streams. Endemic.

**ANTIDESMA LEPTOCLADUM** Tul. in Ann. Sci. Nat. III 15 (1851) 199; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 424; Muell.-Arg. in DC. Prodr.

15<sup>2</sup> (1866) 253; F.-Vill. Novis. App. (1880) 190; Vidal Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 239; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 277; Elm. Leaf. Philip. Bot. 3 (1910) 906, 4 (1911) 1271.

*Antidesma alexiterium* Presl Epim. (1851) 234, non Linn.

Luzon (Tayabas, Laguna) Mindoro, Panay, Mindanao, *Cuming 1513*, *B. S. 19410 Ramos, 23191 McGregor, F. B. 5403, 5513 Merritt, 26655 Rola*. In forests at low altitudes. Malay Peninsula.

Local names: Kinuum (Tag.); malasúka (Bik.); timbabási (Tag.); ugisip (Buk.).

This is reduced by Pax and Hoffmann to the Javan *Antidesma montanum* Blume.

**ANTIDESMA LUZONICUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 464; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 152.

Luzon (Tayabas, Camarines, Luzon), Samar, Leyte, Bucas Grande, *Merrill Phil. Pl. 1555, B. S. 26561 Ramos & Edaña, 26636, 24541 Ramos, Wenzel 1347, Elmer 15464, 15601*. In forests at low and medium altitudes. Endemic.

Local name: Tulanan (S. L. Bis.).

**ANTIDESMA MACGREGORII** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 207; Pax & Hoffm. in Engl. Pflanzenreich 81 (1922) 138.

Luzon (Cagayan, Ilocos Norte, Tayabas, Camarines), Polillo, Catanduanes, Samar, *B. S. 10280, 10583, 10584 McGregor, 7397, 24504, 30542, 33023 Ramos, F. B. 17763 Currañ*. In forests at low altitudes. Endemic.

Local names: Bignai (Ibn.); bignay-gubat (S. L. Bis.).

**ANTIDESMA MEGALOPHYLLUM** Merr. in Philip. Journ. Sci. 16 (1920) 551.

Babuyan Islands (Calayan), *F. B. 26642 Velasco*. In forests at low altitudes. Endemic.

**ANTIDESMA MICROCARPUM** Elm. Leaf. Philip. Bot. 2 (1908) 487.

*Antidesma maesoides* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 164.

Luzon (Sorsogon), Negros, Samar, Leyte, Mindanao, *Elmer 9668, 17264, 16940, Clemens 63, Wenzel 823, Warburg 14355, B. S. 15251, 15335, 24220 Ramos, 15731 Fénix*. In forests at low altitudes, ascending to 800 m. Endemic.

Local names: Baruan (Bag.); tagabinlod (C. Bis.).

Pax and Hoffmann discuss this species as probably being the same as *A. pentandrum* Merr., from which it is remote; it is the form described by these authors as *A. maesoides*.

**ANTIDESMA MINDANAENSE** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 383; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 137.

Luzon (Apayao), Balabac, Mindanao (Lanao, Zamboanga, Cotabato), Basilan, *Williams 2117, B. S. 28041 Fénix, Merrill 5376, 8274, F. B. 11882 Miranda, 6115 Hutchinson, B. S. 15455, 15438 Reillo, 36965 Ramos & Edaña*. In forests at low altitudes, ascending to 800 m. Endemic.

Local names: Bínai (Sub.); bínai-gutong (Sub.).

**ANTIDESMA NITIDUM** Tul. in Ann. Sci. Nat. III 15 (1851) 193; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 423.

*Antidesma heterophyllum* Presl Epim. (1851) 234, non Blume.

*Antidesma leptocladum* Tul. var. *nitidum* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 253; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 240.

Luzon (Nueva Vizcaya, Tayabas, Camarines), Mindoro, Leyte, Negros, Cebu, Bohol, Mindanao, *Cuming 1151, 1820, F. B. 11444 Merritt, Merrill 5717, Wenzel 107, 115, 116, 319, 555, Elmer 7371, Weber 1492*. In thickets and forests at low and medium altitudes. Endemic.

This is reduced by Pax and Hoffmann to *Antidesma montanum* Blume.

**ANTIDESMA OBLIQUINERVIUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 466; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 137.

Palawan, *Merrill 9336, 9295, 9294, F. B. 21491 Fernandez, B. S. 789 Foxworthy*. In primary forests at low altitudes. Endemic.

**ANTIDESMA PALAWANENSE** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 467; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 131.

Palawan, Bancalan, *B. S. 749, 808 Foxworthy, Elmer 12808*. In forests at low altitudes. Borneo, fide Pax and Hoffmann.

**ANTIDESMA PENTANDRUM** (Blanco) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 462, Sp. Blancoanae (1918) 219.

*Cansjera pentandra* Blanco Fl. Filip. (1837) 73, ed. 2 (1845) 53, ed. 3, 1 (1877) 98; Meissn. in DC. Prodr. 14 (1857) 519; Valeon Crit. Overzicht Olac. (1886) 160 (excl. syn. Blume).

*Cansjera rheedii* Blanco op. cit. 73, 52, 98, t. 25, non aliorum.

*Antidesma rostratum* Tul. in Ann. Sci. Nat. III 15 (1851) 218; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 426; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 257; F.-Vill. Novis. App. (1880) 191; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 240, Sinopsis Atlas (1883) 38, t. 82, f. G; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 125.

*Antidesma salicifolium* Presl Epim. (1851) 233.

*Antidesma leptocladum* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 78, Fl. Manila (1912) 288, non Tul.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Union, Benguet, Pangasinan, Zambales, Bulacan, Rizal, Bataan, Cavite, Laguna, Tayabas, Sorsogon, Albay), common in thickets at low and medium altitudes, ascending to 1,800 m. Formosa.

Local names: Alañgnon (Bik.); balanei-na-manók (Pang.); bígnai-pano (Tag.); bígnai-pógo (Tag.); binayúyo-matsing (Tag.); bolinog (Sbl.); búgnai (Ibn., Ilk.); búnai (Neg.); malabígnai (Tag., Sbl.); malabinayúyo (Pamp.); pakagli (Tag.); salagma (Ig.); talan (Ibn.); unát (Ilk.).

Var. **LOBBIANUM** (Muell.-Arg.) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 463.

*Antidesma rostratum* Tul. var. *lobbianum* Tul. in Ann. Sci. Nat. III 15 (1851) 219.

*Antidesma lobbianum* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 254; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Rev. Pl. Vasc. Filip. (1886) 240.

Luzon (Rizal, Manila), *Lobb 460, Loher 4656, Merrill 3477, Phil. Pl. 1510*. Lobb's specimen was erroneously localized as Javan.

Var. **BARBATUM** (Presl) Merr. in Philip. Journ. Sci. 9 (1914) Bot. 463.

*Antidesma barbatum* Presl Epim. (1851) 233.

*Antidesma rostratum* Tul. var. *barbatum* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 257; Vidal Phan. Cuming. Philip. (1885) 143.

Batan Islands, Luzon (Cagayan, Ilocos Norte, Isabela, Zambales, Tayabas, Albay), *Cuming 1246, 966, B. S. 3996, 3656 Fénix, 5041, 8079 Ramos, F. B. 16617 Curran, 15500 Bernardo, 11291 Klemme, Merrill 2975, 2943*. Formosa, *Henry 1885, 1144*. In thickets at low and medium altitudes.

**ANTIDESMA PLEURICUM** Tul. in Ann. Sci. Nat. III 15 (1851) 213; Miq.

Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 426; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 255; F.-Vill. Novis. App. (1880) 191; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 240; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 148.

*Antidesma zeylanicum* Presl Epim. (1851) 234, non Lam.

*Antidesma obliquicarpum* Elm. Leaf. Philip. Bot. 7 (1915) 2655.

*Antidesma tenuifolium* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 137.

Luzon (Cagayan, Ilocos Norte, Bataan, Laguna, Tayabas, Camarines, Sorsogon, Albay), Samar, Burias, Ticao, Siargao, Mindanao. In forests at low and medium altitudes. Endemic.

Local names: Balában (Ibn.); binólo (S. L. Bis.); búrnai-kalabáu (Tag.); hotot (Mbo.); huas (P. Bis.); karugkúg (Bik.); magalimukun (Mand.); malabignai (Tag.); tagotóñgan (Bik.); tognating (C. Bis.).

**ANTIDESMA RAMOSII** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 468.

*Antidesma pentandrum* Merr. var. *ramosii* Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 126.

Luzon (Rizal), *B. S. 1002, 1372 Ramos*. In forests at medium altitudes. Endemic.

Local name: Malabignai (Tag.).

**ANTIDESMA SAMARENSE** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 469;

Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 160.

*Antidesma urdanetense* Elm. Leaf. Philip. Bot. 7 (1915) 2635.

Luzon (Camarines), Catanduanes, Samar, Leyte, Mindanao (Surigao, Agusan), *Merrill Phil. Pl. 1665, B. S. 30533 Ramos, 34083 Ramos & Pascasio, F. B. 25525 Cenabre, Wenzel 1707, Elmer 13971*. In forests at low altitudes. Endemic.

Local names: Malabugnái (Bik.); malaigan (Mbo.).

*Antidesma urdanetense* Elm. is placed by Pax and Hoffmann as a synonym of *A. cumingii* Muell.-Arg.

**ANTIDESMA SANTOSII** Merr. in Philip. Journ. Sci. 16 (1920) 550.

Luzon (Laguna), *F. B. 26300 Santos*. In forests along streams, altitude about 600 m. Endemic.

**ANTIDESMA SPICATUM** Blanco Fl. Filip. (1837) 794; Merr. Sp. Blancoanae (1918) 219.

*Antidesma alixiteria* Blanco op. cit. ed. 2 (1845) 547, ed. 3, 3 (1879) 202, non Linn.

*Antidesma edule* Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 26, Philip. Journ. Sci. 1 (1906) Suppl. 77; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 114.

*Antidesma montanum* Presl Epim. (1851) 233; F.-Vill. Novis. App. (1880) 191; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 240; Tul. in Ann. Sci. Nat. III 15 (1851) 221 (quoad Philip.); Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 427 (quoad Philip.); Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 264 (quoad Philip.), non Blume.

Luzon (Benguet, Zambales, Bataan, Nueva Ecija, Pampanga, Rizal), Mindoro. Common in primary forests at low altitudes. Endemic.

Local names: Bagnas (Tag.); kalamantau (Tag.); kuriuét (Ilk.); laying (Tag.); maraginag (Neg.); naghubo (Tag.); tanigi (Tag., Pamp.).

**ANTIDESMA SUBCORDATUM** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 275; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 156.

Luzon (Rizal), *Merrill 2813, Phil. Pl. 379, B. S. 1114, 4664, 2136 Ramos, 29516 Ramos & Edaña, F. B. 3160 Ahern's collector*. In forests at medium altitudes. Endemic.

Var. **GLABRESCENS** Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 157.

Luzon (Ilocos Norte, Pangasinan, Bulacan, Nueva Ecija, Cavite), Mindoro, Palawan, Masbate, *F. B. 4492, 7213, 7166, 8453, 7213, 13212 Curran, 8371 Curran & Merritt, Merrill 2860, 3051*. In dry forested slopes. Endemic.

Local names: Banóyo (Tag.); makabálo (Ilk.); malabinayóyo (Tag.); tignoi (Tag.).

**ANTIDESMA SUBOLIVACEUM** Elm. Leaf. Philip. Bot. 4 (1911) 1272; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 113.

Palawan, *Elmer 12883*. In damp forests, altitude about 225 m. Endemic.

#### EXCLUDED SPECIES

**ANTIDESMA FRUTESCENS** Jack; F.-Vill. Novis. App. (1880) 190.

**ANTIDESMA MORITZII** Muell.-Arg.; Stapf in Trans. Linn. Soc. Bot. 4 (1894) 225.

The Philippine record for this species was probably based on Hooker's reduction of *Antidesma leptocladum* Tul. to *A. moritzii* Muell.-Arg.

#### 14. BISCHOFIA Blume

**BISCHOFIA JAVANICA** Blume Bijdr. (1826) 1168; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 478; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 363; F.-Vill. Novis. App. (1880) 189; Vidal Sinopsis Atlas (1883) 38, t. 82, f. A, Phan. Cuming. Philip. (1885) 142, Rev. Pl. Vasc. Filip. (1886) 239; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 356, Fl. Manila (1912) 288; Pax & K. Hoffm. in Engl. Pflanzenreich 81 (1922) 313, f. 26.

*Andrachne trifoliata* Roxb. Hort. Beng. (1814) 70, *nomen nudum*, Fl. Ind. ed. 2, 3 (1832) 728.

*Stylodiscus trifoliatus* Benn. Pl. Jav. Rar. (1840) 133, t. 39.

*Bischofia oblongifolia* Decne. in Jacq. Voy. 4 (1844) 152, t. 154.

*Bischofia toui* Decne. op. cit. 153; Walp. Ann. 1 (1848) 159.

*Bischofia cumingiana* Decne. l. c.; Walp. l. c.

*Bischofia javanica* Blume var. *toui* Muell.-Arg. in DC. Prodr. 15<sup>a</sup> (1866) 478.

*Bischofia trifoliata* Hook. f. Ic. II 5 (1852) t. 844; Merr. in Philip. Journ. Sci. 1 (1916) Suppl. 78.

Northern Luzon (Cagayan) to Palawan and Mindanao. Common in forests along streams at low and medium altitudes, ascending to 1,500 m. India to central southern China and Formosa, through Malaya to tropical Australia and Polynesia.

Local names: Apálang (Tag.); aiúni (Tag.); bagna (Tag.); dampol (Tag.); bangu (Mand.); duág (Ibn.); duég (Ilk.); kanárem (Ilk.); kitakítá (Ilk.); maladisai (Mbo.); mandos (Mbo.); taua (Neg.); toa (Tag.); to-é (Tag.); toób (Tag.); toóg (Bik., Tag., P. Bis.); took (Tag., Bis.); toogan (Ibn.); tua (Tag.); tuái (Tag.); tuél (Ig., Ting., Ig.); tuol (Ig., If.); túi (Tag.); túiris (Tag.); tuit (Bon.); tuue (Ig.).

#### 15. CLEISTANTHUS Hooker f.

**CLEISTANTHUS ANGUSTIFOLIUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 386; Jabl. in Engl. Pflanzenreich 65 (1915) 52.

Luzon (Cagayan), Bucas Grande, *Weber 1562*, *B. S. 13927 Ramos, 35137 Ramos & Pascasio, F. B. 17796 Curran*. On forested ridges and slopes at low altitudes. Endemic.

**CLEISTANTHUS APICULATUS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 189; Jabl. in Engl. Pflanzenreich 65 (1915) 42.

Mindoro, Mindanao (Zamboanga), *Williams 2356, B. S. 39662 Ramos*. In forests or thickets, altitude 165 m. Endemic.

**CLEISTANTHUS BARROSII** Merr. in Philip. Journ. Sci. 20 (1922) 400.

Luzon (Isabela), *F. B. 26070 Barros*. In primary forests at low altitudes. Endemic.

**CLEISTANTHUS BLANCOI** Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 315; Jabl. in Engl. Pflanzenreich 65 (1915) 13; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 193.

*Cleistanthus ferrugineus* F.-Vill. Novis. App. (1880) 187; Vidal Sinopsis Atlas (1883) 38, t. 82, f. C, non Muell.-Arg.

*Cleistanthus orgyalis* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 353, non Blanco.

*Cleistanthus patulus* Naves l. c., non Muell.-Arg.

*Cleistanthus laevis* C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 193, non Hook. f.

Luzon (Isabela, Nueva Ecija, Bataan, Rizal, Camarines), Samar, Mindanao (Zamboanga), *B. S. 2681, 8031 Ramos, 26272 Ramos & Edaña, F. B. 22801 Diaz & Alambra, 26876 Villaflor, Merrill Phil. Pl. 1648*. In thickets and forests at low altitudes. Endemic.

Local names: Aniatam (Tag.); kandañgisan (Bik.).

**CLEISTANTHUS BRIDELIFOLIUS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 191, 6 (1911) Bot. 323; Jabl. in Engl. Pflanzenreich 65 (1915) 25.

*Cleistanthus subcordatus* Jabl. in Engl. Pflanzenreich 65 (1915) 22, p. p., quoad Philip.

Luzon (Cagayan, Ilocos Norte, Pangasinan, Zambales, Tayabas, Camarines), Alabat, Guimaras, Negros, *F. B. 7064 Klemme, 292 Gammill, 25547 Cenabre, B. S. 33063 Ramos, 25465, 25427 Yates, 29911 Fénix, 26774 Edaño, 28676, 28501 Ramos & Edaño, Merrill 10467*. In forests at low altitudes. Endemic.

Local names: Makimar (Neg.); salimañgmáñgan (P. Bis.); sarimísim (Bik.).

**CLEISTANTHUS DECIPIENS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 195; Elm. Leaf. Philip. Bot. 4 (1911) 1284; Jabl. in Engl. Pflanzenreich 65 (1915) 33.

Ticao, Mindanao (Zamboanga), Mindoro, Palawan, Panay, *F. B. 1001 Clark, B. S. 27397, 40901, 40991 Ramos, 35589 Martelino & Edaño, F. B. 9087 Whitford & Hutchinson, Elmer 12888, 12988*. In primary forests at low altitudes. Endemic.

**CLEISTANTHUS EVERETTII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 194; Jabl. in Engl. Pflanzenreich 65 (1915) 53.

Luzon (Apayao), Negros, Mindanao (Bukidnon), *F. B. 7274 Everett, B. S. 26015, 28066 Fénix*. In primary forests at low altitudes. Endemic.

**CLEISTANTHUS INTEGER** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 196; Elm. Leaf. Philip. Bot. 3 (1910) 908; Jabl. in Engl. Pflanzenreich 65 (1915) 45, f. 6, E-G.

Luzon (Cagayan, Apayao, Rizal, Tayabas, Camarines), Sibuyan, Mindanao (Surigao, Zamboanga), Basilan, *F. B. 3076 Ahern's collector, B. S. 28184 Fénix, 25391 Yates, 16078 Reillo, F. B. 26607 Bernardo, 21464, 21445 Alvarez, 25589 Cenabre, 22839 Ponce, 24164, 24153 Miranda, Elmer 12244*. In primary forests at low altitudes. Endemic.

Local names: Bato-bató (Bik.); anúpag (C. Bis.); tibi-tibi (Tag.).

**CLEISTANTHUS ISABELLINUS** Elm. Leaf. Philip. Bot. 3 (1910) 911; Jabl. in Engl. Pflanzenreich 65 (1915) 40.

Sibuyan, *Elmer 12268*. In forests, altitude about 225 m. Endemic.

**CLEISTANTHUS MEGACARPUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 232; Jabl. in Engl. Pflanzenreich 65 (1915) 31.

Mindoro, Sibuyan, Negros, Samar, Mindanao (Lanao, Zamboanga), *Whitford 1443, F. B. 3716, 6727 Merritt, 12204 Rosenbluth, 23596 Lasquety, 25908 Alviar, 22009 Villamil, B. S. 40870, 41063 Ramos, Elmer 12381*. In primary forests at low altitudes. Borneo.

Local name: Baubo (Sul.).

**CLEISTANTHUS MINDANAENSIS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 324; Jabl. in Engl. Pflanzenreich 65 (1915) 41.

Mindanao (Zamboanga), *F. B. 9474, 9444 Whitford & Hutchinson*. In primary forests at low altitudes. Endemic.

**CLEISTANTHUS MISAMISENSIS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 325; Jabl. in Engl. Pflanzenreich 65 (1915) 41.

Samar, Leyte, Negros, Mindanao (Misamis, Zamboanga), *F. B. 15463 Pray, 21977 Cailipan, B. S. 36822, 36851 Ramos & Edaño, Ahern 577, Merrill Phil. Pl. 1686*. In primary forests at low altitudes. Endemic.



Local names: Banitlong (Sul.); buru (Yak.); gasabod (Sub.); mala-kayang-batang (Sul.).

**CLEISTANTHUS MYRIANTHUS** (Hassk.) Kurz Forest Fl. Brit. Burma (1877) 370; Hook. f. Fl. Brit. Ind. 5 (1887) 275; F.-Vill. Novis. App. (1880) 187; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 191; Jabl. in Engl. Pflanzenreich 65 (1915) 37, f. 7, A-D.

*Nanopetalum myrianthum* Hassk. in Verh. Acad. Amst. 24 (1855) 140; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 510.

*Cleistanthus pseudocanesceus* Elm. Leaf. Philip. Bot. 3 (1910) 910, 4 (1911) 1284.

Luzon (Pangasinan, Tayabas, Camarines), Mindoro, Palawan, Balabac, Masbate, Leyte, Panay, Mindanao (Cotabato), Basilan, *Merrill 1812, Elmer 12140, 12890, 12955, 13053, Wenzel 1277, 1784, F. B. 17694 Otanes, 11630 Whitford, 21485 Fernandez, 1005 Clark, B. S. 15655 Fénix, 26949 Edaño, 31386 Ramos & Edaño*. In forests at low altitudes. Burma, through Malaya to New Guinea.

Local names: Bakayau (Pang.); bayakbak (Pang.); brungau (Sul.); kadakugsol (Bik.); paguríngan (Mag.); yañgo (P. Bis.).

Subsp. **CUPREUS** (Vidal) Jabl. in Engl. Pflanzenreich 65 (1915) 39.

*Cleistanthus cupreus* Vidal Rev. Pl. Vasc. Filip. (1886) 235; Koord. Meded. Lands Plantent. 19 (1898) 582; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 191.

Luzon (Rizal, Camarines), Marinduque, Balabac, *Vidal 588, B. S. 3307 Ramos, 10673 Mangubat, F. B. 10673 Curran*. In primary forests at low altitudes. This form endemic or, perhaps, also in Celebes.

**CLEISTANTHUS ORGYALIS** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 75, Sp. Blancoanae (1918) 220; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 189; Jabl. in Engl. Pflanzenreich 65 (1915) 42.

*Gluta orgyalis* Blanco Fl. Filip. ed. 2 (1845) 451, ed. 3, 3 (1879) 49.

*Cneorum tricoccum* Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 105, non DC.

Luzon (Bulacan), *F. B. 7174, 7175, 7169 Curran*. On river banks at low altitudes. Endemic.

**CLEISTANTHUS OVATUS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 194; Jabl. in Engl. Pflanzenreich 65 (1915) 34.

Babuyan Islands, Luzon (Ilocos Norte), *B. S. 4051 Fénix, 27469, 27349 Ramos, F. B. 26649 Velasco*. In primary forests at low altitudes. Endemic.

**CLEISTANTHUS PILOSUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 326; Jabl. in Engl. Pflanzenreich 65 (1915) 33.

Basilan, Mindanao (Zamboanga), *F. B. 19511 Almagro, 27034 Malana, B. S. 36610 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

**CLEISTANTHUS QUADRIFIDUS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 197; Jabl. in Engl. Pflanzenreich 65 (1915) 44.

Leyte, Cebu, Mindanao (Surigao, Zamboanga), Basilan, *F. B.* 9478 Whitford & Hutchinson, 6441 Everett, 18923 Miranda, 27108 Leuterio & Mallonga, Wenzel 1320. In primary forests at low altitudes. Endemic.

Local names: Gusukan (C. Bis.); mobatu (C. Bis.).

**CLEISTANTHUS ROBINSONII** Elm. Leaf. Philip. Bot. 3 (1910) 909; Jabl. in Engl. Pflanzenreich 65 (1915) 52.

Sibuyan, *Elmer* 12540. On forested slopes, altitude about 300 m. Endemic.

**CLEISTANTHUS SAMARENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 475.

Samar, Biliran, Mindanao (Agusan), *Merrill Phil. Pl.* 1685, *B. S.* 18613 *McGregor, F. B.* 28645 *Mallonga*. In forests up to 300 m altitude. Endemic.

Local name: Abo-abo (C. Bis.).

**CLEISTANTHUS VENOSUS** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 192; Jabl. in Engl. Pflanzenreich 65 (1915) 12.

Mindanao (Zamboanga), *Williams* 2187, 2186. In forests up to 300 m altitude. Endemic.

**CLEISTANTHUS VIDALII** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 193, 6 (1911) Bot. 327; Jabl. in Engl. Pflanzenreich 65 (1915) 15.

*Cleistanthus blancoi* Vidal Rev. Pl. Vasc. Filip. (1886) 234, non Rolfe.

*Cleistanthus pallidus* F.-Vill. Novis. App. (1880) 187, non Muell.-Arg. *Kaluhaburunghos blancoi* O. Kuntze Rev. Gen. Pl. 2 (1891) 607.

Luzon (Bataan, Tarlac), Palawan, *Vidal* 559, *Merrill* 2883, 9573, *Phil. Pl.* 2094, *F. B.* 28675 *Pascual*. In forests at low altitudes. Endemic.

Local name: Buliti (Pamp.).

#### 16. BRIDELIA Willdenow

**BRIDELIA ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 473.

Luzon (Camarines), *Merrill Phil. Pl.* 1551. Along streams in forests at low altitudes. Endemic.

**BRIDELIA GLABRIFOLIA** (Muell.-Arg.) comb. nov.

*Bridelia lancaefolia* Jabl. in Engl. Pflanzenreich 65 (1915) 60, non Roxb., nec Kurz.

*Bridelia tomentosa* Blume var. *lancaefolia* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 502; Gehrm. in Engl. Bot. Jahrb. 41 (1908) Beibl. 95: 29.

*Bridelia tomentosa* Blume var. *glabrifolia* Muell.-Arg. ex Jabl. l. c. in syn.

*Bridelia tomentosa* F.-Vill. Novis. App. (1880) 186; Vidal Rev. Pl. Vasc. Filip. (1886) 234; Usteri Beitr. Ken. Philip. Veg. (1904) 126; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 78, non Blume.

*Breyinia tomentosa* Ceron Cat. Pl. Herb. Manila (1892) 149, sphalm.

Luzon (Ilocos Norte, Abra, Bontoc, Union, Pangasinan, Nueva Ecija, Bulacan, Bataan, Batangas, Rizal), Culion, Panay, Guimaras, Bongao. Common in thickets, second-growth forests, etc., at low and medium al-

titudes. Very closely allied to *B. monoica* (Lour.) Merr. (*B. tomentosa* Blume). Endemic.

Local names: Agai (Tag.); baransiágau (Ilk.); lanúti (Tag.); lusbán (Ting., Ilk.); malapilin (Pang.); managása (P. Bis.); máta (Ig.); panayumen (Ilk.); tongal (Ig.).

**BRIDELIA GLAUCA** Blume Bijdr. (1825) 597; Jabl. in Engl. Pflanzenreich 65 (1915) 74.

*Bridelia multiflora* Zipp. ex Scheffer in Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868-69) 119; Jabl. in Engl. Pflanzenreich 65 (1915) 75; Hallier f. in Meded. Rijks Herb. 1 (1911) 7.

Luzon (Tayabas, Camarines), Leyte, Mindanao, *F. B. 10679 Curran, 20281 Miranda, B. S. 15688 Fénix, 19533 Ramos, 37053 Ramos & Edaño, Wenzel 411, 1048, Elmer 9699, 13298, Clemens 373, 827*. In forests at low altitudes. Java.

Forma **LAURIFOLIA** (Elm.) Jabl. in Engl. Pflanzenreich 65 (1915) 75.

*Bridelia laurifolia* Elm. ex Jabl. l. c. in syn., Leaf. Philip. Bot. 7 (1915) 2637.

Luzon (Benguet, Bontoc, Nueva Ecija), *Elmer 6099, 6085, 7266, 8520, Williams 1559, Baker 4090, B. S. 11367, 11255 McGregor, 37953 Ramos & Edaño*. In thickets, altitude 1,000 to 1,500 m. Endemic.

Local names: Baroan (Bag.); balitahan (C. Bis.); kagamio (S. L. Bis.); kapo-kapo (Sul.); lambiluan (Buk.); naraniai (Ig.); palapos (Sub.); sakaban (Bik.); tanog (Mbo.).

**BRIDELIA MINUTIFLORA** Hook. f. Fl. Brit. Ind. 5 (1887) 273; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 314; Jabl. in Engl. Pflanzenreich 65 (1915) 76.

*Bridelia platyphylla* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 384.

*Bridelia ovata* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 30, non Decne.

Luzon (Cagayan, Tayabas, Laguna, Batangas, Camarines), Palawan, Tablas, Leyte, Mindanao (Davao, Cotabato, Misamis, Zamboanga), Sulu Archipelago. In primary forests at low altitudes; two forms, one with large leaves, one with relatively small ones, perhaps var. *abbreviata* J. J. Sm. Intergrades occur. Tenasserim to New Guinea.

Local names: Bagotadhan (P. Bis.); kiblagon (Tagk.); magantumit (Bik.); magatápai (Tagk.); manasa (Tag.); maragata (Neg.); pahobo (Tag.); subiang (Tag.); tagutúñgan (Bik.); tamarina (Neg.); taran (Sul.); usli (Tagb.).

**BRIDELIA MONOICA** (Lour.) Merr. in Philip. Journ. Sci. 13 (1918) Bot. 142.

*Clusia monoica* Lour. Fl. Cochinch. (1790) 638.

*Cleistanthus monoicus* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 508; Jabl. in Engl. Pflanzenreich 65 (1915) 53.

*Bridelia loureiri* Hook. & Arn. Bot. Beechy Voy. (1841) 211.

*Bridelia tomentosa* Blume Bijdr. (1825) 597; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 364; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 501; Gehrm. in Engl. Bot. Jahrb. 41 (1908) Beibl. 95: 32; Jabl. in Engl. Pflanzenreich 65 (1915) 58, f. 11.

Palawan, *B. S.* 207 *Bermejós*, *F. B.* 3499 *Curran*. In thickets and forests at low altitudes. The Philippine form here referred to this species, after Jablonsky, is scarcely distinguishable from *Bridelia glabrifolia* (Muell.-Arg.) Merr. India to southern China and Formosa southward to New Guinea.

**BRIDELIA STIPULARIS** (Linn.) Blume Bijdr. (1825) 597; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 364; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 499; Hook. f. Fl. Brit. Ind. 5 (1887) 270; Gehrm. in Engl. Bot. Jahrb. 41 (1908) Beibl. 95: 29; F.-Vill. Novis. App. (1880) 186; Vidal Phan. Cuming. Philip. (1885) 141; Sinopsis Atlas (1883) 38, *t.* 82, *f. F.*, Rev. Pl. Vasc. Filip. (1886) 233; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 78, Fl. Manila (1912) 284, Sp. Blancoanae (1918) 220.

*Clutia stipularis* Linn. Mant. 1 (1767) 127; Blanco Fl. Filip. (1837) 818, ed. 2 (1845) 564, ed. 3, 3 (1879) 229.

Luzon (Cagayan to Laguna and Tayabas, common), Mindoro, Palawan, Ticao, Panay, Cebu, Bohol. In thickets at low altitudes. The Philippine form is the subsp. *philippinensis* Jabl. in Engl. Pflanzenreich 65 (1915) 57, which is scarcely distinguishable from the typical form. India to China southward to the Moluccas.

Local names: Alub-alub (Sbl.); annám (Ilk.); bangkoilan (Tag.); boko-boko (C. Bis.); kuto-kuto (Tag.); karáka (Ilk.); dugaron (Pamp.); hĩngõngoto (Tag.); kalundagi (Pang.); karabau (Ilk.); karauai (Ilk.); karioa (Ig.); kauilan (P. Bis.); kulandagi (Pang.); sangkoilang (Bis.); llobalob (Tag.); lubalo (Pamp.); kutukuto (Tag.); lubalub (Tag.); sinkoilan (Bis.).

#### EXCLUDED SPECIES

**BRIDELIA MONTANA** Willd.; F.-Vill. Novis. App. (1880) 186.

**BRIDELIA OVATA** Muell.-Arg.; F.-Vill. l. c.

**BRIDELIA RETUSA** Muell.-Arg. F.-Vill. l. c.

**BRIDELIA SCANDENS** Willd.; Naves & F.-Vill. in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103.

#### 17. DAPHNIPHYLLUM Blume

**DAPHNIPHYLLUM BORNEENSE** Stapf in Trans. Linn. Soc. Bot. 4 (1894) 224; Hallier f. in Beih. Bot. Centralbl. 34<sup>2</sup> (1916) 21; K. Rosenth. in Engl. Pflanzenreich 68<sup>5</sup> (1917) 14.

Mindanao (Davao, Bukidnon, Agusan), *Elmer* 13752, 11671, 11344 as *D. glaucescens* Blume, *B. S.* 38743, 38507, 38516, 38552 *Ramos & Edaña*, Borneo. The identity of these with Stapf's species, *Clemens* 106561, 109461, is by no means certain.

Local names: Ali (Buk.); butuñgal (Buk.); haugoi (Mbo.); panayasan (Bag.).

**DAPHNIPHYLLUM BUCHANANIFOLIUM** Hallier f. in Meded. Rijks Herb. Leiden 37 (1918) 13.

*Daphniphyllum glaucescens* Elm. Leaf. Philip. Bot. 4 (1911) 1285; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 356, non Blume.

Luzon (Benguet), *Elmer 8538, F. B. 18357 Alvarez, 18151 Curran, Merritt, & Zschokke, B. S. 40478 Ramos & Edaña*. On forested slopes, altitude 1,500 to 1,900 m. Endemic.

Local name: Inutatan (Ig.).

**DAPHNIPHYLLUM LUZONENSE** Elm. Leafl. Philip. Bot. 1 (1908) 309; K. Rosenth. in Engl. Pflanzenreich 68<sup>5</sup> (1917) 14.

*Daphniphyllum acutifolium* Hallier f. in Beih. Bot. Centralbl. 34<sup>2</sup> (1916) 20, in nota, quoad Philip., non Muell.-Arg.

Luzon (Ilocos Norte, Benguet, Bontoc, Ifugao, Camarines), Mindoro, Palawan, Leyte, Camiguin de Misamis, *Merrill 5658, 9494, Phil. Pl. 1503, 1743, Elmer 6290, 8615, B. S. 32838, 14623, 15235 Ramos*. In forests at medium altitudes, ascending to 1,900 m. Endemic.

**DAPHNIPHYLLUM OBTUSIFOLIUM** Merr. in Philip. Journ. Sci. 14 (1920) 552.

Luzon (Tayabas, east coast), *B. S. 28705, 28662 Ramos & Edaña*. In primary forests, altitude about 1,000 m. Endemic.

**DAPHNIPHYLLUM ROXBURGHII** Baill. Étud. Gén. Euphorb. (1858) 565, *nomen nudum*; Benth. Fl. Hongk. (1861) 316; Rosenth. in Engl. Pflanzenreich 68<sup>5</sup> (1919) 9.

*Daphniphyllum teysmanni* Zoll. ex Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 27 (1864) 52; Hallier f. in Beih. Bot. Centralbl. 34<sup>2</sup> (1916) 21.

*Daphniphyllum buergeri* Muell.-Arg. in DC. Prodr. 16<sup>3</sup> (1869) 3.

Palawan, (*Elmer 13194*), fide Hallier f. The species is admitted on Hallier's identification, as I have not seen Elmer's specimen. The range, eastern China, Japan, and Riu Kiu Islands, leads me to doubt the correctness of Hallier's identification.

#### 18. CROTON Linnaeus

**CROTON ARGYRATUS** Blume Bijdr. (1825) 602; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 526; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 278; Elm. Leafl. Philip. Bot. 4 (1911) 1280.

*Croton cupreus* Elm. Leafl. Philip. Bot. 4 (1911) 1281.

Babuyan Islands, Luzon (Ilocos Sur, Zambales, Batangas, Bulacan, Rizal), Palawan, Leyte, Mindanao (Zamboanga, Cotabato), Basilan. In forests at low altitudes. Burma to the Andaman Islands, Malay Peninsula, Sumatra, Java, and Borneo.

**CROTON CAUDATUS** Geisel. Croton Monogr. (1807) 73; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 599; F.-Vill. Novis. App. (1880) 192.

Luzon (Benguet, Pangasinan, Rizal), Palawan, *Merrill Phil. Pl. 1243, Elmer 6461, B. S. 484, 3318 Ramos, F. B. 1124 Ahern's collector*. In thickets and ravines at low altitudes, ascending to 400 m. India to southern China southward to Sumatra, Java, Christmas Island, and Borneo.

Local name: Alimpai (Tag.).

**CROTON COLUBRINOIDES** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 451.

Luzon (Bontoc), *Vanoverbergh 3107, B. S. 37676 Ramos & Edaña*. On slopes, altitude 1,300 m. Endemic.

**CROTON CONSANGUINEUS** Muell.-Arg. in *Linnaea* 34 (1865) 101, DC. Prodr. 15<sup>2</sup> (1866) 619; F.-Vill. Novis. App. (1880) 192; Vidal Rev. Pl. Vasc. Filip. (1886) 241; Merr. in *Philipp. Journ. Sci.* 1 (1906) Suppl. 78.

*Croton sanguineus* Vidal Phan. Cuming. Philip. (1885) 143, sphalm.

Luzon (Zambales, Bulacan, Bataan, Rizal), Leyte, Bohol, *Cuming* 1871, *Merrill* 2977, *B. S.* 29617, 34208, 34029 *Ramos & Edaña*, *F. B.* 2637, 2814 *Meyer*, *Wenzel* 1435, 1291, 1759. In thickets and forests at low altitudes. Endemic.

Local name: Malatúba (Tag., Bik.).

**CROTON CUMINGII** Muell.-Arg. in *Linnaea* 34 (1865) 101, DC. Prodr. 15<sup>2</sup> (1866) 566; F.-Vill. Novis. App. (1880) 191; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 241.

Luzon (Nueva Ecija, Bataan, Camarines), Mindoro, Palawan, Cagayan Sulu, *Cuming* 1384, *Merrill* 5303, *Phil. Pl.* 1227, *B. S.* 260 *Bermejos*, 6188 *Robinson*, *F. B.* 8628 *Merritt*, *Ahern* 265. In thickets at low altitudes. Malay Peninsula, Borneo, Indo-China, Formosa, Riu Kiu Islands; to be compared with *C. punctatus* Lour.

**CROTON HETEROCARPUS** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 621; Hallier f. in *Meded. Rijks Herb.* 1 (1911) 7.

*Croton ardisioides* Hook. f. *Fl. Brit. Ind.* 5 (1887) 393; Merr. in *Philipp. Journ. Sci.* 4 (1909) Bot. 278.

Palawan, *Elmer* 12788, *B. S.* 857 *Foxworthy*, *F. B.* 3831, 4159 *Curran*. In thickets at low altitudes. Malay Peninsula, Sumatra, Borneo.

**CROTON LANCILIMBUS** Merr. in *Philipp. Journ. Sci.* 20 (1922) 395.

Mindanao (Zamboanga), *B. S.* 36855, 37078 *Ramos & Edaña*. Along streams at low altitudes. Endemic.

**CROTON LEIOPHYLLUS** Muell.-Arg. in *Linnaea* 5 (1865) 103, DC. Prodr. 15<sup>2</sup> (1866) 573; F.-Vill. Novis. App. (1880) 192; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 242; Merr. in *Philipp. Bureau Forestry Bull.* 1 (1903) 30, *Philipp. Journ. Sci.* 1 (1906) Suppl. 78; *Elm. Leaf.* Philip. Bot. 3 (1910) 912, 4 (1911) 1280.

Luzon (Cagayan to Sorsogon) to Palawan and Mindanao. Widely distributed and often common in thickets and forests at low and medium altitudes. Endemic unless referable to the Malayan *C. oblongus* Burm. f. (*C. laevifolius* Blume, *C. griffithii* Hook. f.).

Local names: Katap (Sul.); kuribeng (Ilk.); kokonon (Tagb.); malatúba (Tagb., S. L. Bis.); sangñgar (Neg.); tagóan-uák (Tag.).

Var. **MULTIFLORUS** var. nov.

A typo differt foliis majoribus, usque ad 20 cm longis et 11 cm latis, petiolis longioribus, usque ad 7 cm longis, floribus numerosis.

Luzon (Isabela), Panay, Balabac, Siargao, *F. B.* 24079 *Barros* (type), *B. S.* 31022, 31329, 31457 *Ramos & Edaña*, 34830, 34831 *Ramos & Pascasio*, 15657 *Fénix*. In forests at low altitudes. Endemic.

Local name: Lareg (Ilk.).

**CROTON LUZONIENSIS** Muell.-Arg. in *Linnaea* 34 (1865) 118, DC. Prodr. 15<sup>2</sup> (1866) 624; F.-Vill. Novis. App. (1880) 192; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 241.

Luzon (Cagayan, Isabela, Bontoc, Union, Bataan, Zambales, Rizal), *Cuming 1136, B. S. 1751, 7984 Ramos, F. B. 24788 Borromeo, 2004, 2458, 3084 Aher'n's collector, Loher 4691, 6868*. In thickets and forests at low altitudes, ascending to 1,400 m. Endemic.

Local name: Pagaibayong (Ig.).

**CROTON TIGLIUM** Linn. Sp. Pl. (1753) 1004; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 600; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 379; F.-Vill. Novis. App. (1880) 192; Vidal Rev. Sinopsis Atlas (1883) 38, *t. 83, f. E*, Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 242; Merr. Sp. Blancoanae (1918) 220.

*Croton camaza* Perr. in Mém. Soc. Linn. Paris 3 (1824) 112; C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 305.

*Croton glandulosum* Blanco Fl. Filip. (1837) 754.

*Croton muricatum* Blanco op. cit. ed. 2 (1845) 518, ed. 3, 3 (1879) 154, *t. 383*; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 693.

*Tigium officinale* Klotz in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 418.

Throughout the Philippines in and about towns, usually planted, sometimes naturalized. Of prehistoric introduction from Malaya; universally used for poisoning fish. India to New Guinea.

Local names: Gasi (Sul.); kamágsa (Bik.); kamaísa (Tag.); kamandag (Bis.); kamausa (Tag.); kásla (Sul.); lutung-sira (Bik.); makaísa (Tag.); makásla (P. Bis.); malapai (Sul.); saligau (Ilk., Ibn.); túba (Ilk., Bik., Tag., S. L. Bis., P. Bis., Sul.); tuba-túba (Bik., P. Bis.); tubang-kamaísa (Tag.); tubang-makaísa (Bik., Tag.); tubang-pasíti (Bik.); túbli (C. Bis.); túkbu (If.).

**CROTON VERREAUXII** Muell.-Arg. in *Linnaea* 34 (1865) 117, Prodr. 15<sup>2</sup> (1866) 620, var. **ANGUSTIFOLIUS** Muell.-Arg. l. c.; F.-Vill. Novis. App. (1880) 192; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 241.

Luzon (Ilocos Norte, Pampanga, Bulacan, Batangas), *Cuming 736, F. B. 13539, 15526 Merritt & Darling, 17710 Curran, B. S. 22356 Ramos*. In thickets and forests at low altitudes. The variety endemic, the species and other varieties New Guinea, Australia, and Polynesia.

Local name: Arasaligau (Ilk.).

#### EXCLUDED SPECIES

**CROTON LACHNOCARPUS** Benth.; F.-Vill. Novis. App. (1880) 192.

**CROTON COCCINEUM** Pers.; Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103.

**CROTON RHOMBIFOLIUM** Spreng; Llanos l. c.

#### 19. DORYXYLON Zollinger

(*Sumbavia* Baillon)

**DORYXYLON SPINOSUM** Zoll. in Nat. Tijdschr. Nederl. Ind. 14 (1857) 152; Merr. Sp. Blancoanae (1918) 221.

*Adelia acidoton* Blanco Fl. Filip. (1837) 815, ed. 2 (1845) 562, ed. 3, 3 (1879) 226, t. 463, non Linn.

*Sumbavia rottleroides* Baill. Étud. Gén. Euphorb. (1858) 390; F.-Vill. Novis. App. (1880) 193; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 243; Merr. Fl. Manila (1912) 291; Pax in Engl. Pflanzenreich 57 (1912) 12, f. 2, A-D.

*Mercadoa mandalojonensis* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 463.

Luzon (Cagayan, Union, Nueva Ecija, Pangasinan, Pampanga, Bulacan, Rizal, Laguna), *Merrill Sp. Blancoanae* 933, *Phil. Pl.* 387, *Warburg* 11812, 14010, *F. B.* 3165 *Ahern's collector*. In thickets on dry slopes at low altitudes. Bima, Sumbava, Java.

Local names: Balintauák (Pamp.); dilap (Tag.); kilap (Tag.); kirap (Tag.); kum-mo (Ilk.); malabulauan (Pamp.).

## 20. SUMBAVIOPSIS J. J. Smith

**SUMBAVIOPSIS ALBICANS** (Blume) J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 357; Pax in Engl. Pflanzenreich 57 (1912) 14, 63 (1914) 424; Elm. Leaf. Philip. Bot. 4 (1911) 1304.

*Adisca albicans* Blume Bijdr. (1825) 611.

*Cephalocroton albicans* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 760.

Palawan, *Elmer* 12636. In primary forests at low altitudes. Java, Sumatra; a monotypic genus.

Local name: Dabdab-balod (Tagb.).

## 21. AGROSTISTACHYS Dalzell

**AGROSTISTACHYS LEPTOSTACHYA** Pax & K. Hoffm. in Engl. Pflanzenreich 57 (1912) 102; Merr. in Philip. Journ. Sci. 16 (1920) 553.

Luzon (Camarines), Mindanao (Surigao), *Bur. Sci.* 33688 *Ramos & Edaño*, 34573 *Ramos & Pascasio*. In forests along streams at low and medium altitudes. Borneo.

**AGROSTISTACHYS MAESOANA** Vidal Rev. Pl. Vasc. Filip. (1868) 242; Ceron Cat. Pl. Herb. Manila (1892) 152; Elm. Leaf. Philip. Bot. 4 (1911) 1276.

*Agrostistachys indica* Dalz. var. *maesoana* Pax & Hoffm. in Engl. Pflanzenreich 57 (1912) 105 (*massoana*).

Luzon (Cagayan, Isabela, Apayao, Tayabas), Palawan, Bancalan, Samar, Leyte, Negros, Panay, Mindanao, Basilan. In primary forests at low and medium altitudes. Endemic.

Local names: Haginis (P. Bis.); kakao-kakao (Bis.).

## 22. BLUMEODENDRON (Mueller-Arg.) Kurz

**BLUMEODENDRON PAUCINERVIUM** (Elm.) Merr. in Philip. Journ. Sci. 16 (1920) 555.

*Elaterospermum paucinervium* Elm. Leaf. Philip. Bot. 2 (1908) 484, 3 (1910) 915; Pax in Engl. Pflanzenreich 44 (1910) 102; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 382, in nota.

Luzon (Tayabas, Bataan), Sibuyan, *Elmer* 7416, 12367, *F. B.* 758 *Borden*. In forests up to 750 m altitude; allied to the Javan *Blumeodendron tokbrai* Kurz. Endemic.



**BLUMEODENDRON PHILIPPINENSE** Merr. & Rolfe in Philip. Journ. Sci. 16 (1920) 555.

Luzon (Bataan, Laguna), *F. B. 630, 2377 Borden, 2401 Meyer, 7511, 7228 Curran, 12962 Alvarez, 20054 Topacio, 24782 Sulit, B. S. 16549 Ramos, Williams 699, Whitford 339*. In primary forests at low and medium altitudes. Endemic.

**BLUMEODENDRON SUBCAUDATUM** Merr. in Philip. Journ. Sci. 16 (1920) 557.

Luzon (Sorsogon), Samar, Panay, *F. B. 10598 Curran, 21075, 21069 Sherfese, Cenabre, & Cortes, 24643 Phasis, 23928 Cortes & Knapp, B. S. 17407 Ramos*. In primary forests at low altitudes. Endemic.

Local names: Lindog (P. Bis); sabunotan (S. L. Bis.); salñgán (S. L. Bis.).

**BLUMEODENDRON SUBROTUNDIFOLIUM** (Elm.) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 384; 16 (1920) 558; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 49.

*Sapium subrotundifolium* Elm. Leaf. Philip. Bot. 3 (1910) Bot. 930.

Sibuyan, *Elmer 12349*. In forests at low or medium altitudes. Endemic.

**BLUMEODENDRON VERTICILLATUM** Merr. in Philip. Journ. Sci. 16 (1920) 557.

Luzon (Bataan), Mindoro, *F. B. 2603 Meyer, 1190 Borden, 1515 Ahern's collector, B. S. 40911 Ramos*. In primary forests, altitude about 600 m. Endemic.

### 23. CLAOXYLON Jussieu

**CLAOXYLON ALBICANS** (Blanco) Merr. Sp. Blancoanae (1918) 220, excl. syn. *C. elongatum* Merr.

*Prockia ? albicans* Blanco Fl. Filip. (1837) 430, ed. 2 (1845) 299, ed. 3, 2 (1878) 192.

*Claoxylon rubescens* Miq. var. *cumingianum* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 788.

Luzon (Pangasinan, Bulacan, Laguna, Cavite, Batangas), *Cuming 515, 598, Merrill Sp. Blancoanae 1008, B. S. 29915 Fénix, 12365, 12480 McGregor, 13692 Ramos, 22510, 22560 Ramos & Deroy, 24022 Ramos & Edaño, Baker 151, 153, 2085, 1762*. In thickets and second-growth forests at low altitudes. Endemic.

Local name: Busilak (Tag.).

**CLAOXYLON ARBOREUM** Elm. Leaf. Philip. Bot. 2 (1908) 486; Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 129, excl. syn. *C. elongatum* Merr.

*Claoxylon pedicellare* Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 114.

*Claoxylon grandifolium* Elm. Leaf. Philip. Bot. 7 (1915) 2638.

Leyte, Samar, Camiguin de Misamis, Mindanao (Agusan, Lanao), *Elmer 7335, 13872, Clemens 620, 1093, Ahern 499, Wenzel 55, 332, 900, 1050, 1317, B. S. 14456, 24552 Ramos*. In forests at low and medium altitudes. Endemic.

Pax and Hoffmann misinterpreted *Claoxylon arboreum* Elm., citing the type and only specimen mentioned in its original description as representing *C. pedicellare* Pax & Hoffm.

Local names: Balongsagai (Mbo.); banata (S. L. Bis.); magababdad (Bag.); sagai (C. Bis.).

**CLAOXYLON BRACHYANDRUM** Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 115.

*Claoxylon rubescens* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 788, p. p. (incl. var. *meyenianum* Muell.-Arg.); F.-Vill. Novis. App. (1880) 193; Vidal Rev. Pl. Vasc. Filip. (1886) 243, Phan. Cuming. Philip. (1885) 142; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 79, 3 (1908) Bot. 416; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 118, pro majore parte, non Miq.

*Claoxylon rubrinerve* Baill. Étud. Gén. Euphorb. (1858) 493, *nomen nudum*.

Batan Islands, Luzon (Cagayan, Bontoc, Benguet, Ilocos Norte, Ilocos Sur, Pampanga, Rizal), Culion, Palawan, Panay, Mindanao (Bukidnon), Cuming 1137, Merrill 9611, 9479, 667, Loher 4704, 4708, B. S. 29313, 29637, 39125, 37628 Ramos & Edaña, 230 Bermejós, 1025 Ramos, 12735 Fénix, F. B. 2918 Borden. In forests at low and medium altitudes, ascending to 1,400 m. Endemic.

Local names: Kolutatang (Neg.); maratúba (Ilk.); tanau-tanau (Neg.); tuṅgou (Iv.); uṅgalau (Neg.).

**CLAOXYLON CRASSIPES** Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 121.

Luzon (Tayabas, east coast), B. S. 9361, 9396 Robinson. In the mossy forest, altitude about 900 m. Endemic.

**CLAOXYLON CRASSIVENIUM** Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 120.

Mindoro, Merrill 5668. In forests, altitude about 2,000 m. Endemic.

**CLAOXYLON ELLIPTICUM** Merr. in Philip. Journ. Sci. 16 (1920) 553.

Panay, B. S. 32303 McGregor. In forests, altitude about 800 m. Endemic.

**CLAOXYLON ELONGATUM** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 204; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 112 (excl. syn. *C. arboreum* Elm.).

Luzon (Laguna, Tayabas), Merrill 5141, Phil. Pl. 1047, Elmer 9204, B. S. 17934 Brown, 20591 Ramos, 28825 Ramos & Edaña, F. B. 25377, 23816 Mabesa. In primary forests at low and medium altitudes. *Claoxylon arboreum* Elm. is not certainly distinct. Endemic.

**CLAOXYLON EUPHORBIOIDES** (Elm.) comb. nov.

*Quadrasia euphorbioides* Elm. Leaf. Philip. Bot. 7 (1915) 2656.

Sibuyan, Negros, Elmer 12424, 12423, 12473, B. S. 15183 Ramos. In primary forests, ascending to 600 m. Endemic.

The genus *Quadrasia* proposed by Mr. Elmer in the Flacourtiaceae proves to be identical with *Claoxylon*, the species being allied to *C. subviride* Elm., but differing especially in its fruit characters.

Local name: Lagino (P. Bis.).

**CLAOXYLON OBLANCEOLATUM** (Merr.) Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 115.

*Claoxylon rubescens* Miq. var. *oblanceolatum* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 79.

Luzon (Ilocos Norte, Nueva Ecija, Zambales, Bataan, Camarines), *F. B.* 1760, 1222 *Borden*, 2763 *Meyer*, *B. S.* 32860, 32764 *Ramos*, 26843 *Edaño*, 26372, 26341 *Ramos & Edaño*, *Merrill* 3112, *Williams* 542. On forested slopes at low altitudes. Endemic.

**CLAOXYLON PURPUREUM** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 204, 5 (1910) Bot. 357; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 121.

Luzon (Ifugao, Kalinga, Lepanto, Bontoc, Benguet). Common in the mossy forest, altitude 1,700 to 2,400 m. Endemic.

**CLAOXYLON SPATHULATUM** Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 120.

Luzon (Camarines), *Ahern* 266. Endemic.

**CLAOXYLON SUBVIRIDE** Elm. Leaf. Philip. Bot. 3 (1910) 907; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 118.

*Claoxylon longifolium* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 117, p. p., quoad Philip.

Luzon (Tayabas), Mindoro, Sibuyan, Panay, Leyte, Samar, Mindanao, (Lanao, Zamboanga), *Elmer* 12374, *F. B.* 3666, 4364, 4332, 4329, 8620, 12084 *Merritt*, *Merrill* 5619, *B. S.* 24506, 24210 *Ramos*, 30908, 30833, 31333 *Ramos & Edaño*, *Wenzel* 356, *Clemens* 869, 1131. In primary forests at low and medium altitudes. Endemic.

Local names: Bilid-bilid (Sul.); kurong (S. L. Bis.).

#### EXCLUDED SPECIES

**CLAOXYLON INDICUM** Hassk.; F.-Vill. Novis. App. (1880) 193; Vidal Sinopsis Atlas (1883) 38, t. 83, f. D.

The form figured by Vidal is probably referable to *C. brachyandrum* Pax & Hoffm.

**CLAOXYLON MARIANUM** Muell.-Arg.; F.-Vill. l. c.

**CLAOXYLON WALLICHIANUM** Muell.-Arg.; F.-Vill. l. c.

#### 24. TREWIA Linnaeus

**TREWIA NUDIFLORA** Linn. Sp. Pl. (1753) 1193; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 953; Baill. Étud. Gén. Euphorb. (1858) 409, t. 18, f. 18-23; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 140, t. 31, f. F, G.

*Mallotus cardiophyllus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 398.

Luzon (Cagayan), *Cuming* 1267, apparently very rare or local. India and Ceylon to Siam, Hainan, Sumatra, and Java; a conotypic genus.

#### 25. MELANOLEPIS Reichenbach f. and Zollinger

**MELANOLEPIS MULTIGLANDULOSA** (Reinw.) Reichb. f. & Zoll. in Linnaea 28 (1856) 324; Merr. Interpret. Herb. Amb. (1917) 318, Sp. Blancoanae (1918) 223.

- Croton multiglandulosus* Reinw. ex Blume Cat. Gew. Buitenz. (1823) 105.
- Rottlera multiglandulosa* Blume Bijdr. (1825) 609.
- Mallotus moluccanus* Muell.-Arg. in *Linnaea* 34 (1865) 185, DC. Prodr. 15<sup>2</sup> (1866) 958; F.-Vill. Novis. App. (1880) 194; Vidal Sinopsis Atlas (1883) 39, t. 84, f. A, Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 245; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 31, Philip. Journ. Sci. 1 (1906) Suppl. 79, 3 (1908) Bot. 416, 7 (1912) Bot. 401, Fl. Manila (1912) 292; Elm. Leaf. Philip. Bot. 4 (1911) 1297, non *Croton moluccanus* Linn.
- Adelia monoica* Blanco Fl. Filip. ed. 2 (1845) 561, ed. 3, 3 (1879) 224, t. 218.
- Melanolepis moluccana* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 142, non *Croton moluccanus* Linn.
- Mallotus calcosus* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 958; F.-Vill. Novis. App. (1880) 194.

Throughout the Philippines from Batan Islands to Mindanao, Sulu, and Palawan. Common in thickets and second-growth forests at low and medium altitudes. Indo-China to Formosa, Sumatra, Java, Borneo, New Guinea, and the Marianne Islands.

Local names: Aém (Ting.); ahém (Iv.); alám (Ilk.); além (Ilk.); alím (Tag., P. Bis.); alúm (Bik., Tagb., P. Bis., Sul., Mag.); arúm (P. Bis.); alíng (Bik.); ayum-ayum (Sbl.); galum (Sub.); girañgan (Tagb.); pakalkal (Tag.).

*Croton moluccanus* Linn. is in part *Givotia rottleriformis* Griff. and in part *Aleurites moluccana* Willd., hence this specific name is not available for the present species. The specimen in the Linnean herbarium was not there in 1752 and does not appear until the 1767 enumeration.

Var. **PENDULA** (Merr.).

*Mallotus moluccanus* Muell.-Arg. var. *pendulus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 401.

*Melanolepis moluccana* Pax & Hoffm. var. *pendula* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) Bot. 144.

Palawan, Mindanao, Merrill 8305, 11528. In thickets at low altitudes. Endemic.

## 26. MALLOTUS Loureiro

**MALLOTUS AURICULATUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 396; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 194.

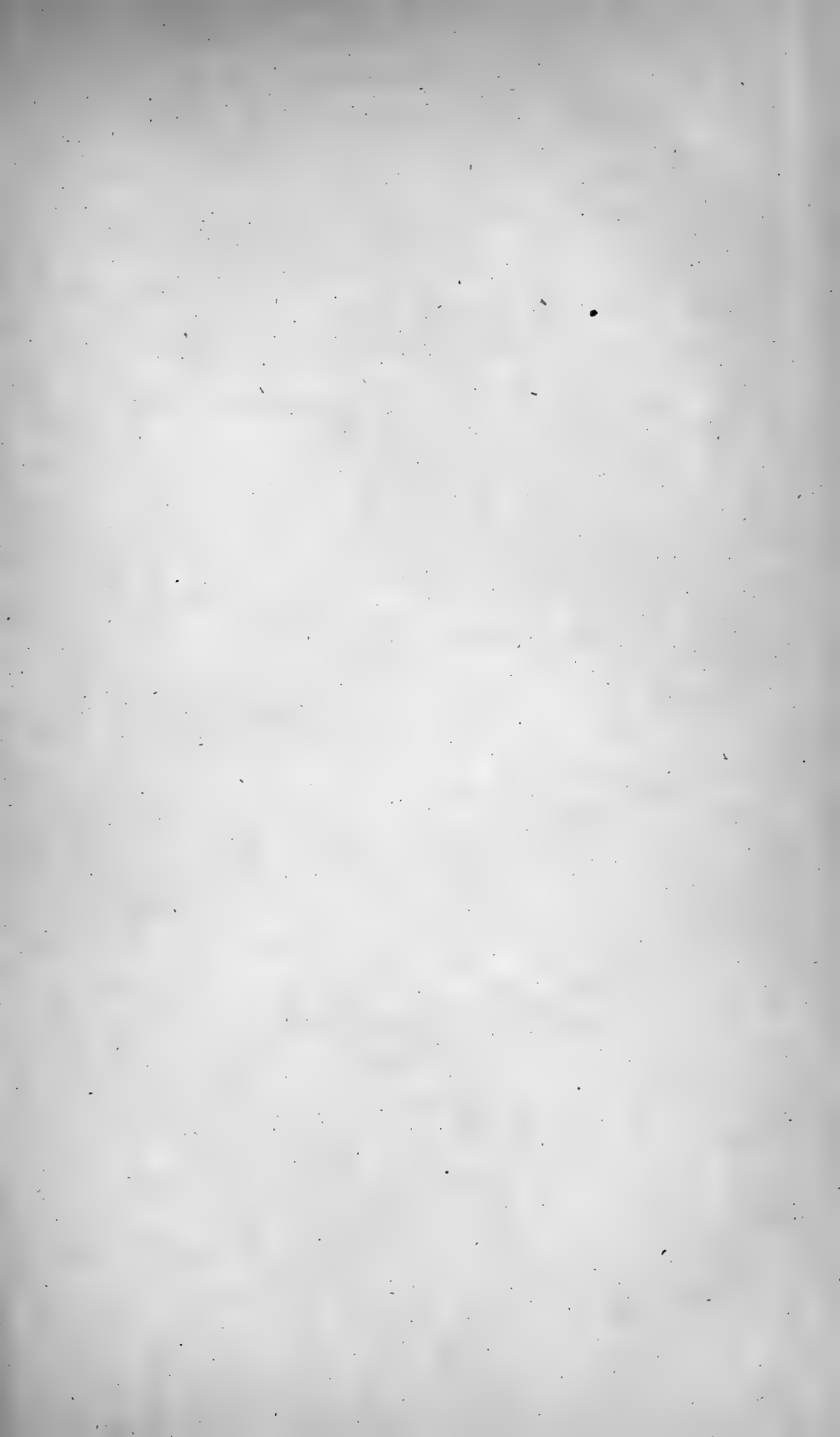
Leyte, Negros, Panay, Mindanao (Agusan, Lanao, Davao), *F. B.* 7271, 7259 *Everett*, 21972 *Hinolan*, *Wenzel* 589, 600, 701, 1040, *Elmer* 11278, 13671, 13394, *Clemens* 1013, *B. S.* 30828, 31458, 31371 *Ramos & Edaño*. In primary forests at low and medium altitudes. Endemic.

Local names: Apanang (Mbo.); gaugau (Mbo.); kamanian (Mbo.); mala-mala P. Bis.).

**MALLOTUS BREVIPES** Merr. in Philip. Journ. Sci. 9 (1914) 487; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 19.

Mindanao (Davao, Cotabato), *F. B.* 27500 *De Mesa*, 14246 *Tarrosa*, 18270 *Miranda*, *Williams* 2968. On forested slopes at low and medium altitudes. Endemic.

Local name: Talag (Mag.).





# AN ENUMERATION OF PHILIPPINE FLOWERING PLANTS

BY

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EXPLANATORY NOTE

The present enumeration is an attempt to summarize in convenient form for consultation our present knowledge of Philippine flowering plants, and represents a part of the knowledge accumulated by the author during a course of about twenty years' study of the problem. In the work an attempt has been made to account for all binomials accredited to the Philippine flora; to adjust the synonymy when necessary; to include all important references to the Philippine botanical literature and essential references to extra-Philippine literature; to give the habitat, altitudinal range, and Philippine and extra-Philippine distribution of each species; to cite illustrative specimens where expedient or necessary; and to record all available local names for each species.

It is proposed to issue the present work in fascicles, utilizing one volume for the gymnosperms and the monocotyledons and two volumes for the dicotyledons. It is planned to publish full introductory and explanatory matter in a general introduction to be prefixed to Volume 1 when the entire enumeration is completed.

ELMER D. MERRILL.

MANILA, P. I., August 25, 1921.



**MALLOTUS CAULIFLORUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 399; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 196.

Luzon (Cagayan, Camarines), *B. S. 13909 Ramos, 33960 Ramos & Edaña, F. B. 17794 Curran*. In primary forests at low altitudes. Endemic.

**MALLOTUS CONFUSUS** Merr. in Philip. Journ. Sci. 16 (1920) 559.

*Mallotus barbatus* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 397, non Muell.-Arg.

Luzon (Tayabas, Camarines), Samar, Mindanao (Davao), *Whitford 711, B. S. 29153, 33896 Ramos & Edaña, Merrill Phil. Pl. 1650*. In second-growth forests at low altitudes. Endemic.

**MALLOTUS ECHINATUS** Elm. Leaf. Philip. Bot. 3 (1910) 925; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 204.

*Mallotus pseudopenangensis* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 203.

Luzon (Cagayan, Ilocos Norte, Bataan, Camarines, Albay), Mindoro, Sibuyan, Panay, Mindanao (Zamboanga), *Elmer 12253, B. S. 7396, 7381, 7425, 33024 Ramos, 33546 Ramos & Edaña, 35378, 35532, 35326 Martelino & Edaña, F. B. 2612 Meyer, 6821 Merritt, 28766 Bautista*. In forests at low and medium altitudes. Endemic.

Local names: Beli (C. Bis.); burobulála (Bik.); kolokádios (P. Bis.).

**MALLOTUS FLORIBUNDUS** (Blume) Muell.-Arg. in Linnaea 34 (1865) 173, DC. Prodr. 15<sup>2</sup> (1866) 962; Hook. f. Fl. Brit. Ind. 5 (1887) 432; Rolfe in Journ. Bot. 23 (1885) 215; Vidal Phan. Cuming. Philip. (1886) 245; Elm. Leaf. Philip. Bot. 4 (1911) 1297; Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 173, f. 26, A.

*Adisca floribunda* Blume Bijdr. (1825) 610.

Luzon (Tayabas, Camarines, Sorsogon), Mindoro, Palawan, Masbate, Biliran, Samar, Leyte, Negros, Mindanao, Basilan. In forests at low and medium altitudes, locally abundant; the dried specimens have a very characteristic odor. Tenasserim through Malaya to Celebes, a variety in New Guinea.

Local names: Bagnan (Tagb.); batalang (Bag.); katúla (Sub.); kayog (Mbo.); tula-túla (Tag., Bik., P. Bis., Tagb., Chab., Sul.); tuya-túya (Tag.).

**MALLOTUS KORTHALSII** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 976; Merr. in Philip. Journ. Sci. 4 (1910) Bot. 283; Elm. Leaf. Philip. Bot. 3 (1910) 924; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 158.

Luzon (Cagayan, Tayabas, Camarines), Samar, Leyte, Sibuyan, Panay, Mindanao (Lanao, Zamboanga), *F. B. 17072 Curran, 23743 Alvarez, 23142, 25903 Alvier, B. S. 13245, 17627 Ramos, 25547 Yates, 31104, 36872, 36788, 36928 Ramos & Edaña, Elmer 12348, Wenzel 1726*. In forests at low altitudes. Borneo, Celebes.

Local names: Balában (Ibn.); banatong-putí (Tag.); katúba (Sub.); tuba-túba (Tag.).

**MALLOTUS LACKEYI** Elm. Leaf. Philip. Bot. 4 (1911) 1298; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 176.

*Mallotus sanchezii* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 402.

Palawan, Leyte, Mindanao (Misamis, Zamboanga), Tawitawi, *Elmer 13017*, *Merrill 9509*, *Wenzel 81*, *Quadrans, F. B. 21875 Villamil*. In primary forests at low altitudes, ascending to 600 m. Borneo.

**MALLOTUS LEUCOCALYX** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 970; F.-Vill. Novis. App. (1880) 195; Vidal Rev. Pl. Vasc. Filip. (1886) 245; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 150.

Luzon (Bataan, Tayabas, Laguna, Camarines, Sorsogon), Palawan, Balabac, Negros, Mindanao (Lanao, Zamboanga), Basilan, *Wilkes Expedition, Merrill 8161, Elmer 17866, 15137, 16548, B. S. 20871 Escritor, 22916 McGregor, 14977 Ramos, F. B. 23814 Mabesa, 4319 Everett, 28674 Pascual, 28729 Simeon*. In thickets and second-growth forests at low altitudes. Malay Peninsula, Celebes.

**MALLOTUS LONGISTYLUS** Merr. in Philip. Journ. Sci. 16 (1920) 560.

Dinagat, *B. S. 35173 Ramos & Pascasio*. In forests at low altitudes. Endemic.

**MALLOTUS MIQUELIANUS** (Scheff.) Boerl. Handl. Fl. Nederl. Ind. 3 (1900) 290; Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 200. *Rottlera miqueliana* Scheff. in Ann. Mus. Bot. Lugd.-Bat. 4 (1868-69) 124.

*Mallotus anisophyllus* Hook. f. Fl. Brit. Ind. 5 (1887) 436; Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 107; Elm. Leaf. Philip. Bot. 4 (1911) 1296.

Mindoro, Palawan, *Merrill 4045, 7239, 9569, Phil. Pl. 1246, 2096, Elmer 12817, F. B. 6795, 11406 Merritt, B. S. 787, 820 Foxworthy*. In primary forests at low altitudes. Malay Peninsula, Borneo.

**MALLOTUS ODORATUS** Elm. Leaf. Philip. Bot. 4 (1911) 1299; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 176.

*Mallotus alternifolius* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 395.

*Mallotus camiguinensis* Merr. op. cit. 397.

Babuyan Islands (Camiguin), Palawan, *B. S. 4047 Félix, 240, 250 Bermejos, Merrill Phil. Pl. 1231, Elmer 12584, F. B. 3905, 4124 Curran*. In dry primary forests at low altitudes. Endemic.

Local name: Somau (Tagb.).

**MALLOTUS PANICULATUS** (Lam.) Muell.-Arg. in Linnaea 34 (1865) 189, DC. Prodr. 15<sup>2</sup> (1866) 965; F.-Vill. Novis. App. (1880) 195; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 400, 11 (1916) Bot. 283.

*Croton paniculatus* Lam. Encycl. 2 (1786) 207.

*Mallotus cochinchinensis* Lour. Fl. Cochinch. (1790) 635; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 166.

*Croton appendiculatus* Elm. Leaf. Philip. Bot. 1 (1908) 312.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Leyte, Negros, Cebu, Mindanao. In forests at low and medium altitudes. Burma to southern China, southward through Malaya to tropical Australia.

Local names: Anaplan (Buk.); hinlaumó (P. Bis.); lamai (Bag.).

**MALLOTUS PAPILLARIS** (Blanco) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 238, Fl. Manila (1912) 294, Sp. Blancoanae (1918) 223.

*Adelia papillaris* Blanco Fl. Filip. ed. 2 (1845) 562, ed. 3, 3 (1879) 225, t. 381; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 731.

Luzon (Pampanga, Rizal, Batangas, Bulacan), *Merrill 2720, Phil. Pl. 434, Sp. Blancoanae 50, B. S. 1417, 3324 Ramos, F. B. 1110 Ahern's collector*. In dry thickets at low altitudes; erroneously reduced by Pax and Hoffmann to *M. tiliifolius* Muell.-Arg., a strictly littoral species. Endemic. Local names: Kutulan (Tag.); takip-asin-laláki (Tag.).

**MALLOTUS PAPUANUS** (J. J. Sm.) Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 202; Merr. in Philip. Journ. Sci. 16 (1920) 560.

*Mallotus hookerianus* Muell.-Arg. var. *papuanus* J. J. Sm. in Nova Guinea 8 (1912) 787, t. 137.

*Mallotus hirsutus* Elm. Leaf. Philip. Bot. 8 (1915) 2648.

Mindanao (Surigao, Agusan), *Elmer 13480, B. S. 34549 Ramos & Pascasio*. In primary forests, ascending to 1,200 m. New Guinea, but perhaps not distinguishable from the Chinese *M. hookerianus* Muell.-Arg.

Local name: Masañgauai (Mbo.).

**MALLOTUS PHILIPPENSIS** (Lam.) Muell.-Arg. in Linnaea 34 (1865) 196, DC. Prodr. 15<sup>2</sup> (1866) 980; F.-Vill. Novis. App. (1880) 195; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 245; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 79, 3 (1908) Bot. 416, Fl. Manila (1912) 294; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 184 (all as *philippinensis*).

*Croton philippense* Lam. Encycl. 2 (1786) 206.

*Echinus philippinensis* Baill. Adansonia 6 (1866) 314.

*Rottlera philippinensis* Scheff. in Ann. Mus. Bot. Lugd.-Bat. 4 (1868-69) 124.

*Rottleria manilensis* Klotz. ex Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 184, in syn.

Throughout the Philippines, common in thickets and second-growth forests at low altitudes. India to southern China and Formosa, southward to New South Wales.

Local names: Apúyot (Sul.); banató (Ibn., Ig., Tag.); buás (Ilk.); darandáng (Tag.); panagísen (Ibn.); panagísian (Neg.); panagísien (Ibn., Klg.); pañgaplásin (Ilk.); pikal (Sbl.); sala (Tag., Bis.); tafú' (Ibn.); tagusála (P. Bis.) tutúla (Tagb.).

**MALLOTUS REPANDUS** (Willd.) Muell.-Arg. in Linnaea 34 (1865) 197, DC. Prodr. 15<sup>2</sup> (1866) 981; Hook. f. Fl. Brit. Ind. 5 (1887) 442; F.-Vill. Novis. App. (1880) 195; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 245; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 80, Sp. Blancoanae (1918) 223; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 181.

*Croton repandus* Willd. in Neue Schrift. Naturf. Freunde 4 (1803) 206.

*Croton volubilis* Llanos in Mem. Acad. Cienc. Madr. 4 (1856) 503; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 103.

Throughout the Philippines in thickets and second-growth forests at low altitudes. India to southern China and Formosa, southward through Malaya to New Caledonia and northeastern Australia.

Local names: Malasiat (Tag.); marakarmái (Ilk.); panuálan (Tag.); sikír (Ilk.).

**MALLOTUS RESINOSUS** (Blanco) Merr. Sp. Blancoanae (1918) 222.

*Adelia resinosa* Blanco Fl. Filip. ed. 2 (1845) 562, ed. 3, 3 (1879) 225 saltem pro majore parte; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 731.

*Claoxylon muricatum* Wight Ic. (1852) t. 1886.

*Croton muricatus* Heyne in Wall. Cat. (1847) No. 7751, nomen nudum.

*Mallotus muricatus* Muell.-Arg. in Linnæa 34 (1865) 191, DC. Prodr. 15<sup>1</sup> (1866) 972; F.-Vill. Novis. App. (1880) 195; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 246; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 79; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 190 (var. *walkeræ* Pax & Hoffm.).

Luzon (Cagayan to Sorsogon), Mindoro, Balabac, Masbate, Mindanao, Basilan. Common in second-growth forests at low altitudes. Ceylon, Andaman Islands, Malay Peninsula, Sumatra, Java, Celebes, Timor, Key.

Local names: Dampil (Tag.); gitisan (Tag.); kabkabron (Ilk.); kanút (Ilk.); mapilpil (Tag.); mata-mata (Bik.); panalayápen (Ilk.); salsalagáw (Ilk.); tansian (Tag.); tara (Biln.).

**MALLOTUS-RICINOIDES** (Pers.) Muell.-Arg. in Linnæa 34 (1865) 187, DC. Prodr. 15<sup>2</sup> (1866) 963; Hook. f. Fl. Brit. Ind. 5 (1887) 430; F.-Vill. Novis. App. (1880) 194; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 245; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 78, Philip. Journ. Sci. 1 (1906) Suppl. 80, 3 (1908) Bot. 417, 5 (1910) Bot. 357, Sp. Blancoanae (1918) 221; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 170.

*Croton ricinoides* Pers. Syn. 2 (1807) 586.

*Croton mollissimus* Geisel. Croton Monogr. (1807) 73.

*Rottlera ricinoides* A. Juss. Euphorb. Tent. (1824) 33, t. 9, f. 29a; Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 420.

*Adelia bernardia* Blanco Fl. Filip. (1837) 814, non Linn.

*Adelia barbata* Blanco op. cit. ed. 2 (1845) 561, ed. 3, 3 (1879) 223, p. p.

Throughout the Philippines, usually very common in second-growth forests at low altitudes, ascending to 2,200 m. Tenasserim, through Malaya to New Guinea and northeastern Australia.

Local names: Adufi (Ig.); alítap (Ig.); amonumo (P. Bis.); anítap (Ig.); balbál (Ibn.); belbél (Ting.); bilos (Pamp.); bulbul (Ting.); dapulan (Sul., Bag.); fagon (Bon.); gaga (Tag.); gapas-gápas (Sul.); hanonúmo (C. Bis.); hinlaámo (P. Bis.); hinlaúmu (P. Bis.); hinonómo (C. Bis.); lamutiukan (Tagb.); malahúmo (P. Bis.); nagun (Mand.); pakalkal (Pamp.); papud (Sul.); pilipud (C. Bis.); tambon-tambon (Tag.); tapit (Bik.); takip-asin (Tag.); tabogor (Tag.); unlaomu (P. Bis.); vanáti (Iv.).

**MALLOTUS TILIIFOLIUS** (Blume) Muell.-Arg. in Linnæa 34 (1865) 190, DC. Prodr. 15<sup>2</sup> (1866) 969; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 443; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 148, f. 22, D; Merr. Interpret. Herb. Amb. (1917) 318.

*Rottlera tiliifolia* Blume Bijdr. (1825) 607.

*Croton tiliifolius* Lam. var. *aromaticus* Lam. Encycl. 2 (1786) 206, quoad syn. Rumph.

*Rottlera acuminata* A. Juss. Euphorb. Tent. (1824) 33, non *Mallotus acuminatus* K. Schum., nec Muell.-Arg.

*Mallotus playfairii* Hemsl. in Journ. Linn. Soc. Bot. 26 (1894) 441; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 80, 3 (1908) Bot. 416; Elm. Leaf. Philip. Bot. 3 (1910) 924.

Throughout the Philippines in thickets along the seashore, never inland. Formosa to Sumatra, New Guinea, northeastern Australia, and Samoa.

Local names: Alai (Tag.); briki (Bag.); gapas-gápas (Bik.); mahotai (C. Bis.); palu-baliskad (C. Bis.); sala (Tag.).

## DOUBTFUL SPECIES

MALLOTUS DISPAR Muell.-Arg.; F.-Vill. Novis. App. (1880) 195.

MALLOTUS MACROSTACHYUS Muell.-Arg.; F.-Vill. l. c.

MALLOTUS MORITZIANUS Muell.-Arg.; F.-Vill. l. c.

MALLOTUS SUBPELTATUS Muell.-Arg.; F.-Vill. l. c.

MALLOTUS ZOLLINGERI Muell.-Arg.; F.-Vill. l. c.

MALLOTUS ROXBURGHIANUS Muell.-Arg.; Usteri Beitr. Ken. Philip. Veg. (1905) 126.

This species is known only from India; it is suspected that Usteri's specimen is *Mallotus floribundus* Muell.-Arg.

## 27. NEOTREWIA Pax and Hoffmann

NEOTREWIA CUMINGII (Muell.-Arg.) Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 212, f. 31, A-E.

*Mallotus cumingii* Muell.-Arg. in Linnaea 34 (1866) 195, DC. Prodr. 15<sup>2</sup> (1866) 978; Vidal. Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 245; F.-Vill. Novis. App. (1880) 195; Koord. in Meded. Lands Plant. 19 (1898) 587.

*Trewia ambigua* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 79.

*Mallotus pinnatinervius* Elm. ex Pax & Hoffm. l. c. in syn.

Luzon (Cagayan to Sorsogon), Mindoro, Samar, Leyte, Masbate, Panay, Negros, Cebu, Mindanao (incl. *Elmer 16131* as *N. arborea* Elm.). In thickets and forest at low and medium altitudes, often common. A monotypic genus, also in Celebes, *Koorders 16962!*, *16964!*

Local names: Apanang (S. L. Bis., Buk.); bato-bató (Tag.); bilis (Sul.); burilis (C. Bis.); kabantala (Bag.); malasuite (Tag.); matobató (P. Bis.); pamasilién (Ilk.); panghángin (Neg.); patian (C. Bis.); tabunghian (C. Bis.).

## 28. WETRIA Baillon

WETRIA MACROPHYLLA (Blume) J. J. Sm. in Meded. Dept. Landbouw 10 (1910) 471; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 219; Merr. in Philip. Journ. Sci. 16 (1920) 561.

*Trewia macrophylla* Blume Bijdr. (1825) 612.

*Wetria trewioides* Baill. Étud. Gén. Euphorb. (1858) 409.

*Pseudotrewia macrophylla* Miq. Fl. Ind. Bat. 1<sup>2</sup> (1859) 414.

*Alchornea blumeana* Muell.-Arg. in Linnaea 34 (1865) 167, DC. Prodr. 15<sup>2</sup> (1866) 900.

*Agrostistachys pubescens* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 274; Pax in Engl. Pflanzenreich 57 (1912) 99.

Luzon (Bataan), Bancalan, Negros, *F. B. 5940 Curran, 23450 Sherfesees & Alambra, 23871 Cardona, Weber*. On slopes, bamboo thickets and primary forests at low altitudes. Borneo, Sumatra, Java; a monotypic genus.

## 29. ALCHORNEA Swartz

**ALCHORNEA PARVIFLORA** (Benth.) Muell.-Arg. in Linnaea 34 (1865) 168, DC. Prodr. 15<sup>2</sup> (1866) 902; F.-Vill. Novis. App. (1880) 194; Vidal Phan. Cuming. Philip. (1885) 144; Rev. Pl. Vasc. Filip. (1886) 244; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 382.

*Stipellaria parviflora* Benth. in Hook. Journ. Bot. Kew Miscel. 6 (1854) 4.

*Acalypha tiliaefolia* Vidal Rev. Pl. Vasc. Filip. (1886) 244, sphalm.

*Alchornea tiliaefolia* Ceron Cat. Pl. Herb. Manila (1892) 154, non Muell.-Arg.

*Alchornea sicca* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 251, non Merr.

Luzon (Bulacan, Rizal), Palawan, Leyte, Negros, *Cuming 1800, B. S. 5220 Ramos, 34079 Ramos & Edaño, Merrill 9596, 9572, Phil. Pl. 2095, Loher 6843, Wenzel 359*. In second-growth forests and thickets at low and medium altitudes. Endemic.

**ALCHORNEA PUBESCENS** Merr. in Philip. Journ. Sci. 20 (1922) 399.

Luzon (Cagayan), *F. B. 22724 Castillo*. On forested slopes at low altitudes. Endemic.

**ALCHORNEA RUGOSA** (Lour.) Muell.-Arg. in Linnaea 34 (1865) 170, DC. Prodr. 15<sup>2</sup> (1866) 905; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 243; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 383, Sp. Blancoanae (1918) 225; Elm. Leaf. Philip. Bot. 4 (1911) 1273.

*Cladodes rugosa* Lour. Fl. Cochinch. (1790) 574.

*Conseveibum javanense* Blume Bijdr. (1826) 614.

*Alchornea javensis* Muell.-Arg. in Linnaea 34 (1865) 170, DC. Prodr. 15<sup>2</sup> (1866) 905; F.-Vill. Novis. App. (1880) 194; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 244; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 31, Govt. Lab. Publ. (Philip.) 27 (1905) 77, Philip. Journ. Sci. 1 (1906) Suppl. 80.

*Adelia glandulosa* Blanco Fl. Filip. (1837) 814.

*Tragia innocua* Blanco op. cit. ed. 2 (1845) 479, ed. 3, 3 (1879) 94, non Linn.

*Alchornea villosa* F.-Vill. Novis. App. (1880) 194, non Muell.-Agr.

*Alchornea hainanensis* Pax & Hoffm. op. cit. 242.

Babuyan Islands and northern Luzon to Palawan, Balabac, and Mindanao. Common in thickets, second-growth forests, etc., at low and medium altitudes. Burma to southern China through Malaya to Timor and New Guinea.

Local names: Aguyui (Tag.); bauli (S. L. Bis.); gasugási (Sul.); gaugáu (C. Bis.); halum (Sul.); kanáuai (Tag.); limo (Tagb.); malam-biñgon (Sul.); tayán (Tag.).

**ALCHORNEA SICCA** (Blanco) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 192, Fl. Manila (1912) 297, Sp. Blancoanae (1918) 224.

*Excoecaria sicca* Blanco Fl. Filip. (1837) 787, ed. 2 (1845) 542, ed. 3, 3 (1879) 193, t. 307.

*Croton drupaceum* Blanco l. c. ed. 2 (1845) 519, ed. 3, 3 (1879) 155, non Roxb.

*Alchornea mollis* F.-Vill. Novis. App. (1880) 194, non Muell.-Arg.

*Alchornea philippinensis* Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 249.

Luzon (Pangasinan, Pampanga, Rizal, Manila, Laguna), *Merrill 4100*, *Sp. Blancoanae 642*, *Phil. Pl. 988*, *Loher 4667*, *Didricksen 3146*, *Warburg 13629*, *13630*. In thickets along small streams at low altitudes. Endemic.

Local name: Balánti (Tag.).

#### EXCLUDED SPECIES

**ALCHORNEA BLUMEANA** Muell.-Arg.; F.-Vill. Novis. App. (1880) 194.

**ALCHORNEA CUNEIFOLIA** Muell.-Arg.; F.-Vill. l. c.

#### 30. CLEIDION Blume

**CLEIDION LANCEOLATUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 474; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 23.

Samar, *Phil Pl. 1648 Merrill*, *F. B. 21052 Sherfesse*, *Cenabre*, & *Cortes*. In thickets along streams at low altitudes. Endemic.

Local name: Dagumái (S. L. Bis.).

**CLEIDION RAMOSII** (Merr.) Merr. in Philip. Journ. Sci. 20 (1922) 400.

*Mallotus ramosii* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 401; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 195.

*Mallotus samarensis* Merr. op. cit. 9 (1914) Bot. 488; Pax & Hoffm. op. cit. 68<sup>4</sup> (1919) 18.

Mindoro, Samar, Camiguin de Misamis, Siargao, *B. S. 14602*, *17480*, *35031*, *34829*, *39395*, *39408 Ramos*, *35031*, *34829 Ramos & Pascasio*. In forests at low and medium altitudes, ascending to 1,000 m. Endemic.

**CLEIDION SPICIFLORUM** (Burm. f.) Merr. Interpret. Herb. Amb. (1917) 322 in nota, Sp. Blancoanae (1918) 225.

*Acalypha spiciflora* Burm. f. Fl. Ind. (1768) 203, t. 61, f. 2.

*Cleidion javanicum* Blume Bijdr. (1825) 613; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 409; Baill. Étud. Gén. Euphorb. (1858) 404, t. 9, f. 3-5; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 987; Hook. f. Fl. Brit. Ind. 5 (1887) 444; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 31; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 290, f. 47.

*Lasiostylis salicifolia* Presl Bot. Bemerk. (1844) 149.

Northern Luzon to Palawan and Mindanao. In most or all provinces and islands, in forests at low and medium altitudes. India and Ceylon through Malaya to New Guinea.

Local names: Agípos (Tag.); hantatampsi (C. Bis.); kayugkóg (Tag.); lapo-lápo (Ilk.); malagasába (Tag.); malatúba (Bik.); salígao (Tag., Ilk.); tayókan (Tag.).

## 31. MACARANGA Thouars

**MACARANGA AMPLIFOLIA** Merr. in Philip. Journ. Sci. 7 (1912) 392; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 317.

Luzon (Cagayan, Laguna, Tayabas), Bucas Grande, *B. S.* 13513, 20427 Ramos, 35146 Ramos & Pascasio, 28859 Ramos & Edaña, *F. B.* 26977 Velasco, 10153 Curran. In damp primary forests at low altitudes. Endemic.

**MACARANGA BALABACENSIS** Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 368.

Balabac, *B. S.* 424 Mangubat. On forested slopes at low altitudes. Endemic.

Local name: Binahúlo (Sul.).

**MACARANGA BICOLOR** Muell.-Arg. in Linnaea 34 (1865) 199, DC. Prodr. 15<sup>2</sup> (1866) 1010; F.-Vill. Novis. App. (1880) 195; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 246; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 31, Philip. Journ. Sci. 1 (1906) Suppl. 80; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 319.

Luzon (Cagayan, Apayao, Nueva Vizcaya, Bulacan, Bataan, Tayabas, Laguna, Camarines, Sorsogon), Mindoro, Polillo, Biliran, Leyte, Panay, Mindanao (incl. *Elmer* 17236, 14664 as *M. utilis* Elm.). In second-growth forests at low altitudes. Endemic.

Local names: Amilík (Bik.); amublít (Bis.); bagambáng (Tag.); baganbáng (Tag.); banigán (Neg.); bilua-laláki (Tag.); binón̄ga (Tag.); binún̄ga (Tag.); hamidán (Bis.); hamilig (Mbo.); konmantig (P. Bis.); tabong (P. Bis.); takip-asín (Tag.).

**MACARANGA CAUDATIFOLIA** Elm. Leaf. Philip. Bot. 2 (1908) 427; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 342.

*Macaranga cuneata* Elm. op. cit. 428.

*Macaranga sibuyanensis* Elm. op. cit. 3 (1910) 922.

*Macaranga apoensis* Elm. op. cit. 7 (1915) 2646; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 27.

Sibuyan, Leyte, Panay, Negros, Samar, Camiguin de Misamis, Mindanao (Davao), Tinago, *Elmer* 9652, 9483, 10719, 12264, *Merrill Phil. Pl.* 2045, *Wenzel* 648, 898, *B. S.* 31180 Ramos & Edaña, *F. B.* 28251 Mataya, 28240 Fernando. In forests, deserted clearings, etc., ascending to 1,100 m; not always clearly distinguishable from *M. cumingii* Muell.-Arg. Endemic.

Local names: Dahá (C. Bis.); indang (Bag.).

**MACARANGA CONGESTIFLORA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 282; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 310.

Palawan, *F. B.* 3590, 3591 Curran, *Merrill* 9365. In old clearings at low altitudes. Endemic.

**MACARANGA CUERNOSENSIS** Elm. Leaf. Philip. Bot. 2 (1908) 429; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 333.

Negros, Leyte, Panay, Camiguin de Misamis, Mindanao (Davao), *Elmer* 9549, 10109, 10155, 11257, *Wenzel* 757, *B. S.* 14488, 14654 Ramos, 30667 Ramos & Edaña. In forests at medium altitudes, ascending to 1,100 m. Endemic.

Local names: Bilánti-ihalas (C. Bis.); indang (Bag.).



**MACARANGA CUMINGII** (Baill.) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1005; F.-Vill. Novis. App. (1880) 196; Vidal Rev. Pl. Vasc. Filip. (1886) 246, Phan. Cuming. Philip. (1885) 144; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 80 (*cumingiana*), 3 (1908) Bot. 417; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 342.

*Mappa cumingii* Baill. Étud. Gén. Euphorb. (1858) 430, *nomen nudum*.

Batan Islands, Luzon (Bontoc, Benguet, Zambales, Nueva Ecija, Bataan, Tayabas, Laguna, Camarines), Mindoro, *Cuming 1100, Elmer 9197, 9112, Lohr 4795, B. S. 3772 Fénix, 26254 Ramos & Edaña, 20578 Ramos, F. B. 10161 Curran, 21209 Alvarez*. In thickets and forested ravines, ascending to an altitude of from 1,000 to 1,500 m. Endemic.

Local names: Anítap (Ig.); baiákot (If.); sarik-sarik (Neg.); vanáti (Iv.).

**MACARANGA DIPTEROCARPIFOLIA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 205, 5 (1910) Bot. 357; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 338.

Luzon (Abra, Benguet, Apayao, Tayabas, Nueva Ecija, Laguna, Bataan, Camarines, Sorsogon), Cebu, *Merrill Phil. Pl. 1724, Elmer 6137, 17943, 15231, 16654, B. S. 12594, 28107 Fénix, 19545 Ramos, 29040, 26234 Ramos & Edaña*. In primary forests and in forested ravines, altitude 400 to 1,300 m. Formosa, Botel Tobago.

Local names: Anítap (Ig.); balúmti (Ting.); binúñga-pulá (C. Bis.).

**MACARANGA GIGANTIFOLIA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 391; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 318.

Camiguin de Misamis, Mindanao (Zamboanga), *B. S. 14702 Ramos, 36739 Ramos & Edaña*. In forests or thickets, at low altitudes. Endemic.

Local name: Buñgabong (Sub.).

**MACARANGA GRANDIFOLIA** (Blanco) Merr. in Philip. Journ. Sci. 7 (1912) Bot. 394, Fl. Manila (1912) 295, Sp. Blancoanae (1918) 226. *Croton grandifolius* Blanco Fl. Filip. (1837) 753, ed. 2 (1845) 518, ed. 3, 3 (1879) 153.

*Macaranga mappa* F.-Vill. Novis. App. (1880) 195; Vidal Rev. Pl. Vasc. Filip. (1886) 246, Phan. Cuming. Philip. (1885) 144, Sinopsis Atlas (1883) 39, t. 84, f. D; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 78, Philip. Journ. Sci. 1 (1906) Suppl. 80; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 320, f. 54 A!, non Muell.-Arg. [Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1000, quoad syn. Blanco], non *Ricinus mappa* Linn. [cf. Merr. Interpret. Herb. Amb. (1917) 319].

*Macaranga porteana* E. André in Rev. Hort. 60 (1888) 176, f. 36; Hook. f. in Curtis's Bot. Mag. III 51 (1895) t. 7407; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 328.

Luzon (Cagayan, Benguet, Union, Nueva Vizcaya, Pangasinan, Bataan, Rizal, Batangas, Laguna, Tayabas), Mindoro. In second-growth forests at low altitudes, locally abundant. Endemic.

Local names: Abing-ábing (Tag.); biluak (Tag.); biláun (Tag.); binúang (Tag.); bongábong (Bis.); bilúra (Tag.); bingábing (Tag.); ginábang (Ilk.); ginábang-a-dakkél (Ilk.); hinoso (Tag.); kinábang (Ig.).

**MACARANGA HISPIDA** (Blume) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 990; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 36, Philip. Journ. Sci. 2 (1907) Bot. 278, Interpret. Herb. Amb. (1917) 320; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 336, f. 61, A-C; Elm. Leaf. Philip. Bot. 4 (1911) 1295.

*Mappa hispida* Blume Bijdr. (1825) 624.

*Rottlera hispida* Kurz ex Teysm. & Binn. in Nat. Tijdschr. Nederl. Ind. 24 (1864) 43.

*Tanarius hispidus* O. Kuntze Rev. Gen. Pl. (1891) 620.

*Macaranga rotundifolia* Elm. ex Pax & Hoffm. l. c. in syn.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Mindoro, Palawan, Catanduanes, Samar, Leyte, Panay, Negros, Camiguin de Misamis, Mindanao, Basilan, Jolo. Common in second-growth forests, ravines, etc., at low and medium altitudes. Ceram, Amboina.

Local names: Alimbúnga (Chab.); bula-bula (Tagb.); don (Sub.); hamindáng (Bik., Sul., Tag.); hídang (Buk.); lagápak (Tag.); limbúnga (Sul.); tamídan (P. Bis.).

**MACARANGA LEYTENSIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 393; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 393.

Leyte, *B. S. 15253 Ramos*. On forested slopes. Endemic.

**MACARANGA LOHERI** Elm. Leaf. Philip. Bot. 2 (1908) 423; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 341, f. 55.

Luzon (Benguet), *Elmer 8558, Merrill Phil. Pl. 829, 1760, F. B. 22909 Leaño*. In forested ravines, altitude 1,000 to 1,500 m. Endemic.

Local name: Anítap (Ig.).

**MACARANGA MONTANA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 394, non Pax & Hoffm. (1914).

*Macaranga merrilliana* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 334.

Mindanao (Zamboanga), *Merrill 8076*. On forested ridges, altitude about 1,000 m. Endemic.

**MACARANGA NOBLEI** Elm. Leaf. Philip. Bot. 2 (1910) 678; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 317.

Mindanao (Agusan, Zamboanga, Bukidnon, Davao), *Elmer 10816, 13358, B. S. 15755 Fénix, 37014 Ramos & Edaño, F. B. 28210 Elmír*. In forests along streams, altitude 700 to 1,000 m. Endemic.

Local names: Buñgábong (Sub.); hamilig (Mbo.); limbúnga (Buk.); panilid (Bag.).

**MACARANGA OVATIFOLIA** Merr. in Philip. Journ. Sci. 16 (1920) 562.

Mindanao (Surigao), *B. S. 34683 Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

**MACARANGA RAMIFLORA** Elm. Leaf. Philip. Bot. 2 (1908) 433; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 323.

Luzon (Bontoc, Tayabas), *Elmer 8108, B. S. 37981 Ramos & Edaño*. In primary forests, altitude about 1,000 m. Endemic.

**MACARANGA SYLVATICA** Elm. Leafl. Philip. Bot. 2 (1908) 431.

*Macaranga ramiflora* Elm. var. *sylvatica* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 324.

Negros, Leyte, *Elmer 9838, 10361, Wenzel 358, B. S. 15310 Ramos*. In primary forests, altitude 500 to 1,200 m. Endemic.

**MACARANGA TANARIUS** (Linn.) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 997 (var. *genuina* Muell.-Arg.); F.-Vill. Novis. App. (1880) 195; Vidal Sinopsis Atlas (1883) 39, t. 84, f. C., Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 246; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 31, Philip. Journ. Sci. 1 (1906) Suppl. 80, 3 (1908) Bot. 417, Fl. Manila (1912) 295, Interpret. Herb. Amb. (1917) 320; Elm. Leafl. Philip. Bot. 3 (1910) 923; Pax & K. Hoffm. in Engl. Pflanzenreich 63 (1914) 352.

*Ricinus tanarius* Linn. in Stickm. Herb. Amb. (1754) 14, Amoen. Acad. 4 (1759) 125, Syst. ed. 10 (1759) 1277, Sp. Pl. ed. 2 (1763) 1430.

*Mappa tanarius* Blume Bijdr. (1825) 624; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 401.

Throughout the Philippines, characteristic of thickets and second-growth forests at low and medium altitudes. This is the original form of the species, i. e., *Ricinus tanarius* Linn. of Amboina, with glabrous leaves, and includes *Elmer 14589, 14409* as *M. vulcanica* Elm. Andaman Islands and the Malay Peninsula to southern China and Formosa southward to north-eastern Australia.

Var. **TOMENTOSA** (Blume) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 997; Ceron Cat. Pl. Herb. Manila (1892) 155; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 31, Sp. Blancoanae (1918) 226.

*Mappa tomentosa* Blume Bijdr. (1825) 624; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 401; Elm. Leafl. Philip. Bot. 4 (1911) 1295.

*Croton lacciferum* Blanco Fl. Filip. (1837) 752, ed. 2 (1845) 715, ed. 3, 3 (1879) 153.

Range of the species; much commoner in the Philippines than is the typical form with glabrous leaves.

Local names: Alúñgabun (Bag.); anabun (Bag.); bagámbang (Tag.); bilan (Pamp.); bilua (Pamp.); biluan (Tag.); biluan-laláki (Tag.); bilúñga (Tag.); bíñgua (Is.); binóñga (Tag., Pamp., P. Bis.); binúan (Tagb.); binúang (Tag.); biñgua (C. Bis.); binúñga (Tag., Kuy., P. Bis.); binúñgan (Tag.); binúan (Tagb.); gamú' (Ibn.); ginábang (Ting., Ig.); himindáng (Bik.); kinábang (Ig.); labauel (Ig.); lagau (C. Bis., Bag.); lagaon (Mbo.); ligabun (Mbo.); lungában (Tagk.); liñgabuñga (Sub.); lingbunga (Sul.); luñgakan (Bag.); maasím (Tag.); mindang (Bik.); minúñga (Tag., Bik., Mbo.); sabauil (Ilk.); samáet (Ibn.); samák (Ilk., Ting.); sámár (Ilk.); samúk (Ibn.).

**MACARANGA TRILOBA** (Reinw.) Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 989; Hook. f. Fl. Brit. Ind. 5 (1887) 452; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 504; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 380, f. 63, A-E.

*Ricinus trilobus* Reinw. ex Blume Cat. Gew. Buitenzorg (1823) 108.

*Pachystemon trilobus* Blume Bijdr. (1825) 626.

Palawan, *B. S. 695 Foxworthy*. On forested river banks, altitude about 1,000 m. Malay Peninsula, Sumatra, Java, Borneo.

### 32. CLADOGYNOS Zippel

**CLADOGYNOS ORIENTALIS** Zipp. ex Spanoghe in *Linnaea* 15 (1841) 349; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 384; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 384; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 384; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 265, f. 41.

*Conceveiba tomentosa* Span. l. c.

*Rottlera albicans* Hassk. Hort. Bogor. (1844) 238.

*Adenogynum discolor* Reichb. f. & Zoll. in Verh. Nat. Vereen. Nederl. Ind. 1 (1856) 23, *Linnaea* 28 (1856) 325; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 400.

*Chloradenia discolor* Baill. Étud. Gén. Euphorb. (1858) 472, t. 19, f. 24, 25.

*Cephalocroton albicans* Muell.-Arg. in *Linnaea* 34 (1865) 155.

*Cephalocroton discolor* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 761.

Siquijor, Cebu, *Merrill 7208, B. S. 11055 Ramos*. In dry thickets at low altitudes. Cochinchina to Java and Timor.

### 33. ACALYPHA Linnaeus

**ACALYPHA AMENTACEA** Roxb. Fl. Ind. ed. 2, 3 (1832) 676; Merr. Interpret. Herb. Amb. (1917) 322, Sp. Blancoanae (1918) 226.

*Acalypha amboynensis* Benth. in Hook. Lond. Journ. Bot. 2 (1843) 233.

*Acalypha grandis* Muell.-Arg. var. *amboynensis* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 806.

*Acalypha stipulacea* Klotz. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 416; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 807; F.-Vill. Novis. App. (1880) 193; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 244; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 32, Govt. Lab. Publ. (Philip.) 27 (1905) 77, Philip. Journ. Sci. 1 (1906) Suppl. 81, 3 (1908) Bot. 417, 5 (1910) Bot. 357, Fl. Manila (1912) 293; Elm. Leaflet. Philip. Bot. 4 (1911) 1275. *Acalypha affinis* Klotz. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 416.

*Acalypha glandulosa* Blanco Fl. Filip. (1837) 749, ed. 2 (1845) 516, ed. 3, 3 (1879) 149; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 888, non Cav.

Throughout the Philippines from the Babuyan Islands and northern Luzon to Palawan, Mindanao, and the Sulu Archipelago; common in thickets, old clearings, etc., at low and medium altitudes. Java and Borneo to New Guinea.

Local names: Alibágis (Tag.); arongdamói (Bik.); balinad (Tag.); balindúd (Tag.); baliñgód (Tag.); bogós (Bik., Tag.); bogús (Mbo., P. Bis.); bugós (Tag., Bik., C. Bis.); bugús (Bik.); bulúx (If.); danási (Sul.); lañgála (C. Bis., P. Bis.); lañganási (Lan., Buk.); malakbók (Tag.); malasapsáp (Tag.); mogós (S. L. Bis.); sulínau (Tag.); ulínau (Tag.).

**ACALYPHA ANGATENSIS** Blanco Fl. Filip. (1837) 750, ed. 2 (1845) 516, ed. 3, 3 (1879) 150; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 805; F.-Vill. Novis. App. (1880) 193, Sp. Blancoanae (1918) 227.

*Acalypha tomentosa* Blanco Fl. Filip. (1837) 750, ed. 3, 3 (1879) 151; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 888, non Sw.

*Acalypha grandis* Muell.-Arg. var. *velutina* Muell.-Arg. in Flora 47 (1864) 441, DC. Prodr. 15<sup>2</sup> (1866) 608; Vidal Phan. Cuming. Philip. (1885) 143; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 357.

Batan Islands and northern Luzon to Mindanao. In thickets, chiefly at medium altitudes, ascending to 1,500 m. Formosa to Polynesia.

Local names: Bedús (Ig.); burnús (Bon.); bilús (Bon.); bulús (Bon.); boló (Ig.); bugós (Tag., Bis.); viús (Iv.).

**ACALYPHA AUSTRALIS** Linn. Sp. Pl. (1753) 1004; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 192.

*Urtica gemina* Lour. Fl. Cochinch. (1790) 682.

*Acalypha gemina* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 866.

Luzon (Cagayan), *B. S.* 7869, 7800 *Ramos*. In open places near streams and settlements. Manchuria and Japan to southern China and Formosa.

**ACALYPHA BOEHMERIODES** Miq. Fl. Ind. Bat. Suppl. (1861-62) 459; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 871; F.-Vill. Novis. App. (1880) 194; Merr. Fl. Manila (1912) 292.

Luzon (Ilocos Norte, Rizal, Manila, Laguna, Batangas), Mindanao, Basilan. In thickets, on old walls, etc., in and about towns at low altitudes. Java to Samoa.

**ACALYPHA CATURUS** Blume Bijdr. (1825) 629, excl. syn. Linn.; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 805; J. J. Sm. in Meded. Dept. Landbouw 10 (1910) 510.

*Acalypha minahassae* Koord. in Meded. Lands Plant. 19 (1898) 579, 624.

*Acalypha similis* Koord. l. c.

*Acalypha cardiophylla* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 80.

*Acalypha subcinerea* Elm. Leaf. Philip. Bot. 7 (1915) 2631.

Luzon (Benguet, Bataan, Laguna, Cavite, Tayabas, Sorsogon), Samar, Leyte, Mindanao. In thickets and forests along streams at low and medium altitudes. Sumatra, Java, Borneo, Celebes.

Local names: Alum (Bag.); ambugtunong (C. Bis.); malasapsáp (Tag.); migtanong (Buk.); salimbugau (C. Bis.).

**ACALYPHA GRANDIBRACTEATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 191.

Batan and Babuyan Islands, *B. S.* 3607, 4084 *Fénix*, 3206 *Mearns*. In thickets at low altitudes; an ally of *A. amentacea* Roxb. Endemic.

Local name: Ahas (Iv.).

**ACALYPHA HISPIDA** Burm. f. Fl. Ind. (1768) 303, t. 61, f. 1; F.-Vill. Novis. App. (1880) 194; Merr. Fl. Manila (1912) 293, Interpret. Herb. Amb. (1917) 323.

*Caturus spiciflorus* Linn. Mant. 1 (1767) 127, non *Acalypha spiciflora* Burm. f.

*Acalypha densiflora* Blume Bijdr. (1826) 628.

*Acalypha sanderi* N. E. Br. in Gard. Chron. (1896) 2: 392.

Cultivated for ornamental purposes in Manila and in other large towns, but nowhere spontaneous; probably a native of southeastern Malaya, now cultivated in most tropical countries.

Local names: Perpón (Tag.); felpón (Sp.).

**ACALYPHA INDICA** Linn. Sp. Pl. (1753) 1003; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 868; F.-Vill. Novis. App. (1880) 194; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 244; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 417, Fl. Manila (1912) 292, Sp. Blancoanae (1918) 226.

*Acalypha caroliniana* Blanco Fl. Filip. (1837) 748, ed. 2 (1845) 515, ed. 3, 3 (1879) 149, t. 266, non Walt.

Throughout the Philippines, a weed in and about towns, in thickets, waste places, etc. Tropical Africa and Asia through Malaya to Polynesia.

Local names: Maraotóng (Ilk.); taptapiñgar (Ilk.).

**ACALYPHA WILKESIANA** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 817; Merr. Fl. Manila (1912) 293.

*Acalypha tricolor* Seem. Fl. Vit. (1868) 225.

Commonly cultivated in Manila and other large towns for its variegated foliage, but nowhere spontaneous; introduced about 1905. A native of Polynesia, now cultivated in most tropical countries.

#### EXCLUDED SPECIES

**ACALYPHA PILOSA** Cav. Anal. Hist. Nat. 2 (1800) 136, Ic. 6 (1801) 47, t. 568, f. 2; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 814; F.-Vill. Novis. App. (1880) 194.

The type is evidently the tropical American plant, the Calauan, Luzon, specimen cited probably having been erroneously localized.

#### 34. MEGISTOSTIGMA Hooker f.

**MEGISTOSTIGMA CORDATUM** Merr. in Philip. Journ. Sci. 16 (1920) 563.

Samar, *B. S. 17591 Ramos*. In dry forests at low altitudes. Endemic.

The only other known species is *M. malaccense* Hook. f., of the Malay Peninsula.

#### 35. TRAGIA Linnaeus

**TRAGIA HIRSUTA** Blume Bijdr. (1825) 630; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 937; J. J. Sm. in Meded. Dept. Landbouw 10 (1910) 522.

*Pachystylidium hirsutum* Pax & Hoffm. in Engl. Pflanzenreich 68<sup>1</sup> (1919) 108.

Mindanao (Lanao), *Clemens 606*. Java.

Var. **IRRITANS** (Merr.).

*Tragia irritans* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 491.

*Pachystylidium hirsutum* Pax & Hoffm. var. *irritans* Pax & Hoffm. l. c.

Luzon (Union, Bataan), Mindoro, Coron, *Lete 375, 327, F. B. 2910 Borden, B. S. 40929, 41170 Ramos*. In thickets and forests at low altitudes. Endemic.

Local name: Alumigás (Ilk.).

**TRAGIA LUZONENSIS** Merr. in Philip. Journ. Sci. 16 (1920) 564.

Luzon (Ilocos Norte), *B. S. 32854 Ramos*. In dry forests at low altitudes. Endemic.

**TRAGIA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 16 (1920) 565.

Luzon (Abra), *B. S. 27013 Ramos*. In forests at low or medium altitudes. Endemic.

### 36. PLUKENETIA Linnaeus

**PLUKENETIA CORNICULATA** Smith in Nov. Act. Soc. Sci. Upsal. 6 (1799) 4; Merr. in Philip. Journ. Sci. 16 (1920) 564.

*Pterococcus corniculatus* Pax & Hoffm. in Engl. Pflanzenreich 68<sup>1</sup> (1919) 22.

Luzon (Rizal), *B. S. 24086 Ramos*. In old clearings at low or medium altitudes. India through Malaya to the Moluccas.

### 37. RICINUS Tournefort

**RICINUS COMMUNIS** Linn. Sp. Pl. (1753) 1007; Blanco Fl. Filip. (1837) 761, ed. 2 (1845) 523, ed. 3, 3 (1879) 161; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 391; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1017; F.-Vill. Novis. App. (1880) 196; Vidal Sinopsis Atlas (1883) 39, t. 78, f. F; Merr. Fl. Manila (1912) 296, Sp. Blancoanae (1918) 227; Pax & K. Hoffm. in Engl. Pflanzenreich 68<sup>1</sup> (1919) 119, fig. 29.

Throughout the Philippines in the settled areas, in open waste places. Of prehistoric introduction in the Philippines. Pantropic, a native of the Old World.

Local names: Kataná (Iv., Bon.); gatlaoua (If.); lansína (Tag.); liñgáñg-sína (Tag.); tañgan-tañgan (Tag., Bik.); tañgan-tañgan-jawa (Sul.); taoa-taoá (Ilk.); taua-tauá (Ilk.); taua-taua-sína (Ilk.).

### 38. HOMONOIA Loureiro

**HOMONOIA JAVENSIS** (Blume) Muell.-Arg. in Linnaea 34 (1865) 200, DC. Prodr. 15<sup>2</sup> (1866) 1022; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 544; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 391; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>1</sup> (1917) 117, f. 27.

*Spathiostemon javense* Blume Bijdr. (1825) 622.

*Mallotus eglandulosus* Elm. Leaf. Philip. Bot. 1 (1908) 313.

Mindoro, Panay, Negros, Cebu, Leyte, Mindanao (Surigao, Agusan, Davao), *Elmer 7152, 7318, 13918, Merrill Phil. Pl. 1682, B. S. 17661, 39514 Ramos, 40697 Ramos & Edaño*. In primary forests at low altitudes. Malay Peninsula, Java, Borneo, Amboina, Timor, Key, New Guinea.

Local names: Apanang (S. L. Bis., C. Bis.); halit (P. Bis.); bayótai (P. Bis.); burilis-maputí (C. Bis.); mala-mala (C. Bis.); manugupinang (P. Bis.); oyagiñgan (Mbo.); panang (P. Bis.).

Var. **CILIATA** Merr. in Philip. Journ. Sci. 7 (1912) 391.

Negros, *F. B. 7246, 12325 Everett*. In forests at low altitudes; reduced by Pax and Hoffmann to the species. Endemic.

**HOMONOA RIPARIA** Lour. Fl. Cochinch. (1790) 637; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1023; Hook. f. Fl. Brit. Ind. 5 (1887) 455; F.-Vill. Novis. App. (1880) 196; Vidal Sinopsis Atlas (1883) 39, t. 84, f. E, Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 264; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 32, Philip. Journ. Sci. 1 (1906) Suppl. 81; Fl. Manila (1912) 296, Sp. Blancoanae (1918) 228; Elm. Leaf. Philip. Bot. 3 (1910) 922; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>1</sup> (1917) 114, fig. 27, A-D. *Lumanaja fluviatilis* Blanco Fl. Filip. (1837) 821, ed. 2 (1845) 568, ed. 3, 3 (1879) 236, t. 338.

Luzon (Cagayan to Sorsogon), Mindoro, Palawan, Sibuyan, Negros, Mindanao. A very characteristic species, abundant along small swift streams at low and medium altitudes, on the banks and in the stream beds. India to Formosa southward through Malaya to Timor and Celebes.

Local names: Agibába (Ibn.); agui (Tag.); agoyói (Tag.); agúkuk (Tag.); aguyói (Tag.); agúkuk (Tag.); alosai (Tag.); amágos (Tagb.); ataŋgatáŋgan (Ibn.); bilibig (Bik.); chomanai (Ig.); dumanai (Ibn., Ilk.); dumaní (Ig.); hañgarai (S. L. Bis.); kagoyoi (Tag.); lomonai (Tag.); lumanái (Tag.); mayóyos (P. Bis.); mayágos (Bis.); malabúgos (P. Bis.); manágos (Tag.); mangápos (Tag.); miagúi (P. Bis.); miagóuk (P. Bis.).

### 39. ALEURITES Forster

**ALEURITES MOLUCCANA** (Linn.) Willd. Sp. Pl. 4 (1805) 590; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 723; F.-Vill. Novis. App. (1880) 191; Vidal Sinopsis Atlas (1883) 38, t. 83, f. A, Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 241; Langeron Gen. Aleurites (1902) 28; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 32, Govt. Lab. Publ. (Philip.) 27 (1906) 76, Fl. Manila (1912) 290, Sp. Blancoanae (1918) 228; Pax in Engl. Pflanzenreich 42 (1910) 129.

*Jatropha moluccana* Linn. Sp. Pl. (1753) 1006.

*Croton moluccanus* Linn. op. cit. 1005, quoad syn. Burm.

*Croton moluccanus* Lam. Encycl. 2 (1786) 207.

*Aleurites triloba* Forst. Char. Gen. (1776) 112; Blanco Fl. Filip. ed. 2 (1845) 520, ed. 3, 3 (1879) 157, t. 220.

*Juglans camirium* Lour. Fl. Cochinch. (1790) 573.

*Aleurites lobata* Blanco Fl. Filip. (1837) 756.

*Aleurites lanceolata* Blanco Fl. Filip. (1837) 757, ed. 2 (1845) 521, ed. 3, 3 (1879) 157.

Throughout the Philippines at low and medium altitudes, in second-growth forests, thickets, etc. Tropical Asia to Polynesia, now planted in most tropical countries. Candlenut.

Local names: Biau (C. Bis., Bag.); kalúmban (Tag.); kapili (Tag.); kami (Sul.); lúmbang (Tag.); lúmbang-bató (Tag.); rúmbang (Bis.).

**ALEURITES TRISPERMA** Blanco Fl. Filip. (1837) 755; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 724; F.-Vill. Novis. App. (1880) 191; Ceron Cat. Pl. Herb. Manila (1892) 151; Langeron Gen. Aleurites (1902) 40; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 76, Fl. Manila (1912) 290, Sp. Blancoanae (1918) 228; Pax in Engl. Pflanzenreich 42 (1910) 131.



*Aleurites saponaria* Blanco Fl. Filip. ed. 2 (1845) 519, ed. 3, 3 (1879) 156, t. 296.

Luzon (Union, Laguna, Cavite, Batangas, Tayabas, Rizal, Camarines), Negros, Mindanao (Davao). In forests at low and medium altitudes, widely scattered, sometimes planted. Endemic.

Local names: Bagilúmbang (Tag.); balukanág (Ilk., Bis., Tag.); banukalád (Tag.); banunkalág (Tag.); balokanád (Tag.); lúmbang (Bik.); lúmbang-banukalád (Tag.); kalúmban (Tag.); lumbáng-gúbat (Tag.).

#### 40. TRITAXIS Baillon

**TRITAXIS CUMINGII** (Muell.-Arg.) Benth. in Journ. Linn. Soc. Bot. 17 (1878) 221; F.-Vill. Novis. App. (1880) 191; Vidal Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 241; Pax in Engl. Pflanzenreich 42 (1910) 114.

*Trigonostemon cumingii* Muell.-Arg. in Linnaea 34 (1865) 213, DC. Prodr. 15<sup>2</sup> (1866) 1107.

Samar, Mindanao (Zamboanga), *Cuming 1693, F. B. 9214 Whitford & Hutchinson*. In primary forests at low altitudes; very rare or local. Endemic.

#### 41. JATROPHA Linnaeus

**JATROPHA CURCAS** Linn. Sp. Pl. (1753) 1006; Blanco Fl. Filip. (1837) 759, ed. 2 (1845) 522, ed. 3, 3 (1879) 160, t. 384; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 392; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1080; Vidal Sinopsis Atlas (1883) 38, t. 83, f. B, Phan. Cuming. Philip. (1885) 143, Rev. Pl. Vasc. Filip. (1886) 241; F.-Vill. Novis. App. (1880) 191; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 27, 27 (1905) 76, Fl. Manila (1912) 289, Sp. Blancoanae (1918) 229; Pax in Engl. Pflanzenreich 42 (1910) 77.

In hedges throughout the Philippines, usually very common in and about towns. Introduced at an early date in colonial history from Mexico, now pantropic. Physic nut.

Local names: Galúmbang (Pamp.); kásla (Bis.); kirisól (Tag.); tabatabá (Tag.); tagumbáú (Ilk.); tagumbau-na-puráú (Ilk.); takumbau (Sbl.); tañgan-tañgan-túba (Tag.); taua-tauá (Ilk., Ig.); tauuá (Ilk.); túba (Ig., Bik., Tag.); túbang-bakód (Tag.).

**JATROPHA GOSSYPIFOLIA** Linn. Sp. Pl. (1753) 1006; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1086; Usteri Beitr. Ken. Philip. Veg. (1905) 126; Pax in Engl. Pflanzenreich 42 (1910) 26; Merr. Fl. Manila (1912) 290.

Luzon (Amburayan, Ilocos Sur, Union, Pangasinan, Rizal), Biliran, Leyte, Negros, Cebu, Mindanao (Agusan). In waste places at low altitudes, locally abundant. A native of tropical America, now pantropic.

Local names: Balautandoiong (Ilk.); tagumbau-a-nalabága (Ilk.); taua-tauá (Ilk.); túba-sa-buáia (Bik.); tuba-túba (P. Bis., C. Bis.); lansilansináan (Tag.).

**JATROPHA MULTIFIDA** Linn. Sp. Pl. (1753) 1006; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 392; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1089; F.-Vill. Novis. App. (1880) 191; Ceron Cat. Pl. Herb. Manila (1892) 151; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 27, 27 (1905) 76, Fl. Manila (1912) 289, Sp. Blancoanae (1918) 229; Pax in Engl. Pflanzenreich 42 (1910) 40.

*Jatropha janipha* Blanco Fl. Filip. (1837) 758, ed. 2 (1845) 521, ed. 3, 3 (1879) 159, t. 342, non Linn.

Luzon (Bataan, Rizal, Laguna, Tayabas, Camarines), Mindanao (Zamboanga). Planted for ornamental purposes, occasional also in hedges. Introduced from tropical America.

Local names: Maná (Sp.); tubang-amerikáno (Bik.).

*Jatropha podagrica* Hook. is rare in cultivation in Manila and presents no evidence that it will persist; see Merrill Fl. Manila (1912) 289.

#### 42. HEVEA Aublet

**HEVEA BRASILIENSIS** (HBK.) Muell.-Arg. in *Linnaea* 34 (1865) 204, DC. Prodr. 15<sup>2</sup> (1866) 718; Merr. Fl. Manila (1912) 293.

*Siphonia brasiliensis* HBK. Nov. Gen. Sp. Pl. 7 (1818) 141.

Cultivated in Mindanao, Basilan, etc., occasionally planted in other islands. Para rubber; introduced early in the present century, a native of Brazil.

#### 43. MANIHOT Tournefort

**MANIHOT GLAZIOVII** Muell.-Arg. in *Mart. Fl. Bras.* 11<sup>2</sup> (1874) 446; Merr. Fl. Manila (1912) 297; Pax in *Engl. Pflanzenreich* 44 (1910) 89, f. 31.

Introduced in the early part of the present century, occasional in cultivation; a native of tropical South America, now pantropic in cultivation. Ceara rubber.

**MANIHOT UTILISSIMA** Pohl Pl. Bras. Ic. Descr. 1 (1827) 32, t. 24; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1064; F.-Vill. Novis. App. (1880) 193; Vidal Sinopsis Atlas (1883) 33, t. 33, f. C, Rev. Pl. Vasc. Filip. (1886) 243; Merr. in *Philip. Journ. Sci.* 1 (1906) Suppl. 81, Fl. Manila (1912) 297, Sp. Blancoanae (1918) 229; Pax in *Engl. Pflanzenreich* 44 (1910) 67 f. 24.

*Jatropha manihot* Linn. Sp. Pl. (1753) 1007; Blanco Fl. Filip. (1837) 760, ed. 2 (1845) 522, ed. 3, 3 (1879) 160.

Throughout the Philippines in the settled areas, planted and semicultivated. Introduced from Mexico in the early colonial period, now pantropic. Cassava, or tapioca.

Local names: Balañgai (S. L. Bis.); kamóte ti moro (Ilk., Ibn.); kamóte-káhoi (Sul.); kamoting-káhoi (Sbl., Bik., Bis., Tag.); malambónga (Tagb.); padpádi (Bon.); panggi-kahui (Sul.).

#### 44. GALEARIA Moritzi

**GALEARIA PHILIPPINENSIS** Merr. in *Philip. Journ. Sci.* 9 (1914) Bot. 482; Pax & Hoffm. in *Engl. Pflanzenreich* 68<sup>4</sup> (1917) 43.

*Galearia filiformis* Merr. in *Philip. Journ. Sci.* 4 (1909) Bot. 280, non Boerl.

Mindanao (Lanao, Zamboanga), Basilan, *B. S.* 16319 Reillo, 36750, 37103 Ramos & Edaño, *F. B.* 9116 Whitford & Hutchinson, Clemens. In primary forests at low altitudes. Endemic.

## 45. MICRODESMIS Hooker f.

**MICRODESMIS CASEARIFOLIA** Planch. in Hook. Ic. 8 (1848) t. 758; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1041; Hook. f. Fl. Brit. Ind. 5 (1887) 380; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 283; Pax in Engl. Pflanzenreich 47 (1911) 106, 52 (1912) 286, 63 (1914) 408.

*Tetragyne acuminata* Miq. Fl. Ind. Bat. Suppl. (1860-61) 463; Muell.-Agr. in DC. Prodr. 15<sup>2</sup> (1866) 1254; Hallier f. in Meded. Rijks Herb. 1 (1910) 11.

*Microdesmis philippinensis* Elm. Leaflet. Philip. Bot. 4 (1911) 1300.

Palawan, Bancalan, Balabac. Common in thickets, second-growth forests, etc., at low and medium altitudes. Burma to southern China, Hainan, Malay Peninsula, Borneo.

Local name: Balanatu (Tagb.).

## 46. TRIGONOSTEMON Blume

**TRIGONOSTEMON ACUMINATUS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 190; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 41.

Samar, *B. S.* 24189, 24528 *Ramos*, 24890 *Edaña*. In primary forests at low altitudes. Endemic.

**TRIGONOSTEMON ANGUSTIFOLIUS** Merr. in Philip. Journ. Sci. 20 (1922) 396.

Mindanao (Zamboanga), *B. S.* 36764, 36560 *Ramos & Edaña*. On forested slopes at low altitudes. Endemic.

Local name: Pulúli (Sub.).

**TRIGONOSTEMON ANOMALUS** Merr. in Philip. Journ. Sci. 16 (1920) 569.

Mindanao (Zamboanga), *F. B.* 22018 *Villamil*, *B. S.* 36612, 37297, 37326, 37437 *Ramos & Edaña*. In forests at low altitudes. Endemic.

**TRIGONOSTEMON EVERETTII** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 408.

Negros, *F. B.* 7257, 5581 *Everett*. In primary forests at low altitudes. Endemic.

Pax & Hoffmann, in Engl. Pflanzenreich 63 (1914) 408, consider that this species scarcely belongs in *Trigonostemon*, but from the material available I fail to place it elsewhere.

**TRIGONOSTEMON HIRSUTUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 335; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 406.

Mindanao (Zamboanga), *B. S.* 11798 *Robinson*, *F. B.* 9311 *Whitford & Hutchinson*, *B. S.* 36642 *Ramos & Edaña*. In primary forests at low altitudes. Endemic.

Local name: Gulambog (Sub.).

**TRIGONOSTEMON LAXIFLORUS** Merr. in Philip. Journ. Sci. 16 (1920) 567.

Panay, *B. S.* 31097 *Ramos & Edaña*. In primary forests at low altitudes. Endemic.

**TRIGONOSTEMON LONGIPEDUNCULATUS** (Elm.) Elm. Leaf. Philip. Bot. 4 (1911) 1306; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 408.

*Croton longipedunculatus* Elm. Leaf. Philip. Bot. 1 (1908) 311.

Luzon (Tayabas, Nueva Ecija, Camarines), Alabat, Leyte, Mindanao (Surigao), *Elmer 7264, B. S. 28494, 26416, 33837 Ramos & Edaño, Merrill 10485, Wenzel 1513, 1716*. In primary forests at low altitudes. Endemic.

**TRIGONOSTEMON LONGIPES** (Merr.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 191; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 41.

*Dimorphocalyx longipes* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 82; Pax & Hoffm. in Engl. Pflanzenreich 47 (1911) 33.

Luzon (Bataan, Bulacan, Rizal, Laguna, Tayabas), Mindoro, *Whitford 1066, Merrill 2699, Elmer 17583, B. S. 26911 Edaño, 13428, 39575 Ramos, 34041 Ramos & Edaño, F. B. 1801 Borden, 17330 Curran*. In primary forest at low and medium altitudes. Endemic.

**TRIGONOSTEMON LUZONIENSIS** Merr. in Philip. Journ. Sci. 16 (1920) 568.

Luzon (Camarines), *B. S. 33539 Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

**TRIGONOSTEMON MACGREGORII** Merr. in Philip. Journ. Sci. 16 (1920) 566.

Luzon (Laguna), Panay, *B. S. 22848, 26228, 32424 McGregor*. In primary forests up to 300 m altitude. Endemic.

**TRIGONOSTEMON MERRILLII** Elm. Leaf. Philip. Bot. 4 (1911) 1304; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 407.

Palawan, *Elmer 12819, Merrill 739, F. B. 4153 Curran*. In forests up to 225 m altitude. Endemic.

**TRIGONOSTEMON OBLANCEOLATUS** C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 337; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 407.

Mindanao (Zamboanga), Basilan, *Williams 2185, Merrill 8198, B. S. 15442, 15458 Reillo*. In primary forests, ascending to 850 m altitude. Endemic.

**TRIGONOSTEMON OBLONGIFOLIUS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 409; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 407.

Luzon (Cagayan, Ilocos Norte), *B. S. 7745, 13965, 33109 Ramos, F. B. 19604 Curran*. In forests at low or medium altitudes. Endemic.

**TRIGONOSTEMON PHILIPPINENSIS** Stapf in Leaf. Philip. Bot. 1 (1907) 206; Pax in Engl. Pflanzenreich 47 (1911) 91.

Luzon (Apayao, Laguna, Camarines), Leyte, Panay. In primary forests at low and medium altitudes; locally abundant. Endemic.

**TRIGONOSTEMON POLYANTHUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 492.

Samar, *Merrill Phil. Pl. 1645*. In primary forests at low altitudes. Endemic.

**TRIGONOSTEMON WENZELII** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 380; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 41.

Leyte, *Wenzel 186*. In forests at low altitudes. Endemic.

47. **TRIGONOPLEURA** Hooker f.

**TRIGONOPLEURA DUBIA** (Elm.) Merr. in Philip. Journ. Sci. 11 (1916) Bot. 77; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 42.

*Alsodeia dubia* Elm. Leaf. Philip. Bot. 8 (March, 1915) 2875.

*Trigonopleura philippinensis* Merr. in Philip. Journ. Sci. 10 (August, 1915) Bot. 275.

Samar, Leyte, Mindanao (Agusan, Surigao), *Elmer 13956, Wenzel 854, 935, 709, B. S. 17475 Ramos, F. B. 23900 Ponce*. In primary forests at low altitudes, ascending to 1,000 m. Endemic.

Local names: Badabogon (Mbo.); magotalísai (C. Bis.).

48. **CODIAEUM** (Rumph.) Jussieu

**CODIAEUM CILIATUM** Merr. in Philip. Journ. Sci. 16 (1920) 571.

Panay, *B. S. 31233, 30895, 31230, 31231 Ramos & Edaña, 35360 Martelino & Edaña*. In primary forests along small streams at low altitudes. Endemic.

Local names: Kalangkáng (P. Bis.); panagáng (P. Bis.).

**CODIAEUM HIRSUTUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 476; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 37.

Biliran, *B. S. 18539 McGregor*. In forests at low altitudes. Endemic.

**CODIAEUM LUZONICUM** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 81; Pax & Hoffm. in Engl. Pflanzenreich 47 (1911) 28, 63 (1914) 404.

*Codiaeum cuneifolium* Pax & Hoffm. in Engl. Pflanzenreich 47 (1911) 28, fig. 7.

Luzon (Isabela, Bulacan, Bataan, Rizal, Laguna, Sorsogon, incl. *Elmer 16786* as *C. irosinense* Elm.), Leyte, Siargao. Locally common, in primary forests at low altitudes. *Codiaeum cuneifolium* Pax & Hoffm. is identical with *C. luzonicum* Merr.; the figure of the ♀ flower is erroneous, the slender style arms being broken off. Endemic.

Local names: Butong (Tag.); pugarang-pipít (Tag.); putak (S. L. Bis.).

**CODIAEUM MACGREGORII** Merr. in Philip. Journ. Sci. 16 (1920) 573.

Panay, *B. S. 32419 McGregor*. In primary forests, altitude 900 m. Endemic.

**CODIAEUM MEGALANTHUM** Merr. in Philip. Journ. Sci. 16 (1920) 570.

Luzon (Cagayan, Ilocos Norte), *B. S. 27353, 33014 Ramos, F. B. 19640 Curran*. On forested slopes at low altitudes. Endemic.

**CODIAEUM PALAWANENSE** Elm. Leaf. Philip. Bot. 4 (1911) 1283; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 404.

Luzon (Tayabas), Alabat, Catanduanes, Mindoro, Palawan, Balabac, Mindanao (Davao); *Elmer 13196, B. S. 492 Mangubat, 599 Foxworthy, 13377, 19466, 30532, 30412, 40877 Ramos, F. B. 28133 Aguilar, Merrill*

10512, *Phil. Pl.* 1266. In primary forests at low altitudes, ascending to 700 m. Endemic.

Local name: Lubalubí (Tagb.).

**CODIAEUM TRICHOCALYX** Merr. in *Philip. Journ. Sci.* 16 (1920) 570.

Luzon (Zambales), *B. S.* 26797 *Edaño*. In forests at low altitudes. Endemic.

**CODIAEUM VARIEGATUM** (Linn.) Blume *Bijdr.* (1825) 606; Muell.-Arg. in *DC. Prodr.* 15<sup>2</sup> (1866) 119; Hook. f. *Fl. Brit. Ind.* 5 (1887) 399; F.-Vill. *Novis. App.* (1880) 192; Merr. in *Philip. Bureau Forestry Bull.* 1 (1903) 32, *Fl. Manila* (1912) 291, *Interpret. Herb. Amb.* (1917) 325, *Sp. Blancoanae* (1918) 299; Pax & Hoffm. in *Engl. Pflanzenreich* 47 (1911) 23, f. 6.

*Croton variegatus* Linn. *Sp. Pl.* (1753) 1199; Blanco *Fl. Filip.* (1837) 751, ed. 2 (1845) 517, ed. 3, 3 (1879) 152, t. 390.

*Codiaeum chrysosticton* Spreng. *Syst.* 3 (1826) 866; Llanos ex F.-Vill. & Naves in Blanco *Fl. Filip.* ed. 3, 4<sup>1</sup> (1880) 105.

*Phyllaurea codiaeum* Lour. *Fl. Cochinch.* (1790) 575.

*Phyllaurea variegata* W. F. Wight in *Contr. U. S. Nat. Herb.* 9 (1905) 352.

Cultivated throughout the Philippines; very common and exceedingly variable. No form is indigenous, and none is even naturalized. The form commonly cultivated previous to about 1880 is that represented by *Merrill Sp. Blancoanae 1062*; most or all other cultural forms have been introduced since that date.

Local names: Buena vista (Sp.); ciprés (Bik.); kalipayang (Bis.); kilala-putí (Sul.); San Francisco (Sp.); sagilála (Tag.).

#### 49. OSTODES Blume

**OSTODES ANGUSTIFOLIA** Merr. in *Philip. Journ. Sci.* 7 (1912) Bot. 403; Pax & Hoffm. in *Engl. Pflanzenreich* 63 (1914) 414.

Mindanao (Zamboanga), *F. B.* 9343 *Whitford & Hutchinson*. In primary forests at low altitudes. Endemic.

**OSTODES IXOROIDES** C. B. Rob. in *Philip. Journ. Sci.* 6 (1911) Bot. 332; Pax & Hoffm. in *Engl. Pflanzenreich* 63 (1914) 403.

Luzon (Cagayan, Isabela, Ilocos Norte, Bulacan), *F. B.* 13426 *Klemme*, *B. S.* 7421, 7747, 13901, 13853, 33051 *Ramos*, 34109 *Ramos & Edaño*, 21176 *Escritor*, *Merrill Phil. Pl.* 1936. In primary forests at low altitudes. Endemic.

**OSTODES MACROPHYLLUS** (Muell.-Arg.) Benth. & Hook. f. ex Jackson *Index Kewensis* 2 (1895) 382; Pax in *Engl. Pflanzenreich* 47 (1911) 18, 52 (1912) 284; Merr. in *Philip. Journ. Sci.* 7 (1912) Bot. 404.

*Tritaxis macrophylla* Muell.-Agr. in *Flora* 47 (1864) 482.

*Trigonostemon macrophyllus* Muell.-Arg. in *Linnaea* 34 (1865) 213, *DC. Prodr.* 15<sup>2</sup> (1866) 1106.

*Ostodes serrato-crenata* Merr. in *Philip. Journ. Sci.* 4 (1909) Bot. 283; Elm. *Leaf. Philip. Bot.* 3 (1910) 926.

Luzon (Cagayan, Tayabas, Laguna, Camarines), Sibuyan, Panay, *F. B. 7078, 11271 Klenme, 15247 Bernardo, 21797 Barros, 26778 Mabesa, 22305 Mariano, B. S. 13820, 23828, 15004, 10051, 10966 Ramos, 35548, 31176 Ramos & Edaño, Elmer 12480, 12366*. In primary forests at low altitudes. Malay Peninsula, Borneo.

Local names: Agindulong (Neg.); malasabón (Tag.); panantólen (Ilk.); tagalipa (Neg.); tagalipák (Neg.).

#### 50. DIMORPHOCALYX Thwaites

**DIMORPHOCALYX DENTICULATUS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 278; Pax in Engl. Pflanzenreich 52 (1912) 285.

Mindanao (Zamboanga), *F. B. 9033 Whitford & Hutchinson, B. S. 36920, 36927, 36946 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

**DIMORPHOCALYX LUZONIENSIS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 192; Pax in Engl. Pflanzenreich 52 (1912) 284.

Luzon (Laguna, Tayabas, Batangas, Camarines), Samar, Leyte, *B. S. 20799 Escritor, 24463 Ramos, Merrill Phil. Pl. 1260, Loher 5625, F. B. 24867, 24868 Mabesa, 11996 Tamesis, 21219 Alvarez*. In primary forests at low and medium altitudes. Endemic.

**DIMORPHOCALYX MURINUS** Elm. Leaf. Philip. Bot. 4 (1911) 1285; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 404.

Palawan, *Elmer 12844, 13156, 12773, F. B. 21579 Danao, 21476 Fernandez*. In primary forests at low and medium altitudes. Endemic.

#### 51. STROPHIOBLACHIA Boerlage

**STROPHIOBLACHIA FIMBRICALYX** Boerl. Handl. Fl. Nederl. Ind. 3<sup>1</sup> (1900) 236, 284; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 284; Pax in Engl. Pflanzenreich 47 (1911) 36, 52 (1912) 285.

*Strophioblachia glandulosa* Pax in Engl. Pflanzenreich 47 (1911) 36, f. 10.

Luzon (Union), Palawan, Panay, Mindanao (Zamboanga), Bongao, *Lete 239, Mearns 114, B. S. 32273 McGregor, 36307 Yates, 241 Bermejos, F. B. 4504 Curran*. In thickets near the seashore; very local. Cochinchina, Celebes; a monotypic genus.

Local names: Salsalígau (Ilk.); sallapígo (Ilk.).

#### 52. BLACHIA Baillon

**BLACHIA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 277; Pax in Engl. Pflanzenreich 52 (1912) 285.

Luzon (Ilocos Norte, Union, Pangasinan), Palawan, *F. B. 4128 Curran, 13829 Merritt & Darling, 8369 Curran & Merritt, Lete 310, 339, Merrill Phil. Pl. 1374*. In thickets and forests at low altitudes. Endemic.

Local name: Pañgapién (Ilk.).

#### 53. GELONIUM Roxburgh

**GELONIUM GLOMERULATUM** (Blume) Hassk. Cat. Hort. Bogor. (1844) 237; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 390; Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1128; Hook. f. Fl. Brit. Ind. 5 (1887) 460; F.-Vill. Novis. App. (1880) 196; Vidal Phan. Cuming. Philip. (1885)

144, Rev. Pl. Vasc. Filip. (1886) 247; Pax in Engl. Pflanzenreich 52<sup>1</sup> (1912) 18, 63 (1914) 414.

*Erythrocarpus glomeratus* Blume Bijdr. (1825) 605.

*Suregada glomerata* Baill. Étud. Gén. Euphorb. (1858) 396.

*Salacia macrophylla* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 286, non Blume.

*Gelonium subglomeratum* Elm. Leaf. Philip. Bot. 4 (1911) 1292.

*Gelonium pulgarens* Elm. op. cit. 1293.

*Gelonium meliocarpum* Elm. op. cit. 3 (1910) 919.

Northern Luzon to Palawan and Mindanao. In forests at low and medium altitudes, ascending to 1,250 m. Common. Malay Peninsula, Sumatra, Java, Borneo, Celebes, Timor.

Local names: Kuañgiyan (Sul.); malau (P. Bis.); maraasi (Neg.); panglangkaen (Ilk., Ting.) sukalpi (Bik.).

**GELONIUM PHILIPPINENSE** Pax & Hoffm. in Engl. Pflanzenreich 52 (1912) 22.

*Gelonium mindanaense* Elm. Leaf. Philip. Bot. 7 (1915) 2640; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1917) 52.

Northern Luzon to Mindanao. In forests at low and medium altitudes; scarcely distinguishable from *Gelonium glomeratum* Hassk. and endemic unless referable to Hasskarl's species.

Local names: Bagna (Sul.); bodung (Mbo.); magaloput (Mbo.); malapud (Pamp.); malatuba (Buk.).

**GELONIUM RACEMULOSUM** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 281; Pax & Hoffm. in Engl. Pflanzenreich 52<sup>1</sup> (1912) 286.

Mindanao (Zamboanga), *F. B. 9260, 9349 Whitford & Hutchinson, B. S. 36762, 36793, 37329 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

#### 54. NEOSCORTECHINIA Pax

**NEOSCORTECHINIA ARBOREA** (Elm.) Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 52.

*Alchornea arborea* Elm. Leaf. Philip. Bot. 4 (1911) 1274.

*Alcinaeanthus philippinensis* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 380.

*Alcinaeanthus arboreus* Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 415.

*Scortechinia arborea* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 75.

Mindoro, Leyte, Mindanao (Davao, Cotabato), *F. B. 6851 Merritt, 12759 Rosenbluth, 11767, 11815 Whitford, Merrill Phil. Pl. 1627, Wenzel 643, 649, 944, Williams 2884*. In forests at low altitudes. Endemic.

Local name: Magong (S. L. Bis.).

**NEOSCORTECHINIA PARVIFOLIA** (Merr.) comb. nov.

*Alcinaeanthus parvifolius* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 461.

*Scortechinia parvifolia* Merr. op. cit. 11 (1916) Bot. 76.

*Neoscortechinia arborea* Pax & Hoffm. var. *parvifolia* Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 52.

Luzon (Laguna), *B. S. 20586 Ramos*. In damp forests at low or medium altitudes. Endemic.



## 55. CHEILOSA Blume

**CHEILOSA HOMALIIFOLIA** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 379; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 50.

Leyte, Samar, Dinagat, *Wenzel* 147, 161, 647, 926, 1072, *B. S.* 24373 *Ramos*, 35170 *Ramos & Pascasio*, *Merrill Phil. Pl.* 1664. In primary forests at low altitudes. Endemic.

Local name: Magong (S. L. Bis.).

Var. **GRANDIFOLIA** var. nov.

A typo differt foliis majoribus, 25 ad 30 cm longis, usque ad 16 cm latis, inflorescentiis pilosis.

Mindanao (Zamboanga), *B. S.* 37282 *Ramos & Edaña*. In forests along streams at low altitudes. Endemic.

Local name: Lalatan (Sub.).

## 56. ENDOSPERMUM Benthams

**ENDOSPERMUM OVATUM** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 481; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1917) 53.

Mindanao (Butuan), *B. S.* 15921 *Fénix*. In forests at low altitudes. Endemic.

Pax and Hoffmann, without having seen botanical specimens, state: "Certissime non ad *Endospermum* pertinens." It is an *Endospermum* without the slightest doubt!

**ENDOSPERMUM PELTATUM** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 35, Philip. Journ. Sci. 1 (1906) Suppl. 82; Pax in Engl. Pflanzenreich 52<sup>1</sup> (1912) 37.

Luzon (Cagayan, Benguet, Bataan, Rizal, Laguna, Tayabas, Camarines, Albay, Sorsogon), Mindoro, Mindanao (Agusan, Butuan, Cotabato, incl. *Elmer* 16188 as *E. philippinense* Elm.). In primary forests at low altitudes. Endemic.

Local names: Baubáu (Ibn.); bayang (Mbo., Mand.); bilúang (Bik.); binóang (Tag.); binúang (Tag.); ginábang (Ig.); índang (Tag.); kabal (Tag.); kalúkoí (Tag.); magabong (Mag.); malasabón (Tag.); malibubuk (Mbo.).

## 57. OMPHALEA Linnaeus

**OMPHALEA BRACTEATA** (Blanco) Merr. Sp. Blancoanae (1918) 230.

*Tragia bracteata* Blanco Fl. Filip. ed. 2 (1845) 480, ed. 3, 3 (1879) 94.

*Pimeleodendron amboinicum* F.-Vill. Novis. App. (1880) 196, non Hassk.

*Omphalea philippinensis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 236; Pax in Engl. Pflanzenreich 52 (1912) 17.

Luzon (Rizal, Tayabas, Laguna, Camarines), *Cuming* 1468, *Vidal* 1712, 2880, 3875, *Loher* 5213, *Merrill* 1716, *Sp. Blancoanae* 1061, *Whitford* 821, *F. B.* 21475 *Alvarez*, 26027 *Catalan*. In forests along streams. Borneo, Celebes.

Local names: Kamakamátisan (Tag.); kanáuai (Tag.); tablón (Tag.).

**OMPHALEA GRANDIFOLIA** Merr. in Philip. Journ. Sci. 16 (1920) 574.

Panay, *B. S.* 30813, 30825 *Ramos & Edaña*. In damp forests along streams. Endemic.

OMPHALEA MALAYANA Merr. in Philip. Journ. Sci. 11 (1916) Bot. 71.  
Luzon (Isabela, Camarines), *F. B. 21116 Valderrama, 23739 Alvarez, B. S. 21130 Eseritor*. In primary forests at low altitudes. Borneo.  
Local name: Tigitig (Bik.).

OMPHALEA SARGENTII Merr. in Philip. Journ. Sci. 16 (1920) 574.  
Bancalan, *Weber*. In forests at low altitudes. Borneo.

#### 58. EXCOECARIA Linnaeus

EXCOECARIA AGALLOCHA Linn. Syst. ed. 10 (1759) 1288, *Amoen. Acad.* 4 (1859) 122, *Sp. Pl. ed. 2* (1763) 1451; *Blanco Fl. Filip.* (1837) 786, ed. 2 (1845) 541, ed. 3, 3 (1879) 193; *Miq. Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 415; *Muell.-Arg. in DC. Prodr.* 15<sup>2</sup> (1866) 1220; *F.-Vill. Novis. App.* (1880) 179; *Vidal Sinopsis Atlas* (1883) 39, *t. 84, f. G*, *Phan. Cuming. Philip.* (1885) 144, *Rev. Pl. Vasc. Filip.* (1886) 247; *Merr. in Philip. Journ. Sci.* 1 (1906) Suppl. 82, *Fl. Manila* (1912) 298, *Sp. Blancoanae* (1918) 230; *Pax in Engl. Pflanzenreich* 52 (1912) 166.

Throughout the Philippines along the seashore or within the influence of salt or brackish water. India to Polynesia.

Local names: Alipáta (P. Bis.); batáno (Ilk., Pang.); bota-bóta (Tag., Bis.); búta (Tag.); butabúta (Tag., Pamp., Sul.); dipodáta (C. Bis.); gumaiñgat (Bag.); himbabau (Pamp., Bis.); iinǵi (Sbl.); lipáta (Bik., Bis., Tag.); lipátang-buhai (Tag., Sul.); siak (Bis.).

EXCOECARIA MACROPHYLLA J. J. Sm. in *Meded. Dept. Landbouw* 12 (1910) 611; *Pax in Engl. Pflanzenreich* 52 (1912) 162; *Merr. in Philip. Journ. Sci.* 16 (1920) 577.

Luzon (Pangasinan, Nueva Ecija), *F. B. 26299 Ablaza, 6029 Zschokke, 28484 Soriano*. In forests at low altitudes. Borneo, Java.

Local name: Sausáu (Ilk., Tag.).

EXCOECARIA MIRANDAE Merr. in Philip. Journ. Sci. 16 (1920) 576.

Basilan, *F. B. 20062 Miranda*. In forests at low altitudes. Endemic.

EXCOECARIA OBTUSA Merr. in Philip. Journ. Sci. 7 (1912) Bot. 389; *Pax & Hoffm. in Engl. Pflanzenreich* 63 (1914) 423.

Luzon (Cagayan, Apayao), *B. S. 13917 Ramos, 28363 Fénix*. In forests at low altitudes. Endemic.

EXCOECARIA PACHYPHYLLA Merr. in Philip. Journ. Sci. 16 (1920) 575.

Luzon (Tayabas, east coast), *B. S. 25404 Yates*. In the mossy forest, Mount Cadig, altitude about 800 m. Endemic.

EXCOECARIA PHILIPPINENSIS Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 82; *Elm. Leaf. Philip. Bot.* 3 (1910) 916, 4 (1911) 1287; *Pax in Engl. Pflanzenreich* 52 (1912) 164.

Luzon (Cagayan to Camarines), Alabat, Sibuyan, Palawan. In primary forests at low altitudes. Endemic.

Local names: Dakau (Ibn.); batáno (Ilk.); lagusus (Tag.); sausau (Tag.).

Var. **EUPHLEBIA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 389; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 423.

Luzon (Cagayan, Benguet, Laguna, Tayabas, Camarines), Samar. Habitat of the species. Endemic.

**EXCOECARIA STENOPHYLLA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 189; Pax & K. Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1917) 59.

Samar, *B. S. 24348 Ramos*. In forests at low altitudes. Endemic.

Local name: Kalipayan (S. L. Bis.).

#### 59. **HOMALANTHUS** Jussieu

**HOMALANTHUS ALPINUS** Elm. Leaf. Philip. Bot. 1 (1908) 307; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 357, 9 (1914) Bot. 486; Pax in Engl. Pflanzenreich 52<sup>2</sup> (1912) 48.

Luzon (Benguet, Bontoc, Lepanto, Ifugao, Nueva Ecija, Nueva Vizcaya, Laguna, Tayabas), Mindoro, Negros. Common in thickets, on ridges, etc., at higher altitudes, ranging from 900 to 2,400 m. Endemic.

Local names: Anablín (Bon.); anitap (Ig.); búta (Ig.); butbúta (Ig.); bubúta (Ig.); saraguan (Neg.).

**HOMALANTHUS BICOLOR** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 282.

Mindanao (Misamis), *F. B. 4722 Mearns & Hutchinson*. In forests, altitude about 350 m; reduced by Pax and Hoffmann to *H. fastuosus* F.-Vill., a disposition of it I am not as yet prepared to accept. Endemic.

Local name: Topi (Sub.).

**HOMALANTHUS CONCOLOR** Merr. in Philip. Journ. Sci. 20 (1922) 398.

Mindanao (Bukidnon), *B. S. 39166 Ramos & Edaña*. Altitude 1,000 m.

Local name: Labagti (Buk.).

**HOMALANTHUS FASTUOSUS** (Linden) F.-Vill. Novis. App. (1880) 196; Vidal Sinopsis Atlas (1883) 39, *t. 84, f. H*, Rev. Pl. Vasc. Filip. (1886) 247; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 417, 5 (1910) Bot. 357; Pax in Engl. Pflanzenreich 52<sup>2</sup> (1912) 45.

*Mappa fastuosa* Linden Cat. (1865) 4, Belg. Hort. 15 (1865) 100.

*Dibrachion fastuosum* Regel in Gartenfl. 15 (1866) 100, *t. 504*.

*Carumbium fastuosum* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1144;

Baill. Adansonia 6 (1866) 349, *t. 8*.

Batan Islands, Luzon (Abra, Bontoc, Lepanto, Benguet, Nueva Vizcaya, Tayabas, Laguna, Rizal, Sorsogon), Mindoro, Catanduanes, Panay, Mindanao (Lanao). Common in thickets, old clearings, etc., mostly above an altitude of 750 m, ascending to 2,000 m. Endemic.

Local names: Balánti (Ilk., Tag., Bis.); bóta (Tag.); bota-bóta (Tag.); botinag (Ig.); bubúta (Ig.); búta (Tag.); buta-búta (Tag., Ig.); putpúta (Ig.); tanugtug (Iv.).

**HOMALANTHUS MACRADENIUS** Pax & Hoffm. in Engl. Pflanzenreich 52 (1912) 51; Merr. in Philip. Journ. Sci. 9 (1914) Bot. 487.

*Homalanthus surigaoense* Elm. Leaf. Philip. Bot. 7 (1915) 2645;

Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1919) 57.

Mindanao (Surigao, Agusan, Lanao, Davao), *Elmer 10653, 14045, 13871, Ahern 385, 513, Williams 2570, Clemens*. In thickets and old clearings, ascending to 1,000 m. Endemic.

Local names: Balánti (Mbo., C. Bis.); bilánti (Mbo., Bag.); balárte (Bag.).

**HOMALANTHUS MEGAPHYLLUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 485; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1917) 57.

Mindanao (Bukidnon, Surigao), *B. S. 15765 Fénix, 34790 Ramos & Pascasio*. In thickets along streams up to 1,000 m altitude. Endemic.

Local names: Labúlti (Buk.); nabúgki (Buk.).

**HOMALANTHUS POPULNEUS** (Geisel.) Pax in Engl. & Prantl. Nat. Pflanzenfam. 3<sup>5</sup> (1890) 96; J. J. Sm. in Koord. & Val. Bijdr. Boom. Java 12 (1910) 621; Pax in Engl. Pflanzenreich 52<sup>2</sup> (1912) 46 (var. *genuinus* Pax).

*Stillignia populnea* Geisel. Croton. Monogr. (1807) 80.

*Carumbium populneum* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1144.

Sulu Archipelago (Jolo, Tawitawi), Mindanao, Palawan, *B. S. 10813 Foxworthy, Merrill Phil. Pl. 1369*. In thickets at low altitudes. Malay Peninsula, Sumatra, Java, Borneo, Celebes, Amboina, New Guinea.

Var. **LEVIS** (Blanco) Merr. Sp. Blancoanae (1918) 230.

*Excoecaria levis* Blanco Fl. Filip. (1837) 788, ed. 2 (1845) 543, ed. 3, 3 (1879) 194.

*Carumbium populneum* Muell.-Arg. var. *minus* Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1145.

*Omalanthus leschenaultianus* Klotz. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 414, vix Juss.

*Homalanthus populifolius* F.-Vill. Novis. App. (1880) 196; Vidal Phan. Cuming. Philip. (1885) 144, Rev. Pl. Vasc. Filip. (1886) 247, non Grah.

*Homalanthus populneus* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 83, 2 (1907) Bot. 278; Elm. Leaf. Philip. Bot. 3 (1910) 921, 4 (1911) 1294, vix Pax.

*Homalanthus populneus* Pax var. *siccus* Pax in Engl. Pflanzenreich 52 (1912) 46, excl. syn. Blanco.

*Homalanthus populneus* Pax var. *minor* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 390; Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 420.

Luzon (Pangasinan, Bulacan, Bataan, Zambales, Rizal, Laguna, Batangas, Tayabas, Sorsogon, Albay), Palawan, Leyte, Panay, Negros, Mindanao, Basilan. Common in thickets, deserted clearings, etc., at low and medium altitudes. Endemic.

Local names: Balánti (Bik., P. Bis.); balántig (P. Bis.); baláti (Bag.); bánti (Sul.); baiánti (Tag.); binunang-susong (Tag.); botabóta (Tag.); huntaloli (Tagb.); bubiting (Sub.); búta (Tag.); malabinúnga (Tag.); maladúron (Tag.).

**HOMALANTHUS ROTUNDIFOLIUS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 486; Pax & Hoffm. in Engl. Pflanzenreich 68<sup>4</sup> (1917) 57.

Samar, Leyte, Siargao, Mindanao (Surigao), *Merrill Phil. Pl. 1663, B. S. 24178 Ramos, 24907 Edaño, 34410, 34837 Ramos & Pascasio*. In thickets and forests at low altitudes. Endemic.

## EXCLUDED SPECIES

*HOMALANTHUS GIGANTEUS* Zoll.; F.-Vill. Novis. App. (1880) 196.

60. *SAPIUM* Jacquin

*SAPIUM LUZONICUM* (Vidal) Merr. in Philip. Journ. Sci. 16 (1920) 577.

*Myrica luzonica* Vidal Sinopsis Atlas (1883) 40, t. 90, f. B; Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 316.

*Sapium merrillianum* Pax & Hoffm. in Engl. Pflanzenreich 52 (1912) 213.

*Sapium lateriflorum* Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 83; Elm. Leaflet. Philip. Bot. 4 (1911) 1303, non Hemsl. (1901).

*Urandra elliptica* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 195.

Luzon (Ilocos Sur, Bulacan, Rizal, Bataan, Laguna), Mindoro, Palawan, Ticao, Bucas Grande, Mindanao (Davao). In primary forests at low altitudes. Endemic.

Local names: Balakat-gúbat (Tag.); balakbak-gúbat (Tag.); lamóg (Tag.); lamúg (Tag.); loi (Tag.); magalmod (Tagb.); maraotóng (Ilk.); tagumtum (P. Bis.); tua-tua (Mand.); tueg (Ig.).

*SAPIUM SANCHEZII* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 402;

Pax & Hoffm. in Engl. Pflanzenreich 63 (1914) 423.

Mindanao (Surigao, Lanao, Cotabato), *Bolster 373, Sanchez, F. B. 20628, 18289 Miranda, 23036 Ferraris*. In thickets or forests along or near the seashore. Endemic.

Local name: Bantiano (C. Bis.).

## EXCLUDED SPECIES

*SAPIUM SEBIFERUM* Roxb.; Usteri Beitr. Ken. Philip. Veg. (1905) 126.

Roxburgh's species does not occur in the Philippines; Usteri's specimen is in all probability *Homalanthus populneus* Pax.

61. *EUPHORBIA* Linnaeus

*EUPHORBIA ATOTO* Forst. f. Prodr. (1786) 207; Boiss. in DC. Prodr.

15<sup>2</sup> (1862) 12; F.-Vill. Novis. App. (1880) 185; Merr. in Philip.

Bureau Forestry Bull. 1 (1903) 32, Govt. Lab. Publ. (Philip.) 27

(1905) 75, Philip. Journ. Sci. 3 (1908) Bot. 417, Sp. Blancoanae

(1918) 230.

*Euphorbia dulcis* Blanco Fl. Filip. (1837) 412, ed. 2 (1845) 287, ed. 3, 2 (1878) 167, non Linn.

Along sandy seashores throughout the Philippines. India to southern China and Formosa through Malaya to Australia and Polynesia, a characteristic strand plant.

Local names: Tairas (Iv.); lamiñgo (Bag.).

*EUPHORBIA CAPILLARIS* Gagnep. in Bull. Soc. Bot. France 68 (1921)

298.

*Euphorbia hypericifolia* Merr. Fl. Manila (1912) 283, non Linn.

Luzon (Manila and vicinity), *Merrill 3673, Marave 45, 49, B. S. 9509 Robinson*. In waste places, open grasslands, etc., locally abundant, but certainly introduced. Siam, Indo-China.

**EUPHORBIA HETEROPHYLLA** Linn. Sp. Pl. (1753) 453; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 72; Merr. Fl. Manila (1912) 282.

*Poinsettia heterophylla* Klotz. & Garcke in Monatsber. Akad. Berl. (1859) 253.

Manila and other large towns; in waste places, occasional; originally introduced for ornamental purposes. A native of tropical America.

**EUPHORBIA HIRTA** Linn. Sp. Pl. (1753) 454; Blanco Fl. Filip. ed. 2 (1845) 286, ed. 3, 2 (1878) 166; Merr. Fl. Manila (1912) 283, Interpret. Herb. Amb. (1917) 328, Sp. Blancoanae (1918) 231.

*Euphorbia pilulifera* Linn. Sp. Pl. (1753) 454; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 420; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 21; F.-Vill. Novis. App. (1880) 186; Vidal Phan. Cuming. Philip. (1885) 141, Rev. Pl. Vasc. Filip. (1886) 233; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 83, 3 (1908) Bot. 418.

*Euphorbia capitata* Lam. Encycl. 2 (1785) 422; Blanco Fl. Filip. (1837) 411.

Throughout the Philippines in waste places, open grasslands, etc., usually very abundant. Pantropic.

Local names: Bamanilag (If.); botobotónis (Tag.); bolobotónis (Pamp.); bobi (Bis.); botónis (Ilk.); bugayau (S. L. Bis.); butobutonisan (Tag.); gatas-gátas (Bis., Tag.); magátas (Pamp.); malis-mális (Pamp.); maragátas (Ilk.); pansi-pansi (Bik.); patik-patik (Sul.); piliak (Sub.); saikan (Tag.); sisiohan (Pamp.); soro-soró (Bik.); tababa (Bis.); tairas (Iv.); tauataua (P. Bis.); teta (Bon.).

**EUPHORBIA LUZONIENSIS** Merr. in Philip. Journ. Sci. 16 (1920) 578.

Luzon (Ilocos Norte), *B. S. 27309bis, 27517 Ramos*. In open dry places at low altitudes. Endemic.

**EUPHORBIA MAKINOI** Hayata in Journ. Coll. Sci. Univ. Tokyo 30<sup>1</sup> (1911) 262; Merr. in Philip. Journ. Sci. 16 (1920) 579.

*Euphorbia microphylla* Hayata op. cit. 20<sup>3</sup> (1904) 79, t. 5, f. H, non Heyne.

Luzon (Ilocos Norte), *B. S. 27309, 32746 Ramos*. In open dry places at low altitudes. Formosa; not certainly distinct from *Euphorbia neocaledonica* Boiss.

**EUPHORBIA NERIIFOLIA** Linn. Sp. Pl. (1753) 451; Baill. in DC. Prodr. 15<sup>2</sup> (1862) 79; F.-Vill. Novis. App. (1880) 186; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 418; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 75, Sp. Blancoanae (1918) 231.

*Euphorbia ligularia* Roxb. Hort. Beng. (1914) 36, *nomen nudum*, Fl. Ind. ed. 2, 2 (1832) 465; Usteri Beitr. Ken. Philip. Veg. (1905) 126.

*Euphorbia pentagona* Blanco Fl. Filip. (1837) 413, ed. 2 (1845) 287, ed. 3, 2 (1878) 168, non Haw.

*Euphorbia trigona* Merr. Fl. Manila (1912) 281, non Haw.

Cultivated in gardens, apparently nowhere spontaneous, *Merrill Sp. Blancoanae* 823. India to Malaya, probably introduced in the latter region.

Local names: Bait (Pamp., Tag.); karimbuáya (Ilk.); lengua de perro (Sp.); soro-sóro (Tag.); sorog-sórog (Pamp., Tag.); sudusúdu (P. Bis.).

**EUPHORBIA PLUMERIOIDES** Teysm. ex Hassk. Hort. Bogor. Descript. 1 (1858) 29; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 419; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 110; J. J. Sm. ex Koord. & Val. in Meded. Dept. Landbouw 10 (1910) 24 (Bijdr. Boomsort. Java 12: 24).

Luzon (Batangas), Golo, *F. B. 28270 Sulit, Merrill 11559*. On ridges and slopes in thin soil among boulders, sea level to 500 meters altitude. Java (planted), New Guinea.

Dr. J. J. Smith states, l. c., that the species apparently comes from New Guinea. In Batangas Province and on Golo Island it is strictly native, in the latter place being abundant on serpentine bluffs, dominating the vegetation on these bluffs.

**EUPHORBIA PROSTRATA** Ait. Hort. Kew. 2 (1789) 136; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 47; Boiss. Ic. Euph. (1866) 12, t. 17; Bernard in Ic. Bogor. 4 (1910) 51, t. 316; Merr. Fl. Manila (1912) 283.

Occasional in waste places, along streets, etc., in and about towns, strongly simulating *Euphorbia thymifolia* Linn. Pantropic.

**EUPHORBIA PULCHERRIMA** Willd. ex Klotz. in Otto & Dietr. Allgem. Gartenz. 2 (1834) 27; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 71; F.-Vill. Novis. App. (1880) 186; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 167; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 27, Fl. Manila (1912) 282.

*Poinsettia pulcherrima* Grah. in New Edinb. Philos. Journ. 20 (1836) 412.

Cultivated for ornamental purposes, probably introduced about 1870, as yet nowhere spontaneous. A native of Mexico.

Local names: Pascuas (Sp.); rosas de pascua (Sp.).

**EUPHORBIA SERRULATA** Reinw. ex Blume Bijdr. (1826) 635; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 25; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 421; F.-Vill. Novis. App. (1880) 186; Vidal Rev. Pl. Vasc. Filip. (1886) 233; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 75, Philip. Journ. Sci. 3 (1908) Bot. 418, Fl. Manila (1912) 282; Sp. Blancoanae (1918) 185.

*Euphorbia parannaquensis* Blanco Fl. Filip. ed. 2 (1845) 286, ed. 3, 2 (1878) 165.

Throughout the Philippines in open grasslands at low and medium altitudes. Southern China and Formosa through Malaya to Timor, tropical Australia, and Polynesia.

Local name: Kayutkaran (Bag.).

**EUPHORBIA SPLENDENS** Bojer in Curtis's Bot. Mag. t. 2902; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 79; F.-Vill. Novis. App. (1880) 186; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 167; Merr. Fl. Manila (1912) 281.

Cultivated in Manila and other large towns for ornamental purposes, but nowhere spontaneous. A native of Madagascar.

Local names: Corona de espinas (Sp.); flor fina (Sp.).

**EUPHORBIA THYMIFOLIA** Linn. Sp. Pl. (1753) 454; Burm. f. Fl. Ind. (1768) 112; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 420; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 47; F.-Vill. Novis. App. (1880) 186; Ceron Cat. Pl. Herb. Manila (1892) 147; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 418, Fl. Manila (1912) 383; Bernard in Ic. Bogor. 4 (1910) 49, t. 315.

Throughout the Philippines in waste places, along roads and trails, in fallow rice paddies, etc. Pantropic.

Local name: Makikitot (Ilk.).

**EUPHORBIA TIRUCALLI** Linn. Sp. Pl. (1753) 452; Blanco Fl. Filip. (1837) 412, ed. 2 (1845) 287, ed. 3, 2 (1878) 167, t. 210; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 420; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 96; F.-Vill. Novis. App. (1880) 186; Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 210; Merr. Fl. Manila (1912) 282.

Northern Luzon to Mindanao. Occasionally planted in gardens, hedges, etc., but apparently nowhere spontaneous. An introduced plant in the Philippines. A native of Africa, now planted in most tropical countries.

Local names: Bali-bali (P. Bis.); consuelda (Sp.); katuit (Tag.); konsuérda (Tag.); gaton (Ig.); putputud (Ig.); solda-sólida (C. Bis.); sueldacon-suelda (Bik.); suérda (Tag.).

**EUPHORBIA TRIGONA** Haw. Pl. Succ. (1812) 127; Boiss. in DC. Prodr. 15<sup>2</sup> (1862) 256; Hook. f. Fl. Brit. Ind. 5 (1887) 256.

Luzon (Bataan, Lepanto), Mindoro, Palawan, and doubtless in other islands and provinces, *B. S. 6683 Robinson*, *F. B. 9826 Merritt*, *6379 Curran*, *B. S. 38102 Ramos & Edaña*. In thickets and on limestone cliffs, usually along the seashore, ascending to 300 m. India to Malaya.

Local names: Suda-súda (P. Bis.); túba (Bon.).

#### EXCLUDED SPECIES

**EUPHORBIA GAUDICHAUDII** Boiss.; F.-Vill. Novis, App. (1880) 186.

**EUPHORBIA SPARMANNI** Boiss.; F.-Vill. op. cit. 185.

#### EXCLUDED GENUS

**SEBASTIANA CHAMAELIA** Muell.-Arg. in DC. Prodr. 15<sup>2</sup> (1866) 1175; F.-Vill. Novis. App. (1880) 197.

The Philippine record was based on *Cuming 2324*, which was from Malacca, not from the Philippines.

### BUXACEAE

#### 1. BUXUS Linnaeus

**BUXUS LOHERI** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 311.

Luzon (Rizal), *Loher 6857, 6846*. In forests at medium altitudes. Endemic.

**BUXUS PACHYPHYLLA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 310.

Luzon (Tayabas), *B. S. 20828 Escritor*, *25462, 25512 Yates*. In primary forests at low or medium altitudes. Endemic.



**BUXUS RIVULARIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 309.

Luzon (Tayabas), *B. S.* 13169 Foxworthy & Ramos. On bowlders along streams at low altitudes. Endemic.

**BUXUS ROLFEI** Vidal Rev. Pl. Vasc. Filip. (1886) 233; Ceron Cat. Pl.

Herb. Manila (1892) 147; Merr. in Philip. Journ. Sci. 1 (1906) Bot. 84; Hallier f. in Meded. Rijks Herb. 37 (1918) 16.

Luzon (Bataan, Rizal, Pampanga, Tayabas), Sibuyan, Palawan, Mindanao (Surigao), *Williams* 495, *Loher* 6849, *Elmer* 13239, *F. B.* 27150 *Udasco*, 1254, 3054 *Borden*, 12973 *Alvarez*, 24785 *Sulit*. In primary forests at low and medium altitudes. Endemic.

Local names: Malagaápi (Tag); piukbanau (Tag.); sarapuyau (Neg.); yarang-yarang (Neg.).

## 2. SARCOCOCCA Lindley

**SARCOCOCCA SALIGNA** (D. Don) Muell.-Arg. in DC. Prodr. 16<sup>1</sup> (1869) 12.

*Buxus saligna* D. Don Prodr. Fl. Nepal. (1825) 63.

*Pachysandra coriacea* Hook. Exot. Fl. (1825) t. 148.

*Sarcococca pruniformis* Lindl. in Bot. Reg. (1826) t. 1012; Hook. f. Fl. Brit. Ind. 5 (1887) 266.

Luzon (Lepanto, Mt. Data), *Loher* 4645, *B. S.* 40224 *Ramos* & *Edaño*. In the mossy forest, altitude about 2,000 m. Afghanistan, India, Ceylon, Sumatra, China, Formosa.

## CORIARIACEAE

### 1. CORIARIA Nissole

**CORIARIA INTERMEDIA** Matsum. in Bot. Mag. Tokyo 12 (1898) 62;

Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 205, 5 (1910) Bot. 357.

Luzon (Bontoc, Lepanto, Benguet), *B. S.* 31697 *Santos*, 40205 *Ramos* & *Edaño*, *Williams* 1542, *Merrill* 6526, 4800, *Phil. Pl.* 718, 1752. In ravines, altitude 1,400 to 2,000 m. Formosa.

Local names: Buakat (Ig.); baket (Ig.); bikit (Ig.).

## ANACARDIACEAE

### 1. BUCHANANIA Sprengel

**BUCHANANIA ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 34.

Luzon (Laguna, Tayabas, Camarines), Catanduanes, Bucas Grande, *B. S.* 10932, 15066, 23812, 30501 *Ramos*, 28597, 34341 *Ramos* & *Edaño*, *F. B.* 13097 *Curran*, 25630, 35651 *Cailipan*. In primary forests at low altitudes. Endemic unless referable to the Malayan *B. acuminata* Turcz. = *B. sessilifolia* Blume.

Local names: Balayóhot (Tag.); balihúd (Tag.); baliñgáhud (Tag.); balinghásai (Tag.); maguliók (Tag.).

**BUCHANANIA ARBORESCENS** Blume Mus. Bot. Lugd.-Bat. 1 (1850)

183; F-Vill. Novis. App. (1880) 55; Merr. Fl. Manila (1912) 300, Sp. Blancoanae (1918) 232.

*Goniocheton arborescens* Blume Bijdr. (1826) 1156.

- Buchanania florida* Schauer in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 481; Walp. Repert. 5 (1845) 416; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 366, t. 44; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 638; Engl. in DC. Monog. Phan. 4 (1883) 188; Vidal Sinopsis Atlas (1883) 22, t. 26, f. C, Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 100 (incl. var. *arborescens* Engl., var. *petiolaris* Engl. et ? var. *lucida* Engl.); Perk. Frag. Fl. Philip. (1904) 24; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33, Philip. Journ. Sci. 1 (1906) Bot. 84.
- Prunus ? laurifolia* Decne. in Nuov. Ann. Mus. Paris 3 (1834) 458; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 458.
- Fagara decandra* Blanco Fl. Filip. (1837) 66, ed. 2 (1845) 48, ed. 3, 1 (1877) 89, t. 63.
- Buchanania florida* Schauer var. *arborescens* Engl. in DC. Monog. Phan. 4 (1883) 189.
- Buchanania longifolia* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 472, F.-Vill. Novis. App. (1880) 55, non Spanoghe.

Throughout the Philippines at low and medium altitudes, in second-growth forests, thickets, etc., usually very common. Burma, Formosa, Malay Peninsula, Sumatra, Java, Borneo, Timor, Celebes.

Local names: Anagas (P. Bis.); alitagtag (Bik.); anam (Mang., P. Bis.); anam (Bis.); anugas (C. Bis.); anténg (Ilk.); araká (Ibn.); bagilíbas (Tag.); bahai-uhod (Tag.); baláñga (P. Bis.); baliñgásai (Ilk., Tag., Sbl.); balinghásai (Tag.); baliñgóhot (Bik.); balinhásai (Ibn., Ilk., Tag., Ig.); balinhái (Sbl.); balinsúd (Mang.); baliohod (Bik.); bali-tantáng (Tag.); balithód (Tag.); balunug (Sul.); beobayanó (C. Bis.); boróan (Pang.); bulúan (Pang.); butu-butu (C. Bis.); diláan (Sul.); gañgá (Ibn.); garantang (Tagb.); hiñgas (Tag.); kalampuso (Bik.); kalíppo (Sub.); kamiing (Sbl.); kaming (Pang., Tag.); kanteng (Ting.); kasabang (Neg.); lagindiñgan (Mag.); maguliok (Tag.); malabalúno (Sul.); malaybóhod (Tag.); maománga (Sml.); manbalúno (Sul.); pakaran (Pang.); pasig (Bis.); páuan (Ilk.); rangás (Ilk.); tagangtáng (P. Bis.); tarangnisig (Bag.) upong-upong (Bik.); unkan (P. Bis.); uyok (Ig.).

**BUCHANANIA MICROPHYLLA** Engl. in DC. Monog. Phan. 4 (1883) 185; Vidal Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 100; Perk. Frag. Fl. Philip. (1904) 24.

Luzon (Ilocos Norte, Ilocos Sur, Pangasinan, Zambales, Nueva Ecija, Pampanga), Palawan, Guimaras, *Cuming 1125, Merrill 2954; 1756, F. B. 23858, 26481 Paraiso, 22988 Adduru, 8219, 8297 Curran & Merritt, 24140 Tungol, 17680 Curran, 27851 Eden, B. S. 27358 Ramos*. On dry slopes in thickets and second-growth forests at low altitudes. Endemic.

Local names: Dodokdóken (Ilk.); kalapíni (Tag.); langlañgós (Ilk.); malakok (Pamp.); palilin (Sbl.); palinlín (Tag.); paminlín (Sbl.); panninglón (Sbl.); pau (Pang.); passi (P. Bis.); riñgás (Ilk.).

**BUCHANANIA NITIDA** Engl. in DC. Monog. Phan. 4 (1883) 193; Vidal Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 100; Perk. Frag. Fl. Philip. (1904) 24.

Luzon (Tayabas, Laguna, Rizal, Camarines, Sorsogon), Mindoro, Polillo, Samar, Biliran, Leyte, Masbate, Mindanao (Agusan), *Cuming 1703, Merrill*

2753, *Phil. Pl.* 1617, *Loher* 5860, *Warburg* 13289, *F. B.* 10402 *Curran*, 21434 *Alvarez*, *B. S.* 20982, 23849 *Ramos*, *Elmer* 16715, 18245, 15629, 15309 as *B. conglomerata* Elm. In primary forests at low altitudes. Endemic.

Local names: Anam (Tag.); balitangtang (Tag.); liok (Tag.); lubi-lubí (P. Bis.); managas (Mbo.); talagabanug (Mbo.).

**BUCHANANIA PLATYPHYLLA** Merr. in *Philip. Journ. Sci.* 10 (1915) Bot. 33.

Luzon (Cagayan, Tayabas), Mindanao (Lanao, Davao, Misamis, Zamboanga, Cotabato), *Basilan*, *F. B.* 20274 *Miranda*, 27531 *De Mesa*, 21894 *Villamil*, 22749 *Nave*, 11772 *Whitford*, *B. S.* 16356 *Reillo*, 36818 *Ramos & Edaña*, *Williams* 2879. In forests at low altitudes. Endemic.

Local names: Arangás (Ibn.); gayonatao (Sub.); lingabunú (Sul.); malambalúno (Sul.); manguian (Lan.); muntaga (Tagk.); pálang (Ibn.); papagan (Ibn.); sambrit (Neg.).

**BUCHANANIA PSEUDOFLOIDA** Perk. *Frag. Fl. Philip.* (1904) 24.

*Buchanania florida* Schauer var. *cumingii* Engl. in DC. *Monog. Phan.* 4 (1883) 190; *Vidal Phan. Cuming. Philip.* (1885) 106, *Rev. Pl. Vasc. Filip.* (1886) 100; Merr. in *Govt. Lab. Publ. (Philip.)* 35 (1906) 74.

Luzon (Ilocos Sur, Pangasinan, Zambales, Tayabas), *Cuming* 1115, *Merrill* 2061, 1989, 2055, 2064, 2134, *F. B.* 8301 *Curran & Merritt*, 11048 *Zschokke*. In dry open forests, usually second-growth type at low altitudes. Endemic.

Local names: Balayohod (Tag.); balingahud (Tag.); balinghánai (Sbl.); baliohod (Tag.); hupong-hupong (P. Bis.); tagantag (Tag.).

#### EXCLUDED SPECIES

**BUCHANANIA LATIFOLIA** Roxb.; *F.-Vill. Novis. App.* (1880) 55.

**BUCHANANIA LUCIDA** Blume; *F.-Vill. l. c.*

**BUCHANANIA POLYBOTRYA** Miq.; *F.-Vill. l. c.*

#### 2. MANGIFERA Linnaeus

**MANGIFERA ALTISSIMA** Blanco *Fl. Filip.* (1837) 181, ed. 2 (1845) 129, ed. 3, 1 (1877) 230; *Blume Mus. Bot. Lugd.-Bat.* 1 (1850) 199; *Miq. Fl. Ind. Bat.* 1<sup>2</sup> (1858-59) 632; Engl. in DC. *Monog. Phan.* 4 (1883) 214; Merr. in *Govt. Lab. Publ. (Philip.)* 17 (1904) 27, 27 (1905) 35, *Philip. Journ. Sci.* 1 (1906) *Suppl.* 84; *Sp. Blancoanae* (1918) 232.

*Mangifera longipes* *F.-Vill. Novis. App.* (1880) 54, non Griff.

*Buchanania reticulata* Elm. *Leaf. Philip. Bot.* 4 (1912) 1499.

Luzon (Cagayan, Ilocos Sur, Zambales, Nueva Ecija, Bataan, Rizal, Laguna, Tayabas, Camarines), Mindoro, Sibuyan. Common in primary forests at low altitudes. Endemic.

Local names: Appán (Ibn.); bunutan (Neg.); banítan (Ibn.); malapáho (Tag., P. Bis.); manga-poli (Sub.); pahahútan (Tag.); páho (Tag., Bik., P. Bis.); pahohótan (Tag.); pahótan (Tag.); pahútan (Sbl., Tag.); pahuhútan (Tag., Bik.); pañgahútan (Tag.); pangmanggaén (Ilk.); páo (Sbl.); popouan (Pamp.).

**MANGIFERA CAESIA** Jack in Roxb. Fl. Ind. 2 (1824) 441; Hook. f. Fl. Brit. Ind. 2 (1876) 19; F.-Vill. Novis. App. (1880) 54; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33; Perk. Frag. Fl. Philip. (1904) 25; Engl. in DC. Monog. Phan. 4 (1883) 213.

*Mangifera verticillata* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 337.

Mindanao (Surigao, Agusan, Misamis, Zamboanga), Basilan. Semi-cultivated and in forests at low altitudes, apparently indigenous. Malay Peninsula, Sumatra, Java, Borneo.

Local names: Baúnu (Sul.); baluno (Mbo.); balúnut (Sul.); baúno (C. Bis.); bayóno (C. Bis.); bayúno (C. Bis.); malóno (Mbo.); lóno (Mbo.).

**MANGIFERA INDICA** Linn. Sp. Pl. (1753) 200; Miq. Fl. Ind. Bat 1<sup>a</sup> (1858-59) 628; Blanco Fl. Filip. (1837) 179, ed. 2 (1845) 127, ed. 3, 1 (1877) 229; Engl. in DC. Monog. Phan. 4 (1883) 199; F.-Vill. Novis. App. (1880) 54; Vidal Sinopsis Atlas (1883) 22, t. 36, f. D, Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 99; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 84, 3 (1908) Bot. 80, Fl. Manila (1912) 300, Sp. Blancoanae (1918) 232.

*Mangifera rostrata* Blanco Fl. Filip. ed. 2 (1845) 129, ed. 3, 1 (1877) 231, t. 62.

*Mangifera anisodora* Blanco op. cit. 129, 229.

*Mangifera sylvatica* F.-Vill. Novis. App. (1880) 54, non Roxb.

*Mangifera fragrans* F.-Vill. l. c., non Maingay.

Cultivated, and in deserted cultivation throughout the Philippines, introduced. Indo-Malayan region in general cultivation, now planted in all tropical countries. Mango.

Local names: Mampalam (Sul.); mampalang (Sul.); mánga (Ilk., Tag., Ig., Mag.); manga chupadera (Sp.); mañgang-kalabáu (Tag.); mañgang-piko (Tag.); páo (Bon.); mángka (Ig.); páho (C. Bis.).

**MANGIFERA LONGIPES** Griff. Notul. 4 (1854) 419; Engl. in DC. Monog. Phan. 4 (1883) 201.

Palawan, *F. B. 27904 Cenabre, Baldemor, & Aduviso*. In forests at low altitudes. Malay Peninsula, Sumatra, Java.

Local name: Apali (Tagb.).

**MANGIFERA MONANDRA** Merr. in Govt. Lab. Publ. (Philip.) 17 (1904) 28.

Luzon (Ilocos Norte, Pangasinan, Zambales, Bataan, Rizal, Laguna, Camarines), Ticao, Samar, Leyte. In primary forests at low altitudes. Endemic.

Local names: Kalamansánai (Tag.); kárig (Tag.); kurig (Sbl.); mapápáho (Bik.); paglumbáyan (Ilk.); pagsagon (S. L. Bis.); paglumbóyan (Pang.); páo (Ilk.); pounan (S. L. Bis.).

**MANGIFERA ODORATA** Griff. Notul. 4 (1854) 417; Hook. f. Fl. Brit. Ind. 2 (1876) 17; F.-Vill. Novis. App. (1880) 54; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33.

Balabac, Mindanao (Zamboanga), Basilan, Jolo, cultivated or semi-cultivated, introduced from Malaya.

Local names: Huaní (Bis.); kandopi (Sul.); uani (Sul., C. Bis.).

**MANGIFERA PARVIFOLIA** Merr. in Philip. Journ. Sci. 20 (1922) 401.

Luzon (Zambales), Merrill 2946, *F. B.* 27169 Maneja & Bawan. In forests at low altitudes. Endemic.

DOUBTFUL AND EXCLUDED SPECIES

**MANGIFERA FOETIDA** Lour.; F.-Vill. Novis. App. (1880)<sup>o</sup> 54; Usteri Beitr. Ken. Philip. Veg. (1905) 114.

The specimen cited by Usteri was from Malabon, near Manila, and unquestionably represents *M. indica* Linn., the only species of the genus that occurs in the settled areas of Luzon.

**MANGIFERA LAGENIFERA** Griff.; Perk. Frag. Fl. Philip. (1904) 25.

The specimen so named by Perkins is *Buchanania arborescens* Blume.

**MANGIFERA LAURINA** Blume; F.-Vill. Novis. App. (1880) 54.

**MANGIFERA SIMILIS** Blume; F.-Vill. l. c.

**MANGIFERA SUMATRANA** Miq.; F.-Vill. l. c.

**MANGIFERA PINNATA** Blanco Fl. Filip. (1837) 182, ed. 3, 1 (1877) 231; F.-Vill. Novis. App. (1880) 54; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 36, Sp. Blancoanae (1918) 383, non Linn. f.

The status of the form Blanco described is indeterminable from his imperfect description; he excluded the species in the second edition of his Flora de Filipinas.

3. **ANACARDIUM** Linnaeus

**ANACARDIUM OCCIDENTALE** Linn. Sp. Pl. (1753) 383; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 624; F.-Vill. Novis. App. (1880) 54; Engl. in DC. Monog. Phan. 4 (1883) 219; Vidal Sinopsis Atlas (1883) 22, t. 36, f. B, Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 100; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 84, Fl. Manila (1912) 299, Sp. Blancoanae (1918) 233.

*Cassuvium reniforme* Blanco Fl. Filip. (1837) 322, ed. 2 (1845) 227, ed. 3, 2 (1878) 60, t. 116.

Throughout the Philippines in the settled areas at low and medium altitudes, cultivated and in places naturalized or at least persistent after abandoned cultivation. Introduced from tropical America in the early colonial period, now pantropic. Cashew.

Local names: Balógo (Ilk.); balubad (Tag.); balúbag (Tag.); balúbar (Tag.); balúbat (Tag.); batúbán (Tag.); bolúgo (Ilk.); kachúi (Tag.); kasói (Ibn., Tag.); kasúi (Ilk., Tag.); kasul (Sul.); kológo (Ilk.); kosing (Ig.); sambalduke (Ilk.).

4. **SWINTONIA** Griffith

**SWINTONIA ACUMINATA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 35.

Luzon (Camarines), Panay, *F. B.* 21749 Fischer, 21232 Alvarez, 21729 Peñas, Soriano, & Abellanosa. In forests at low altitudes. Endemic.

**SWINTONIA FOXWORTHYI** Elm. Leaf. Philip. Bot. 5 (1913) 1752.

Palawan, *Elmer* 12982, 13155, *F. B.* 23339 Danao. In forests, altitude 200 to 600 m. Endemic.

Local name: Lomarau (Kuy.).

**SWINTONIA LUZONIENSIS** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 109.

Luzon (Tayabas, east coast), *Merrill 1057*. In forests at low altitudes. Endemic.

Local name: Kaluis (Tag.).

#### 5. KOORDERSIODENDRON Engler

**KOORDERSIODENDRON PINNATUM** (Blanco) Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33, Govt. Lab. Publ. (Philip.) 35 (1906) 73, Philip. Journ. Sci. 1 (1906) Suppl. 85, Sp. Blancoanae (1918) 234.

*Helicteres pinnata* Blanco Fl. Filip. (1837) 384.

*Cyrtocarpa quinquestyla* Blanco op. cit. ed. 2 (1845) 269, ed. 3, 2 (1878) 135.

*Koordersiodendron celebicum* Engl. ex Koord. in Meded. Lands Plantent. 19 (1898) 410; Boerl. in Ic. Bogor. 1 (1901) 55, t. 94-96; Perk. Frag. Fl. Philip. (1904) 25.

*Odina speciosa* F.-Vill. Novis. App. (1880) 55; Vidal Rev. Pl. Vasc. Filip. (1886) 101 (var. *multijuga*) 101, Phan. Cuming. Philip. (1885) 106; Engl. in DC. Monog. Phan. 4 (1883) 274, quoad Philip., non Blume.

*Odina multijuga* Vidal Sinopsis Atlas (1883) 22, t. 37, f. A.

*Lannea speciosa* Perk. Frag. Fl. Philip. (1904) 26, in nota, non Engl.

Northern Luzon (Cagayan) to Mindanao. Common in primary forests at low altitudes. Borneo, Celebes, New Guinea. A monotypic genus.

Local names: Amúgis (Tag., Bik., C. Bis.); ambúgis (Tag.); bangkási (Ilk.); bangkalári (Ilk.); dangíla (Tag.); gagil (Sul.); kalumanog (Bis.); kantíngen (Ilk.); karogkog (Bik.); lako-lako (Bis.); magalíbas (Sul.); maguyabud (Mbo., Mand.); múgis (Tag.); orís (Ilk.); sambulúuan (S. L. Bis., P. Bis., C. Bis.); sambulúan (P. Bis.); sambalágan (Bis.); sárga (Ilk.); sambalabúan (Bis.); sambuauáan (Mbo.); sinambuauóan (C. Bis.); taligáan (Ilk.); urís (Ilk.); urisán (Ilk., Ibn.).

#### 6. SPONDIAS Linnaeus

**SPONDIAS PINNATA** (Linn. f.) Kurz in Pegu Report. (1875) A 44; Merr. Interpret. Herb. Amb. (1917) 332, Sp. Blancoanae (1918) 233.

*Mangifera pinnata* Linn. f. Suppl. (1781) 156.

*Evia amara* Commers. ex Blume Mus. Bot. Lugd.-Bat. 1 (1850) 234.

*Poupartia pinnata* Blanco Fl. Filip. (1837) 392, ed. 2 (1845) 274, ed. 3, 2 (1878) 146.

*Spondias mangifera* Willd. Sp. Pl. 2 (1799) 751; Engl. in DC. Monog. Phan. 4 (1883) 248; F.-Vill. Novis. App. (1880) 55; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 84.

Luzon (Cagayan, Bataan, Laguna, Tayabas, Sorsogon), Catanduanes, Mindoro, Culion, Panay, Mindanao (Agusan, Cotabato, Zamboanga, Butuan, Davao). In primary forests at low altitudes. India to Celebes and the Moluccas.

Local names: Adúas (Tag.); alambihód (C. Bis.); alubihód (Bis.); alubíhon (Tag.); alubuid (Kuy.); baliud (Tagk.); kalabahid (Mbo.); lannó (Ibn.); lannu (Neg., Ibn.); libás (Tag., P. Bis., Sul., Mag.); lubas (Bik.).

**SPONDIAS PURPUREA** Linn. Sp. Pl. ed. 2 (1762) 613; Engl. in DC. Monog. Phan. 4 (1883) 243; F.-Vill. Novis. App. (1880) 55; Vidal Sinopsis Atlas (1883) 22, *t. 27, f. B*; Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 22, Fl. Manila (1912) 301, Sp. Blancoanae (1918) 233.

*Spondias dulcis* Blanco Fl. Filip. (1837) 390, ed. 2 (1845) 273, ed. 3, 2 (1878) 143, *t. 132*; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 36; Usteri Beitr. Ken. Philip. Veg. (1905) 114, non Linn.

*Spondias lutea* Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 22, Philip. Journ. Sci. 1 (1906) Suppl. 84; ? F.-Vill. Novis. App. (1880) 55, non Linn.

Luzon (Abra, Pangasinan, Pampanga, Bataan, Rizal, Cavite, Laguna), Palawan, and doubtless in other islands and provinces; cultivated for its edible fruit. Introduced from tropical America by the Spaniards, now pantropic in cultivation.

Local names: Saguélas (Ilk.); saraguélas (Ibn.); sarguélas (Ilk.); sereguélas (C. Bis.); sineguélas (Tag.); siriguélas (Bik.); sirihuélas (Tag.); (all corruptions of the Sp. ciruela = plum).

#### 7. DRACONTOMELUM Blume

**DRACONTOMELUM DAO** (Blanco) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 108; Merr. Sp. Blancoanae (1918) 234.

*Paliurus dao* Blanco Fl. Filip. (1837) 174, ed. 2 (1845) 122, ed. 3, 1 (1877) 219.

*Dracontomelum mangiferum* F.-Vill. Novis. App. (1880) 56; Vidal Sinopsis Atlas (1883) 22, *t. 37, f. D*; Perk. Frag. Fl. Philip. (1904) 26; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 84, non Blume.

*Dracontomelum celebicum* Koord. Meded. Lands. Plant. 19 (1898) 410.

Luzon (Cagayan to Sorsogon), Mindoro, Palawan, Samar, Leyte, Negros, Mindanao (Agusan, Lanao, Cotabato incl. *Elmer 15289* as *Santiria luzonensis* Elm.). Common in forests at low altitudes. Celebes, Moluccas.

Local names: Anduong (Mbo.); batuan (Bis.); dáo (Tag., Bik., P. Bis., S. L. Bis.); habas (C. Bis.); hamáarak (Ilk.); kamáarak (Ilk.); kiakia (S. L. Bis.); lupígi (Ibn.); makadaég (Ilk.); makau (Mbo., Mag.); mamakau (Mbo., Bag.); maliyau (Tag.).

**DRACONTOMELUM EDULE** (Blanco) Skeels in U. S. Dept. Agr. Bur. Pl. Ind. Bull. 261 (1912) 52.

*Paliurus edulis* Blanco Fl. Filip. (1837) 173.

*Paliurus lamiyo* Blanco Fl. Filip. ed. 2 (1845) 122, ed. 3, 1 (1877) 218 pro majore parte.

*Comeurya cumingiana* Baill. Adansonia 10 (1872) 330.

*Dracontomelum cumingianum* Baill. ex Engl. in DC. Monog. Phan. 4 (1883) 254; Vidal Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 101; Perk. Frag. Fl. Philip. (1904) 25; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 84, Govt. Lab. Publ. (Philip.) 27 (1906) 36.

*Dracontomelum lamiyo* Merr. Sp. Blancoanae (1918) 234.

Luzon (Bataan, Rizal, Bulacan, Batangas, Laguna, Tayabas, Camarines, Sorsogon), Tablas, Samar, Mindanao (Cotabato). Common in primary forests at low altitudes. Endemic.

Local names: Adúas (Tag.); alauihau (Bik., S. L. Bis.); ananggingputí (Tag.); batoan (Bis.); bili-bili (P. Bis.); bio (Pang.); halauihau (Bik.); lámio (Tag.); malaíyo (Tag.); ulandang (Kuy.).

**DRACONTOMELUM SYLVESTRE** Blume Mus. Bot. 1 (1850) 231; Engl. in DC. Monog. Phan. 4 (1883) 252.

*Dracontomelum edule* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 33, non Skeels (1912).

Luzon (Sorsogon), Leyte, Palawan, Basilan, Mindanao (Surigao), Merrill 9391, Wenzel 1754, Elmer 15610, Bolster 350, F. B. 25752 Natividad. In primary forests at low altitudes. Borneo.

Local names: Ulandúg (Kuy.); olandág (Tagb.).

#### 8. PLEIOGYNIUM Engler

**PLEIOGYNIUM SOLANDERI** (Benth.) Engl. in DC. Monog. Phan. 4 (1883) 255; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 284.

*Spondias solanderi* Benth. Fl. Austral. 1 (1863) 492.

*Spondias pleiogyna* F.-Muell. Fragm. 4 (1864) 78.

Luzon (Rizal), F. B. 3163, 2166 Ahern's collector. In forests at medium altitudes. Tropical Australia and Polynesia. A monotypic genus.

#### 9. PHLEBOCHITON Wallich

**PHLEBOCHITON PHILIPPINENSE** (Elm.) comb. nov.

*Pegia philippinensis* Elm. Leaf. Philip. Bot. 8 (1919) 3100.

Luzon (Laguna), Mindoro, Samar, Leyte, Mindanao (Agusan), Elmer 13467, 17913, F. B. 12756 Rosenbluth, 11384 Merritt, 26770, 26351, 24068 Mabesa, B. S. 17423, 15130 Ramos. In primary forests at low altitudes. Also in Sumatra, fide Hallier f. in lit. June 21, 1913.

#### 10. PISTACIA Linnaeus

**PISTACIA CHINENSIS** Bunge in Mém. Acad. Sci. St. Pétersb. 2 (1833) 89; Engl. in DC. Monog. Phan. 4 (1883) 291; Rehd. & Wils. in Sargent Pl. Wils. 2 (1914) 173.

*Pistacia formosana* Mats. in Bot. Mag. Tokyo 15 (1901) 40; Mats. & Hayata in Journ. Col. Sci. Tokyo 22 (1906) 99, t. 9.

*Pistacia philippinensis* Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 107, 5 (1910) Bot. 357.

Luzon (Benguet), Loher 437, F. B. 5093, 10920, 10919, 10899 Curran, 24687 Peña, Sandkuhl 274. On open slopes, altitude 700 to 1,000 m. North-central China to southern China and Formosa.

Local names: Agiao (Ilk.); sanído (Ig.); sañgído (Ig.); sañgílo (Ig.).

#### 11. PARISHIA Hooker f.

**PARISHIA MALABOG** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 281.

Luzon (Tayabas), Mindoro, Ticao, Masbate, Sibuyan, Tablas, Negros, Cebu, Sibutu, F. B. 25620 Medina, 12530, 12540 Rosenbluth, 22588 Cortes, B. S. 11109 Ramos. On forested slopes at low altitudes. Endemic.



Local names: Buñkan (Tag.); bulábog (Sul., P. Bis.); kupang-kúpang (P. Bis.); malábog (P. Bis.); malábol (P. Bis.); mulábu (P. Bis.); mulábug (C. Bis.); malibog (P. Bis.).

**PARISHIA OBLONGIFOLIA** Merr. in Philip. Journ. Sci. 14 (1919) 413.

Panay, Sibuyan, *B. S.* 31044 Ramos & Edaña, 32219 McGregor, *F. B.* 27040 Sajor. In forests, ascending to 900 m altitude. Endemic.

Local name: Bulábog (P. Bis.).

## 12. RHUS Tournefort

**RHUS TAITENSIS** Guill. in Ann. Sci. Nat. II 7 (1837) 361.

*Rhus simarubifolia* A. Gray Bot. Wilkes. U. S. Explor. Exped. (1854) 367, t. 44; Engl. in DC. Monog. Phan. 4 (1883) 450; Vidal Rev. Pl. Vasc. Filip. (1886) 99, Phan. Cuming. Philip. (1885) 105 [var. *taitensis* (Guill.) Engl.].

Leyte, Mindanao (Bukidnon, Lanao, Davao), *Cuming 1857, Elmer 11914, 11118, Clemens 1151, B. S.* 26083 *Fénix, 21400 Escriitor*. In thickets or forests at low and medium altitudes. Polynesia.

Local names: Biro (Bag.); magasorod (Bag.).

## 13. SEMECARPUS Linnaeus f.

**SEMECARPUS CUNEIFORMIS** Blanco Fl. Filip. (1837) 220, ed. 2 (1845) 155, ed. 3, 1 (1877) 276, t. 75; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 279, Fl. Manila (1912) 299, Sp. Blancoanae (1918) 235.

*Semecarpus anacardium* Blanco op. cit. 216, 152, 275, non Linn. f.

*Semecarpus perrottetii* March. Rev. Anac. (1869) 169; Engl. in DC. Monog. Phan. 4 (1883) 480; Vidal Rev. Pl. Vasc. Filip. (1886) 101; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33; Perk. Frag. Fl. Filip. (1904) 28.

*Semecarpus pubescens* F.-Vill. Novis. App. (1880) 55, non Thw.

*Semecarpus sideroxyloides* Perk. Frag. Fl. Philip. (1904) 28.

*Anacardium longifolium* Lam. Encycl. 1 (1783) 139, quoad Philip. non *Semecarpus longifolia* Blume.

Luzon (Cagayan, Ilocos Norte, Bontoc, Union, Pangasinan, Zambales, Bataan, Nueva Ecija, Rizal, Pampanga, Bulacan, Laguna, Tayabas, Sorsogon), Mindoro, Palawan, Leyte, Negros, Guimaras. Common in dry thickets and second-growth forests at low altitudes. Endemic.

Local names: Agás (P. Bis.); anagás (P. Bis.); hanagas (Bis.); inǵas (Bik.); kamiing (Sbl.); kamiing (Pamp., Tag.); kamiing (Ig.); kamiing (Ting.); kamiing (Ibn., Ilk.); libás (Bon.); laǵás (Bis.); loǵás (C. Bis.); ligás (Tag., Pamp.); pakan (Bon.).

Lamarck's specimen of *Anacardium longifolium* in the Paris herbarium is the same as *Semecarpus perrottetii* March. fide Lecomte in lit.

**SEMECARPUS ELMERI** Perk. Frag. Fl. Philip. (1904) 26.

Mindoro, Guimaras, Negros, *Merrill 923, 1176, F. B.* 248 *Gammil, 17445 Curran*. In dry forests at low altitudes. Endemic.

Local names: Anagás (P. Bis.); libás (P. Bis.); ligás (Tag.).

**SEMECARPUS EUPHLEBIA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 283.

Luzon (Tayabas), *B. S.* 13163 *Foxworthy & Ramos*. In forests at low altitudes. Endemic.

- SEMECARPUS FERRUGINEA** Merr. in Philip. Journ. Sci. 14 (1919) 412.  
Panay, Negros, *B. S. 30756 Ramos & Edaña, Piper 24*. On forested slopes. Endemic.
- SEMECARPUS GIGANTIFOLIA** Vidal Sinopsis Atlas (1883) 22, *t. 36, f. A*; F.-Vill. Novis. App. (1883) 350; Ceron. Cat. Pl. Herb. Manila (1892) 57, Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33, Govt. Lab. Publ. (Philip.) 6 (1904) 5, Philip. Journ. Sci. 1 (1906) Suppl. 85, Sp. Blancoanae (1918) 21; Perk. Frag. Fl. Philip. (1904) 26.  
Luzon (Cagayan, Lepanto, Benguet, Bulacan, Bataan, Rizal, Laguna, Tayabas, Camarines), Mindoro, Mindanao (Zamboanga) *B. S. 2161, 14531, 22277, 26223 Ramos, 34050 Ramos & Edaña, Elmer 8902, 17495, Merrill 2491*. In forests at low altitudes. Endemic.  
Local names: Anagás (Tag.); anagás-babáe (Tag.); isip (Ign.); libás (Bik.); ligás (Tag.); manalú (Sul.); topo (Bik.).
- SEMECARPUS GLAUCIPHYLLA** Elm. Leaf. Philip. Bot. 4 (Apr. 20, 1912) 1501.  
*Semecarpus acuminatissima* Merr. in Philip. Journ. Sci. 7 (Nov. 15, 1912) Bot. 282.  
Babuyan Islands, Luzon (Cagayan, Zambales, Tayabas, Laguna), Sibuyan, Samar, Mindanao (Davao, Agusan), *Elmer 12276, B. S. 5058, 19428, 13241 Ramos, 25591 Yates, F. B. 26724, 26685 Peñas, 23674 Razon, 28209 Elumir, Merrill Phil. Pl. 1642*. In forests at low altitudes. Endemic.  
Local name: Masukal (Tag.).
- SEMECARPUS LANCEOLATA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 284.  
Batan Islands, Luzon (Abra, Cagayan), *B. S. 7083 Ramos, F. B. 26676 Peñas*. In forests at low altitudes. Endemic.  
Local names: Añás (Iv.); kamíring (Ilk.).
- SEMECARPUS MACROTHYRSA** Perk. Frag. Fl. Philip. (1904) 26.  
Luzon (Tayabas), *Merrill 2447*. In forests at low altitudes. Endemic.  
Local name: Ligás (Tag.).
- SEMECARPUS MEGABOTRYS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 285.  
*Semecarpus pilosa* Merr. op. cit. 287.  
Luzon (Isabela, Union, Ilocos Norte, Nueva Ecija, Nueva Vizcaya), *F. B. 18536, 22359 Alvarez, 21781 Velasco, B. S. 11435 McGregor, 27314 Ramos, 2331 Mearns*. In forests at low altitudes. Endemic.  
Local names: Bihi (Ig.); kamáing (Pang.); polánto (Ilk.).
- SEMECARPUS MERRILLIANA** Perk. Frag. Fl. Philip. (1904) 27.  
Mindoro, Palawan, Mindanao (Zamboanga), *Merrill 851, F. B. 8649, 11393 Merritt, Williams 2872*. In forests at low altitudes. Endemic.  
Local names: Bugnau (Sul.); inás (Sul.); iñgás (Sul.); ligás (Tag.); lukti-lukti (Sul.); nagás (Kuy.).
- SEMECARPUS MICRANTHA** Perk. Frag. Fl. Philip. (1904) 27; Merr. in Philip. Journ. Sci. 7 (1912) Bot. 290.  
*Semecarpus taftiana* Perk. op. cit. 28.

Palawan, *Merrill 709, 734, Elmer 12994*. In thickets and second-growth forests at low altitudes. Endemic.

**SEMECARPUS OBTUSATA** Elm. Leaf. Philip. Bot. 5 (1913) 1752.

Palawan, *Elmer 13003*. On forested river banks, altitude about 225 m. Endemic.

**SEMECARPUS OBTUSIFOLIA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 286.

Balabac, Panay, Cebu, *B. S. 512 Mangubat, 30747 Ramos & Edaña, 11042 Ramos*. In forests at low altitudes. Endemic.

**SEMECARPUS PAUCINERVIA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 286.

Palawan, *B. S. 750 Foxworthy*. In forests along streams, altitude about 100 m. Endemic.

**SEMECARPUS PHILIPPINENSIS** Engl. in DC. Monog. Phan. 4 (1883) 481; Vidal Phan. Cuming. Philip. (1885) 106, Rev. Pl. Vasc. Filip. (1886) 101; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 75, Philip. Journ. Sci. 7 (1912) Bot. 290.

*Semecarpus perrottetii* March. var. *glabra* March. Rev. Anac. (1869) 170.

*Semecarpus albescens* Vidal Phan. Cuming. Philip. (1885) 106, Rev. (1886) 101; Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 75, Pl. Vasc. Filip. (1886) 101; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 85; Engl. in DC. Monog. Phan. 4 (1883) 488, quoad Philip., non Kurz.

Luzon (Abra, Benguet, Ilocos Sur, Pampanga, Bulacan, Bataan, Laguna), Cebu, Leyte, Mindanao (Misamis), *Cuming 1146, 71776, Elmer 6447, F. B. 25461 Paraiso, 27195 Udasco, 17564, 17669 Curran, 337 Barnes, 674, 708, 1193 Borden, 2777 Meyer*. In forests at low altitudes. Endemic.

Local names: Duñgás (C. Bis.); kamiling (Ting.); kamíng (Tag.); kamíring (Ilk.); libás (Tag.); ligás (Tag.); malamánnga (Pamp.).

**SEMECARPUS SUBSESSILIFOLIA** Merr. in Philip. Journ. Sci. 14 (1919) 411.

Panay, *B. S. 30711 Ramos & Edaña*. In forests at low or medium altitudes. Endemic.

**SEMECARPUS SURIGAENSIS** Merr. in Philip. Journ. Sci. 16 (1920) 272.

Mindanao (Surigao), *B. S. 34772 Ramos & Pascasio*. In forests along streams at low altitudes. Endemic.

**SEMECARPUS WHITFORDII** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 288.

Leyte, Panay, Mindanao (Zamboanga, Davao), *F. B. 11774 Whitford, 27469, 27574 De Mesa, B. S. 31072, 30870, 36981 Ramos & Edaña, Wenzel 1756, 1721*. In forests at low altitudes. Endemic.

Local names: Dañgá (Bag.); britá (Sub.).

#### EXCLUDED SPECIES

**SEMECARPUS HETEROPHYLLA** Blume; F.-Vill. Novis. App. (1880) 55.

**SEMECARPUS MICROCARPA** Wall.; F.-Vill. l. c.

## 14. ONCOCARPUS A. Gray

**ONCOCARPUS DENSIFLORA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 191.

Luzon (Sorsogon), Samar, *B. S. 24646 Ramos, Elmer 15485, 16272, 17214* as *O. peninsula* Elm. In forests at low altitudes. Endemic.

Local name: Matapok (S. L. Bis.).

**ONCOCARPUS MACROPHYLLA** (Merr.) C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 340.

*Semecarpus macrophylla* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 33.

Mindanao (Surigao), *Ahern 348, 529*. In forests. Endemic.

**ONCOCARPUS OBOVATA** (Elm.) Merr. in Philip. Journ. Sci. 14 (1919) 413.

*Dichapetalum obovatum* Elm. Leaf. Philip. Bot. 2 (1908) 483.

Luzon (Tayabas, Laguna), *Elmer 7931*, distributed as *Pterospermum, Quisumbing 1346*. In forests, altitude about 750 m. Endemic.

**ONCOCARPUS TRACHYPHYLLA** (Perk.) comb. nov.

*Semecarpus trachyphylla* Perk. Frag. Fl. Philip. (1904) 29.

*Oncocarpus ferruginea* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 340.

Luzon (Cagayan, Ilocos Norte, Pangasinan, Bataan, Rizal, Tayabas), Samar, Mindanao (Agusan, Davao), *Warburg 11796, Williams 580, Ahern 746, F. B. 3173 Ahern's collector, 15085, 24278 Bernardo, 25557 Vargas, 26021 Cailipan, 10748 Curran, 2422 Meyer, 2388 Borden, B. S. 1507, 32993 Ramos*. In primary forests at low altitudes. Endemic.

Local names: Arañgás (Tag.); kamirig (Ilk.); lígas (Bag.); mala-lígas (Tag.); nugas (S. L. Bis.); uagotomak (Mbo.).

## EXCLUDED GENUS

**CAMPNOSPERMA AURICULATA** Hook. f.; F.-Vill. Novis. App. (1883) 351.

**CAMPNOSPERMA MACROPHYLLA** Hook. f.; F.-Vill. l. c.

## AQUIFOLIACEAE

## 1. ILEX Linnaeus

**ILEX ANTONII** Elm. Leaf. Philip. Bot. 5 (1913) 1666.

Mindanao (Davao), *Elmer 11348*. In dense thickets on high exposed ridges, altitude about 2,400 m. Endemic.

Local name: Masaliksik (Bag.).

**ILEX APOENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1667.

Mindanao (Davao), *Elmer 11449, 11408*. In the mossy forest, altitude about 2,100 m. Endemic.

To be compared critically with *Ilex pulogensis* Merr., to which it is closely allied.

Local name: Marintok (Bag.).

**ILEX ASPRELLA** (Hook. & Arn.) Champ. ex Benth. in Hook. Kew Journ. Bot. 4 (1852) 329; Benth. Fl. Hongk. (1861) 65; Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 477.

*Prinos asprellus* Hook. & Arn. Bot. Beechey Voy. (1841) 176, t. 36.

*Ilex oxyphylla* Miq. in Journ. Bot. Néerl. 1 (1861) 124.

*Ilex gracilipes* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 237, 5 (1910) Bot. 358; Elm. Leaf. Philip. Bot. 5 (1913) 1664.

*Ilex merrillii* Briq. in Ann. Conserv. Jard. Bot. Genève 20 (1919) 421.

Luzon (Bontoc, Lepanto, Benguet, Zambales, Rizal, Bataan), Mindoro. Common in ravines in the Mountain Province, altitude 1,200 to 1,900 m; in Zambales, Rizal, and Bataan on exposed ridges, altitude 1,000 to 2,000 m. Southeastern China, Formosa.

Local names: Balasbas (Ig.); kalasan (Ig.); sagulisil (Ig.).

*Merrill Phil. Pl. 881* is the type collection of *Ilex merrillii* Briq. It is identical with *Ilex gracilipes* Merr., which Loesener identifies as *Ilex asprella* Champ. After examining a large series of Philippine, Formosan, and Chinese specimens I can see no valid reason for distinguishing the Philippine form by name.

**ILEX BRUNNEA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 318.

Luzon (Tayabas, Laguna), Mindanao (Bukidnon), *B. S. 19461 Ramos, 38906 Ramos & Edaño, F. B. 26774 Mabesa, 25026 Amarillas*. Epiphytic or pseudoepiphytic in primary forests, altitude 300 to 700 m. Endemic.

**ILEX BUERGERI** Miq. in Versl. Med. Akad. Wetensch. II 2 (1868) 84; Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 329, var.

**ROLFEI** (Elm.) Loesen. ex Elm. Leaf. Philip. Bot. 5 (1913) 1664.

*Ilex rolfei* Elm. Leaf. Philip. Bot. 1 (1908) 314.

*Ilex formosana* C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 201, non Maxim.

Luzon (Bontoc, Benguet, Zambales, Tayabas), Mindoro, Mindanao (Bukidnon), *Elmer 8764, 8792, B. S. 5095, 5781 Ramos, 28657, 28764, 37770, 38721, 40633 Ramos & Edaño, Loher 5792, F. B. 8092 Curran & Merritt*. In ravines and on exposed forested ridges, altitude 1,400 to 1,800 m. Southern Japan.

**ILEX CRENATA** Thunb. Fl. Jap. (1784) 78, f. **LUZONICA** (Rolfe) Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 201; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 358; Elm. Leaf. Philip. Bot. 5 (1913) 1664.

*Ilex luzonica* Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 309; Vidal Rev. Pl. Vasc. Filip. (1886) 87.

*Eurya japonica* Thunb. var. *parvifolia* Vidal Sinopsis Atlas (1883) t. 13, f. C.

*Eurya myrtilloides* Elm. Leaf. Philip. Bot. 1 (1908) 323.

Luzon (Lepanto, Benguet, Nueva Vizcaya, Nueva Ecija, Tayabas, Laguna, Camarines), Negros, Cagayan de Misamis, Mindanao (Davao). On exposed ridges, on the higher mountains often forming dense thickets, altitude 1,700 to 2,700 m. Japan, Riu Kiu Islands, a variety in the Himalayan region.

Local names: Kalatan (Ig.); gayauan (Bag.).

**ILEX CURRANII** Merr. in Philip. Journ. Sci. 17 (1920) 273.

Luzon (Benguet), *B. S.* 40432, 40403 *Ramos & Edaño*, *F. B.* 18069 *Curran*, *Merritt*, & *Zschokke*. In the mossy forest on Mount Pulog, altitude about 2,500 m. Endemic.

**ILEX CYMOSA** Blume Bijdr. (1826) 1149; Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 74; Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 308; Vidal Rev. Pl. Vasc. Filip. (1886) 87; Elm. Leaf. Philip. Bot. 5 (1913) 1664.

*Ilex philippinensis* Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 308.

Luzon (Cagayan, Abra, Ilocos Norte, Nueva Vizcaya, Nueva Ecija, Zambales, Tayabas, Camarines), Mindoro, Leyte, Palawan, Sibuyan, Bucas Grande, Mindanao (Butuan, Lanao). Locally common in primary forests at low altitudes, ascending to 800 m. Burma, Malay Peninsula, Sumatra, Borneo, Java, Celebes.

Local names: Malagidia (Tag.); paít (Ilk.); saling-uák (P. Bis.).

Var. **CUMINGIANA** (Rolfe) Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 76; Elm. Leaf. Philip. Bot. 5 (1913) 1664.

*Ilex cumingiana* Rolfe in Journ. Linn. Soc. Bot. 21 (1884) 308; Vidal Phan. Cuming. Philip. (1885) 103.

Luzon (Cagayan, Ilocos Norte, Nueva Vizcaya, Pangasinan, Tayabas), Palawan, *Cuming* 1241, *Adduru* 164, *Merrill* 1042, *B. S.* 4924 *Ramos*, 738 *Foxworthy*. In forests at low altitudes; scarcely distinguishable from the typical form. Endemic.

**ILEX FLETCHERI** Merr. in Philip. Journ. Sci. 2 (1907) Bot. 279; Elm. Leaf. Philip. Bot. 5 (1913) 1663.

Luzon (Benguet, Nueva Vizcaya, Tayabas), Mindoro, *Merrill* 5755, 5716, *F. B.* 4448, 4475, 18034 *Merritt*, 14886 *Darling*, *B. S.* 5728 *Ramos*, 28475, 28794 *Ramos & Edaño*. On exposed ridges, altitude 1,400 to 2,200 m; closely allied to *Ilex hanceana* Maxim., of southern China. Endemic.

**ILEX FOXWORTHYI** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 193; Elm. Leaf. Philip. Bot. 5 (1913) 1663.

Luzon (Laguna, Tayabas, Sorsogon), *B. S.* 2416 *Foxworthy*, 26669 *Brown*, 17318 *Robinson & Brown*, *Merrill* 7522, *Elmer* 15657, 15844. In the mossy forest, altitude 1,400 to 2,100 m. Endemic.

**ILEX GUERREROI** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 316; Elm. Leaf. Philip. Bot. 5 (1913) 1663.

Luzon (Rizal), *Guerrero*. In forests. Endemic.

**ILEX HALCONENSIS** (Merr.) Merr. in Philip. Journ. Sci. 5 (1910) Bot. 358; Elm. Leaf. Philip. Bot. 5 (1913) 1663.

*Embelia halconensis* Merr. op. cit. 2 (1907) 297.

*Ilex apocensis* Elm. var. *glandulosa* Elm. Leaf. Philip. Bot. 8 (1919) 3071.

Luzon (Laguna), Mindoro, Panay, Camiguin de Misamis, Mindanao (Bukidnon), *Merrill* 5771, *Phil. Pl.* 1195, *Elmer* 17624, *B. S.* 26659 *Brown*, 14459 *Ramos*, 30644, 30639 *Ramos & Edaño*, 26066 *Fénix*, *F. B.* 25727 *Mabesa*. On exposed ridges in the mossy forest, altitude 1,000 to 2,000 m. Endemic.

**ILEX MICROTHYRSA** Loesen. ex Elm. Leaf. Philip. Bot. 5 (1913) 1663.

Luzon (Zambales), Mindanao (Misamis), *B. S. 5081 Ramos, F. B. 4675 Mearns & Hutchinson*. On exposed ridges, altitude 1,800 to 2,400 m. Endemic.

**ILEX PACHYPHYLLA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 318.

Luzon (Tayabas, east coast), *B. S. 9400 Robinson, 28579 Ramos & Edaña*. In the mossy forest, altitudes 900 to 1,000 m. Endemic.

**ILEX PALAWANICA** Loesen. ex Elm. Leaf. Philip. Bot. 5 (1913) 1664.

Palawan (Mt. Pulgar), *B. S. 555 Foxworthy*. In dense thickets on exposed ridges, altitude about 1,200 m. Endemic.

**ILEX PAUCINERVIA** Merr. in Philip. Journ. Sci. 17 (1920) 274.

Luzon (Nueva Ecija), *B. S. 26396 Ramos & Edaña*. In forests, altitude about 1,000 m. Endemic.

**ILEX PULOGENSIS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 358; Elm. Leaf. Philip. Bot. 5 (1913) 1664.

Luzon (Benguet), *F. B. 18099, 18145 Curran, Merritt, & Zschokke. B. S. 31855, 32018 Santos, Williams 1547, Elmer 14295*. In the mossy forest on the higher mountains, altitude 2,000 to 2,300 m.

Local name: Papatak (Ig.).

**ILEX RACEMIFERA** Loesen. in Nov. Act. Deutsch. Akad. Naturf. 89 (1908) 290; Elm. Leaf. Philip. Bot. 5 (1913) 1664.

Mindanao (Davao), *Warburg 14640*. In forests, altitude 300 to 700 m. Endemic.

**ILEX SUBCAUDATA** Merr. ex Elm. Leaf. Philip. Bot. 5 (1913) 1664, Philip. Journ. Sci. 10 (1915) Bot. 317 (descr.).

Luzon (Rizal), *Guerrero*. In forests. Endemic.

**ILEX WARBURGII** Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 326, var. **BENGUETENSIS** (Elm.) Loesen. in herb.

*Ilex benguetensis* Elm. Leaf. Philip. Bot. 5 (1913) 1665.

Luzon (Benguet), *Williams 922, Elmer 8522, B. S. 5597 Ramos*. In forests, altitude about 1,200 m. The species in the Riu Kiu Islands.

**ILEX WENZELII** Merr. in Philip. Journ. Sci. 8 (1913) Bot. 382.

*Ilex epiphytica* Elm. Leaf. Philip. Bot. 5 (1913) 1667, non King.

Leyte, Mindanao (Agusan), *Wenzel 99, Elmer 3718*. Epiphytic or pseudoepiphytic, in primary forests up to an altitude of 1,100 m. Endemic.

Local names: Katagdo (Bag.); katagio (Bag.).

#### DOUBTFUL AND EXCLUDED SPECIES

**ILEX LAURIFOLIA** Zipp.; Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 177.

A Moluccan species to which Loesener referred a Philippine specimen collected by Vidal as doubtfully representing it.

**ILEX TRIFLORA** Blume var. **LOBBIANA** (Rolfe) Loesen. in Nov. Act. Deutsch. Akad. Naturf. 78 (1901) 346.

*Ilex lobbiana* Rolfe in Journ. Bot. 21 (1884) 309.

Lobb's specimen, labeled as originating in Luzon, was certainly collected in Java, not in the Philippines; Lobb collected in both islands, and his specimens are notorious for their erroneous localizations.

### CELASTRACEAE

#### 1. EUONYMUS Linnaeus

**EUONYMUS BENGUETENSIS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 26.

Luzon (Bontoc, Benguet), *Elmer 5977, Vanoverbergh 1234, B. S. 5779 Ramos, 37947 Ramos & Edaña*. In thickets, altitude 1,200 to 1,700 meters. Formosa, *Faurie 418, 420, 1373*.

Local name: Takbang (Ig.).

**EUONYMUS COCHINCHINENSIS** Pierre Fl. Forest. Cochinch. 4 (1894) t. 309; Pitard in Lecomte Fl. Gén. Indo-Chine 1 (1912) 873, fig. 108; Merr. in Philip. Journ. Sci. 16 (1920) 449.

*Euonymus timorensis* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 447; F.-Vill. Novis. App. (1880) 46; Vidal Phan. Cuming. Philip. (1885) 103, non Zipp.

*Euonymus philippinensis* Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 238.

*Euonymus viburnifolius* Merr. in Philip. Journ. Sci. 9 (1914) Bot. 312, non *Aegiphila viburnifolia* Juss.

Luzon (Cagayan, Ilocos Norte, Benguet, Batangas, Pangasinan, Nueva Vizcaya, Nueva Ecija, Rizal, Tayabas), Mindoro, Palawan, Masbate, Samar, Panay, Mindanao (Bukidnon). In forests at low altitudes. Siam, Malay Peninsula, Indo-China.

Local names: Alumañgug (P. Bis.); baras-báras (Ilk.); burubatuán (Tag.).

**EUONYMUS ELMERI** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 281.

*Euonymus alatus* Elm. Leaflet. Philip. Bot. 4 (1912) 1484, non Regel.

Sibuyan, Luzon (Tayabas), *Elmer 12256, 12485, B. S. 25436 Yates*. In primary forests, altitude 300 to 700 m. Endemic, but scarcely distinguishable from *E. javanicus* Blume.

**EUONYMUS JAVANICUS** Blume Bijdr. (1826) 1146; Benn. Pl. Jav. Rar. (1838) 13, t. 28; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 588; F.-Vill. Novis. App. (1880) 46; Koord. & Val. Bijdr. Boom. Jav. 7 (1900) 68, Vidal Sinopsis Atlas (1883) 20, t. 31, f. C, Rev. Pl. Vasc. Filip. (1886) 87; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 278.

Luzon (Nueva Ecija, Bataan, Rizal, Laguna, Tayabas, Camarines, Sorsogon), Alabat, Mindoro, Samar, Leyte, Negros, Panay, Camiguin de Misamis, Mindanao, Basilan. Common in primary forests at low and medium altitudes. Burma, Andaman Islands, Malay Peninsula, Sumatra, Java, Borneo.

Local names: Kalimótas (Tag.); malasankí (Tag.); surag (Tag.); tubatubáhan (Tag.); tabáan (Mbo.); talangutiñgon (C. Bis.).

**EUONYMUS OLIGANTHUS** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 320.

Luzon (Benguet), *Merrill 9644*. In damp thickets, altitude about 1,300 m. Endemic.



## 2. LOPHOPETALUM Wight and Arnott

**LOPHOPETALUM TOXICUM** Loher in Ic. Bogor. 1 (1897) 55, t. 16.

*Lophopetalum fimbriatum* F.-Vill. Novis. App. (1880) 46; Vidal Sinopsis Atlas (1883) 20, t. 31, f. G, non Wight.

*Hippocratea maingayi* Vidal Sinopsis Atlas (1883) 20, t. 31, f. F, non Laws.

Luzon (Rizal, Tayabas, Laguna, Camarines), Mindoro, Masbate, Leyte, Mindanao (Lanao, Zamboanga, Davao), Sulu Archipelago. In primary forests at low and medium altitudes. Endemic.

Local names: Abúab (Tag.); abútab (Tag.); butíngi (Tag.); buyun (Sul.); dayandáng (Tag.); ditá (Neg.); kalibambáñgan (Mand.); puti-i-babáe (Lan.); puti-i-laláki (Lan.); sudkad (P. Bis.).

**LOPHOPETALUM PAUCINERVIUM** Merr. in Philip. Journ. Sci. 20 (1922) 402.

Mindanao (Bukidnon), *B. S. 39136 Ramos & Edaña*. In damp forests, altitude about 900 m. Endemic.

## 3. GLYPTOPETALUM Thwaites

**GLYPTOPETALUM EUONYMOIDES** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 276.

Luzon (Ilocos Norte), *B. S. 27546 Ramos*. In thickets at low altitudes. Endemic.

**GLYPTOPETALUM EUPHLEBIUM** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 280.

*Glyptopetalum marivelense* Merr. var. *euphlebium* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 321.

Luzon (Zambales, Pangasinan, Tayabas), *F. B. 8108 Curran & Merritt, B. S. 13246 Ramos, 29991 Fénix, 20718 Escritor*. In forests up to 1,400 m altitude. Endemic.

**GLYPTOPETALUM GLANDULOSUM** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 279.

Palawan, *Merrill 9547*. In the mossy forest, altitude about 900 m. Endemic.

**GLYPTOPETALUM LOHERI** Merr. in Philip. Journ. Sci. 10 (1915) 321.

Luzon (Rizal, Cavite), *Loher 5765, 5796, F. B. 7672 Curran*. In forests, altitude about 400 m. Endemic.

**GLYPTOPETALUM MARIVELENSE** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 321.

*Euonymus marivelensis* Elm. Leaf. Philip. Bot. 7 (1915) 2580.

Luzon (Benguet, Zambales, Bulacan, Bataan, Batangas, Tayabas), Caudanuanes, Cebu, *Elmer 6644, B. S. 30379, 19368 Ramos, 26784 Edaña, F. B. 10306 Curran, 2639 Meyer, 28015 Mabesa*. In primary forests at low and medium altitudes. Endemic.

**GLYPTOPETALUM REMOTINERVIUM** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 280.

Palawan, *Merrill 741, Elmer 13095*. In primary forests, altitude about 300 m. Endemic.

**GLYPTOPETALUM RETICULATUM** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 277.

Luzon (Abra), *B. S. 27043 Ramos*. In primary forests, altitude about 300 m. Endemic.

#### 4. MICROTROPIS Wallich

**MICROTROPIS CURRANII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 238.

Luzon (Benguet, Zambales), *F. B. 4970, 4966, 10834 Curran, 25135, 25133 Leaño, B. S. 5706, 5731, 5026, 4698 Ramos, Williams 1300*. In the mossy forest and on exposed ridges on the higher mountains, altitude 1,800 to 2,400 m. Endemic.

**MICROTROPIS PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 306.

Luzon (Sorsogon), Catanduanes, *B. S. 30580 Ramos, Elmer 15669, 14367*, as *Microtropis rubra* Elm. In primary forests at low or medium altitudes. Endemic.

**MICROTROPIS PLATYPHYLLA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 319.

Luzon (Rizal, Nueva Ecija, Tayabas), *Loher 5774, 5779, B. S. 28569, 26402 Ramos & Edaña*. In primary forests at medium altitudes. Endemic.

**MICROTROPIS ROSTRATA** Merr. in Philip. Journ. Sci. 17 (1920) 275.

Luzon (Camarines), *B. S. 33568 Ramos & Edaña*. In primary forests at low altitudes. Endemic.

#### 5. CELASTRUS Linnaeus

**CELASTRUS APOENSIS** Elm. Leaf. Philip. Bot. 7 (1915) 2579.

Mindanao (Davao, Bukidnon), *Elmer 11411, B. S. 38961 Ramos & Edaña*. In the mossy forest, altitude about 1,900 m. Endemic; apparently allied to *C. championi* Benth.

Local name: Mangauat (Bag.).

**CELASTRUS PANICULATA** Willd. Sp. Pl. 1 (1798) 1125; F.-Vill. Novis.

App. (1880) 46; Vidal Phan. Cuming. Philip. (1885) 103, Rev. Pl. Vasc. Filip. (1886) 88; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 85, Fl. Manila (1912) 301, Sp. Blancoanae (1918) 235.

*Diosma serrata* Blanco Fl. Filip. (1837) 168, ed. 2 (1845) 119, ed. 3, 1 (1877) 213.

*Celastrus polybotrys* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 449; Vidal Phan. Cuming. Philip. (1885) 103; F.-Vill. Novis. App. (1880) 47.

Luzon (Cagayan, Isabela, Ilocos Norte, Nueva Vizcaya, Pangasinan, Bulacan, Bataan, Rizal, Cavite), Mindoro, Palawan, Mindanao (Cotabato). In thickets and second-growth forests at low altitudes. India through Malaya to New Caledonia.

Local names: Bilogo (Tag.); lagete (Tag.).

#### EXCLUDED SPECIES

**CELASTRUS STYLOSA** Willd.; F.-Vill. Novis. App. (1880) 47.

## 6. GYMNOSPORIA Wight and Arnott

**GYMNOSPORIA DIVERSIFOLIA** Maxim. in Bull. Acad. St. Pétersb. 27 (1881) 459.

*Celastrus diversifolius* Hemsl. in Journ. Linn. Soc. Bot. 23 (1886) 123.

Luzon (Ilocos Norte), *B. S. 27204 Ramos*, distributed as *Gymnosporia spinosa* var. *parva* Merr. In dry thickets at low altitudes. Riu Kiu Islands, Formosa, Fokien, Hainan.

**GYMNOSPORIA NITIDA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 311.

Luzon (Pangasinan), *F. B. 11836 Domingo*. At low or medium altitudes. Endemic.

Local name: Matang-órang (Pang.).

**GYMNOSPORIA SPINOSA** (Blanco) Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 109; Merr. Fl. Manila (1912) 302, Sp. Blancoanae (1918) 235.

*Cupania spinosa* Blanco Fl. Filip. (1837) 184, ed. 2 (1845) 204, ed. 3, 2 (1878) 17.

*Gymnosporia montana* F.-Vill. Novis. App. (1880) 47; Vidal Rev. Pl. Vasc. Filip. (1886) 88, Merr. in Philip. Bureau Forestry Bull. 1 (1903) 34, non Laws.

*Gymnosporia ambigua* Vidal Sinopsis Atlas (1883) 20, t. 31, f. A.

*Gymnosporia philippinensis* Vidal Phan. Cuming. Philip. (1885) 103, *nomen nudum*.

*Celastrus montana* Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 105, non Spreng.

*Putterlickia philippinensis* Planch. ex Vidal Phan. Cuming. Philip. (1885) 103, in syn.

Luzon (Isabela, Cagayan, Ilocos Norte, Ilocos Sur, Abra, Nueva Vizcaya, Pangasinan, Nueva Ecija, Zambales, Bataan, Pampanga, Tayabas, Bulacan, Rizal, Camarines), Lubang, Ticao. In dry thickets at low altitudes, often abundant. Endemic.

Local names: Amúmut (Tag.); banak-bának (P. Bis.); dilakit (Tag.); malaráyap (Tag.); malaráyat (Tag.); nikaníkut (Ilk.); suling-bagat (Tag.); tagapahan (Sbl.); tuntun-namí (Ilk.); tamaúian (Tag.).

Var. **PARVA** Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 110.

Luzon (Ilocos Norte, Rizal), *Merrill 5070, B. S. 27653 Ramos*. In thickets along streams at low altitudes. Endemic.

## EXCLUDED SPECIES

**GYMNOSPORIA NEGLECTA** Wall.; F.-Vill. Novis. App. (1880) 47.

## 7. KURRIMIA Wallich

**KURRIMIA PANICULATA** Wall. Cat. (1831) No. 4336; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 622.

*Bhesa paniculata* Arn. in Edinb. Philos. Journ. 16 (1834) 315.

*Pyrospermum calophyllum* Miq. Fl. Ind. Bat. Suppl. (1861) 402.

*Trochisandra indica* Bedd. Fl. Sylv. South.-Ind. (1869-73) t. 120.

*Kurrimia luzonica* Vidal Rev. Pl. Vasc. Filip. (1886) 88; Ceron Cat. Pl. Herb. Manila (1892) 48.

*Schmidelia conferta* Blanco Fl. Filip. ed. 2 (1845) 217, ed. 3, 2 (1878) 41.

Luzon (Cagayan, Rizal, Tayabas, Laguna, Camarines, Sorsogon), Mindoro, Leyte, Samar, Panay, Negros, Dinagat, Mindanao (Surigao, Agusan, Butuan, Zamboanga), Jolo. In primary forests at low and medium altitudes. Southern India, Malay Peninsula, Sumatra, Borneo.

Local names: Balikaskásan (P. Bis.); batúg (Ibn.); hindadabo (Mbo.); kuela (P. Bis.); layeng (Tag.); linuán (Ibn.); magapiña (P. Bis.); malapiña (P. Bis.); maratábian (Neg.); matigdas (P. Bis.); paguniñgan (Tag.); rapo-rapo (Bik.).

The reduction of *Schmidelia conferta* Blanco follows a suggestion made to me by Dr. L. Radlkofer in November, 1922. Blanco's description applies unmistakably to the common Philippine form described by Vidal as *Kurrimia luzonica*, but which I cannot distinguish from *K. paniculata* Wall. My reduction of Blanco's species to *Arytera litoralis* Blume is wrong.\*

#### 8. KOKOONIA Thwaites

**KOKOONIA OCHRACEA** (Elm.) comb. nov.

*Ardisia ochracea* Elm. Leaf. Philip. Bot. 5 (1913) 1819.

Palawan, *Elmer 12881*. In primary forests, altitude about 225 m. Endemic.

#### 9. ELAEODENDRON Jacquin

**ELAEODENDRON MINDANAENSE** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 277.

Mindanao (Davao), *F. B. 26248 Ceballos*. In forests, altitude about 650 m. Endemic.

**ELAEODENDRON VIBURNIFOLIUM** (Juss.) Merr. in Philip. Journ. Sci. 16 (1920) 449, t. 1.

*Aegiphila viburnifolia* Juss. in Ann. Mus. Paris 7 (1806) 76; Walp. Repert. 4 (1844-48) 124; Schauer in DC. Prodr. 11 (1847) 655.

*Elaeodendron subrotundum* King in Journ. As. Soc. Beng. 65<sup>2</sup> (1896) 356; Merr. in Journ. Str. Branch Roy. As. Soc. 76 (1917) 93.

"Philippines;" if so, probably from Jolo, *Sonnerat* in Herb. Mus. Paris. Borders of mangrove swamps, Malay Peninsula, Singapore, Borneo.

#### 10. PLEUROSTYLIA Wight and Arnott

**PLEUROSTYLIA WIGHTII** Wight & Arn. Prodr. (1834) 157, var. **NEOCALEDONIA** Loesen. in Engl. Bot. Jahrb. 39 (1907) 171; Merr. in Philip. Journ. Sci. 12 (1917) Bot. 281.

Luzon (Batangas), *B. S. 22350 Ramos*. In thickets on dry slopes at low altitudes. India, Ceylon, Mauritius, Madagascar, New Caledonia.

#### 11. PERROTTETIA Humboldt, Bonpland, and Kunth

**PERROTTETIA ALPESTRIS** (Blume) Loesen. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>o</sup> (1892) 220; Koord. & Val. in Ic. Bogor. 2 (1904) 187, t. 127.

*Celastrus alpestris* Blume Bijdr. (1826) 1145.

\* Species Blancoanae (1918) 241.

*Caryospermum philippinense* Vidal Rev. Pl. Vasc. Filip. (1886) 89.  
*Perrottetia alpestris* Loesen. var. *philippinensis* Stapf in Trans. Linn. Soc. Bot. 4 (1894) 141; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 359.

*Perrottetia philippinensis* Loesen. in Engl. Bot. Jahrb. 24 (1897) 200.

Luzon (Benguet, Bontoc, Laguna, Sorsogon), Mindoro, Panay, Camiguin de Misamis, Mindanao (Davao, Bukidnon), *Elmer* 18037, 16581, 11504, *Merrill* 4748, 5600, *Phil. Pl.* 1288, *B. S.* 31834 *Santos*, 30765, 37624, 38659 *Ramos & Edaña*, 5580, 23559 *Ramos*, 8491, 8865 *McGregor*. Chiefly in the mossy forest on the higher mountains, altitude 700 to 2,400 m. Sumatra, Java, Borneo.

Local names: Bubayug (Ig.); balakbákan (Buk.); dañgális (Bag.); tigaundako (C. Bis.).

## 12. SIPHONODON Griffith

**SIPHONODON CELASTRINEUS** Griff. in Calcutta Journ. Nat. Hist. 4 (1844) 247, *t.* 14; Hook. f. in Trans. Linn. Soc. 22 (1857) 133, *t.* 26; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 629; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 239, Fl. Manila (1912) 302.

*Xanthophyllum subglobosum* Elm. var. *longifolium* Elm. Leaf. Philip. Bot. 5 (1913) 1677.

Luzon (Cagayan, Abra, Ilocos Sur, Tarlac, Bataan, Rizal, Laguna), Mindoro, Ticao, Leyte, Negros, Siargao, Mindanao (Agusan, Cotabato). In dry forests and thickets at low altitudes, ascending to 1,000 m. India to Indo-China, Java.

Var. **ACUMINATISSIMA** var. nov.

A typo differt foliis tenuiter acuminatis.

Basilan, Leyte, *B. S.* 16335 *Reillo*, *Elmer* 7144 as *Xanthophyllum glandulosum* Merr. In forests or thickets at low altitudes. Endemic.

Var. **SUBGLOBOSA** (Elm.) comb. nov.

*Xanthophyllum subglobosum* Elm. Leaf. Philip. Bot. 5 (1913) 1677.

Negros, *Elmer* 9470. In forested ravines, altitude about 450 m. Endemic.

Local names: Bunlas (C. Bis.); malagsak (Mbo.); marang (Tag.).

**SIPHONODON PYRIFORMIS** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 240.

Luzon (Benguet), *F. B.* 5141 *Curran*, *B. S.* 2875 *Mearns*, *Sandkuhl* 160, *Elmer* 5985. In ravines, altitude 1,200 to 1,500 m. Endemic.

## HIPPOCRATEACEAE

### 1. HIPPOCRATEA Linnaeus

**HIPPOCRATEA ELLIPTICARPA** Merr. in Philip. Journ. Sci. 17 (1920) 275.

Mindanao (Surigao), *B. S.* 34761 *Ramos & Pascasio*. In forests at low altitudes. Endemic.

**HIPPOCRATEA INDICA** Willd. Sp. Pl. 1 (1797) 193; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 624; F.-Vill. Novis. App. (1880) 47; Vidal Rev. Pl. Vasc. Filip. (1886) 89; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 86, Sp. Blancoanae (1918) 236.

? *Hippocratea volubilis* Blanco Fl. Filip. (1837) 27, ed. 2 (1845) 20, ed. 3, 1 (1877) 37, non Linn.

Luzon (Zambales, Bataan, Rizal, Laguna, Batangas, Tayabas, Camarines), Lubang, Mindoro, Mindanao (Lanao). In thickets and second-growth forests at low altitudes. India and Ceylon to the Malay Peninsula, Indo-China, Sumatra, Java, and Borneo.

Local name: Lagitík (Tag.).

**HIPPOCRATEA LAWSONII** Elm. Leaflet. Philip. Bot. 7 (1915) 2688.

*Hiptage lawsonii* Elm. Leaflet. Philip. Bot. 8 (1915) 2751.

Sibuyan, *Elmer 12551, 12241*. In forests along streams, altitude about 225 m. Endemic.

**HIPPOCRATEA MACRANTHA** Korth. Verh. Nat. Gesch. Bot. (1839-42) 187, t. 13; Rolfe in Kew Bull. (1918) 47.

*Hippocratea cumingii* Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 624; F.-Vill. Novis. App. (1880) 47; Vidal Phan. Cuming. Philip. (1885) 103.

Samar, *Cuming 1725*. In forests or thickets at low altitudes. Malay Peninsula, Borneo.

**HIPPOCRATEA MEGALOCARPA** Merr. in Philip. Journ. Sci. 13 (1908) Bot. 20.

Luzon (Laguna), Mindoro, *F. B. 24921 Mabesa, B. S. 39556 Ramos*. In primary forests, altitude about 175 m. Endemic.

**HIPPOCRATEA OBTUSIFOLIA** Roxb. Hort. Beng. (1814) 5, *nomen nudum*, Fl. Ind. 1 (1820) 170; Laws. in Hook. f. Fl. Brit. Ind. 1 (1875) 623; F.-Vill. Novis. App. (1880) 47; Vidal Phan. Cuming. Philip. (1885) 103.

Mindoro, Masbate, *Cuming 1555, Merrill 3063*. In thickets and forests at low altitudes. India to China through Malaya to tropical Australia, after Lawson.

It is by no means certain that this identification is correct; see King in Journ. As. Soc. Beng. 65<sup>2</sup> (1896) 360 for a critical note on Roxburgh's species.

Local name: Basag (Bik.).

**HIPPOCRATEA TRICHOPETALA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 21.

Luzon (Tayabas), Panay, Balabac, *B. S. 28958, 30950 Ramos & Edaña, Weber*. In forests along streams at low altitudes. Endemic.

#### EXCLUDED SPECIES

**HIPPOCRATEA ARBOREA** Roxb.; F.-Vill. Novis. App. (1880) 47.

#### 2. SALACIA Linnaeus

**SALACIA CYMOSA** Elm. Leaflet. Philip. Bot. 5 (1913) 1792.

Palawan, *Elmer 12997*. In thickets at low altitudes. Endemic.

**SALACIA EUPHLEBIA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 22.

Mindanao (Surigao, Lanao), *Wenzel 1867, Piper 516, F. B. 23167 Agama*. In thickets and forests at low altitudes. Endemic.

**SALACIA INTEGRIFOLIA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 85.

Luzon (Union, Pangasinan, Zambales, Bataan, Rizal, Tayabas, Albay), Mindoro, Panay, Mindanao (Surigao), *Whitford 1313, Williams 515, Cuming 994, Merrill 2101, 949, B. S. 17695 Otanes, 13393 Ramos, F. B. 2517 Meyer, 2550 Borden*. In thickets and forests at low altitudes. Endemic.

Local name: Matang-úlang (Tag.).

**SALACIA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 291.

Luzon (Cagayan, Ilocos Norte, Pangasinan, Rizal), Lubang, Mindoro, Palawan, Cebu, Mindanao (Surigao), *Merrill 977, Adduru 206, 269, 160, F. B. 19893, 19911 Danao, B. S. 17945, 18295 Otanes, 34759, 34536 Ramos & Pascasio, 39451 Ramos*. In thickets and forests at low altitudes. Endemic.

Local names: Aropit (Tag.); bagi (Tagb.); balagin (Tagb.).

**SALACIA PRINOIDES** (Willd.) DC. Prodr. 1 (1824) 571; F.-Vill. Novis. App. (1880) 47; Vidal Sinopsis Atlas (1883) 20, t. 31, f. E, Phan. Cuming. Philip. (1885) 103; Ceron Cat. Pl. Herb. Manila (1892) 48; Usteri Beitr. Ken. Philip. Veg. (1905) 114; Merr. Fl. Manila (1912) 303, Sp. Blancoanae (1918) 236.

*Tontelea prinoides* Willd. in Ges. Naturf. Fr. Neue Schr. 4 (1803) 184.

*Salacia sinensis* Blanco Fl. Filip. (1837) 26, ed. 2 (1845) 19, ed. 3, 1 (1877) 36, t. 86, non Gmel.

*Comocladia errata* Blanco Fl. Filip. (1837) 30.

Luzon (Zambales, Bataan, Batangas, Tayabas, Camarines), Mindoro, Palawan, Biliran, Romblon, Leyte, Panay, Bucas Grande, Mindanao, Sulu Archipelago, *Cuming 1091, 1497, Merrill 424, 1189, 8627, 9444, Phil. Pl. 1259, 2044, Sp. Blancoanae 371, B. S. 35082 Ramos & Pascasio, Elmer 16562* as *S. angularis* Elm. In thickets and forests at low altitudes, often near the sea. India, through Malaya to tropical Australia.

Local names: Matang-úlang (Tag.); ope (Ig.).

**SALACIA SUBSCANDENS** Elm. Leaf. Philip. Bot. 5 (1913) 1793.

Palawan, *Elmer 12990*. In forests along streams at low altitudes. Endemic.

**SALACIA WENZELII** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 23.

Leyte, *Wenzel 1534*. In forests at low altitudes. Endemic.

## DOUBTFUL AND EXCLUDED SPECIES

**SALACIA GRIFFITHII** Laws.; F.-Vill. Novis. App. (1880) 47.

**SALACIA OBLONGA** Wall.; F.-Vill. l. c.

**SALACIA ROXBURGHII** Wall.; F.-Vill. l. c.; Vidal Sinopsis Atlas (1883) 20, t. 31, f. D.

Vidal's figure is of a single flower only; it is unrecognizable.

**SALACIA TRIPLINERVIS** Llanos in Mem. Acad. Cienc. Madr. III 2 (1857) 500; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 101; Merr. Sp. Blancoanae (1918) 236.

There is no description, but from the specific name Llanos's plant could not possibly have been a representative of the Hippocrateaceae.

**SALACIA VERRUCOSA** Wight; F.-Vill. Novis. App. (1880) 47; Ceron Cat. Pl. Herb. Manila (1892) 48.

Ceron's record was based on *Vidal 2402, 2403, 2405*, from Luzon, none of which I have seen.

#### STACKHOUSIACEAE

##### 1. STACKHOUSIA Smith

**STACKHOUSIA INTERMEDIA** F. M. Bailey in Queensl. Agr. Journ. 3 (1898) 281, forma **PHILIPPINENSIS** Pamp. in Bull. Herb. Boiss. II 5 (1905) 1150; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 286.

*Stackhousia muricata* Benth. in DC. Prodr. 15<sup>1</sup> (1864) 501, quoad Philip.; F.-Vill. Novis. App. (1880) 47; Vidal Phan. Cuming. Philip. (1885) 103, Rev. Pl. Vasc. Filip. (1886) 90, non Lindl.

Luzon (Cagayan, Ilocos Norte, Bontoc, Pangasinan), Culion, Guimaras, *B. S. 18009 Robinson, 27525, 41330 Ramos, F. B. 16584 Curran, Vanoverbergh 4055*. In open grasslands at low altitudes, ascending to 1,500 m; very rare or local. Caroline Islands, Amboina, Sumatra, the species in northeastern Australia. The only representative of the family north of Australia.

#### STAPHYLEACEAE

##### 1. TURPINIA Ventenat

**TURPINIA POMIFERA** (Roxb.) DC. Prodr. 2 (1825) 3; Hiern in Hook. f. Fl. Brit. Ind. 1 (1875) 698; Vidal Sinopsis Atlas (1883) 22, *t. 35, f. G*; Koord. & Val. Bijdr. Boom. Jav. 9 (1903) 245; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 86, 3 (1908) Bot. 418, 5 (1910) Bot. 359.

*Dalrymplea pomifera* Roxb. Hort. Beng. (1814) 17, *nomen nudum*, Pl. Coromandel 3 (1819) 76, *t. 279*.

*Turpinia ovalifolia* Elm. Leaflet. Philip. Bot. 2 (1908) 490.

Throughout the Philippines in primary forests at low and medium altitudes, on some mountains ascending to 2,200 m. India to China, Formosa, and Malaya.

Local names: Anonggo (S. L. Bis.); balaybalayan (Tag.); damas (Ig.); danipo (Ig.); danuman (Ig.); laloi (Bag.); malakatiki (Iv.); malayba (Tag.); nagaspó (Bik.); ngirú (Neg.); pamarabáken (Ibn.); tarosog (Bag.); tigatbó (Bik.); tuol (Ig.); udo (Tag.).

#### ICACINACEAE

##### 1. VILLARESIA Ruiz and Pavon

**VILLARESIA LATIFOLIA** Merr. in Philip. Journ. Sci. 14 (1919) 415.

Samar, *B. S. 24557 Ramos*. In primary forests at low altitudes. Endemic.

Local name: Malaampipi (S. L. Bis.).

**VILLARESIA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 414.

Luzon (Ilocos Norte), *B. S. 33267, 33308 Ramos*. In primary forests, altitude about 1,000 m. Endemic.



## 2. PLATEA Blume

**PLATEA APOENSIS** Elm. Leaf. Philip. Bot. 8 (1915) 2789.

Mindanao (Davao), *Elmer 10582, 11412, 10875*. In primary forests, altitude 1,200 to 1,800 m. Endemic.

Local names: Kalisan (Bag.); kaliso (Bag.).

**PLATEA FULIGINEA** Elm. Leaf. Philip. Bot. 8 (1915) 2790.

Mindanao (Davao, Agusan), *Elmer 10613, 13748*. In primary forests, altitude about 1,500 m. Endemic.

Local name: Yongkatadan (Mbo.).

**PLATEA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 313.

*Platea latifolia* Merr. op. cit. 1 (1906) Suppl. 58, non Blume.

Luzon (Benguet, Bataan, Sorsogon), Leyte, Panay, Negros, Camiguin de Misamis, Mindanao (Lanao), *Whitford 1202, F. B. 2098 Borden, B. S. 23596, 15242 Ramos, 37693, 40381 Ramos & Edaña, Elmer 6835, 9777, 15264, 16355, Wenzel 1047*. In primary forests, altitude 750 to 1,300 m. Endemic.

Local name: Pagpágo (Bon.).

## 3. STEMONURUS Blume

**STEMONURUS HALLIERI** (Merr.) comb. nov.

*Urandra hallieri* Merr. in Philip. Journ. Sci. 5 (1910) Bot. 194.

Mindanao (Zamboanga, Surigao), Basilan, Hallier, *F. B. 9176 Whitford & Hutchinson, 21872 Villamil*. In primary forests at low altitudes. Endemic.

Local name: Malatadu (Mbo.).

**STEMONURUS MERRITTII** Merr. in Philip. Journ. Sci. 3 (1908) Bot. 240.

Mindoro, Palawan, *B. S. 40837 Ramos, F. B. 9916 Merritt, 21585 Danao, Elmer 12622, 12842*. In primary forests at low altitudes. Endemic.

**STEMONURUS SECUNDIFLORUS** Blume Bijdr. (1825) 649, Mus. Bot.

Ludg.-Bat. 1 (1849-51) fig. 45; Becc. Malesia 1 (1877) 112, t. 4;

Koord. & Val. in Meded. Lands Plantent. 33 (1900) 145.

*Lasianthera secundiflora* Miq. Fl. Ind. Bat. 1 (1856) 792.

*Urandra secundiflora* O. Ktze. Rev. Gen. Pl. (1891) 112.

*Urandra gitingensis* Elm. Leaf. Philip. Bot. 4 (1912) 1476.

Sibuyan, Panay, *Elmer 12076, 12277, F. B. 27043 Sajor, 23930 Cortes & Knapp, 22606 Cortes*. In primary forests up to an altitude of 600 m. Malay Peninsula, Sumatra, Java, Borneo.

This is clearly the type of Blume's genus; see Koorders & Valetton l. c.

Local name: Tugbák (P. Bis.).

## 4. GOMPHANDRA Wallich

**GOMPHANDRA AGUSANENSIS** (Elm.) comb. nov.

*Stemonurus agusanensis* Elm. Leaf. Philip. Bot. 7 (1915) 2689.

Mindanao (Agusan, Surigao), *Elmer 14018, F. B. 27004 Mallonga*. In primary forests along streams, altitude about 225 m. Endemic.

Local name: Lambuan (Mbo.).

**GOMPHANDRA APOENSIS** (Elm.) comb. nov.

*Stemonurus apoensis* Elm. Leaf. Philip. Bot. 7 (1915) 2690.

Luzon (Sorsogon), Mindanao (Davao), *Elmer 10658, 15416*. In primary forests along streams, altitude about 900 m. Endemic.

Local name: Marumai (Bag.).

**GOMPHANDRA CUMINGIANA** (Miers) F.-Vill. Novis. App. (1880) 46;

Vidal Phan. Cuming. Philip. (1885) 102, Rev. Pl. Vasc. Filip. (1886) 86; Valetton Crit. Overzicht Olac. (1886) 229.

*Stemonurus cumingianus* Miers Contrib. Bot. 1 (1851-62) 92.

Luzon (Tayabas, Laguna, Camarines, Sorsogon), Alabat, Mindoro, Palawan, Samar, Biliran, Leyte, incl. *Elmer 16429, 15295* as *Urandra sorsogonensis* Elm. In primary forests at low and medium altitudes. Endemic.

Local names: Baróbo (Mang.); bayanotan (S. L. Bis.); lipid (Sul.); mañgoi (Bik.).

**GOMPHANDRA FLAVICARPA** (Elm.) comb. nov.

*Stemonurus flavicarpus* Elm. Leaf. Philip. Bot. 7 (1915) 2691.

Mindanao (Davao, Bukidnon, Lanao), *Elmer 11330, 10527, Warburg 14638, Williams 2582, Clemens 713, 971, F. B. 25247 Alvarez, B. S. 38821, 38864, 39074 Ramos & Edaño*. In primary forests, altitude 700 to 1,400 m; very closely allied to *S. cumingianus* Miers. Endemic.

Local names: Maramai (Bag.); mata-matá (Bag.).

**GOMPHANDRA FULIGINEA** (Elm.) comb. nov.

*Urandra fuliginea* Elm. Leaf. Philip. Bot. 2 (1908) 491.

Luzon (Benguet), *Elmer 8620, Williams 1270*. In thickets, altitude 1,400 to 1,700 m. Endemic.

Local name: Danka (Ig.).

**GOMPHANDRA GLABRA** Merr. in Philip. Journ. Sci. 17 (1920) 277.

Samar, Leyte, *Merrill Phil. Pl. 1628, B. S. 24241, 17660, 24547 Ramos, Wenzel 1722, 1744, 1029*. In primary forests at low altitudes. Endemic.

**GOMPHANDRA LANCIFOLIA** Merr. in Philip. Journ. Sci. 17 (1920) 277.

Luzon (Tayabas, east coast), *B. S. 26544 Ramos & Edaño*. In primary forests, altitude about 200 m. Endemic.

Local name: Paranyuyog (Neg.).

**GOMPHANDRA LAXIFLORA** (Miers) Rolfe in Journ. Bot. 23 (1885)

211, Phan. Cuming. Philip. (1885) 103, Rev. Pl. Vasc. Filip. (1886) 86.

*Stemonurus laxiflorus* Miers Contrib. Bot. 1 (1851-61) 98, t. 16; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 240.

*Platea laxiflora* Miers. l. c.

*Cissus flexuosa* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 415; Planch. in DC. Monog. Phan. 5 (1887) 264.

Luzon (Albay), Mindoro, *Cuming 891, F. B. 4060 Merritt, 19926 Amarillas, B. S. 41089 Ramos*. In primary forests at low altitudes. Endemic.

**GOMPHANDRA LUZONIENSIS** (Merr.) comb. nov.

*Urandra luzoniensis* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 242, Sp. Blancoanae (1918) 237.

*Elaeocarpus ? integrifolius* Blanco Fl. Filip. ed. 2 (1845) 306, ed. 3, 2 (1878) 202, non Lam.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Union, Nueva Ecija, Bataan, Rizal, Laguna, Cavite, Batangas), Mindoro, Marinduque, Palawan. Common in primary forests at low altitudes. Endemic.

Local names: Bibislákin (Ilk.); bitlag (Tag.); ímus (Ilk.); mabúnót (Tag.); manankálaw (Tag.); maratúba (Ibn.); rogrogsó (Ilk.).

**GOMPHANDRA OBLONGIFOLIA** Merr. in Philip. Journ. Sci. 17 (1920) 276.

Luzon (Camarines, Sorsogon), Catanduanes, *B. S. 33727 Ramos & Edaña, 30258, 30355 Ramos, F. B. 27406 Alambra, 21103 Hsia, Elmer 15650* as *Urandra leytenensis* Elm. In primary forests at low altitudes. Endemic.

Local name: Laing (Bik.).

**GOMPHANDRA PAUCIFLORA** (Merr.) comb. nov.

*Urandra pauciflora* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 243.

Mindoro, Sibuyan, *F. B. 6770, 4327 Merritt, B. S. 39596, 39658, 41006, 41107 Ramos, 12508, 12202 Elmer*. In primary forests at low altitudes. Endemic.

#### EXCLUDED SPECIES

**GOMPHANDRA AXILLARIS** Wall.; F.-Vill. Novis. App. (1880) 45.

**GOMPHANDRA AFFINIS** Mast.; F.-Vill. l. c.

#### 5. GONOCARYUM Miquel

**GONOCARYUM CALLERYANUM** (Baill.) Becc. Malesia 1 (1877) 123; Valetón Crit. Overzicht Olac. (1886) 247; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 243, 418.

*Phlebocalymna calleryana* Baill. Adansonia 9 (1869) 147.

*Gonocaryum tarlacense* Vidal Sinopsis Atlas (1883) 20, t. 30, f. C, Rev. Pl. Vasc. Filip. (1886) 68; Ceron Cat. Pl. Herb. Manila (1892) 46; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 86.

Batan Islands and all provinces in Luzon. Common in primary forests at low and medium altitudes, ascending to 750 m. Endemic.

Local names: Ampalang (Klg.); angkak (Bik.); basa-basa (Ibn.); busigan (Ibn.); gohan (Klg.); karasóko (Ibn.); lunás (Tag.); malagohan (Klg.); malapínggan (Tag.); malasámat (Tag.); malasitúm (Pamp.); malatápai (Bik.); maragauák (Ibn.); naragaúed (Ibn.); rogrogsó (Ilk.); urátan (Ilk.); yaya (Neg.).

**GONOCARYUM COGNATUM** Elm. Leaf. Philip. Bot. 1 (1908) 315.

Luzon (Sorsogon), Leyte, Mindanao (Butuan), *Elmer 7352, 17061, F. B. 20744 Rafael & Ponce*. In forests at low altitudes. Endemic.

**GONOCARYUM GRANDIFOLIUM** Merr. in Philip. Journ. Sci. 17 (1920) 278.

Panay, Dinagat, *B. S. 31456 Ramos & Edaña, 35205 Ramos & Pascasio*. In primary forests at low altitudes. Endemic.

6. *IODES* Blume

*IODES PHILIPPINENSIS* Merr. in Philip. Journ. Sci. 3 (1908) Bot. 241; C. B. Rob. op. cit. 6 (1911) Bot. 209.

*Iodes ovalis* Baill. in DC. Prodr. 17 (1873) 22, quoad Philip.; F.-Vill. Novis. App. (1880) 46; Vidal Phan. Cuming. Philip. (1885) 103, Rev. Pl. Vasc. Filip. (1886) 85, non Blume.

Luzon (Sorsogon), Polillo, Mindoro, Palawan, Masbate, Biliran, Romblon, Sibuyan, Leyte, Panay, Negros, Cebu, Mindanao (Surigao), Basilan. In thickets at low altitudes. Borneo.

7. *SARCOSTIGMA* Wight and Arnott

*SARCOSTIGMA PHILIPPINENSIS* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 276.

Leyte, Mindanao (Agusan), Wenzel 987, Elmer 13732, 13930 as *S. surigaoensis* Elm. In primary forests, altitude about 150 cm.

8. *PYRENACANTHA* Wight

*PYRENACANTHA REPANDA* (Merr.) comb. nov.

*Freeria repanda* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 292.

Luzon (Tayabas, Sorsogon), Samar, Siargao, B. S. 24369, 13289 Ramos, 34929 Ramos & Pascasio, Elmer 17359 as *Freeria strongei* Elm. In forests at low altitudes. Endemic.

This is probably the same as Vidal 2387 from Bulacan Province, Luzon, reported by Ceron, Cat. Pl. Herb. Manila (1892) 46, as *Pyrenacantha* sp.

9. *PHYTOCRENE* Wallich

*PHYTOCRENE BLANCOI* (Azaola) Merr. in Philip. Journ. Sci. 2 (1907) Bot. 432, Sp. Blancoanao (1918) 237.

*Kadsura blancoi* Azaola in Blanco Fl. Filip. ed. 2 (1845) 594, ed. 3, 3 (1879) 118.

*Gynocephalum luzoniense* Llanos in Rev. Progr. Cienc. 15 (1865) 55.

*Phytocrene luzoniensis* Baill. in Adansonia 10 (1871-73) 281, DC. Prodr. 17 (1873) 10; F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 86; F.-Vill. Novis. App. (1880) 46; Ceron Cat. Pl. Herb. Manila (1892) 46.

Luzon (Rizal, Laguna, Tayabas, Sorsogon), Polillo, Palawan, Samar, Leyte, Mindanao (Butuan, Lanao, Davao). In thickets and forests at low altitudes; widely scattered. Endemic.

Local name: Olo-olo (Bag.).

*PHYTOCRENE LOHERI* Merr. in Philip. Journ. Sci. 7 (1912) Bot. 293.

Luzon (Rizal), Loher 5796. In forests. Endemic.

*PHYTOCRENE OBOVOIDEA* Merr. in Philip. Journ. Sci. 10 (1915) Bot. 322.

Biliran, B. S. 18832 McGregor. In forests at low altitudes. Endemic.

10. *MIQUELIA* Meissner

*MIQUELIA CUMINGII* Baill. Adansonia 10 (1871-73) 278, DC. Prodr. 17 (1873) 14; Vidal Phan. Cuming. Philip. (1885) 103, Rev. Pl. Vasc. Filip. (1886) 86.

Luzon (Cagayan, Benguet, Tayabas), Mindoro, Samar, Leyte, Siargao, *Cuming 1378, Elmer 6440, B. S. 24572, 19526, 40843 Ramos, 24869 Ramos & Pascasio, McGregor 229, Wenzel 1767*. In primary forests at low altitudes. Endemic.

**MIQUELIA PHILIPPINENSIS** Merr. in Philip. Journ. Sci. 14 (1919) 416.

Luzon (Ilocos Norte), *B. S. 32885 Ramos*. In forests at low altitudes. Endemic.

**MIQUELIA RETICULATA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 312.

Camiguin de Misamis, *B. S. 14674 Ramos*. In primary forests at low altitudes. Endemic.

#### 11. CARDIOPTERIS Wallich

**CARDIOPTERIS MOLUCCANA** Blume Rumphia 3 (1847) 207; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 423.

*Cardiopteris lobata* R. Br. in Wall. Cat. (1847) No. 8033, *nomen nudum*, Benn. Pl. Jav. Rar. (1852) 246, *t. 49*; F.-Vill. Novis. App. (1880) 46.

Luzon (Camarines, Sorsogon), Negros, Mindanao (Lanao, Bukidnon, Davao), *B. S. 22208, 23449 Ramos, 38579 Ramos & Edaña, Clemens 137, Elmer 17219, 10855, 11753*. In primary forests at low and medium altitudes. India to Yunnan southward through Malaya to New Guinea and northeastern Australia.

Local names: Bañgogan (Bik.); gurisan (Bag.); lila (Buk.); sagumáti (Bag.); tagulaúai (P. Bis.).

#### ACERACEAE

##### 1. ACER Linnaeus

**ACER NIVEUM** Blume Rumphia 3 (1837) 193, *t. 167B*; Hiern in Hook. f. Fl. Brit. Ind. 1 (1875) 693; Pax in Engl. Pflanzenreich 8 (1902) 31; Koord. & Val. in Meded. Lands Plantent. 9 (1903) 254.

*Acer philippinum* Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 36, Philip. Journ. Sci. 1 (1906) Suppl. 86, 2 (1907) Bot. 279.

*Acer curranii* Merr. in Philip. Journ. Sci. 4 (1909) Bot. 285.

Luzon (Cagayan, Abra, Bontoc, Lepanto, Benguet, Laguna, Bataan, Sorsogon), Negros, Mindanao (Davao), *Vanoverbergh 1052, 3807, Elmer 15988, 11437, Merrill 3872, 4528, Phil. Pl. 1721, B. S. 5708, 23408 Ramos, 31933 Santos, F. B. 21296 Sandkuhl, 25445 Santos, 6254, 17404 Curran*. In mountain forests, altitude 1,000 to 2,400 m; widely scattered. Assam, Burma, Sumatra, Java, Celebes.

Local names: Baliag (Ig.); laing (Tag.); tio (Bag.).

#### SAPINDACEAE

##### 1. CARDIOSPERMUM Linnaeus

**CARDIOSPERMUM HALICACABUM** Linn. Sp. Pl. (1753) 336; DC. Prodr. 1 (1824) 601; Blanco Fl. Filip. (1837) 312, ed. 2 (1845) 218, ed. 3, 2 (1878) 44; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 578; F.-Vill. Novis. App. (1880) 50; Radlk. in Perk. Frag. Fl. Philip. (1904) 56, Philip. Journ. Sci. 8 (1913) Bot. 443; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 418, Fl. Manila (1912) 304, Sp. Blancoanae (1918) 237.

In thickets, waste places, etc., in the settled areas throughout the Philippines; certainly an introduced plant in the Archipelago. Pantropic; the Philippine material is all referable to the variety *microcarpum* (HBK.) Blume.

Local names: Álalayou (C. Bis.); bangkólon (Tag.); kana (Bis.); lobo-lobohan (Tag.); layau (Tag.); paltupaltúkan (Pamp.); paria-áso (Ilk.); parolparólan (Tag.); paspalyá (Ilk.).

## 2. ALLOPHYLUS Linnaeus

**ALLOPHYLUS APIOCARPUS** Radlk. in Sitz. Kgl. Bayer. Akad. **38** (1908) 227, Philip. Journ. Sci. **8** (1913) Bot. 443, 448.

Cebu, Basilan, Mindanao (Bik.); *F. B. 6120 Espinosa, 18948 Miranda, B. S. 38457 Ramos & Edaño*. In thickets or forests at low altitudes. Endemic.

Local names: Mabúgnai (C. Bis.); luñga-luñga (Buk.).

**ALLOPHYLUS BREVIPETIOLATUS** Radlk. in Philip. Journ. Sci. **8** (1913) Bot. 443, 449.

Panay (*Vidal 3693*), *B. S. 35338 Martelino & Edaño*. On slopes in open forests at low altitudes. Endemic.

**ALLOPHYLUS CHLOROCARPUS** Radlk. in Sitz. Kgl. Bayer. Akad. **38** (1908) 232, Philip. Journ. Sci. **8** (1913) Bot. 444, 451.

Samar, Palawan, Mindanao (Lanao, Zamboanga), *F. B. 3473 Curran, B. S. 37009 Ramos & Edaño, Clemens 769, 1170a*. In old clearings, thickets, etc., ascending to 700 m altitude. Endemic.

Local name: Sagima (Sub.).

**ALLOPHYLUS DASYTHYRSUS** Radlk. in Sitz. Kgl. Bayer. Akad. **38** (1908) 231, Philip. Journ. Sci. **8** (1913) Bot. 444.

Luzon (Cagayan), *Cuming 1332*. Scarcely distinguishable from *A. filiger* Radlk. Endemic.

**ALLOPHYLUS DIMORPHUS** Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 126 (Sapind. Holl.-Ind. 56), Perk. Frag. Fl. Philip. (1904) 56, Sitz. Kgl. Bayer. Akad. **38** (1908) 234, Philip. Journ. Sci. **8** (1913) Bot. 444; Vidal Rev. Pl. Vasc. Filip. (1886) 95; Merr. in Philip. Journ. Sci. **1** (1906) Bot. 86, Fl. Manila (1912) 304.

*Allophylus blancoi* Naves in Blanco Fl. Filip. ed. 3 (1877-83) t. 260, non Blume.

*Allophylus cobbe* Blume, forma *blancoi* F.-Vill. Novis. App. (1880) 51; Vidal Rev. Pl. Vasc. Filip. (1886) 94, Phan. Cuming. Philip. (1885) 104.

*Allophylus quinatus* Radlk. in Perk. Frag. Fl. Philip. (1904) 57, Sitz. Kgl. Bayer. Akad. **38** (1908) 234, Philip. Journ. Sci. **8** (1913) Bot. 444.

Luzon (Cagayan, Ilocos Norte, Union, Zambales, Pampanga, Bulacan, Bataan, Rizal, Laguna, Batangas), Mindoro, Cuyo. Common in dry thickets and second-growth forests at low altitudes. Indo-China.

Local names: Anarong (Sbl.); lagúndi-gúbat (Sbl.); laret (Tag.); malagúndi (Tag.).

**ALLOPHYLUS FILIGER** Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 126 (Sapind. Holl.-Ind. 56), Sitz. Kgl. Bayer. Akad. 38 (1908) 231, Philip. Journ. Sci. 8 (1913) Bot. 444; Merr. op. cit. 1 (1906) Suppl. 86; Vidal Rev. Pl. Vasc. Filip. (1886) 95.

*Allophylus fulvinervis* Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 94, non Blume.

Luzon (Nueva Ecija, Bulacan, Bataan, Rizal, Laguna). In secondary and primary forests at low altitudes, ascending to 500 m. Endemic.

Local names: Bating (Tag.); bato-bató (Tag.).

**ALLOPHYLUS GRANULATUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 444, 451.

Luzon (Isabela, Ilocos Norte, Benguet), *B. S. 12560 Félix, 32861 Ramos, F. B. 26072 Barros*. On forested slopes at low and medium altitudes. Endemic.

Local name: Maradaláyap (Ilk.).

**ALLOPHYLUS GROSSEDENTATUS** (Turcz.) F.-Vill. Novis. App. (1880) 51; Radlk. in Perk. Frag. Fl. Philip. (1904) 56, Philip. Journ. Sci. 8 (1913) Bot. 444, Sitz. Kgl. Bayer. Akad. 38 (1908) 232.

*Schmidelia grossedentata* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 401.

*Allophylus cobbe* Blume var. *grossedentata* Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 94.

Luzon (Laguna), Leyte, *Cuming 640, Elmer 7333, 18393, F. B. 22278 Mariano*. In forests at low altitudes, ascending to 500 m. Indo-China?

**ALLOPHYLUS HYMENOCALYX** Radlk. in Sitz. Kgl. Bayer. Akad. 38 (1908) 229, Philip. Journ. Sci. 8 (1913) Bot. 443, 450.

Mindanao (Agusan, Zamboanga, Davao), *Copeland 1635, Merrill 8195, Williams 2407, Elmer 11774, 13499*. In forests up to an altitude of 1,000 m. Endemic.

Local name: Damolio (Bag.).

**ALLOPHYLUS INSIGNIS** Radlk. in Sitz. Kgl. Bayer. Akad. 38 (1908) 234, Philip. Journ. Sci. 8 (1913) Bot. 444.

Luzon (Nueva Ecija), (*Cuming 1447*); also in Palawan fide Radlkofer. Not seen; probably very close to *A. dimorphus* Radlk. Endemic.

**ALLOPHYLUS LARGIFOLIUS** Radlk. in Sitz. Kgl. Bayer. Akad. 38 (1908) 226, Philip. Journ. Sci. 8 (1913) Bot. 443, 448.

Mindanao (Zamboanga), *Merrill 5475, Williams 2302, B. S. 16508 Reillo*. In forested ravines at low altitudes. Endemic.

**ALLOPHYLUS LEPTOCLADUS** Radlk. in Leaflet. Philip. Bot. 5 (1913) 1602, Philip. Journ. Sci. 8 (1913) Bot. 444.

Mindanao (Davao, Lanao), *Elmer 11957, F. B. 26671 Rola*. In forests, altitude 1,200 to 1,600 m. Endemic.

Local name: Tarañgisi (Bag.).

**ALLOPHYLUS LEUCOCHROUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 444.

*Allophylus leucocladus* Radlk. in Philip. Journ. Sci. 6 (1911) Bot. 181, 209 sphalm.

Polillo, Luzon (Sorsogon), *B. S. 6880 Robinson, 23493 Ramos*. In thickets or forests at low or medium altitudes. Endemic.

**ALLOPHYLUS MACROSTACHYS** Radlk. in *Perk. Frag. Fl. Philip.* (1904) 56, *Sitz. Kgl. Bayer. Akad.* 38 (1908) 232, *Philip. Journ. Sci.* 8 (1913) Bot. 444.

*Allophylus cobbe* F.-Vill. *Novis. App.* (1880) 51; *Vidal Sinopsis Atlas* (1883) 21, *t. 34, f. C*, *Phan. Cuming. Philip.* (1885) 104, *Rev. Pl. Vasc. Filip.* (1886) 94, p. p. non Blume.

Luzon (Benguet, Pangasinan, Pampanga, Nueva Ecija, Bataan, Rizal, Laguna, Tayabas, Batangas), Mindoro. In secondary and open primary forests at low altitudes. Endemic.

Local names: Barotañgol (Neg.); bignái-báker (Ilk.); liñgo-liñgo (Pang.).

**ALLOPHYLUS MALVACEUS** Radlk. in *Sitz. Kgl. Bayer. Akad.* 38 (1908) 231, *Philip. Journ. Sci.* 8 (1913) Bot. 444.

Luzon (Pangasinan), (*Cuming 1021*). Not seen. Endemic.

**ALLOPHYLUS PEDUNCULARIS** Radlk. in *Philip. Journ. Sci.* 8 (1913) Bot. 443, 450.

Masbate, Ticao, Luzon (Sorsogon), *F. B. 12661 Rosenbluth, Elmer 15677, 15125, 15314*. In thickets and forests at low altitudes. Endemic.

**ALLOPHYLUS RACEMOSUS** (Linn.) Radlk. in *Engl. & Prantl Nat. Pflanzenfam.* 3<sup>5</sup> (1895) 313, *Perk. Frag. Fl. Philip.* (1904) 58, *Sitz. Kgl. Bayer. Akad.* 38 (1908) 230, *Philip. Journ. Sci.* 8 (1913) Bot. 444.

*Schmidelia racemosa* Linn. *Mant.* 1 (1767) 67; *A. Gray Bot. Wilkes U. S. Explor. Exped.* (1754) 249.

Luzon (Bulacan), Negros, Mindanao, Basilan, Palawan, Sulu Archipelago, *F. B. 7195 Curran, Merrill 5255, Warburg 13342*. In thickets or forests at low altitudes. Burma and Indo-China through Malaya to New Guinea.

**ALLOPHYLUS SAMARENSIS** Merr. in *Philip. Journ. Sci.* 11 (1916) Bot. 192.

Samar, *B. S. 24402 Ramos*. On forested slopes, altitude about 200 m. Endemic.

Local name: Hampapañgiai (S. L. Bis.).

**ALLOPHYLUS SETULOSUS** Radlk. in *Perk. Frag. Fl. Philip.* (1904) 58, *Sitz. Kgl. Bayer. Akad.* 38 (1908) 231, *Philip. Journ. Sci.* 8 (1913) Bot. 444.

Mindanao (Zamboanga), Jolo, *B. S. 16492 Reillo, 11775, 11759 Robinson, 37466 Ramos & Edaña, Merrill 8149, Hallier, Warburg 14919*. In thickets at low altitudes. Endemic.

**ALLOPHYLUS SIMPLICIFOLIUS** Radlk. in *Elm. Leaf. Philip. Bot.* 5 (1913) 1601, *Philip. Journ. Sci.* 8 (1913) Bot. 443.

Samar, Mindanao (Zamboanga, Agusan, Davao), Siargao, *Elmer 11138, 13590, Merrill Phil. Pl. 1690, F. B. 26161 Miranda, 28215 Elumir, B. S. 35022 Ramos & Pascasio*. In forests up to 500 m altitude. Endemic.

Local name: Nanhiñgon (Bag.).



**ALLOPHYLUS STENOPHYLLUS** Merr. in Philip. Journ. Sci. 14 (1919) 417.

Luzon (Ilocos Norte), *B. S.* 32839, 27334 Ramos. In dry thickets at low altitudes. Endemic.

**ALLOPHYLUS SUBINCISO-DENTATUS** Radlk. in Elm. Leaf. Philip. Bot. 5 (1913) 1603, Philip. Journ. Sci. 8 (1913) Bot. 444.

*Allophylus repando-dentatus* Radlk. l. cc.

Mindanao (Surigao, Davao), *Elmer* 11728, 11827, *B. S.* 34430 Ramos & Pascasio. In thickets at low and medium altitudes, ascending to 1,000 m. Endemic.

Local names: Atig (Bag.); basloi (Bag.); duknai (C. Bis.).

**ALLOPHYLUS TERNATUS** (Forst.) Radlk. in Engl. & Prantl Nat. Pflanzenfam. 3<sup>5</sup> (1895) 313, Perk. Frag. Fl. Philip. (1904) 59, Sitz. Kgl. Bayer. 38 (1908) 230, Philip. Journ. Sci. 8 (1913) Bot. 444; C. B. Rob. op. cit. 6 (1911) Bot. 209; Merr. Sp. Blancoanae (1918) 237.

*Aporetica ternata* Forst. Char. Gen. (1776) 132.

*Aporetica penicellata* Blanco Fl. Filip. (1837) 291, ed. 2 (1845) 203, ed. 3, 2 (1878) 15.

*Allophylus leptococcus* Radlk. in Sitz. Kgl. Bayer. Akad. 38 (1908) 231, Philip. Journ. Sci. 8 (1913) Bot. 444, Engl. Bot. Jahrb. 56 (1920) 264, quoad Philip.!

Luzon (Zambales, Bataan, Tayabas, Camarines, Albay), Mindoro, Polillo, Leyte, Mindanao, Basilan. In thickets along the seashore and along tidal streams. Borneo to the Caroline Islands, Timor, tropical Australia, New Caledonia, New Hebrides, and the Marshall Islands.

Local name: Mambahino (Sul.).

**ALLOPHYLUS TIMORENSIS** (DC.) Blume Rumphia 3 (1847) 130; Radlk. in Sitz. Kgl. Bayer. Akad. 38 (1908) 232; Perk. Frag. Fl. Philip. (1904) 59, Philip. Journ. Sci. 8 (1913) Bot. 444; Merr. Sp. Blancoanae (1918) 238.

*Schmidelia timorensis* DC. Prodr. 1 (1824) 611.

*Allophylus blancoi* Blume Rumphia 3 (1847) 129; Walp. Ann. 2 (1850) 217; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 576.

*Schmidelia obovata* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 249; Walp. Ann. 4 (1857) 378, saltem quoad Philip.

*Aporetica ternata* Blanco Fl. Filip. (1837) 290, non Forst.

*Aporetica gemella* Blanco op. cit. ed. 2 (1845) 203, ed. 3, 2 (1878) 15, non DC.

Luzon (Zambales, Tayabas, Camarines, Sorsogon), Mindoro, Dumarán, Palawan, Balabac, Bancalan, Sibuyan, Masbate, Samar, Panay, Negros, Bohol, Mindanao, Sulu Archipelago. Common in thickets along the seashore. Formosa to the Nicobar Islands, Malay Peninsula and Archipelago, Samoa, and New Caledonia.

Local names: Handamo (Tag.); talipúngpung (Bik.).

**ALLOPHYLUS TRIPHYLLUS** (Burm. f.) Merr. in Philip. Journ. Sci. 19 (1921) 363.

*Usubis triphylla* Burm. f. Fl. Ind. (1768) 89, t. 32, f. 1.

*Allophylus javensis* Blume Rumphia 3 (1847) 126; Radlk. in Sitz. Kgl. Bayer. Akad. 38 (1908) 231, Philip. Journ. Sci. 8 (1913) Bot. 444.

Basilan, Palawan, Jolo, *B. S. 15489, 15486 Reillo*. In thickets at low altitudes. Malay Peninsula and Archipelago.

Local name: Sai-sai (Sul.).

**ALLOPHYLUS UNIFOLIOLATUS** Radlk. in Elm. Leaf. Philip. Bot. 1 (1907) 208, Sitz. Kgl. Bayer. Akad. 38 (1908) 227, Philip. Journ. Sci. 8 (1913) Bot. 443.

Leyte, *Elmer 7329*. In forests or thickets at low altitudes. Endemic.

#### EXCLUDED SPECIES

**ALLOPHYLUS ZEYLANICUS** Linn.; F.-Vill. Novis. App. (1880) 51.

### 3. SAPINDUS Tournefort

**SAPINDUS SAPONARIA** Linn. Sp. Pl. (1753) 367; DC. Prodr. 1 (1824) 607; Radlk. in Perk. Frag. Fl. Philip. (1904) 59 (f. *microcarpa* Radlk.), Philip. Journ. Sci. 8 (1913) Bot. 444; Merr. Sp. Blancoanae (1918) 238.

*Quassia tricarpa* Blanco Fl. Filip. (1837) 351, ed. 2 (1845) 206, ed. 3, 2 (1878) 94, t. 388 p. p.

*Sapindus forsythii* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 401; F.-Vill. Novis. App. (1880) 53, non DC.

*Sapindus tureznaninowii* Vidal Sinopsis Atlas (1883) 21, t. 34, f. A, Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 96.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Abra, Union, Pangasinan, Nueva Ecija, Zambales, Pampanga, Bataan, Rizal, Laguna), Mindanao (Cotabato). In secondary forests at low and medium altitudes, locally common. Pantropic.

The Philippine specimens are all forma *microcarpa* Radlk. in Mart. Fl. Bras. 13<sup>3</sup> (1900) 517.

Local names: Amugáuen (Ilk.); kasibag (Ilk.); kasábai (Ilk.); katíkis (Tag.); katigis (Tag.); kasíben (Ilk.); kasibeng (Ibn., Ilk.); kusibeng (Ilk.); malahito (Tag.); malapalitpit (Pamp.); palikpík-hitó (Tag.); tika-tiká (Tag.); tikas-tikás (Tag.); tikis-tikis (Tag.).

#### EXCLUDED SPECIES

**SAPINDUS TRIFOLIATUS** Linn.; F.-Vill. Novis. App. (1880) 53.

### 4. ERIOGLOSSUM Blume

**ERIOGLOSSUM RUBIGINOSUM** (Roxb.) Blume Rumphia 3 (1847) 118; Radlk. in Perk. Frag. Fl. Philip. (1904) 60, Philip. Journ. Sci. 8 (1913) Bot. 444.

*Sapindus rubiginosus* Roxb. Pl. Coromandel 1 (1795) 44, t. 62.

*Erioglossum edule* Blume Rumphia 3 (1847) 118; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 574; F.-Vill. Novis. App. (1880) 51; Vidal Sinopsis Atlas (1883) 22, t. 35, f. H, Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 94; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 34, Govt. Lab. Publ. (Philip.) 27 (1905) 34, Sp. Blancoanae (1918) 238.

- Sapindus edulis* Blume Cat. Gew. Buitenz. (1823) 64; Blanco Fl. Filip. ed. 2 (1845) 201, ed. 3, 2 (1878) 12, non Ait.  
*Moulinsia rubiginosa* G. Don Gen. Syst. 1 (1831) 667; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 250.

Throughout the Philippines, in most provinces and islands. Common in forests at low and medium altitudes. India through Malaya to tropical Australia.

Local names: Aboi (P. Bis.); balinaúnau (P. Bis.); balít (C. Bis.); barít (P. Bis.); buli-buli (C. Bis., P. Bis.); buri-buri (P. Bis.); duka (Bis.); kalangkañgin (Tagk.); kaláyo (Tag.); kalimáiu (Tag.); lágui (Ting.); liñgárau (Tag.); magasilad (Mbo.); malaságing-putí (Tag.); palátangan-a-nalabága (Ilk.); tagurirong (P. Bis.); togoriron (P. Bis.); usau-usau (Sul.).

#### 5. APHANIA Blume

**APHANIA ANGUSTIFOLIA** Radlk. in Leaf. Philip. Bot. 1 (1907) 209, Philip. Journ. Sci. 8 (1913) Bot. 444.

Luzon (Sorsogon), Samar, Leyte, *Elmer 7330, 15429, 15534, B. S. 24177, 24380 Ramos*. In primary forests at low altitudes. Endemic.

**APHANIA LOHERI** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 444, 452.

Luzon (Cagayan, Tayabas, Pampanga, Rizal), *Loher 2056, 5874, Merrill 1433, Villegas 126, B. S. 13814 Ramos, F. B. 24123 Velasco*. In forests at low altitudes. Endemic.

Local names: Balinóno (Pamp.); bitúg (Pamp.).

**APHANIA PHILIPPINENSIS** Radlk. in Perk. Frag. Fl. Philip. (1904) 60, Philip. Journ. Sci. 8 (1913) Bot. 444.

Luzon (Camarines, Tayabas, Samar), Jolo, *Ahern 216 p. p., B. S. 26944 Edaña, Merrill Phil. Pl. 1634*. In forests at low altitudes. Endemic.

Local name: Onába (Bik.).

#### 6. HEBECOCCUS Radlkofer

**HEBECOCCUS FALCATUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 444, 453.

Luzon (Tayabas, Camarines), Leyte, *F. B. 12631, 16976 Rosenbluth, 18689 Darling, 23711 Alvarez*. On forested slopes at low altitudes. Endemic.

**HEBECOCCUS INAEQUALIS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 453.

Cebu, Basilan, *F. B. 6459 Everett, B. S. 16151 Reillo*. In forests up to 300 m altitude. Endemic. The third species of the genus is known only from Java.

Local name: Hagulian (C. Bis.).

#### 7. LEPISANTHES Blume

**LEPISANTHES ACUTISSIMA** Radlk. in Philip. Journ. Sci. 20 (1922) 657.

Palawan, *Merrill 9564*. On dry forested slopes at low altitudes. Endemic.

**LEPISANTHES ERIOLEPIS** Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 107 [Sapind. Holl.-Ind. 36, Nachtr. (1878) 86], Philip. Journ. Sci. 8 (1913) Bot. 445; Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 95; F.-Vill. Novis. App. (1883) 349.

Luzon (Laguna, Tayabas, Camarines), Mindoro, *Cuming 785, B. S. 12492, 22899 McGregor, 33663, 26588 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local name: Sarakag (Neg.).

**LEPISANTHES MACROCARPA** Radlk. in Philip. Journ. Sci. 20 (1922) 657.

Luzon (Tayabas), *B. S. 19460 Ramos, Elmer 7893*. On slopes in primary forests at low or medium altitudes. Endemic.

**LEPISANTHES PALAWANICA** Radlk. in Leaf. Philip. Bot. 5 (1913) 1604, Philip. Journ. Sci. 8 (1913) Bot. 445.

Palawan, *Elmer 13046, Merrill 9376, F. B. 27925 Cenabre, Paras, & Gellidon*. In primary forests at low altitudes. Endemic.

**LEPISANTHES SCHIZOLEPIS** Radlk. Sapind. Holl.-Ind. Nachtr. (1878) 87, Perk. Frag. Fl. Philip. (1904) 60, Philip. Journ. Sci. 8 (1913) Bot. 445 (incl. f. *sphenolepis* Radlk.); F.-Vill. Novis. App. (1883) 349.

*Lepisanthes perviridis* Elm. Leaf. Philip. Bot. 8 (1919) 3101.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Nueva Ecija, Bulacan, Rizal, Laguna, Batangas, Camarines), Leyte, Negros, Mindanao (Agusan). In primary forests at low altitudes, widely scattered. Endemic.

Local names: Balúñgai (Tag.); bayag-dagá (Tag.); pamalatángen (Ilk.); pospós (Bik.).

**LEPISANTHES VIRIDIS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 454.

Mindanao (Zamboanga), *F. B. 9266 Whitford & Hutchinson, B. S. 37020 Ramos & Edaño*. In primary forests at low altitudes. Endemic.

Local name: Biligas (Sub.).

#### EXCLUDED SPECIES

**LEPISANTHES CUNEATA** Hiern.; F.-Vill. Novis. App. (1883) 349.

**LEPISANTHES MONTANA** Blume; F.-Vill. l. c.

#### 8. OTOPHORA Blume

**OTOPHORA CAULIFLORA** Merr. in Philip. Journ. Sci. 13 (1918) Bot. 24.

Luzon (Tayabas, east coast), *B. S. 28561, 28533 Ramos & Edaño*. In forests along streams at low altitudes. Endemic.

**OTOPHORA FRUTICOSA** (Roxb.) Blume Rumphia 3 (1847) 142; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 560; Koord. & Val. Bijdr. Boom. Java 9 (1903) 174; Radlk. in Perk. Frag. Fl. Philip. (1904) 61, Philip. Journ. Sci. 8 (1913) Bot. 445; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 87, Fl. Manila (1912) 305, Sp. Blancoanae (1918) 239.

*Sapindus fruticosus* Roxb. Fl. Ind. ed. 2, 2 (1832) 283.

*Sapindus baccatus* Blanco Fl. Filip. (1837) 290.

- Koelreuteria edulis* Blanco op. cit. ed. 2 (1845) 202, ed. 3, 2 (1878) 14, t. 110.
- Capura pinnata* Blanco Fl. Filip. (1837) 264; Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 97.
- Capura purpurata* Blanco op. cit. ed. 2 (1845) 184, ed. 3, 1 (1877) 328.
- Otolepis nigrescens* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 573; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 561.
- Otophora blancoi* Blume Rumphia 3 (1847) 142; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 560; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 259; F.-Vill. Novis. App. (1880) 52.
- Otophora nigrescens* F.-Vill. Novis. App. (1880) 52.
- Capura nigrescens* Vidal Cat. Pl. Prov. Manila (1880) 24, Sinopsis Atlas (1883) 21, t. 34, f. E.
- Otophora paucijuga* F.-Vill. Novis. App. (1880) 52, non Hiern.
- Otophora pinnata* Merr. in Philip. Bureau Forestry Bull. 1 (1903) 35.
- Sapindus arborescens* Llanos ex F.-Vill. & Naves in Blanco Fl. Filip. ed. 3, 4<sup>1</sup> (1880) 105, non Aubl.

Throughout the Philippines in thickets and secondary forests at low and medium altitudes. Siam, through Malaya to the Moluccas.

Local names: Ára (Ibn.); balanóno (Pamp., Tag.); balináunau (Tag., Pamp., P. Bis.); balingnokonoko (Tag.); buli-buli (P. Bis.); diríg (Ibn., Ilk.); laliñgod (Bag.); linaunáu (Tag.); lunau (Tag.); tagalínau (Tag.).

**OTOPHORA OLIVIFORMIS** Radlk. in Philip. Journ. Sci. 6 (1911) Bot. 181, 8 (1913) Bot. 445.

Polillo, Catanduanes, Bucas Grande, *B. S. 10330 McGregor, 30306 Ramos, 35109 Ramos & Pascasio*. In forests at low altitudes. Endemic.

**OTOPHORA SETIGERA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 455.

Panay, Mindanao (Misamis), Malamaui, Basilan, *F. B. 4569 Mearns & Hutchinson, 25495 Ceballos, 30917 Ramos & Edaña*. In forests at low altitudes, ascending to 900 m. Endemic.

#### EXCLUDED SPECIES

**OTOPHORA ERYTHROCALYX** Hiern; F.-Vill. Novis. App. (1880) 52.

**OTOPHORA SPECTABILIS** Blume; F.-Vill. l. c.

#### 9. TRISTIOPSIS Radlkofer

**TRISTIOPSIS OBLONGA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 456.

Mindoro, *F. B. 4063 Merritt*. In forests at low altitudes. Endemic.

Local name: Tagom-tágom (Tag.).

**TRISTIOPSIS OVATA** Radlk. in Leaflet. Philip. Bot. 5 (1913) 1605, Philip. Journ. Sci. 8 (1913) Bot. 445.

Mindanao (Davao), *Elmer 11909*. In forests. Endemic.

Local name: Brayon (Bag.).

**TRISTIOPSIS SUBFALCATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 455.

Mindanao (Zamboanga), Basilan, *Hallier*, B. S. 16148 *Reillo*, F. B. 26126, 26127 *Franco*, 18886 *Miranda*. In forests at low altitudes. Endemic.

Local name: Gasi-gasi (Chab.).

Of this genus nine species are known, two in New Guinea, two in the Solomon Islands, one in the Marianne Islands, and one in Christmas Island south of Java.

#### 10. TRISTIRA Radlkofer

**TRISTIRA PUBESCENS** Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 12; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 456 (incl. f. *hemidasya* Radlk.).

Luzon (Rizal, Batangas, Camarines), Mindanao (Butuan), *Merrill* 2842, *Phil. Pl.* 1345, F. B. 421 *Ahern's collector*, 23515 *Alvarez*, B. S. 29520 *Ramos & Edaña*. In forests at low altitudes; scarcely more than a pubescent form of *T. triptera* Radlk. Endemic.

**TRISTIRA TRIPTERA** (Blanco) Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 133 (Sapind. Holl.-Ind. 63), Philip. Journ. Sci. 8 (1913) Bot. 445; F.-Vill. Novis. App. (1883) 350; Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 99; Merr. in Philip. Bureau Forestry Bull. 1 (1905) 35, Sp. Blancoanae (1918) 239.

*Melicocca triptera* Blanco Fl. Filip. (1837) 203, ed. 3, 2 (1878) 16.

*Zollingeria macrocarpa* F.-Vill. Novis. App. (1880) 53; Vidal Sinopsis Atlas (1883) 22, t. 35, f. C, non Kurz.

*Zollingeria triptera* Rolfe in Journ. Bot. 21 (1884) 309.

Luzon (Union, Rizal, Batangas, Camarines), Mindoro, Tablas, Catanduanes, Masbate, Romblon, Negros, Mindanao (Davao). In forests at low and medium altitudes. Endemic.

Local names: Albing (Tag.); álpai-bató (Tag.); daou (P. Bis.); kibang (P. Bis.); maladiak (Bik.); malaropág (Tag.).

One other species is known from Celebes and from the Moluccas.

#### EXCLUDED SPECIES

**TRISTIRA HARPULLIOIDES** Radlk.; F.-Vill. Novis. App. (1883) 350.

#### 11. HEDYACHRAS Radlkofer

**HEDYACHRAS PHILIPPINENSIS** Radlk. in Engl. Bot. Jahrb. 56 (1920) 258, Philip. Journ. Sci. 20 (1922) 660, descr. ampl.

Luzon (Laguna), F. B. 20635 *Villamil*, 25719, 26180 *Mabesa*, *Elmer* 18288. In thickets and forests along streams at low altitudes. An endemic monotypic genus.

#### 12. EUPHORIA Commerson

**EUPHORIA DIDYMA** Blanco Fl. Filip. (1837) 288, ed. 2 (1845) 201, ed. 3, 2 (1878) 10; Merr. Sp. Blancoanae (1918) 240.

*Euphoria litchi* Blanco op. cit. 285, 199, 8, non Juss.

? *Euphoria annularis* Blanco op. cit. 285, 199, 7.

*Sapindus cinereus* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 402; F.-Vill. Novis. App. (1880) 53.

*Euphoria cinerea* Radlk. in Sitz. Kgl. Bayer. Akad. 8 (1878) 299, Perk. Frag. Fl. Philip. (1904) 61, Philip. Journ. Sci. 8 (1913) Bot. 445; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 87.

*Nephelium longana* F.-Vill. Novis. App. (1880) 53; Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 98, non Camb.

*Nephelium glabrum* Vidal Sinopsis Atlas (1883) 22, t. 35, f. I, Rev. Pl. Vasc. Filip. (1886) 98, non Noronha.

Northern Luzon (Cagayan) to Palawan and Mindanao, in most or all islands and provinces, usually common in hill forests at low and medium altitudes. Endemic.

Local names: Alúpak (Tag., Sbl., P. Bis.); alípai (Tag.); alúpai (Tag.); alpái (Tag.); alúpag (Tag.); aniñguai (Pang.); apalong (Neg.); apá-lung (Ilk., Ibn.); arópag (P. Bis.); arópai (Tag.); árpai (Tag.); arúpai (Tag.); ayúpag (Tag.); bakkaláu (Ilk., Sbl.); bakalú (Pang.); balít (P. Bis.); bayít (Tag.); boboa (Bik.); bolík (Chab.); bukkaláu (Ilk.); daging-díngan (S. L. Bis.); dimopá (Ibn.); gisihán (Tag.); halúpag (Tag.); halúpak (Bik., Tag.); kalúpai (Sbl.); kandongisol (Bik.); kuluris (Tagb.); lúpak (Bik.); lupal (Mag.); mamata (Sub.); marutong (Neg.); matamata (Sul.); paetan-bákir (Sbl.); panuto (Bik.); rupar (Bag.); sambualau (Bis.); tinaiñgi (Tag.); usau (S. L. Bis.).

**EUPHORIA FOVEOLATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 457.

Luzon (Cagayan), Samar, Panay, *B. S. 7370, 24337 Ramos, F. B. 25432 Sandique*. In forests at low altitudes. Endemic.

Local names: Bok-bok (P. Bis.); malapangnahauon (S. L. Bis.).

**EUPHORIA GRACILIS** Radlk. in Elm. Leaf. Philip. Bot. 5 (1913) 1606; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445.

Luzon (Batangas, Camarines), Samar, Negros, Mindanao (Agusan, Cotabato, Zamboanga), Jolo, *Elmer 13482, Merrill Phil. Pl. 1916, B. S. 15803 Fénix, F. B. 22742 Lasquety, 20682 Tamesis, 23049 Ferraris, 23759 Simeon*. In hill forests at low and medium altitudes, ascending to 1,200 m. Endemic.

Local names: Alpai-laláki (Tag.); alúpai (Mag.); bakuyong (Sul.); bayít (Tag.); maglosong (S. L. Bis.); sanganan (Mbo.).

**EUPHORIA LONGANA** Lam. Encycl. 3 (1791) 574; Merr. Fl. Manila (1912) 305; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445.

Luzon (Pampanga, Bataan, Manila), occasional in cultivation, introduced from southern China. It rarely produces flowers or fruits in the Philippines. India to southern China, planted in other regions.

Local name: Gingging (Tag., Pamp.).

**EUPHORIA NEPHELIOIDES** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 457.

*Nephelium schneideri* Merr. op. cit. 13 (1918) Bot. 23.

Mindanao (Zamboanga, Lanao), Basilan, *F. B. 15218 Klemme, 13775 Foxworthy, DeMesa, & Villamil, 27186 Jimenez, 24052 Acuña*. In forests at low altitudes. Endemic.

Local names: Buli (Chab.); iboli (Lan.); lupak (Sul.); narog (Lan.); talimorok (Lan.).

**EUPHORIA STELLULATA** (Turcz.) Radlk. in Sitz. Kgl. Bayer. Akad. 8 (1878) 303, Philip. Journ. Sci. 8 (1913) Bot. 445; Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 98.

*Sapindus stellulatus* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 403; F.-Vill. Novis. App. (1880) 53 (*stellatus*).

Luzon (Sorsogon), Samar, Leyte, Mindanao, *Cuming 1704*, *Wenzel 880, 808*, *Elmer 16046*, *F. B. 20548 Miranda*. In forests at low altitudes; scarcely distinguishable from *E. didyma* Blanco. Borneo.

Local name: Louo (Bag.).

### 13. PSEUDONEPHELIUM Radlkofer

**PSEUDONEPHELIUM FUMATUM** (Blume) Radlk. Nachtr. Sapind. Holl.-Ind. (1878) 71, Philip. Journ. Sci. 8 (1913) Bot. 445.

*Nepheium fumatum* Blume Rumphia 3 (1847) 111.

Luzon (Cagayan, Apayao), *F. B. 6657 Klemme*, *B. S. 28236 Féniá*. In primary forests at low altitudes; a monotypic genus. Malay Peninsula, Borneo.

Local names: Mahúgis (Klg.); pamirigin (Ilk.).

### 14. LITCHI Sonnerat

**LITCHI PHILIPPINENSIS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 445, 458 (incl. f. *mindanaensis* Radlk. l. c.), Engl. & Prantl Nat. Pflanzenfam. Nachtr. 3 (1907) 204.

*Nepheium litchi* F.-Vill. Novis. App. (1880) 53; Vidal Rev. Pl. Vasc. Filip. (1886) 97; Ceron Cat. Pl. Herb. Manila (1892) 54, non Camb.

Luzon (Zambales, Bataan, Pangasinan, Camarines, Albay), Sibuyan, Samar, Mindanao (Surigao, Agusan, Davao). In secondary and primary forests from about sea level to an altitude of 500 m. Endemic.

Local names: Alúpag-amo (Tag.); alúpag-kalabáu (Tag.); aniñguái (Pang.); baliok (Mbo., Bag.); balít (P. Bis.); balañgas (Mbo.); bugna (Sul.); kagasakan (P. Bis.); kagasakas (Bik.); kamiñgi (Tag.).

*Litchi chinensis* Sonn., the only other known species of the genus, is planted at Lamao and at Los Baños, but has as yet produced neither flowers nor fruits.

### 15. NEPHELIUM Linnaeus

**NEPHELIUM CHRYSSEUM** Blume Rumphia 3 (1847) 105; Radlk. in Leaflet. Philip. Bot. 5 (1913) 1616, Philip. Journ. Sci. 8 (1913) 445.

Palawan, *Elmer 12882*. In forests. Burma and Indo-China, Malay Peninsula, Sumatra, Borneo.

**NEPHELIUM INTERMEDIUM** Radlk. in Perk. Frag. Fl. Philip. (1904) 61, Philip. Journ. Sci. 8 (1913) Bot. 445.

Luzon (Camarines), Mindanao, Basilan, Jolo, *Ahern 204*, *Warburg 11672*, *F. B. 15218 Klemme*, *21914 Oliveros*, *B. S. 15451 Reillo*. In forests. Endemic.

Local names: Lupak (Sul.); sahaan (Chab.).

**NEPHELIUM LAPPACEUM** Linn. Mant. 2 (1771) 566; Radlk. in Leaflet. Philip. Bot. 5 (1913) 1616, Philip. Journ. Sci. 8 (1913) Bot. 445.



Palawan, Jolo, *Elmer 12866, 13062, 13069, Wester*. In forests; planted by the Moros in Jolo. India to Indo-China and Malaya.

Local name: Usáre (Sul.).

**NEPHELIUM MUTABILE** Blume Rumphia 3 (1847) 104; Koord. & Val. Bijdr. Boom. Java 9 (1903) 192; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446.

? *Nephegium glabrum* F.-Vill. Novis. App. (1880) 53, non Noronha.

*Cubilia blancoi* Vidal Sinopsis Atlas (1883) 22, t. 35, f. F, Rev. Pl. Vasc. Filip. (1886) 96, non Blume.

Northern Luzon (Cagayan) to Mindanao. In primary forests at low and medium altitudes in most islands and provinces. Malay Peninsula, Sumatra, Java, Borneo.

Local names: Bakkaláú (Ilk.); bali (Sul.); bulála (Tag., Bik.); karáyo (Tag.); laguan (Tag.); lintias (Tag.); litsia (Chab.); marañgis (Klg.); pangyau (Tag.); panoñgian (Tag.); potian (S. L. Bis.); santias (Tag.).

**NEPHELIUM ROBUSTUM** Radlk. in Leaflet. Philip. Bot. 5 (1913) 1607, Philip. Journ. Sci. 8 (1913) Bot. 446.

Palawan, *Elmer 12934*. In forests. Endemic.

**NEPHELIUM XEROSPERMOIDES** Radlk. in Leaflet. Philip. Bot. 5 (1913) 1608, Philip. Journ. Sci. 8 (1913) Bot. 446.

Mindanao (Davao, Bukidnon, Zamboanga), Basilan, *F. B. 15215 Klemme, 25811 Tecson & Roque, Elmer 11205, Wester*. In forests at low and medium altitudes. Endemic.

Local names: Aluau (Buk.); luou (Bag.); oloau (Buk.).

#### 16. CUBILIA Blume

**CUBILIA BLANCOI** Blume Rumphia 3 (1847) 101; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 553; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 35, Interpret. Herb. Amb. (1917) 338, Sp. Blancoanae (1918) 240.

*Euphoria cubili* Blanco Fl. Filip. (1837) 287, ed. 2 (1845) 200, ed. 3, 3 (1878) 10.

*Cubilia rumphii* Blume Rumphia 3 (1847) 101; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 553; F.-Vill. Novis. App. (1880) 52; Koord. in Ic. Bogor. 1 (1901) 51, t. 92, 93.

Luzon (Cagayan, Benguet, Bulacan, Rizal, Bataan, Laguna), Biliran, Samar, Mindanao (Surigao, Agusan, Zamboanga), *Merrill Sp. Blancoanae 705, Warburg 11673, F. B. 25925 Leuterio, 2975, 445, 1996 Ahern's collector, B. S. 21663 Ramos, Elmer 13262*. In primary forests at medium altitudes. A monotypic genus. Celebes, Moluccas.

Local names: Atilang (Ig.); baksian (Mbo.); ebúli (Tag.); kabíli' (Tag.); kubíli' (Tag.); lubilubí (Tag.); malaságing (Tag.); tabas (S. L. Bis.).

#### 17. POMETIA Forster

**POMETIA PINNATA** Forst. Char. Gen. (1776) 109, t. 55; Koord. & Val. Bijdr. Boom. Java 9 (1903) 196; Merr. in Philip. Journ. Sci. 3 (1908) Bot. 418; Radlk. op. cit. 8 (1913) Bot. 445.

*Irina glabra* Blume Bijdr. (1825) 230.

*Aporetica pinnata* DC. Prodr. 1 (1824) 610.

Babuyan Islands, Luzon (Cagayan, Ilocos Norte, Bataan, Laguna), Mindoro, Palawan, Ticao, Masbate, Leyte, Samar, Negros, Cebu, Mindanao. In forests, often along streams, at low and medium altitudes. Malay Peninsula and Archipelago to New Guinea and Polynesia.

Local names: Agupáñga (Tag.); aklám (Tag.); alipáñga (Tagb.); aloiho (S. L. Bis.); alaiuhou (P. Bis.); balambánan (Ilk.); bankálan (C. Bis.); bankéd (Tag.); bantañgali (Mbo.); bayóto (Kuy., P. Bis.); bayúto (Tagb.); bidóso (Mang.); bióso (Mang.); gia-gia (C. Bis.); hipáñga (Tagb.); ibo (P. Bis.); ibu (C. Bis., Bag.); kabakabót (Ig.); karunyan (Tag.); kia-kia (S. L. Bis.); kugik (Bik.); lupáñgan (Sul.); madalo (Neg.); malúgai (Tag.); malaguás (Bik.); mamako (Bag.); manggís (Tagb.); mansanab (P. Bis.); minanukai (P. Bis.); oyakya (Tag., P. Bis.); sádai (Ilk.); sídai (Ilk.); takúgan (P. Bis.); takúpan (Bik.); tanó-bong (Mang.); tigáui (P. Bis., Bik.); tugáui (Bik., P. Bis.).

**POMETIA TOMENTOSA** (Blume) Teysm. & Binn. Cat. Hort. Bogor. (1886) 214; F.-Vill. Novis. App. (1883) 350; Koord. & Val. in Meded. Lands Plantent. 61 (1903) 199.

*Irina tomentosa* Blume Bijdr. (1825) 230, Rumphia 3 (1847) 283.

Luzon (Camarines), Samar. In forests at low altitudes. Java, Borneo. Local names: Alaiuhau (S. L. Bis.); tugáui (Tag., Bik.).

#### 18. ALECTRYON Gaertner

**ALECTRYON EXCISUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 460.

Tinago, *Ahern* 470. In thickets or forests at low altitudes. Endemic. Local name: Gisuk (C. Bis.).

**ALECTRYON FUSCUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 461.

Luzon (Bataan, Ilocos Sur), *Ahern* 747, *F. B.* 23604, 25472 *Paraiso*. In thickets or forests at low altitudes. Endemic.

Local names: Pañgoásen (Ilk.); ugatan (Ting.).

**ALECTRYON INAEQUILATERUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 459.

Sulu Archipelago (Ubian), *Merrill* 5393. In thickets near the seashore. Endemic.

**ALECTRYON OCHRACEUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 460.

Negros, *F. B.* 17455 *Curran*. On cliffs back of the beach. Endemic.

#### 19. GUIOA Cavanilles

**GUIOA ACUMINATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 463.

Luzon (Laguna, Camarines), *B. S.* 10916 *Ramos*, 21140, 21144 *Miranda*, 15356 *Tamesis*. In forests at low altitudes. Endemic.

Local names: Anáyen (Tag.); pasi (Bik.).

**GUIOA APTEA** Radlk. in Perk. Frag. Fl. Philip. (1904) 62, Philip. Journ. Sci. 8 (1913) Bot. 446; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 87.

*Guioa lasiothyrsa* Radlk. forma *elmeri* Radlk. in Leaf. Philip. Bot. 5 (1913) 1609.

Luzon (Cagayan, Bataan, Laguna, Tayabas, Camarines), Negros, Panay, Leyte, Mindanao (Zamboanga), *F. B. 141 Barnes, 2785 Meyer, 26829 Catalan, 21163 Miranda, 26636 Velasco, B. S. 7412, 31246, 28677, 20612, 20611, 17542, 24554, 37235, 36871 Ramos & Edaña, Williams 609, 741, Elmer 9315, 9342, 15828, 15516, 15565, 9827, Merrill 3718, Warburg 11504*. In primary forests at low and medium altitudes. Endemic.

Local names: Dayendiñgan (S. L. Bis.); ímug (Ibn.); pamatúten (Ibn.); panagisen (Ibn.); salisi (Sub.); tibau (Sml.).

**GUIOA BICOLOR** Merr. in Philip. Journ. Sci. 17 (1920) 279.

Mindanao (Surigao), *B. S. 34487 Ramos & Pascasio*. On slopes, altitude about 780 m. Endemic.

**GUIOA DIPLOPETALA** (Hassk.) Radlk. Nachtr. Sapind. Holl. Ind. (1878) 88, Perk. Frag. Fl. Philip. (1904) 63, Philip. Journ. Sci. 8 (1913) Bot. 446; Koord. & Val. Bijdr. Boom. Jav. 9 (1903) 207.

*Cupania diplopetala* Hassk. in Flora 25 (1842) Beibl. 39, Pl. Jav. Rar. (1848) 286.

Mindanao (Surigao), *Ahern 514*. In thickets or forests at low altitudes. Indo-China, Sunda Islands, Moluccas.

Local name: Magolibas (C. Bis.).

**GUIOA DISCOLOR** Radlk. in Leaflet. Philip. Bot. 5 (1913) 1609, Philip. Journ. Sci. 8 (1913) Bot. 446.

Luzon (Tayabas), *Elmer 7493, 9321, B. S. 25450, 25469 Yates*. In forests up to 550 m altitude. Endemic.

**GUIOA FALCATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 461.

Luzon (Benguet), *Elmer 5869, Sandkuhl 351*. In thickets, altitude 1,200 to 1,600 m. Endemic.

**GUIOA GLAUCA** (Labill.) Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 108 (Sapind. Holl.-Ind. 38), Philip. Journ. Sci. 8 (1913) Bot. 446.

*Dimereza glauca* Labill. Sert. Austr. Caled. (1824) 51, t. 51.

Palawan, *B. S. 562, 697 Foxworthy, F. B. 3874 Curran*. On the higher mountains at and above 1,000 m altitude. New Caledonia.

Local name: Bunsikag (Tagb.).

**GUIOA KOELREUTERIA** (Blanco) Merr. Sp. Blancoanae (1918) 241.

*Sapindus koelreuteria* Blanco Fl. Filip. (1837) 289.

*Koelreuteria arborea* Blanco op. cit. ed. 2 (1845) 202, ed. 3, 2 (1878) 13.

*Quassia simaruba* Blanco op. cit. ed. 2 (1845) 247, ed. 3, 2 (1878) 94, non Linn.

*Hemiglyosa perrottetii* Blume Rumphia 3 (1847) 165; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 251; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 568; Walp. Ann. 2 (1850-51) 212; F.-Vill. Novis. App. (1880) 50.

*Guioa perrottetii* Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 108 (Sapind. Holl.-Ind. 38); Perk. Frag. Fl. Philip. (1904) 63, Philip. Journ. Sci. 8 (1913) Bot. 446; Vidal Rev. Pl. Vasc. Filip. (1886) 95; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 87, 5 (1910) Bot. 359, Fl. Manila (1912) 306.

*Cupania regularis* Vidal Cat. Pl. Prov. Manila (1880) 24, Sinopsis Atlas (1883) 21, t. 34, f. B; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 251; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 568; Walp. Ann. 2 (1850-51) 212; F.-Vill. Novis. App. (1880) 50, non Blume.

Northern Luzon (Cagayan) to Balabac and Mindanao, in most or all islands and provinces. Common in second-growth forests at low and medium altitudes. Endemic.

Local names: Alásan (Tag.); anáyen (Tag.); angsét (Ilk.); anóyen (Tag.); bañgil (Sbl.); basai (P. Bis.); busikag (Sul.); dañgalis (Tagb.); gisi-gisi (Sbl.); hualis (Tag.); kamotelen (Pang.); kaninging (Mang.); kásai (P. Bis.); alahabi (Sbl.); malasankí (Tag.); malaúas (Tag.); marintok (Tagb.); nisi-nisi (Sbl.); ñgisi-ñgisi (Tag.); pamotólen (Pang.); paksion (P. Bis.); pasi (Bik.); saláb (Tag., Bik.); saláp (Pang., Tag.); salúb (Tag.); ulas (Ig.); uyos (C. Bis.).

**GUIOA LASIOTHYRSA** Radlk. in Perk. Frag. Fl. Philip. (1904) 63, Philip. Journ. Sci. 8 (1913) Bot. 446.

Palawan, *Merrill 852*. In forests, altitude about 300 m. Endemic.

Luzon material, so named, and f. *elmeri* Radlk. I refer to *Guioa aptera* Radlk.

**GUIOA MINDORENSIS** Merr. in Philip. Journ. Sci. 20 (1922) 404.

Mindoro, *B. S. 39639 Ramos*. On forested slopes, altitude 550 m. Endemic.

**GUIOA MYRIADENIA** Radlk. in Elm. Leaf. Philip. Bot. 5 (1913) 1610, Philip. Journ. Sci. 8 (1913) Bot. 446.

Luzon (Benguet, Bontoc), *Loher 2063, Merrill 9650, Phil. Pl. 723, Vanoverbergh 2706*. In thickets and ravines, from 1,300 to 1,700 m altitude. Endemic.

**GUIOA OBTUSA** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 276.

Luzon (Tayabas, east coast), *B. S. 26636 Ramos & Edaño*. In forests, altitude about 270 m. Endemic.

**GUIOA PARVIFOLIOLA** Merr. in Philip. Journ. Sci. 14 (1919) 417.

Luzon (Ilocos Norte), *F. B. 73187 Ramos*. On dry slopes, altitude about 700 m. Endemic.

**GUIOA PLEUROPTERIS** (Blume) Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 109 (Sapind. Holl.-Ind. 39), Perk. Frag. Fl. Philip. (1904) 63, Philip. Journ. Sci. 8 (1913) Bot. 446; Merr. Sp. Blancoanae (1918) 241.

*Cupania pleuropteris* Blume Rumphia 3 (1847) 158; F.-Vill. Novis. App. (1880) 51.

*Erioglossum cuneifolium* Blume Rumphia 3 (1847) 118, in nota.

*Sapindus saponaria* Blanco Fl. Filip. (1837) 288, non Linn.

? *Sapindus guisian* Blanco op. cit. ed. 2 (1845) 201, ed. 3, 2 (1878) 11.

*Dittelasma rarak* F.-Vill. Novis. App. (1880) 51, non Hook. f.

Palawan, Mindanao (Lanao), *Elmer 12611, Merrill 762, Clemens 343, F. B. 3523 Curran, F. B. 25185 Alvarez*. In thickets and forests at low altitudes, ascending to 800 m. Malay Peninsula, Indo-China, Sumatra, Borneo.

Local name: Bunsikag (Tagb.).

**GUIOA PUBESCENS** (Zoll. & Mor.) Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 109 (Sapind. Holl.-Ind. 39), Elm. Leaf. Philip. Bot. 5 (1913) 1616, Philip. Journ. Sci. 8 (1913) Bot. 446.

*Sapindus pubescens* Zoll. & Mor. Syst. Verz. Zoll. Pfl. (1854) 22; Walp. Ann. 1 (1848) 134.

Palawan, *Elmer 13103*. In forests, altitude about 600 m. Malay Peninsula, Sumatra, Bangka, Java.

**GUIOA RETICULATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 462.

Luzon (Abra, Benguet, Ilocos Sur, Nueva Ecija), *B. S. 7055, 5590 Ramos, 26462 Ramos & Edaño, 14058 Merritt & Darling*. In forested ravines, altitude 600 to 1,200 m. Endemic.

**GUIOA SALICIFOLIA** Radlk. in Leaf. Philip. Bot. 5 (1913) 1608, Philip. Journ. Sci. 8 (1913) Bot. 446.

Sibuyan, *Elmer 12286*. In forests. Endemic.

Local name: Talimanók (P. Bis.).

**GUIOA SUBAPICULATA** Radlk. in Perk. Frag. Fl. Philip. (1904) 64, Philip. Journ. Sci. 8 (1913) Bot. 446.

Culion, Palawan, *Merrill 513, 9238, Elmer 12797*. In dry thickets at low altitudes.

**GUIOA SULPHUREA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 462.

Luzon (Nueva Ecija), *F. B. 22429 Alvarez*. On forested slopes; apparently very close to *Guioa koelreuteria* (Blanco) Merr. Endemic.

**GUIOA TRUNCATA** Radlk. in Leaf. Philip. Bot. 5 (1913) 1611, Philip. Journ. Sci. 8 (1913) Bot. 446.

Mindanao (Davao), *Elmer 11219*. In forests. Endemic.

#### DOUBTFUL AND EXCLUDED SPECIES

**CUPANIA FUSCIDULA** Kurz; F.-Vill. Novis. App. (1880) 51.

**CUPANIA GLABRATA** Kurz; F.-Vill. l. c.

**CUPANIA PALLIDULA** Hiern; F.-Vill. op. cit. 51.

**CUPANIA SUMATRANA** F.-Vill. op. cit. 52; Vidal Sinopsis Atlas (1883) 21, t. 34, f. D, non Miq.

I do not recognize the form Vidal figures, fruit only, but it is safely not Miquel's species.

#### 20. GLOEOCARPUS Radlkofer

**GLOEOCARPUS PATENTIVALVIS** (Radlk.) Radlk. in Engl. Bot. Jahrb. 56 (1920) 253, in nota.

*Cupaniopsis patentivalvis* Radlk. in Elm. Leaf. Philip. Bot. 5 (1913) 1612, Philip. Journ. Sci. 8 (1913) Bot. 446.

*Gloeocarpus crenatus* Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 465 (Jan. 1914).

Luzon (Tayabas, Laguna, Sorsogon), *Elmer 7844, 15058, 15176* as *G. philippinensis* Elm., *Merrill Phil. Pl. 1321, B. S. 19458, 23799, 23442 Ramos, F. B. 24988 Labitag*. In primary forests at low and medium altitudes. An endemic monotypic genus.

Local name: Igiú (Tag.).

## 21. RHYSOTOECHIA Radlkofer

**RHYSOTOECHIA ACUMINATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 465.

Luzon (Bulacan, Rizal), *Loher 5882, B. S. 34146 Ramos & Edaña*. On forested slopes at low and medium altitudes. Endemic.

**RHYSOTOECHIA STRIATA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 446, 466.

Samar, Mindanao (Lanao), *Clemens 778, 978, 1067, B. S. 17481 Ramos*. On forested slopes, up to an altitude of about 750 m. Endemic.

## 22. DICTYONEURA Blume

**DICTYONEURA PHILIPPINENSIS** Radlk. in Leaf. Philip. Bot. 5 (1913) 1613, Philip. Journ. Sci. 8 (1913) Bot. 446.

Samar, Camiguin de Misamis, Mindanao, Basilan, *Clemens 567, 347, 532, 1075, B. S. 17644, 24569, 14686, 11458 Ramos, 15711 Fénix, 30162 Ramos & Edaña, Elmer 10965*. In primary forests at low and medium altitudes. Endemic.

Local names: Kalabagtik (Buk.); kubau (C. Bis.); lipat (Buk.); mala-búnglas (S. L. Bis.); nosip (Bag.); unḡali (S. L. Bis.).

**DICTYONEURA RHOMBOIDEA** Radlk. in Philip. Journ. Sci. 6 (1911) Bot. 182, 8 (1913) Bot. 446.

Polillo, Samar, *B. S. 10359 McGregor, 24423 Ramos, Sablaya 49*. In forests at low altitudes. Endemic.

Local name: Buyokok (S. L. Bis.).

**DICTYONEURA SPHAEROCARPA** Radlk. in Leaf. Philip. Bot. 1 (1907) 209, Philip. Journ. Sci. 8 (1913) Bot. 446, Engl. Bot. Jahrb. 56 (1920) 292; Koord. in Nova Guinea 8 (1909) 172.

Leyte, *Elmer 7157, Wenzel 1683*. In thickets at low altitudes. New Guinea.

## 23. EUPHORIANTHUS Radlkofer

**EUPHORIANTHUS OBTUSATUS** Radlk. ex Koord. in Meded. Lands Plantent. 17 (1898) 406, *nomen*, Engl. & Prantl Nat. Pflanzenfam. Nachtr. 3 (1907) 306, *nomen*, Philip. Journ. Sci. 20 (1922) 660, descr.

Mindanao (Davao, Cotabato), *F. B. 18274 Miranda* (det. Radlkofer), *27661 DeMesa*. In forests at low altitudes. Celebes.

The genus is otherwise represented by *E. longifolius* (Roxb.) Radlk. in Celebes, Moluccas, New Guinea, and New Hebrides, and by *E. pallidus* Radlk., in New Guinea.

## 24. TRIGONACHRAS Radlkofer

**TRIGONACHRAS BRACHYCARPA** Radlk. in Elm. Leaf. Philip. Bot. 5 (1913) 1614, Philip. Journ. Sci. 8 (1913) Bot. 447.

Mindanao (Davao), *Elmer 10949* as *T. apoensis* Elm. In forests, altitude about 500 m. Endemic.

Local name: Tapotasa (Bag.).

**TRIGONACHRAS CULTRATA** (Turcz.) Radlk. in Act. Congr. Bot. Amsterdam 1877 (1878) 116 (Sapind. Holl.-Ind. 46), Philip. Journ. Sci. 8 (1913) Bot. 447; Vidal Rev. Pl. Vasc. Filip. (1886) 96.

*Sapindus cultratus* Turcz. in Bull. Soc. Nat. Mosc. 31<sup>1</sup> (1858) 403; F.-Vill. Novis. App. (1880) 53.

Luzon (Cagayan, Tarlac, Tayabas), *Cuming 1304, F. B. 24107 Bernardo, 26968 Velasco, 26022 Cailipan*. In primary forests at low altitudes. Endemic.

Local name: Daruñgá (Ilk.).

**TRIGONACHRAS CUSPIDATA** Radlk. in Philip. Journ. Sci. 6 (1911) Bot. 182, 8 (1913) Bot. 447.

Polillo, *F. B. 1411 Hagger*. In forests at low altitudes. Endemic.

Local name: Saláb (Tag.).

**TRIGONACHRAS FALCATO-CUSPIDATA** Radlk. in Philip. Journ. Sci. 20 (1922) 661.

Luzon (Laguna, Tayabas, Camarines), Mindanao (Surigao), *B. S. 14920, 20467 Ramos, 28633, 34738 Ramos & Edaña*. In primary forests at low altitudes; scarcely distinguishable from *T. cuspidata* Radlk. Endemic.

**TRIGONACHRAS MEMBRANACEA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447, 468.

Luzon (Sorsogon), Ticao, Romblon, Tablas, Panay, *F. B. 1073 Clark, B. S. 35525 Ramos & Edaña, Elmer 16424*. On forested slopes at low altitudes. Endemic.

**TRIGONACHRAS OBLIQUA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447, 467.

Luzon (Cagayan), *F. B. 13108 Bernardo*. In forests near the seashore. Endemic.

Local names: Lasilásan (Ilk.); ñgaratñgát (Neg.).

**TRIGONACHRAS RIGIDA** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447, 467.

Luzon (Zambales, Camarines), *F. B. 18727 Darling, Merrill 2967*. In forests at low altitudes. Endemic.

Local names: Balakatan (Sbl.); kamatog (Bik.).

**TRIGONACHRAS SPECTABILIS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447, 469.

Leyte, Mindanao (Agusan, Surigao, Bukidnon), *Weber 1194, Wenzel 226, Elmer 13657, B. S. 21514 Escritor*. In primary forests at low altitudes. Endemic.

Local names: Alilihau (Buk.); boyañgiang (Mbo.).

## 25. ELATTOSTACHYS Radlkofer

**ELATTOSTACHYS VERRUCOSA** (Blume) Radlk. Act. Congr. Bot. Amsterdam 1877 (1878) 113 (Sapind. Holl.-Ind. 43), Sitz. Kgl. Bayer. Akad. 9 (1879) 601; Vidal Rev. Pl. Vasc. Filip. (1886) 95; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 35, Philip. Journ. Sci. 3 (1908) Bot. 418; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447.

*Cupania verrucosa* Blume Rumphja 3 (1847) 161; Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 105.

Luzon (Cagayan, Ilocos Norte, Ilocos Sur, Union, Benguet, Rizal, Laguna, Batangas), Palawan, Ticao, Babuyan Islands, Mindanao, Basilan. In forests at low and medium altitudes, ascending to 1,200 m. Java, Celebes, Timor.

Local names: Baniui (Tag.); kamágsang-áso (Tag.); kaniui (Tag.); takagayáng (Ibn.).

## 26. ARYTERA Blume

**ARYTERA LITORALIS** Blume Rumphia 3 (1847) 170; Radlk. in Perk. Frag. Fl. Philip. (1904) 64, Philip. Journ. Sci. 8 (1913) Bot. 447; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 87, Fl. Manila (1912) 306, Sp. Blancoanae (1918) 241.

*Ratonia litoralis* F.-Vill. Novis. App. (1880) 52; Vidal Phan. Cuming. Philip. (1885) 105.

*Ratonia montana* F.-Vill. Novis. App. (1880) 52; Vidal Sinopsis Atlas (1883) 22, t. 35, f. D, non *Arytera montana* Blume.

Throughout the Philippines. Common in thickets and secondary forests at low and medium altitudes. Burma to southern China through Malaya to New Guinea.

Local names: Alásan (Tag.); amaya (Tag.); balit (P. Bis.); bilit (Tag.); balitan-han (P. Bis.); baniksil (Bik.); barit (P. Bis.); diladila-áso (Pamp.); kahuali (Sul.); maganabaga (Tag.); maganak-na-solo (Tag.); sala-sála (Sul.); uló (Ibn.).

Forma **RUFESCENS** (Turcz.) Radlk. ex Gibbs in Journ. Linn. Soc. Bot. 42 (1914) 65.

*Zygolepis rufescens* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 574; Walp. Ann. 2 (1850) 212; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 563.

*Ratonia zygolepis* Turcz. in Bull. Soc. Nat. Mosc. 36<sup>1</sup> (1863) 586; Vidal Phan. Cuming. Philip. (1885) 105.

*Arytera rufescens* Radlk. Act. Congr. Bot. Amsterdam 1877 (1878) 114 (Sapind. Holl.-Ind. 44), Philip. Journ. Sci. 8 (1913) Bot. 447; Vidal Rev. Pl. Vasc. Filip. (1886) 96.

*Ratonia rufescens* F.-Vill. Novis. App. (1880) 52.

Luzon (Cagayan, Sorsogon), Marinduque, Panay, Cebu. In thickets; scarcely distinguishable from the species. Borneo, Celebes.

## 27. GONGROSPERMUM Radlkofer

**GONGROSPERMUM PHILIPPINENSE** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447.

Luzon (Laguna), *B. S. 12358 McGregor*. On forested slopes at low altitudes. A monotypic endemic genus.

## 28. MISCHOCARPUS Blume

**MISCHOCARPUS BRACHYPHYLLUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447, 472.

Luzon (Cagayan, Abra, Bontoc, Benguet), *F. B. 4858 Curran, 14615 Darling, 23301, 23307 Velasco, 21845 Leaño, Vanoverbergh 1175, 3907*. In forests up to an altitude of 1,650 m. Endemic.

Local name: Kasau (Ting.).



**MISCHOCARPUS CAULIFLORUS** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447, 471.

Mindoro, *McGregor 271*. In forests at low altitudes. Endemic.

**MISCHOCARPUS ELLIPTICUS** Radlk. in Leaflet. Philip. Bot. 1 (1907) 210, Philip. Journ. Sci. 8 (1913) Bot. 447.

*Mischocarpus sublaevis* Radlk. in Philip. Journ. Sci. 20 (1922) 662.

Leyte, Samar, *Elmer 7271, Wenzel 660, 1013, B. S. 17481 Ramos*. In forests at low altitudes. Endemic.

**MISCHOCARPUS ENDOTRICHUS** Radlk. in Leaflet. Philip. Bot. 5 (1913) 1615, Philip. Journ. Sci. 8 (1913) Bot. 447.

Palawan, *Elmer 12977*. In forests, altitude about 600 m. Endemic.

**MISCHOCARPUS FUSCESCENS** Blume Rumphia 3 (1847) 169; Koord. & Val. Bijdr. Boom. Java 9 (1903) 221; Vidal Rev. Pl. Vasc. Filip. (1886) 95, Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 87; Radlk. op. cit. 8 (1913) Bot. 447, 471.

*Schleichera subundulata* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 574.

*Cupania subundulata* Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1886) 105.

Northern Luzon (Cagayan) to Palawan and Mindanao. Often rather common in secondary forests at low altitudes. Assam to Indo-China southward to Java and Borneo.

Local names: Ambálag (Ilk.); baliang-baliang (Neg.); dapil (Tag.); malatado (Bag.); urangdáng (Lan.).

**MISCHOCARPUS SALICIFOLIUS** Radlk. in Perk. Frag. Fl. Philip. (1904) 64, Philip. Journ. Sci. 8 (1913) Bot. 447.

Luzon (Rizal, Camarines), *Merrill 1856, 1842, Loher 5886, F. B. 3189, 3361 Ahern's collector, 21152 Miranda*. In forests at medium altitudes. Endemic.

**MISCHOCARPUS SUNDAICUS** Blume Bijdr. (1825) 238, Rumphia 3 (1847) 167; Vidal Rev. Pl. Vasc. Filip. (1886) 96; Koord. & Val. Bijdr. Boom. Java 9 (1903) 224; Radlk. in Perk. Frag. Fl. Philip. (1904) 65, Philip. Journ. Sci. 8 (1913) Bot. 447.

*Cupania lessertiana* Camb. in Mém. Mus. Paris 18 (1829) 46, t. 3; F.-Vill. Novis. App. (1880) 52.

*Ratonia lessertiana* Benth. & Hook. f. ex Hiern in Hook. f. Fl. Brit. Ind. 1 (1875) 678, in syn.; Vidal Phan. Cuming. Philip. (1885) 105.

*Schleichera revoluta* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 575.

*Cupania revoluta* Rolfe in Journ. Bot. 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 105.

Luzon (Ilocos Norte, Rizal, Laguna, Batangas, Nueva Ecija, Camarines, Tayabas, Sorsogon (incl. *Elmer 17092, 17116, M. vulcanicus* Elm.), Polillo, Palawan, Mindanao, Basilan. In thickets and forests at low altitudes. Malay Peninsula to southern China southward through Malaya to tropical Australia.

Local name: Malasaláb (Tag.).

**MISCHOCARPUS TRIQUETER** Radlk. in Perk. Frag. Fl. Philip. (1904) 65, Philip. Journ. Sci. 8 (1913) Bot. 447.

Luzon (Rizal, Bulacan, Bataan, Laguna, Tayabas, Camarines), Mindoro, Guimaras, Panay, Negros. In forests at low altitudes, ascending to 500 m. Endemic.

Local names: Kalam (Tag.); kuling-manók (Tag.).

### 29. LEPIDOPETALUM Blume

**LEPIDOPETALUM PERROTTETII** (Camb.) Blume Rumphia 3 (1847) 171; Walp. Ann. 2 (1850-51) 218; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 569; Vidal Rev. Pl. Vasc. Filip. (1886) 96; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 88, Sp. Blancoanae (1918) 242; Radlk. in Perk. Frag. Fl. Philip. (1904) 66, Philip. Journ. Sci. 8 (1913) Bot. 447. *Cupania perrottetii* Camb. in Mém. Mus. Hist. Nat. Paris 18 (1829) 46, t. 3; Walp. Repert. 1 (1842) 418.

*Molinaea arborea* Blanco Fl. Filip. (1837) 292, ed. 2 (1845) 204, ed. 3, 2 (1878) 18.

*Lachnometalum glabrum* Turcz. in Bull. Soc. Nat. Mosc. 21<sup>1</sup> (1848) 571, Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 557.

*Ratonia lachnometala* Turcz. in Bull. Soc. Nat. Mosc. 36<sup>1</sup> (1863) 586; Vidal Phan. Cuming. Philip. (1885) 105.

*Cupania richii* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 257; Walp. Ann. 4 (1857) 380; F.-Vill. Novis. App. (1880) 52.

*Hemigyrosa canescens* F.-Vill. Novis. App. (1880) 51, non Thwaites.

Northern Luzon (Cagayan) to Mindanao and Basilan. Often common in thickets and secondary forests at low altitudes. Key, Timorlaut.

Local names: Aláhan (Tag.); amáya (Tag.); bugas (P. Bis.); dapil (Tag.); hualis (Tag.); marinsiano (Mag.); lupangga (Sul.); ñgisi-ñgisi (Tag.); oás (Ilk.); paga-paga (Mag.); poás (Tag.); sagadan (Mbo.); saan-putí (Bik.); salá (Bis.); sararu (Bag.); tolotígri (P. Bis.); uás (Ilk., Ting.); uás-na purau (Ilk.).

### 30. PARANEPHELIUM Miquel

**PARANEPHELIUM XESTOPHYLLUM** Miq. Fl. Ind. Bat. Suppl. (1861) 509; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447.

Mindanao (Zamboanga), *Williams 2361*. In forests. Burma, Sumatra.

### 31. DODONAEA Linnaeus

**DODONAEA VISCOSA** (Linn.) Jacq. Enum. Pl. Carib. (1760) 19; DC. Prodr. 1 (1824) 616; F.-Vill. Novis. App. (1880) 54; Vidal Sinopsis Atlas (1883) 21, t. 35, f. A, Rev. Pl. Vasc. Filip. (1886) 99; Radlk. in Perk. Frag. Fl. Philip. (1904) 66 (var. *vulgaris* Benth., f. *burmanniana* Radlk.), Philip. Journ. Sci. 8 (1913) 447 (var. *vulgaris* Benth., f. *repanda* Radlk., f. *burmanniana* Radlk., var. *angustifolia* Benth.); Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 35, Philip. Journ. Sci. 3 (1908) Bot. 80, Sp. Blancoanae (1918) 242.

*Ptelea viscosa* Linn. Sp. Pl. (1753) 118.

*Dodonaea angustifolia* Linn. f. Suppl. (1781) 218; Blanco Fl. Filip. (1837) 312, ed. 2 (1845) 217, ed. 3, 2 (1878) 40; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 580.

Throughout the Philippines along the seashore; in regions subject to a pronounced dry season extending inland and ascending to 2,000 m. Pan-tropic.

Local names: Dumánai (Ig.); haguíui (Tag.); kalapínai (Tag.); kasi-rag (Sbl.); lugad (Kuy.); tabau (Tag.); takud (C. Bis.); tubu-tubu (C. Bis.); sagása (P. Bis., C. Bis.).

### 32. GANOPHYLLUM Blume

**GANOPHYLLUM FALCATUM** Blume Mus. Bot. Lugd.-Bat. 1 (1850) 230; Oliver in Hook. Ic. III 4 (1880) 5, *t. 1308*; Engl. in DC. Monog. Phan. 4 (1883) 168; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 655; F.-Vill. Novis. App. (1880) 41; Vidal Phan. Cuming. Philip. (1885) 101, Rev. Pl. Vasc. Filip. (1886) 80; Valetton & Koord. in Ic. Bogor. 1 (1897) 58, *t. 17*; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 447.

*Ganophyllum obliquum* Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 30, Philip. Journ. Sci. 1 (1906) 88, non *Boswellia obliqua* Blanco.

Luzon (Cagayan, Ilocos Sur, Bontoc, Union, Nueva Ecija, Pampanga, Bulacan, Bataan, Rizal), Mindoro, Palawan, Tablas, Panay, Guimaras, Negros, Mindanao. In dry forests at low and medium altitudes. Andaman Islands, Java, New Guinea, northeastern Australia.

Local names: Arañgan (Ilk.); arañgin (Ilk.); bagusalai (C. Bis.); gógo (Ilk., Ibn.); gogolíngin (Pamp.); gugo (Tag., P. Bis.); guguláñgin (Pamp.); gogongláñgil (Tag.); halas (P. Bis.); láñgin (Tag.); odo (Tag.); palumpung (Bag.); panda-panda (Tag.); pararan (Bag.); sal-ñgén (Ilk.); tahuyai (P. Bis.); tugabi (Tag.); tulibas (Tag.).

### 33. HARPULLIA Roxburgh

**HARPULLIA ARBOREA** (Blanco) Radlk. in Sitz. Kgl. Bayer. Akad. 16 (1886) 404, Perk. Frag. Fl. Philip. (1904) 66, Philip. Journ. Sci. 8 (1913) Bot. 446; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 88, Sp. Blancoanae (1918) 243.

*Ptelea arborea* Blanco Fl. Filip. (1837) 63.

*Seringia lanceolata* Blanco op. cit. ed. 2 (1845) 45, ed. 3, 1 (1877) 85.

*Blancoa arborea* Blume Rumphia 3 (1847) 181; Walp. Ann. 2 (1850-51) 214; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 572.

*Harpullia blancoi* F.-Vill. Novis. App. (1880) 53; Vidal Phan. Cuming. Philip. (1885) 105, Rev. Pl. Vasc. Filip. (1886) 98; Merr. in Philip. Bureau Forestry Bull. 1 (1903) 35.

*Harpullia cupanioides* F.-Vill. Novis. App. (1880) 53; Vidal Sinopsis Atlas (1883) 21, *t. 35, f. B*, non Roxb.

*Harpullia imbricata* Thwaites Enum. Pl. Ceyl. (1859) 56.

Throughout the Philippines in thickets and second-growth forests, at low and medium altitudes; usually common. India through Malaya to the Solomon Islands.

Local names: Abúyan (Ilk.); ambuyoán (Ilk.); antatúba (Neg.); bogna (Bag.); dalirugái (Ibn.); dulio (Sml.); dulís (Mag., Mbo.); huás (P. Bis.); kayaskas (Ilk.); magalad (Tagb.); magalát (Bik.); magantimus (Mag.); malatúbas (Bik.); maramblág (Ibn.); mama-an (Tagb.); oás (Sbl., Tag.); poás (Tag.); puás (Tag.); riñgis (Tagb.); toual (Bag.); uás (Ibn., Ilk., Tag.); uás-na-puráu (Ilk.).

**HARPULLIA CUPANIOIDES** Roxb. Hort. Beng. (1814) 86, *nomen nudum*, Fl. Ind. ed. 2, 1 (1832) 645; Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 448.

*Harpullia confusa* Blume Rumphia 3 (1847) 176; Ceron Cat. Pl. Herb. Manila (1892) 55.

Catanduanes, Panay, Siquijor, Sulu Archipelago, Merrill 5288, Piper 397, B. S. 35267 Ramos & Pascasio, 32391 McGregor, 30150 Ramos, 35569, 35578 Martelino & Edaña, 36326 Yates. In forests at low altitudes, ascending to 600 m. India to southern China southward through Malaya to New Guinea.

Local name: Buka-buka (Sul.).

**HARPULLIA MACROCALYX** Radlk. in Philip. Journ. Sci. 8 (1913) Bot. 448, 473.

Luzon (Benguet, Rizal, Laguna), Loher 5891, F. B. 21294 Sandkuhl. In forests at medium altitudes, ascending to 1,500 m. Endemic.

#### EXCLUDED GENERA

**ORNITHROPE TRIANDRA** Blanco Fl. Filip. (1837) 291.

*Schmidelia triandra* Blanco op. cit. ed. 2 (1845) 218, ed. 3, 2 (1878) 42.

This species is unrecognizable from Blanco's very short and imperfect description. F.-Villar erroneously reduced it to *Schleichera trijuga* Willd., a genus and species unknown from the Philippines.

**SCHLEICHERA REVOLUTA** Camb.; F.-Vill. Novis. App. (1880) 52.

**SCHLEICHERA TRIJUGA** Willd.; F.-Vill. l. c.; Vidal Sinopsis Atlas (1883) 22, t. 35, f. E.

Vidal's figure, a flower, is unrecognizable.

**SARCOPTERYX MELANOPHLOEA** Radlk.; F.-Vill. Novis. App. (1883) 350.

**SARCOPTERYX SQUAMOSA** Radlk.; F.-Vill. l. c.

**XEROSPERMUM NORONHIANUM** Blume; F.-Vill. op. cit. 53.

#### SABIACEAE

##### 1. **SABIA** Colebrooke

**SABIA PHILIPPINENSIS** C. B. Rob. in Bull. Torr. Bot. Club 35 (1908) 70, 74.

Luzon (Ilocos Norte, Abra, Bontoc, Benguet), Williams 1445, Elmer 5866, Merrill 7708, B. S. 5822, 33240, 26973 Ramos, 37994 Ramos & Edaña, 31674 Santos. In thickets at medium altitudes, ascending to 2,300 m. Endemic.

Local names: Baybayok (Ig.); kopdas (Ig.); uakal (Ig.); udok (Ig.).

**SABIA RETICULATA** Elm. Leaf. Philip. Bot. 2 (1909) 579.

Luzon (Laguna, Sorsogon), Catanduanes, Negros, Mindanao (Lanao), Elmer 10027, 15562, Clemens 714, Baker 3699, B. S. 23593, 30367 Ramos. In thickets and forests up to 900 m altitude. Endemic.

Local names: Buñgoi (Bag.); dadabu (Bag.).

## 2. MELIOSMA Blume

**MELIOSMA ACUMINATISSIMA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 36.

Luzon (Tayabas, east coast). *B. S. 19417 Ramos*. In primary forests at or above 1,000 m altitude. Endemic.

**MELIOSMA BONTOCENSIS** Merr. in Philip. Journ. Sci. 20 (1922) 403.

Luzon (Bontoc), *B. S. 37756 Ramos & Edaña*. In the mossy forest, altitude 1,900 m. Endemic.

**MELIOSMA BRACHYBOTRYS** Merr. in Philip. Journ. Sci. 12 (1917) Bot. 275.

Luzon (Tayabas, east coast), *B. S. 26567 Ramos & Edaña*. In forests at medium altitudes. Endemic.

**MELIOSMA LOHERI** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 38.

Luzon (Ifugao, Bontoc, Benguet), *Vanoverbergh 1131, F. B. 25169 Garcia, B. S. 19630 McGregor, 38000, 40491 Ramos & Edaña*. In forested ravines, altitude 1,400 to 1,600 m. Endemic.

Local name: Lasuit (Bon.).

**MELIOSMA LUZONENSIS** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 24.

Luzon (Benguet), *Elmer 6267*. In forests on Mount Santo Tomas at or above 1,800 m. Endemic.

**MELIOSMA MACGREGORII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 37.

Luzon (Ifugao, Lepanto), *Sandkuhl 312, Merrill 4600, B. S. 19749 McGregor*. In ravines in the mossy forest, altitude about 2,100 m. Endemic.

**MELIOSMA MACROPHYLLA** Merr. in Philip. Journ. Sci. 7 (1912) Bot. 294.

*Meliosma tongcalingii* Elm. Leaf. Philip. Bot. 8 (1915) Bot. 2815.

Luzon (Benguet, Bulacan, Laguna, Camarines), Samar, Leyte, Mindanao (Davao), *Merrill Phil. Pl. 483, Wenzel 1554, B. S. 24368 Ramos, Elmer 15322, 18252*. In primary forests at low and medium altitudes, ascending to 900 m. Endemic.

Local names: Agosos (Tag.); arokong (Ig.); magasorod (Bag.); morau (S. L. Bis.); muñgapong (Bik.).

**MELIOSMA MEGALOBOTRYS** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 16.

Luzon (Sorsogon), *B. S. 23516 Ramos, Elmer 16014* as *M. sorsogonensis* Elm. In forests. Endemic.

**MELIOSMA MONOPHYLLA** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 286.

Luzon (Rizal), *Merrill 2339, Phil. Pl. 1019, F. B. 431, 3406 Ahern's collector*. In forests at medium altitudes. Endemic.

Local name: Malaligás (Tag.).

**MELIOSMA MULTIFLORA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 25.

Luzon (Bontoc, Benguet, Zambales, Bataan), Mindanao (Bukidnon). In the mossy forest and in damp thickets on exposed slopes, altitude 1,300 to 2,400 m; common in Benguet. Endemic.

Local names: Adopó (Ig.); adupóng (Ig.); aropóng (Ig.); bantinan (Ig.); kamúg (Ig.).

**MELIOSMA PAUCINERVIA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 39.

Mindanao (Zamboanga), *B. S. 16436 Reillo*. In forests at low altitudes. Endemic.

**MELIOSMA PENDULA** Merr. in Govt. Lab. Publ. (Philip.) 29 (1905) 25.

Luzon (Lepanto, Benguet), *Elmer 6245, B. S. 31679 Santos, 40242, 46419 Ramos & Edaña, F. B. 25146 Leaño*. In the mossy forest, altitude 2,000 to 2,300 m. Endemic.

Local name: Anítap (Ig.).

**MELIOSMA RETICULATA** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 195.

Luzon (Benguet, Bontoc), *B. S. 5594 Ramos, 37769 Ramos & Edaña, F. B. 15803 Curran*. In forests up to 1,800 m altitude. Endemic.

**MELIOSMA SUMATRANA** (Jack) Walp. Ann. 1 (1848) 135; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 617.

*Millingtonia sumatrana* Jack in Malay. Miscel. 2<sup>7</sup> (1822) 30.

*Meliosma nitida* Blume Cat. Gew. Buitenz. (1823) 32; Rumphia 3 (1847) 202, t. 169; Koord. & Val. in Meded. Lands Plantent. 61 (1903) 117.

*Irina integerrima* Blume Bijdr. (1825) 230.

Mindanao (Lanao, Davao, Surigao, Agusan, Zamboanga, Bukidnon), *F. B. 20620 Miranda, 27000 Mallonga, 25173 Alvarez, B. S. 15713 Fénix, 37368, 39054, 39101 Ramos & Edaña, Clemens 458, 799, 637, 528, Wenzel 1838, Elmer 10531 as Sabia, 13297, 13771, 11178 as Meliosma apoensis* Elm. In forests at low and medium altitudes, ascending to at least 1,200 m. Malay Peninsula, Sumatra, Java, Borneo.

Local names: Garong (Sub.); kadabudabo (Buk.); magobaylung (Mbo.); sumagasa (Bag.); yagabogan (Mbo.).

**MELIOSMA SYLVATICA** Elm. Leaflet. Philip. Bot. 2 (1908) Bot. 492.

Luzon (Tayabas), *Elmer 7891, 9132*. In primary forests, altitude about 750 m. Endemic.

**MELIOSMA VULCANICA** Merr. in Philip. Journ. Sci. 11 (1916) Bot. 15.

Luzon (Sorsogon), Mindoro, *B. S. 23657, 40998 Ramos*. On forested slopes, altitude about 350 m. Endemic.

## BALSAMINACEAE

### 1. IMPATIENS Rivinius

**IMPATIENS AHERNII** Hook f. in Kew Bull. (1909) 284, 287.

Luzon (Rizal), *F. B. 3367 Ahern's collector, Elmer 12579*. In shaded places on and about limestone cliffs at low and medium altitudes. Endemic.

**IMPATIENS BALSAMINA** Linn. Sp. Pl. (1753) 938; Miq. Fl. Ind. Bat. 1<sup>2</sup> (1858-59) 130; F.-Vill. Novis. App. (1880) 33; Ceron Cat. Pl.

Herb. Manila (1892) 35; Merr. Fl. Manila (1912) 307, Sp. Blanco-

anae (1918) 243; Hook. f. in Kew Bull. (1909) 283, 285 (incl. f. *diplocycla* Hook f.).

*Impatiens triflora* Blanco Fl. Filip. (1837) 636, ed. 2 (1845) 443, ed. 3, 3 (1879) 32, t. 424, non Linn.

Fairly common in cultivation in different forms, sometimes occurring as an escape in waste places. A native of India, now cultivated in all warm countries. Balsam.

Local names: Kamantígi (Ilk., Tag., Pamp.); saungga (Sul.); solóñga Bis.); suranga (Bik., Bis.).

**IMPATIENS BARNESII** Hook. f. in Kew Bull. (1909) 284, 287.

Luzon (Benguet), *F. B. 954 Barnes, 26404 Oteyza & Garcia, B. S. 12904 Fénix, Baker 4084, Merrill Phil. Pl. 842, Elmer 6065*. On and about limestone boulders on open slopes, altitude 1,200 to 1,500 m. Endemic.

Local name: Lagu (Ig.).

**IMPATIENS BIGANENSIS** Hook. f. in Kew Bull. (1909) 283, 286.

Luzon (Rizal), (*Loher 1650*). Not seen; to be compared with *I. meyeniana* Walp. Endemic.

**IMPATIENS BURKEI** Hook. f. in Kew Bull. (1909) 283, 286.

Mindoro, Panay, Mindanao (Agusan, Davao, Bukidnon, Lanao), *F. B. 4391, 12091 Merritt, 32311 McGregor, 38637 Ramos & Edaño, 21419 Escritor, F. B. 26566 Rola, 25256 Alvarez, Elmer 13779, Weber 1067, Wester*. Along shaded streams in forests, altitude 300 to 1,200 m. Endemic.

Local names: Kalohoglohog (Mbo.); kamantíging-gúbat (Tag.); odang-ódang (Bag.); salúnka (Buk.).

**IMPATIENS CAVITEANA** Hook. f. in Kew Bull. (1909) 283, 286.

Luzon (Cavite), *Merrill 4179*. On cliffs and along shady banks of streams, altitude 100 to 300 m; probably referable to *I. meyeniana* Walp. Endemic.

**IMPATIENS CLEISTOGAMA** Hook. f. in Kew Bull. (1909) 285, 288.

Luzon (Rizal), (*Loher 6780*). Not seen; to be compared with *I. meyeniana* Walp. Endemic.

**IMPATIENS CLEMENSAE** Hook. f. in Kew Bull. (1909) 283, 286.

Mindanao (Lanao), *Clemens 201*. Altitude about 750 m; to be compared with *I. burkei* Hook. f. Endemic.

**IMPATIENS CRYPTOGRAMA** Hook. f. in Kew Bull. (1909) 285, 288.

Luzon (Rizal), (*Loher 6752*). Not seen; to be compared with *I. meyeniana* Walp. Endemic.

**IMPATIENS CURRANII** Hook. f. in Kew Bull. (1909) 285, 288.

Luzon (Cavite), *F. B. 7674 Curran*. On slopes, altitude 340 m; to be compared with *I. meyeniana* Walp. Endemic.

**IMPATIENS ELMERI** Hook. f. in Kew Bull. (1909) 284, 286.

Luzon (Benguet), *Merrill 4705, B. S. 31916 Fénix*. Very common in the mossy forest at Pauai, altitude about 2,400 m. Endemic.

**IMPATIENS FILICAULIS** Hook. f. in Kew Bull. (1909) 285, 288.

Luzon (Rizal), (*Loher 6763, 6764*). Not seen. Endemic.

**IMPATIENS HUTCHINSONII** Hook. f. in Kew Bull. (1909) 283, 286.

Mindanao (Misamis), *F. B. 4564 Mearns & Hutchinson*. In forests; to be compared with *I. burkei* Hook. f. Endemic.

**IMPATIENS KLEMMEANA** Hook. f. in Kew Bull. (1909) 284, 287.

Luzon (Lepanto, Benguet), *F. B. 5688 Klemme, Merrill 4301*. On open banks and cliffs, altitude 750 to 1,500 m. Endemic.

Local name: Lilidau (Ig.).

**IMPATIENS LOHERI** Hook. f. in Kew Bull. (1909) 285, 288.

Luzon (Ifugao, Lepanto, Nueva Vizcaya), *Merrill 4547, B. S. 19845, 20073 McGregor*. In ravines in the mossy forest, altitude 1,800 to 2,200 m. Endemic.

**IMPATIENS MANILLENSIS** Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843)

Suppl. 1: 317; F.-Vill. Novis. App. (1880) 34; Hook. f. in Kew Bull. (1909) 284, 286, 289.

Luzon (Laguna), *Meyen* in herb Berol., collected at Jala Jala. Endemic.

**IMPATIENS MEARNsii** Hook. f. in Kew Bull. (1909) 284, 287.

Luzon (Benguet), *B. S. 3416 Mearns*, without notes; to be compared with *I. elmeri* Hook. f. Endemic.

**IMPATIENS MERRILLII** Hook. f. in Kew Bull. (1909) 283, 286.

Luzon (Rizal), (*Loher 6768*). Not seen. Endemic.

**IMPATIENS MONTALBANICA** Hook. f. in Kew Bull. (1909) 285, 287.

Luzon (Rizal), *B. S. 6133, 9528 Robinson, Merrill 6235*. On and about limestone cliffs in shaded places, altitude about 75 m. Endemic.

**IMPATIENS POLYACTINA** Hook. f. in Kew Bull. (1909) 283, 286.

Luzon (Benguet), *Williams 2012*. On open slopes, altitude about 1,200 m. Endemic.

**IMPATIENS PUBISEPALA** Hook. f. in Kew Bull. (1909) 284, 287.

Luzon (Rizal), (*Loher 1651*). Not seen.

**IMPATIENS QUERCETORUM** Hook. f. in Kew Bull. (1909) 284, 286.

Luzon (Benguet), *B. S. 4360, 4381, 4417 Mearns, 8395 McGregor*. In the mossy forest, altitude about 2,400 m; probably the same as *I. elmeri* Hook. f. Endemic.

**IMPATIENS RAMOSII** Hook. f. in Kew Bull. (1909) 285, 287.

Luzon (Rizal), *B. S. 4573, 4672 Ramos*. Along streams in forests at medium altitudes. Endemic.

**IMPATIENS RIZALIANA** Hook. f. in Kew Bull. (1909) 284, 287.

Luzon (Rizal), *Merrill 6234, Phil. Pl. 49, B. S. 9524 Robinson*. On and about limestone cliffs in shaded places, altitude about 150 m. Endemic.

**IMPATIENS VIDALII** Hook. f. in Kew Bull. (1909) 284, 287.

Panay, (*Vidal 2245*). Not seen. Endemic.

#### EXCLUDED SPECIES

**IMPATIENS LATIFOLIA** Linn.; F.-Vill. Novis. App. (1880) 34.



## RHAMNACEAE

## 1. VENTILAGO Gaertner

**VENTILAGO BRUNNEA** Merr. in Philip. Journ. Sci. 13 (1908) Bot. 25.

Luzon (Tayabas, east coast), *B. S. 29053 Ramos & Edaño*. In forests at low altitudes. Endemic.

**VENTILAGO DICHOTOMA** (Blanco) Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 32, Philip. Journ. Sci. 4 (1909) Bot. 287, Sp. Blancoanae (1918) 243.

*Enrila dichotoma* Blanco Fl. Filip. (1837) 709.

*Ventilago monoica* Blanco op. cit. ed. 2 (1845) 124, ed. 3, 1 (1877) 223.

*Kurrimia gracilis* Vidal Rev. Pl. Vasc. Filip. (1886) 89.

*Ventilago gracilis* Merr. & Rolfe in Philip. Journ. Sci. 3 (1908) Bot. 110.

Luzon (Laguna, Rizal, Sorsogon), Palawan, *F. B. 26838 Mabesa, B. S. 3303 Ramos, Elmer 17671, 15887, Merrill 9407, Sp. Blancoanae 633, Phil. Pl. 1062, Loher 4686, 4685*. In thickets and forests at low and medium altitudes. Endemic.

Local names: Pakpák-tutubí (Tag.); salápau (Tag.); salípau (Tag.).

**VENTILAGO LANCEOLATA** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 40.

Biliran, *B. S. 18646 McGregor*. In thickets at low altitudes. Endemic.

**VENTILAGO LUCENS** Miq. Fl. Ind. Bat. Suppl. (1860-61) 330; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 287.

Luzon (Tayabas), *Merrill 1105*. In thickets or forests at low altitudes, the identification not certainly correct. Sumatra.

**VENTILAGO LUZONIENSIS** Vidal Rev. Pl. Vasc. Filip. (1886) 90; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 287.

*Ventilago maderaspatana* Vidal Sinopsis Atlas (1883) 21, t. 32, f. D; ? F.-Vill. Novis. App. (1880) 48, non Gaertn.

Luzon (Tarlac, Rizal), *Vidal 198, Loher 5823*. Probably in thickets at low altitudes. Endemic.

**VENTILAGO MULTINERVIA** Merr. in Philip. Journ. Sci. 9 (1914) Bot. 369.

Luzon (Apayao), Leyte, *Wenzel 849, 1390, B. S. 28180 Fénix*. In thickets at low altitudes. Endemic.

**VENTILAGO OBLONGIFOLIA** Blume Bijdr. (1826) 1144; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856) 640; Merr. in Philip. Journ. Sci. 4 (1909) Bot. 287.

Luzon (Ilocos Norte, Laguna, Bulacan), Mindoro, Palawan, *F. B. 21408 Villamil, B. S. 27197, 39822 Ramos, 264 Bermejós, Elmer 12921*. In thickets and forests at low altitudes. Malay Peninsula, Java.

**VENTILAGO PALAWANENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1829.

Palawan, *Elmer 13224*. In primary forests along streams, altitude about 150 m. Endemic.

## 2. SMYTHEA Seemann

**SMYTHEA PACIFICA** Seem. in Bonplandia 9 (1861) 255, 10 (1862) 35, t. 9, Fl. Vit. (1865) 41, t. 11; Ridl. in Journ. Str. Branch Roy. As. Soc. 75 (1917) 23.

*Berchemia trichantha* Miq. Fl. Ind. Bat. Suppl. (1860-61) 331.

*Smythea reticulata* King in Journ. Roy. As. Soc. Bengal 65<sup>2</sup> (1896) 381.

*Ventilago fasciculiflora* Merr. in Philip. Journ. Sci. 11 (1916) Bot. 287 (type from Amboina).

Santa Cruz Island, near Zamboanga, Mindanao, *Merrill 11626*. In thickets on broken coral limestone formation at sea level. Malay Peninsula, Penang, Sumatra, Borneo to the Moluccas, Timor Laut, Aru, the Solomon Islands, and Fiji.

*Ventilago ? vitiensis* A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 274 is not the same as *Smythea pacifica* Seem. Comparisons were made by Dr. B. L. Robinson of the Gray Herbarium, who has also supplied me with fragments of both Gray's and Seemann's types.

### 3. ZIZYPHUS Tournefort

**ZIZYPHUS CREBRIVENOSA** C. B. Rob. in Philip. Journ. Sci. 3 (1908) Bot. 201.

Samar, Mindanao (Agusan, Bukidnon, Zamboanga, Davao), *Williams 2335*, *Elmer 13451*, *Warburg 14719a*, *B. S. 15710 Fénix*, *17473 Ramos*. In primary forests along streams at low and medium altitudes. Endemic.

Local names: Isug (Bag.); lapusan (Buk.); lalambod (Mbo.).

**ZIZYPHUS CUMINGIANA** Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 206.

*Zizyphus* sp. aff. *bacléi* DC. Vidal Phan. Cuming. Philip. (1885) 104.

Luzon (Cagayan, Rizal, Laguna, Tayabas, Sorsogon), Alabat, Mindoro, Palawan, Samar, Leyte, Mindanao (Surigao, Zamboanga, Lanao) incl. *Elmer 14794* as *Z. bulusanensis* Elm. In thickets and forests at low and medium altitudes. Endemic.

Var. **PILOSA** var. nov.

A typo differt foliis subtus perspicue pilosis.

Luzon (Rizal, Camarines), Mindoro, *Merrill Phil. Pl. 1507*, *B. S. 12538 Ramos*, *21298 Escritor*, *33648 Ramos & Edaña*. In forests at low altitudes. Endemic.

Local names: Barikbik (Ilk.); maladukláp (Tag.); subit (Ig.).

**ZIZYPHUS HUTCHINSONII** Merr. in Philip. Journ. Sci. 4 (1909) Bot. 288.

Mindanao (Davao, Zamboanga), Basilan, *F. B. 3444 Hutchinson*, *27570*, *23050 Ferraris*, *De Mesa*, *26241 Ceballos*, *9265 Whitford & Hutchinson*. On forested slopes at low altitudes. Endemic.

Local names: Bila (Bag.); lumuluas (Mag.); mañgaluas (Mag.).

**ZIZYPHUS INERMIS** Merr. in Govt. Lab. Publ. (Philip.) 35 (1906) 37.

Luzon (Cagayan, Nueva Vizcaya, Rizal, Laguna, Camarines, Albay, Sorsogon), Mindoro, Palawan, Samar, Biliran, Masbate, Leyte, Negros, Mindanao (Agusan, Surigao, Lanao, Davao, Zamboanga). In forests at low altitudes. Celebes (*Koorders 18541* as *Z. celtidifolia*, non DC.).

Local names: Alipayas (Mbo.); bubunau (Sul.); bulilúsing (Ilk.); dalipatsan (P. Bis.); limingién (Ibn.); limbahan (Mbo.); olis-alanga (P. Bis.); pirok-kálaw (Bik.); salindáñgat (P. Bis.).

**ZIZYPHUS JUJUBA** (Linn.) Lam. Encycl. 3 (1789) 318; Blanco Fl. Filip. ed. 2 (1845) 120, ed. 3, 1 (1877) 215, *t.* 57; Miq Fl. Ind. Bat. 1<sup>1</sup> (1856) 644; F.-Vill. Novis. App. (1880) 48; Vidal Sinopsis Atlas (1883) 21, *t.* 22, *f.* B; Merr. Fl. Manila (1912) 308, Sp. Blancoanae (1918) 244.

*Rhamnus jujuba* Linn. Sp. Pl. (1753) 194, Blanco Fl. Filip. (1837) 172.  
*Zizyphus mauritiana* Lam. Encycl. 3 (1789) 318.

Widely scattered in cultivation and as a semicultivated tree, scarcely naturalized. Introduced from tropical Asia. Universally known in the Philippines under the Spanish names *manzanas* and *manzanitas*.

**ZIZYPHUS OTANESII** Merr. in Philip. Journ. Sci. 10 (1915) Bot. 40.

Luzon (Pangasinan), *B. S.* 17964 *Otanis*. In thickets or forests at low altitudes. Endemic.

Local name: Dítap (Ilk.).

**ZIZYPHUS PALAWANENSIS** Elm. Leaf. Philip. Bot. 5 (1913) 1828.

Palawan, *Elmer* 12891. In primary forests, altitude about 225 m; closely allied to the Malayan *Z. calophylla* Wall. Endemic.

**ZIZYPHUS TALANAI** (Blanco) Merr. Sp. Blancoanae (1918) 244.

*Rhamnus talanai* Blanco Fl. Filip. (1837) 171.

*Zizyphus latifolia* Blanco op. cit. ed. 2 (1845) 121, ed. 3, 1 (1877) 217. non Roxb.

*Rhamnus zonulatus* Blanco Fl. Filip. (1837) 172.

*Zizyphus zonulata* Blanco op. cit. ed. 2 (1845) 120, ed. 3, 1 (1877) 215; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 88, Fl. Manila (1912) 308.

*Zizyphus xylopyrus* F.-Vill. Novis. App. (1880) 48, non Willd.

*Zizyphus arborea* Merr. in Govt. Lab. Publ. (Philip.) 6 (1904) 11.

Northern Luzon (Cagayan) to Palawan and Mindanao. Common in forests at low altitudes. Endemic.

Local names: Agók (Ibn.); aligamén (Ilk.); balákat (Tag., Pamp.); bariañgo (Tagb.); biáa (Tag.); biága (Tag.); bigáa (Tag., P. Bis., S. L. Bis.); bonglas (Bis.); bunglas (Bis.); dagáa (Tagb.); dagáau (Mbo., C. Bis.); danlík (Tag.); diá (Sbl.); diáan (Pang.); digáa (Tag.); dirán (Ilk.); durán (Ilk.); ligáa (Tag., Sbl., Bik.); magláncá (Kuy.); talanai (Tag.).

**ZIZYPHUS TRINERVIA** (Cav.) Poir. in Lam. Encycl. Suppl. 3 (1813) 192;

Vidal Rev. Pl. Vasc. Filip. (1886) 91; Merr. in Philip. Journ. Sci. 1 (1906) Suppl. 88, Fl. Manila (1912) 308, Sp. Blancoanae (1918) 244.

*Rhamnus trinervius* Cav. Ic. 6 (1801) 3, *t.* 505, *f.* 1.

*Zizyphus exserta* DC. Prodr. 2 (1825) 21; Vidal Phan. Cuming. Philip. (1885) 104.

*Rhamnus zizyphus* Blanco Fl. Filip. (1837) 170, non Linn.

*Zizyphus lotus* Blanco op. cit. ed. 2 (1845) 121, ed. 3, 1 (1877) 216, *t.* 433, non Lam.

*Zizyphus oenophia* F.-Vill. Novis. App. (1880) 48, Vidal Sinopsis Atlas (1883) 21, *t.* 32, *f.* A, non Mill.

*Celtis ferruginea* Walp. in Nov. Act. Acad. Nat. Cur. 19 (1843) Suppl. 1: 424.

Luzon (Ilocos Norte, Union, Pangasinan, Zambales, Bulacan, Bataan, Rizal, Cavite, Batangas, Laguna, Tayabas). Common in thickets and secondary forests at low altitudes. Endemic.

Local names: Baluknít (Ilk.); déklap (Ilk.); diklab (Ilk.); dilap (Ilk.); díklap (Tag.); dúklap (Pang., Tag.); duklap (Tag.); dukúlab (Tag.); laba-labá (Ilk.); lanotí (Ilk.); lígau (Tag.); malamansánas (Pamp.); malipaga (Tag.); maramansanita (Ilk.); talanai (Tag.);

#### DOUBTFUL AND EXCLUDED SPECIES

*ZIZYPHUS DALANTA* Blanco Fl. Filip. ed. 2 (1845) 121, ed. 3, 1 (1877) 217; F.-Vill. Novis. App. (1880) 48; Merr. Sp. Blancoanae (1918) 244.

*Rhamnus dalanta* Blanco Fl. Filip. (1837) 171.

The exact status of this species cannot be determined from Blanco's very imperfect description; his specimens were from Bonbonon, southern Negros. The Bisayan name is given as *dalanta*, but this does not appear to be known in Bonbonon now.

*ZIZYPHUS FUNICULOSA* Ham.; F.-Vill. Novis. App. (1880) 48.

*ZIZYPHUS JAVANENSIS* Blume; F.-Vill. l. c.

#### 4. BERCHEMIA Necker

*BERCHEMIA PHILIPPINENSIS* Vidal Rev. Pl. Vasc. Filip. (1886) 91; Ceron Cat. Pl. Herb. Manila (1892) 49.

*Berchemia elmeri* Schneider in Sargent Pl. Wils. 2 (1914) 220.

Luzon (Isabela, Benguet, Bontoc), Mindanao (Davao), *Merrill 4268, Phil. Pl. 743, Vanoverbergh 651, Williams 1282, Elmer 11317, B. S. 7991 Ramos*. In thickets on exposed slopes, altitude 1,200 to 1,600 m. Endemic.

Local names: Batikil (Bon.); dingsil (Bon.); odoadig (Ig.).

#### 5. SAGERETIA Brongniart

*SAGERETIA THEEZANS* (Linn.) Brongn. in Ann. Sci. Nat. I 10 (1827) 360; F.-Vill. Novis. App. (1880) 48; Vidal Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 92; Merr. in Philip. Journ. Sci. 5 (1910) Bot. 359.

*Rhamnus theezans* Linn. Mant. 2 (1771) 207.

Luzon (Bontoc, Benguet, Ilocos Sur, Zambales, Bataan, Rizal), *Merrill 4381, 7610, Loher 5838, B. S. 4808, 5356, 5914, 5035 Ramos*. In thickets, altitude 900 to 1,500 m. India to China and Formosa.

Local name: Adadinko (Ig.).

#### 6. RHAMNUS Tournefort

*RHAMNUS PHILIPPINENSIS* C. B. Rob. in Philip. Journ. Sci. 6 (1911) Bot. 342.

*Rhamnus formosana* C. B. Rob. op. cit. 3 (1908) 201, non Matsum.

Luzon (Bontoc, Benguet, Nueva Vizcaya, Tayabas, Rizal), Mindoro, *Williams 1121, Merrill 7701, Phil. Pl. 1711, Elmer 6379, Loher 5822, F. B. 4873 Curran, 15847 Merritt, B. S. 7005, 39478 Ramos, 29108, 29347 Ramos & Edaña*. In thickets, altitude 600 to 1,800 m. Endemic.

Like *Rhamnus formosana* Mats. this species is allied to *R. nepalensis* Wall.

**RHAMNUS MOLLIS** Merr. in Philip. Journ. Sci. 20 (1922) 405.

Luzon (Bontoc), *B. S. 37689 Ramos & Edaña*. In the mossy forest, altitude about 1,600 m. Endemic.

**RHAMNUS PULOGENSIS** Merr. in Philip. Journ. Sci. 5 (1910) Bot. 359.

Luzon (Bontoc, Lepanto, Benguet, Rizal), *F. B. 18102 Curran, Merritt, & Zschokke, B. S. 37845, 40255, 40789 Ramos & Edaña*, leaves larger than in the type. In the mossy forest, altitude about 2,400 m. Endemic.

#### EXCLUDED SPECIES

**RHAMNUS WIGHTII** W. & A.; F.-Vill. Novis. App. (1880) 48.

#### 7. COLUBRINA L. C. Richard

**COLUBRINA ASIATICA** (Linn.) Brongn. in Ann. Sci. Nat. I 10 (1827) 369; A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 277; Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856) 648; F.-Vill. Novis. App. (1880) 48; Vidal Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 92, Sinopsis Atlas (1883) 21, t. 32, f. C.; Merr. in Govt. Lab. Publ. (Philip.) 27 (1905) 33, Philip. Journ. Sci. 1 (1906) Suppl. 88, 3 (1908) Bot. 80, 419, Fl. Manila (1912) 309, Sp. Blancoanae (1918) 245.

*Ceanothus asiaticus* Linn. Sp. Pl. (1753) 196; Cav. Ic. 5 (1799) 24, t. 440, f. 1.

*Rhamnus carolinianus* Blanco Fl. Filip. (1837) 169, ed. 2 (1845) 119, ed. 3, 1 (1877) 214, non Walt.

Along the seashore and borders of tidal streams throughout the Philippines. India to Africa, through Malaya to Australia and Polynesia.

Local names: Kabatíti (Tag.); kayaskás (Ilk.); paria (Bag.); palíalaut (Sul.); parid-la'ud (Sul.); uatitik (Tag., Bis.).

#### 8. ALPHITONIA Reissek

**ALPHITONIA ZIZYPHOIDES** (Spreng.) A. Gray Bot. Wilkes U. S. Explor. Exped. (1854) 278; Merr. in Philip. Journ. Sci. 11 (1916) Bot. 286.

*Rhamnus zizyphoides* Spreng. Fl. Hal. Mant. (1807) 37, Syst. 1 (1825) 768.

*Alphitonia excelsa* Reiss. in Endl. Gen. Pl. (1840) 1098; F.-Vill. Novis. App. (1880) 49; Merr. in Philip. Journ. Sci. 2 (1907) Bot. 280, 11 (1916) Bot. 286.

*Alphitonia moluccana* Teysm. & Binn. Cat. Hort. Bogor. (1866) 221; Vidal Phan. Cuming. Philip. (1885) 104, Rev. Pl. Vasc. Filip. (1886) 92 (*moluccensis*).

Luzon (Benguet, Ifugao, Rizal, Laguna, Camarines), Mindoro, Palawan, Samar, Leyte, Panay, Negros, Guimaras, Mindanao (Surigao). In forests at low and medium altitudes. Borneo through the Moluccas to northeastern Australia and Polynesia.

Local names: Alangsohan (C. Bis.); bugas (Ig.); dunglu (Tag.); karambau (Bag.); tañgulai (Tag.); tulo (Tag.); uakatan (C. Bis.).

#### 9. GOUANIA Jacquin

**GOUANIA JAVANICA** Miq. Fl. Ind. Bat. 1<sup>1</sup> (1856) 649; King in Journ. As. Soc. Beng. 65<sup>2</sup> (1896) 383; Pitard in Lecomte Fl. Gén. Indo-Chine 1 (1912) 932.

Luzon (Abra, Bontoc, Laguna, Tayabas), Polillo, Mindoro, Leyte, Mindanao (Agusan, Davao, Zamboanga), *Wenzel 976, 474, Elmer 13552, Whitford 651, Vanoverbergh 2102, B. S. 2069, 6882 Robinson, B. S. 7117 Ramos, F. B. 26119 Mabesa, 16516 Curran & Merritt*. In thickets and forests at low and medium altitudes; probably better placed as a pubescent variety of *Gouania tiliacfolia* Lam. To be compared with *Gouania denticulata* Smith. Indo-China, Malay Peninsula, Sumatra, Java, Celebes.

Local names: Kopkopéyes-ti-ásó (Ilk.); litiran (Tag.); pahampak (Pamp.); ruñgo-ruñgo (Ilk.).

**GOUANIA TILIAEFOLIA** Lam. *Encycl.* 3 (1789) 5; DC. *Prodr.* 2 (1825) 40; Roxb. *Pl. Coromandel* 1 (1795) 67, *t. 98*.

*Retinaria scandens* Gaertn. *Fruct.* 2 (1791) 187, *t. 120, f. 4*.

*Gouania retinaria* DC. *Prodr.* 2 (1825) 40.

*Gouania microcarpa* Rolfe in *Journ. Bot.* 23 (1885) 211; Vidal Phan. Cuming. Philip. (1885) 104, *Rev. Pl. Vasc. Filip.* (1886) 92; Merr. *Fl. Manila* (1912) 309, *Sp. Blancoanae* (1918) 245, non DC.

*Gouania domingensis* Blanco *Fl. Filip.* (1837) 196, ed. 2 (1845) 138, ed. 3, 1 (1877) 248, non Linn.

*Gouania leptostachya* DC. *Prodr.* 2 (1825) 40; F.-Vill. *Novis. App.* (1880) 49; Vidal *Sinopsis Atlas* (1883) 21, *t. 32, f. E*; Merr. in *Govt. Lab. Publ. (Philip.)* 27 (1905) 33; King in *Journ. As. Soc. Beng.* 65<sup>2</sup> (1896) 383; Pitard in *Lecomte Fl. Gén. Indo-Chine* 1 (1912) 933.

*Gouania microcarpa* DC. var. *subglabra* Elm. *Leafl. Philip. Bot.* 8 (1915) 2801.

Northern Luzon to Mindanao. In thickets at low and medium altitudes. India to the Mascarene Islands, Indo-China, and Malaya.

Local names: Litiran (Tag.); liua-a (Bag.); mañgauhái (Mbo.); pahampak (Pamp.); ruñgo-ruñgo (Ilk.).

ADDITION TO PAGE 228

**RUBUS MINDANAËNSIS** Focke in *Ann. Conserv. Jard. Bot. Genève* 20 (1919) 103.

Mindanao (Davao), (*Warburg 14483*). Endemic.

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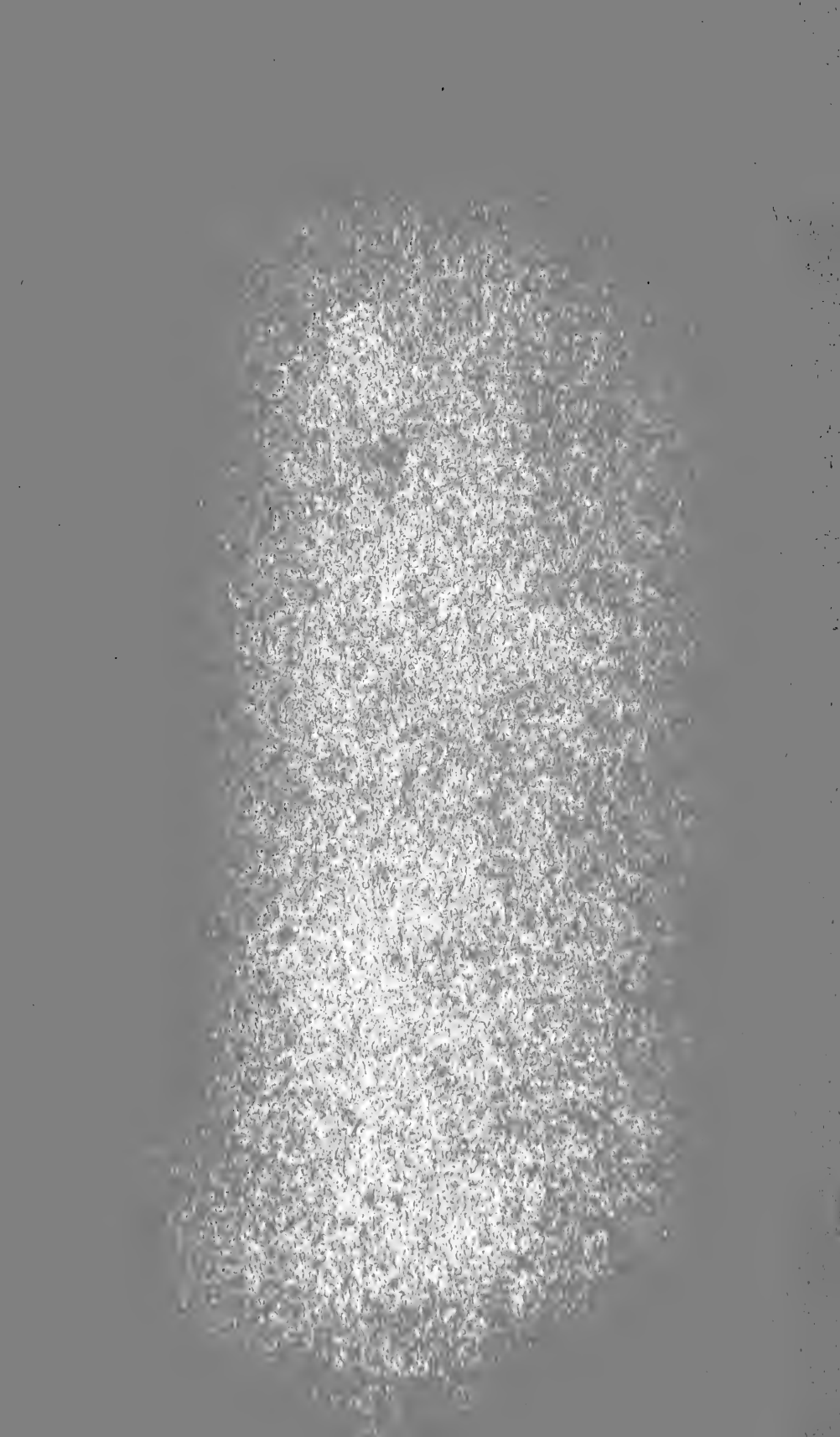
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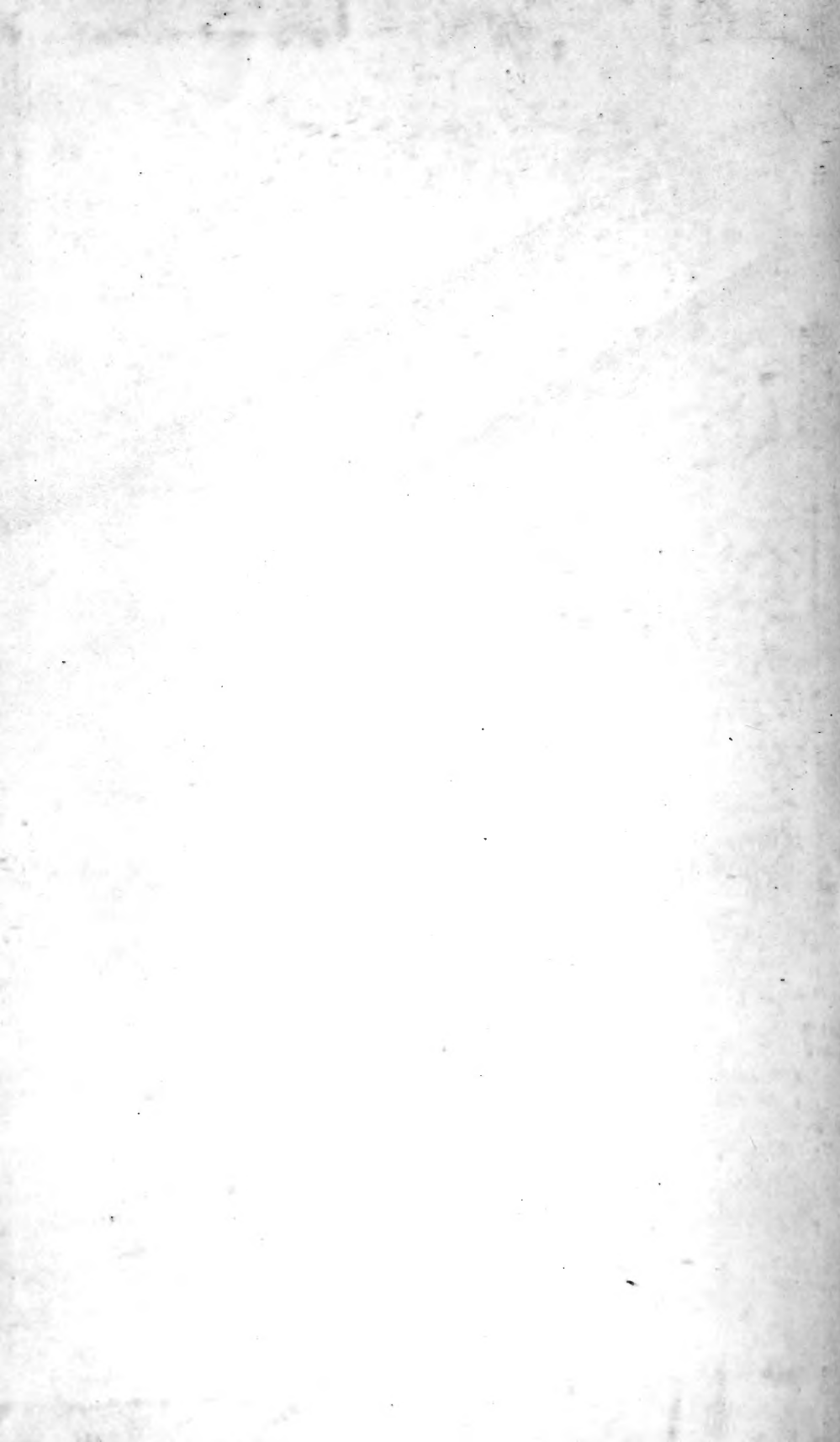
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