# NOTES ON THE FLORA OF SUMATRA

By E. D. Merrill

*(From the Botanical Section of the Biological Laboratory, Bureau of Science, Manila)*

In the year 1860–61 Miquel [1] published a general summary of the Sumatran flora, enumerating all the species of Spermatophyta then known from the island and the neighboring smaller ones, especially Bangka. This work was based primarily on the collections of *Teysmann, Diepenhorst, Horsfield, Korthals, Junghuhn, Zollinger,* and *Amman,* and includes 2,642 species, of which about 700 were described by Miquel as new. Since Miquel's publication was issued, comparatively little has been published on the Sumatran flora as such. Some large collections of plants have been made, notably that by *Beccari,* but with the exception of the recent collections of *Robinson* and *Kloss,* those made by other botanists since Miquel's time have not been thoroughly studied.

In 1884 Van Hasselt and Boerlage [2] published a small contribution to our knowledge of the Sumatran flora, this being based on the relatively unimportant botanical collections made by the Veth expedition in connection with its anthropological and zoölogical investigations. In this work about 170 species are enumerated, a large number of them cellular cryptogams. Of the spermatophytes but four are described as new, most of the others enumerated having already been recorded from Sumatra.

The Sumatran collections made by Dr. S. H. Koorders in 1890 have been enumerated by Mrs. Koorders,[3] these totaling not more than 450 species in all groups, a considerable number of which have been determined only to the genus, and some only to the family. Of these species collected by Doctor Koorders

[1] Miquel, A. F. W., Florae Indiae Batavae. Supplementum I. Prodromus Florae Sumatranae (1860–61) XX + 1–656, *t. 1–4.* German edition, Sumatra, seine Pflanzenwelt und deren Erzeugnisse (1862) XXIV+1–656, *t. 1–4.*

[2] Van Hasselt, A. L. and Boerlage, J. G., Bijdragen tot de kennis der flora van Midden-Sumatra, in Veth, P. J. Midden-Sumatra 4 part 2 (1884) 1–49, *t. 1–8.*

[3] Koorders-Schumacher, A., Syst. Verzeich. Herb. Koord. 2 (1910–11) 1–62.

in Atjeh and in central Sumatra, about 30 were described as new. A high percentage of the others enumerated had already been recorded from Sumatra by Miquel.

The most important recent publication on the Sumatran flora as such is that by Ridley and others on the botany of Mount Korinchi, based on the collections of Messrs. H. C. Robinson and C. Boden Kloss.[4] In this publication 813 species are enumerated, of which 1 genus and 143 species are described as new. The percentage of novelties in this collection is certainly no less than can reasonably be expected from general collections made in any unexplored part of Sumatra where botanizing is largely confined to the forested areas. Among the previously described species enumerated by Ridley are naturally many that were already known from Sumatra, but there is also a considerable number originally described from other regions that had not previously been recorded from that island.

Sumatran species have been published from time to time in the extensive botanical periodical literature and in monographs of various natural groups. Including such species and those listed in the few publications wholly based on the Sumatran flora that have been issued since 1862, it is very doubtful if the list of species definitely known from Sumatra has been increased by more than 500 in all groups since the publication of Miquel's work. The list of Sumatran species known to-day would probably approximate about 3,000 in the spermatophytes alone, an indication of our lack of knowledge of the Sumatran flora as compared with other areas in the Malayan region, such as Java, with about 5,000 known species, Borneo with about 4,900 known species, and the Philippines with about 8,000 known species. On account of its large size, its varied climatic conditions, and its numerous high mountains, Sumatra can scarcely be less rich and varied in its flora than are the Malay Peninsula, Borneo, Java, and the Philippines; and from my present knowledge of the floras of these regions I should consider it very doubtful if we know more than one-third of the species that actually occur in Sumatra at the present time.

I have recently received for identification Sumatran collections aggregating about 500 numbers, made under the direction of Messrs. H. H. Bartlett and C. D. La Rue, chiefly in the vicinity of Asahan, East Coast. While the material represented in this collection for the most part represents rather common and widely

[4] Results of an expedition to Korinchi Peak, Sumatra, Botany, *Journ. Fed. Malay States Museums* 8 (1917) 1–145, *t. 1–4*.

distributed Malayan species, there are a few apparently undescribed forms, and a considerable number of known species previously not recorded from Sumatra. The collections were apparently made, for the most part, at low altitudes in the settled areas and in the second-growth forests; few species characteristic of the primary forests are represented. It is a well-known fact that collections made in any part of the Malayan region at low altitudes outside of the primary forest invariably present a high percentage of widely distributed species and hence those that are thoroughly well known. The endemic elements of any insular flora in Malaya—and the percentage of endemism is usually high in each of the larger islands of the Malay Archipelago—are for the most part confined to the primary forests. With our present state of knowledge of the Sumatran flora I have not considered it advisable to publish an enumeration of this collection, but have recorded some species, for the most part not previously credited to Sumatra, and also give below the descriptions of a few apparently undescribed species detected while studying the material.

## URTICACEAE

### DEBREGEASIA Gaudichaud

**DEBREGEASIA LONGIFOLIA** (Burm. f.) Wedd. in DC. Prodr. 16[1] (1869) 235.[24]

*Urtica longifolia* Burm. f. Fl. Ind. (1768) 297.

Karoland, Kaban Djahe, *Bartlett & La Rue 81*, with the local name *tjeppira*.

India to Java and the Philippines.

### OREOCNIDE Miquel

(*Villebrunea* Gaudichaud)

**OREOCNIDE NIVEA** sp. nov.

Frutex vel arbor parva, ramulis villosis; foliis chartaceis, ellipticis ad elliptico-obovatis, 12 ad 17 cm longis, supra olivaceis, subtus niveis et densissime tomentosis, apice acuminatis, margine serrato-dentatis, nervis utrinque circiter 12, perspicuis; inflorescentiis fasciculatis, capitulis longe pedunculatis, globosis, 5 mm diametro.

A shrub or small tree, the branchlets and petioles rather densely villous with pale brownish hairs. Leaves chartaceous, elliptic to elliptic-obovate, penninerved, 12 to 17 cm long, 6 to 8 cm wide, serrate-dentate except at the base, the upper surface olivaceous when dry, the midrib and nerves more or less pubescent, the epidermis with few, scattered, rather long, white

hairs, the lower surface white, densely tomentose, the pubescent midrib, nerves, and reticulations brownish, the base usually rounded, the apex shortly and sharply acuminate; lateral nerves about 12 on each side of the midrib, distinct, the petioles about 1.5 cm long; stipules lanceolate, acuminate, about 1 cm long. Inflorescences fascicled, axillary and from the axils of fallen leaves, the branches up to 2 cm long, simple, or bearing 2 or 3 heads, somewhat pubescent, the heads globose, about 5 mm in diameter. Achenes crowded, sessile, somewhat hispid, oblong-ovoid, narrowed upward, about 1.5 mm long.

SUMATRA, East Coast, Asahan, in mountain jungle at Linaboen, June 30, 1910, *Bartlett & La Rue 213*, with the local name *nderasi*.

This species is readily distinguished from all previously described forms of the genus by its leaves being white beneath in striking contrast to the dark-olivaceous upper surface.

## OLACACEAE

### ERYTHROPALUM Blume

**ERYTHROPALUM SCANDENS** Blume Bijdr. (1826) 921.

Karoland, Lau Bakal, *Bartlett & La Rue 170*, June 20, 1918. India to Java and the Philippines.

## LAURACEAE

### LITSEA Lamarck

**LITSEA UMBELLATA** (Lour.) comb. nov.

*Hexanthus umbellatus* Lour. Fl. Cochinch. (1790) 196.
*Litsea hexantha* Juss. in Ann. Mus. Paris 6 (1805) 212.
*Litsea amara* Blume Bijdr. (1825) 563.

Karoland, Kampong Lingga, *Bartlett & La Rue 115*, June 5, 1918.

Loureiro's type is preserved in the herbarium of the British Museum, where it was examined by R. Brown, who thought it to represent the Australian species described by him as *Tetranthera ferruginea*. It is clear that Brown was in error in making this reduction, for Loureiro's species is apparently identical with the widely distributed Malayan one currently known as *Litsea amara* Blume, of which I have numerous specimens from Indo-China, the Malay Peninsula, and Java. The Australian species currently known as *Litsea ferruginea* (R. Br.) Benth. & Hook. f. needs a new name as the specific name is invalidated in *Litsea* by *L. furruginea* Blume; it should be known as **Litsea leefeana** (F. Muell.) (*Cylicodaphne leefeana* F. Muell.).

**LITSEA PERAKENSIS** Gamble in Kew Bull. (1910) 359, Journ. As. Soc. Beng. 75[1] (1912) 160.

Karoland, Kampong Lingga, *Bartlett & La Rue 117*, June 6, 1918.

Perak, Johore, Singapore.

## LEGUMINOSAE

### DESMODIUM Desvaux

**DESMODIUM VIRGATUM** Zoll. Nat. Geneesk. Archip. Ind. 3 (1846) 58; Prain in Journ. As. Soc. Beng. 66[2] (1897) 142.

Karoland, Bintang Mariah, *Bartlett & La Rue 128*, June 7, 1918, with the local name *gambir gambir*.

Chittagong, Burma, Perak, Java, and Luzon.

**DESMODIUM ZONATUM** Miq. Fl. Ind. Bat. 1[1] (1855) 250; Gagnep. in Not. Syst. 3 (1916) 297.

Karoland, Sarinambah, *Bartlett & La Rue 145*, June 8, 1918.

This species extends from Ceylon to the Philippines and New Guinea and in most recent literature appears as *Desmodium ormocarpoides* DC. The latter is, however, an entirely different species, as Gagnepain has shown.

**DESMODIUM LASIOCARPUM** (Beauv.) DC. Prodr. 2 (1825) 328.

*Hedysarum lasiocarpum* Beauv. Fl. Oware et Benin 1 (1804) 32, *t. 18*.

*Desmodium latifolium* DC. Prodr. 2 (1825) 328.

Karoland, Soesoek, *Bartlett & La Rue 321*, July 8, 1918, with the local name *gambir gambir*.

A common and widely distributed species in the tropics of the Old World.

### MIMOSA Linnaeus

**MIMOSA INVISA** Mart. in Flora 20[2] (1837) Beibl. 121.

Asahan, Kampong Silau Meradja, *Bartlett & La Rue 394*, October 24, 1918, with the local name *si madoeridoeri*.

A native of Brazil, introduced here.

### PITHECOLOBIUM Martius

**PITHECOLOBIUM JIRINGA** (Jack) Prain in Journ. As. Soc. Beng. 66[2] (1897) 267, in nota.

*Mimosa jiringa* Jack in Malay. Miscel. 1[1] (1820) 14.

*Inga jiringa* Jack op. cit. 2[7] (1822) 78.

*Pithecolobium lobatum* Benth. in Hook. Lond. Journ. Bot. 3 (1844) 208.

Asahan, Silau Meradja, *Bartlett & La Rue 148, 417*, June and October, 1918, with the local names *djering* and *djaring*.

The earlier names *Mimosa keoringa* Roxb. and *M. djiringa* Roxb., both proposed by Roxburgh in 1814, are *nomina nuda*, although Roxburgh published a description of the former in 1832. Jack's specific name should be adopted for this Malayan species which extends from Tenasserim to Java and Borneo, but which does not extend to the Philippines.

## MELIACEAE

### CIPADESSA Blume

**CIPADESSA BACCIFERA** (Roth) Miq. Ann. Mus. Bot. Lugd.-Bat. 4 (1868) 6.

*Melia baccifera* Roth Nov. Pl. Sp. (1821) 215.

Karoland, Bintang Mariah, *Bartlett & La Rue 326*, August 10, 1918, with the local name *koendoelen pamal.*

Ceylon to Java and the Philippines.

## EUPHORBIACEAE

### SUMBAVIOPSIS J. J. Smith

**SUMBAVIOPSIS ALBICANS** (Blume) J. J. Sm. in Meded. Dept. Landbouw 10 (1910) 357; Pax in Engl. Pflanzenreich 57 (1912) 14.

*Adisca albicans* Blume Bijdr. (1825) 611.

Karoland, Kampong Bintang Mariah, *Bartlett & La Rue 131*, June 7, 1918, with the local name *sempaling.*

A monotypic genus, the species now being known from Sumatra, Java, and Palawan.

## CELASTRACEAE

### PERROTTETIA Humbolt, Bonpland, and Kunth

**PERROTTETIA ALPESTRIS** (Blume) Loesen. in Engl. & Prantl Nat. Pflanzenfam. 3[5] (1892) 220; Koord. & Val. in Ic. Bogor. 2 (1904) 137, *t. 127.*

*Celastrus alpestris* Blume Bijdr. (1826) 1145.

Karoland, Sinaboen, *Bartlett & La Rue 218*, June 30, 1918, in mountain jungle.

Java, Borneo, and the Philippines.

## RHAMNACEAE

### ZIZYPHUS Jussieu

**ZIZYPHUS CALOPHYLLA** Wall. in Roxb. Fl. Ind. 2 (1824) 366.

Asahan, Silau Meradja, *Bartlett & La Rue 407*, October 27, 1918, with the local name *si silan niboet.*

Penang, Malay Peninsula, Singapore, Bangka (*Zizyphus ornata* Miq.).

## VITACEAE

### LEEA Royen

**LEEA INDICA** (Burm. f.) comb. nov.

*Staphylea indica* Burm. f. Fl. Ind. (1768) 75, *t. 23, f. 2.*
*Aquilicia sambucina* Linn. Mant. 2 (1771) 211.
*Leea sambucina* Willd. Sp. Pl. 1 (1797) 1177.

Asahan, Boenoet, *Bartlett & La Rue 48*, May 17, 1918, with the local name *pubentjil.*

This species is widely distributed in the Indo-Malayan region, Burman's type apparently being a Javan specimen. It is currently known as *Leea sambucina* (Linn.) Willd., but Burman's name being the older should be adopted. The Linnean binomial is apparently typified by Burman's figure and description, *Staphylea indica* Burm. f. being cited by Linnaeus as a synonym of his species; there is no specimen in the Linnean herbarium.

## MALVACEAE

### HIBISCUS Linnaeus

**HIBISCUS MACROPHYLLUS** Roxb. Hort. Beng. (1814) 51, *nomen nudum;* DC. Prodr. 1 (1824) 455.

Karoland, Soesoek, *Bartlett & La Rue 209*, June 30, 1918, with the local name *anoek anoek.*

India, Penang, Perak, Java.

### SIDA Linnaeus

**SIDA CORYLIFOLIA** Wall. Cat. (1829) No. 1865, *nomen nudum;* Mast. in Hook. f. Fl. Brit. Ind. 1 (1874) 324.

Karoland, Kampong Lingga, *Bartlett & La Rue 149*, with the local name *oeboeng oeboeng;* Asahan, Kampong Silau Meradja, *Bartlett & La Rue 339*, with the local name *tamba loea.*

Burma, Indo-China, Hainan, Java, Madura, Boeton, Philippines; not recorded from the Malay Peninsula.

### WISSADULA Medicus

**WISSADULA PERIPLOCIFOLIA** (Linn.) Thwaites Enum. Pl. Zeyl. (1859) 27.

*Sida periplocifolia* Linn. Sp. Pl. (1753) 684.

Asahan, Silau Meradja, *Bartlett & La Rue 340*, October 10, 1918, with the local name *boeloeng boeloeng pagar.*

A widely distributed tropical species not previously recorded from Sumatra.

## STERCULIACEAE

### FIRMIANA Marsigli

**FIRMIANA COLORATA** (Roxb.) R. Br. in Benn. Pl. Jav. Rar. (1844) 235.

*Sterculia colorata* Roxb. Pl. Coromandel 1 (1795) 26, *t. 25.*

Karoland, Kampong Goenoeng Merlawan, *Bartlett & La Rue 206*, June 28, 1918, with the local name *tjipa tjipa.*

India, Ceylon, and the Andaman Islands.

## FLACOURTIACEAE

### OSMELIA Thwaites

**OSMELIA BARTLETTII** sp. nov.

Frutex vel arbor, ramulis inflorescentiisque pubescens; foliis chartaceis oblongo-ellipticis, 7 ad 9 cm longis, glabris vel subtus ad costa nervisque leviter pubescentibus, acuminatis, nervis utrinque 4, curvatis, perspicuis; inflorescentiis paniculatis, ramis paucis, spiciformibus, elongatis; floribus 4-meris.

A shrub or tree, nearly glabrous except the pubescent younger parts and inflorescences. Branches terete, glabrous, grayish, the branchlets rather densely pubescent with subferrugineous hairs. Leaves chartaceous, oblong-elliptic, 7 to 9 cm long, 3.5 to 4.5 cm wide, entire, brownish-olivaceous when dry, the lower surface paler, base usually acute, sometimes obtuse, apex shortly acuminate, the upper surface entirely glabrous, the lower surface glabrous or obscurely pubescent on the midrib and nerves; lateral nerves usually 4 on each side of the midrib, distinct, prominently curved, not anastomosing, the reticulations slender, subparallel; petioles about 1 cm long, more or less pubescent. Panicles axillary, and terminating lateral leafy branchlets, the leaves on these branchlets much smaller than the normal ones, 2 to 3 cm long, the branches of the inflorescence few, simple, up to 10 cm in length, pubescent. Flowers subsessile, usually scattered, never glomerate, about 5 mm in diameter, 4-merous, their pedicels 1 mm long or less. Sepals 4, oblong-elliptic, obtuse, 3 mm long, slightly pubescent outside. Stamens 8, their filaments slightly pilose, equal, about 2 mm long, the alternating lobes united for the lower 0.8 mm, one lobe alternating with each filament, the free parts oblong-obovate, densely pilose, about 1 mm long; ovary oblong-elliptic, densely pubescent.

SUMATRA, East Coast, Asahan, in deep jungle at Bandar Poelo, *Bartlett & La Rue 37*, May 16, 1918.

This species is apparently most closely allied to *Osmelia maingayi* King, of the Malay Peninsula, and possibly is represented by *Beccari 928* from Sumatra mentioned by King in a note following his description. It is distinguished among all the hitherto described species of the genus by its few-nerved leaves. This small genus, for many years known only from Ceylon and the Philippines, is now represented by 7 or 8 species, the known range of the genus now being Ceylon, Sumatra, Malay Peninsula, Borneo, the Philippines, and Celebes.

## MELASTOMATACEAE

### MEMECYLON Linnaeus

**MEMECYLON LARUEI** sp. nov.

Frutex vel arbor parva, ramis teretibus, ramulis 4-angulatis et anguste 4-alatis; foliis coriaceis, lanceolatis, sessilibus vel subsessilibus, usque ad 20 cm longis et 5.5 cm latis, basi rotundatis, plerumque subcordatis, sursum angustatis, tenuiter acute acuminatis, nervis utrinque circiter 15, rectis, perspicuis, cum nervis marginalibus anastomosantibus; inflorescentiis axillaribus, solitariis, paniculatis, longe pedunculatis, 10 ad 15 cm longis.

A glabrous shrub or small tree, the branches terete, about 3 mm in diameter, the branchlets sharply 4-angled and narrowly winged, the wings not appendiculate at the nodes, the internodes 4 to 5 cm long. Leaves coriaceous, lanceolate, sessile or subsessile, base rounded and usually slightly cordate, gradually narrowed upward to the long, slenderly acuminate apex, 14 to 20 cm long, 3 to 5.5 cm wide, usually shining, the midrib impressed on the upper surface, very prominent on the lower surface; primary lateral nerves about 15 on each side of the midrib, distinct on the lower surface, anastomosing with the equally prominent, slightly arched, marginal nerves, 2.5 to 5 mm from the edge of the leaf, reticulations obsolete. Inflorescences axillary, solitary, long-peduncled, paniculate, 10 to 15 cm long, the branches few, opposite, spreading, the lower ones up to 4 cm long, usually sulcate. Flowers subumbellately arranged at the tips of the branchlets, their pedicels about 3 mm long, each subtended by several, lanceolate, acuminate, 1 mm long bracteoles, the bracts subtending the branches similar to the bracteoles but twice as long. Calyx shallowly cup-shaped, 2.5 to 3 mm in diameter, somewhat 4-toothed. Petals obliquely and broadly ovate, about 2 mm long.

SUMATRA, East Coast, Asahan, in second-growth jungle at Lau Boeloeh, *Bartlett & La Rue 236*, July 1, 1918.

This species belongs in the group with *Memecylon appendiculatum* Blume, *M. paniculatum* Jack and *M. costatum* Miq. and perhaps is most closely allied to Jack's species, the type of which was from Sumatra. It is well characterized by its lanceolate leaves, which are more or less gradually narrowed upward from the lower one-third to the slenderly and sharply acuminate apex.

## ERICACEAE

### VACCINIUM Linnaeus

**VACCINIUM HASSELTII** Miq. Ann. Mus. Bot. Lugd.-Bat. 1 (1863–64) 40.

Near Balige Taba, *Bartlett & La Rue 497*, October 4, 1918. Malay Peninsula, Singapore, Bangka.

## CLETHRACEAE

### CLETHRA Linnaeus

**CLETHRA SUMATRANA** J. J. Sm. in Ic. Bogor. 4 (1910) *t. 319.*

Near Balige Taba, *Bartlett & La Rue 496*, October 4, 1918. The second collection of this endemic species.

## EBENACEAE

### DIOSPYROS Linnaeus

**DIOSPYROS WALLICHII** King & Gamble in Journ. As. Soc. Beng. 74[2] (1905) 220.

Asahan, Silau Meradja, *Bartlett & La Rue 345*, October 11, 1918, with the local name *boea sahoepang*.

Widely distributed in the Malay Peninsula but hitherto not reported from elsewhere.

## APOCYNACEAE

### PARAMERIA Bentham

**PARAMERIA BARBATA** (Blume) K. Schum. in Engl. & Prantl Nat. Pflanzenfam. 4[2] (1895) 162.

*Parsonsia barbata* Blume Bijdr. (1826) 1042.

Karoland, Kampong Singga Manik, *Bartlett & La Rue 155*, June 14, 1918.

Burma and Indo-China southward and eastward to Java, the Philippines, and the Moluccas; it is more commonly known as *Parameria glandulifera* Benth.

## VERBENACEAE

### PREMNA Linnaeus

**PREMNA PYRAMIDATA** Wall. Cat. (1829) No. 1779, *nomen nudum;* Schauer in DC. Prodr. 11 (1847) 633.

Asahan, Boenoet, *Bartlett & La Rue 46,* May 17, 1918. Burma to the Malay Peninsula, Java, and Timor.

### CLERODENDRON Linnaeus

**CLERODENDRON PANICULATUM** Linn. Mant. 1 (1767) 90.

Asahan, Silau Meradja, *Bartlett & La Rue 406,* with the local name *si panggil.*

Formosa, Hainan, Indo-China, Siam, and the Malay Peninsula. It is of interest to note that the allied Philippine species, *Clerodendron intermedium* Cham., is currently known to the Tagalogs by a similar name, *casopanguil.*

### CALLICARPA Linnaeus

**CALLICARPA BREVIPETIOLATA** sp. nov.

Frutex vel arbor parva, ramulis et subtus foliis densissime stellato-tomentosis; foliis chartaceis, lanceolatis, brevissime petiolatis, usque ad 10 cm longis, basi abrupte lateque rotundatis et distincte cordatis, apice tenuiter acuminatis, margine dentatis, nervis utrinque 10 ad 12; cymis axillaribus, breviter pedunculatis, sub fructu confertis, subglobosis, 1 ad 2 cm diametro.

A shrub or a small tree, the branchlets and lower surface of the leaves very densely and uniformly stellate-tomentose, the indumentum pale brownish, eglandular, the branchlets terete, 1.5 to 2 mm in diameter. Leaves lanceolate, chartaceous, brittle when dry, 7 to 10 cm long, 1.5 to 2.5 cm wide, the upper surface brownish olivaceous, more or less pubescent with short simple hairs, the base abruptly and broadly rounded, distinctly cordate, narrowed upward to the slenderly acuminate apex, the margins rather finely dentate; lateral nerves 10 to 12 on each side of the midrib, not prominent; petioles densely stellate-tomentose, 1 to 2 mm long. Cymes axillary, solitary, stellate-tomentose, peduncled, the peduncles 5 to 10 mm long, in fruit dense, subglobose, 1 to 2 cm in diameter. Fruits very numerous, crowded, globose, 2 to 2.5 mm in diameter, black and rugose when dry, the calyces stellate-pubescent, shallow, about 2 mm in diameter, 4-toothed.

SUMATRA, East Coast, Karoland, Kampong Bintang Mariah, *Bartlett & La Rue 323,* August 10, 1918, with the local name *laoe gappa gappa.*

The alliance of this species is manifestly with *Callicarpa rubella* Lindl., from which it is especially distinguished by its very dense stellate-tomentose indumentum, which completely covers the lower surfaces of the leaves.