

BOTANY.—*A synopsis of the Chinese and Formosan species of Albizzia.* P. L. RICKER, Bureau of Plant Industry.

In a study of the specimens of *Albizzia* collected in China by Mr. Frank N. Meyer, agricultural explorer of the U. S. Department of Agriculture, specimens were found not agreeing with the descriptions of existing species, and, as a further examination of the material in the U. S. National Herbarium and a part of the material in the Arnold Arboretum showed the determinations of many of the specimens to be in a state of confusion, it became necessary to make a critical study of the material in order to determine what names to use. All of the Chinese species thus far reported belong to the subgenus *Eualbizzia*.

Sect. I. MACROPHYLLAE. Leaves 1-4-pinnate, leaflets 3-6-pinnate, mostly broad and large, 2-4.5 cm. broad and 4-9 cm. long, the costa slightly or not all excentric.

A. Flowers pedicellate.

Albizzia bracteata Dunn, Journ. Linn. Soc. Bot. **35**: 493. 1903.

This species is distinguished from all of the nearest related species by its pedicellate flowers.

CHINA: Yunnan; Meng-tsze, Szemao, *Henry* 9997A-E, 4500-5000 feet altitude.

AA. Flowers sessile.

Albizzia meyeri Ricker, nom nov.

Mimosa lucida Roxb. Fl. Ind. (**2**: 344. 1824?) ed. 2. **2**: 544. 1832. Not Vahl, 1807.

Albizzia lucida Benth. Lond. Journ. Bot. **3**: 86. 1844.

Name in honor of Frank N. Meyer, agricultural explorer of the U. S. Department of Agriculture, in recognition of his valuable botanical explorations in China.

CHINA: Yunnan; Meng-tsze, *Henry* 9373A.

Sect. II. OBTUSILOBLAE. Leaves 2-6 (rarely 8-9)-pinnate, leaflets 4-25-pinnate, ovate or oblong, obtuse, mostly less than 4 cm. long, the base broader or scarcely inequilateral, the costa somewhat excentric.

A. Flowers in pedicellate heads, the peduncle axillary or short racemose; corolla often up to 6 mm. long; leaflets 1-3.5 cm. long.

B. Pods noticeably stalked (5 mm. long), gradually tapering at apex and base.

Albizzia kalkora (Roxb.) Prain, Journ. Asiat. Soc. Beng. 66: 511. 1897.

Mimosa kalkora Roxb. Hort. Beng. 40. 1814, nom. nud.; Fl. Ind. ed. 2. 2: 547. 1832.

Acacia macrophylla Bunge, Mém. Sav. Étr. Acad. Sci. St. Petersb. 2: 135. 1833.

The identity of Roxburgh's name was unknown until it was taken up by Prain who doubtless had opportunity to examine authentic specimens. Bunge's name (type specimen from Pang-shan) has been considered by Forbes and Hemsley a synonym of *A. lebbek* L. The latter species is quite widely cultivated in the tropics, the type being from Egypt. The glands on the leaf are variable. In addition to the glands always found between the middle and base of the petiole, another gland is usually found either just below the lower or upper pairs of pinnae, and on some leaves the gland is found below every pair of pinnae. Some authors have used the position of the gland on the petiole as a character for separating species of *Albizzia*, but its position is entirely too variable to warrant such use.

CHINA: Province of Shantung; Boshan, *F. N. Meyer* 768a (S. P. I. 21969), Sept., 1907. Province of Chili; Pang-shan, *F. N. Meyer* 865a (S. P. I. 22618), Nov. 23, 1907. Province of Fokien; *Dunn's expedition*, May 25, 1905. Province of Hupeh; *Henry* 1605, 2870A, 6203; *Wilson* 511, May, 1900. Province of Kiangsu; near Nanking, *F. N. Meyer* 1448, June 4, 1915. Province of Shantung; Tsingtau, *Zimmermann* 211, 1901; Laushan, *F. N. Meyer* 305, Aug., 1907.

BB. Pods sessile, acute or obtuse at apex and base.

C. Flowers glabrous except tips of corolla lobes.

Albizzia henryi Ricker, sp. nov.

A large shrub or small tree 2.5-6 meters tall; leaves and pinnae 1-2-pinnate; leaflets 5-10-pinnate, thin, glabrous, oblong or

oblong-elliptic, 2-3 cm. long, 1-2 cm. broad, the midvein but slightly excentric; flowers 1 cm. long, many in heads on axillary peduncles 4-9 cm. long, the pedicels 5-6 mm. long, glabrous; calyx 4-4.5 mm. long, glabrous, with shallow teeth; corolla white, puberulent only at the tips of the lobes; pods nearly sessile, 13-14 cm. long, 22-28 mm. wide, coriaceous, abruptly obtuse at both ends, mucronate-pointed; seeds smooth, brown, elliptic, thin, 8-9 mm. long, 4.5-5.5 mm. wide.

CHINA: Yunnan; Meng-tsze, *A. Henry* 10683, in flower May 29, in fruit June 30, 1896. (Type in U. S. Nat. Herb.).

CC. Flowers puberulent throughout.

Albizzia lebbeck (L.) Benth. Lond. Journ. Bot. **3**: 87. 1844.

Mimosa lebbeck L. Sp. Pl. 516. 1753.

I have not seen Henry's specimen from Ichang reported by Forbes and Hemsley, but think it probable that it is *A. kalkora*, as are most of the specimens from China that have been named as above. It is doubtful if the true *A. lebbeck* is found wild in China except rarely as an escape from cultivation around some of the larger cities. The only apparently genuine specimen I have seen from China was from Hong-kong. *A. macrophylla* Bunge, usually referred here as a synonym, is quite distinct and is a synonym of *A. kalkora*.

AA. Flowers in heads, long pedicelled; heads in subcorymbose racemes; leaflets less than 2.5 cm. long.

Albizzia retusa Benth. Lond. Journ. Bot. **3**: 90. 1844.

This species is distinguished from its nearest relative, *A. pedicellata* Baker, by having its leaflets only 6-10-pinnate instead of 15-20-pinnate as in that species.

FORMOSA: South Cape, *Henry* 992. It is also found in the Philippines.

AAA. Flowers axillary, sessile or very shortly pedicelled, small; corolla 4 or rarely 6 mm. long; peduncles short, fasciated, often in numerous short leafless panicles.

B. Flowers glabrous.

Albizzia corniculata (Lour.) Ricker, nom. nov.

Mimosa corniculata Lour. Fl. Cochinch. 651. 1790.

Albizzia millettii Benth. Lond. Journ. Bot. **3**: 89. 1844.

CHINA: Hong-kong, *Ford*; *C. Wright* in 1853-56; *Sargent*, Nov. 5, 1903. New Territory, *Mrs. L. Gibbs*, 1909. Lung-chau; Kwang-si, *H. B. Morse* 655.

BB. Flowers pubescent or puberulent.

C. Leaflets 6-8-pinnate.

Albizzia procera (Roxb.) Benth. Journ. Bot. 3: 89. 1844.

Mimosa procera Roxb. Pl. Corom. 2: 12. pl. 121. 1798.

This species has the costa but slightly excentric and the widest half of the leaflet turned towards the tip of the leaf instead of the narrowest half as is usual in most species.

CHINA: *Henry* 1613.

CC. Leaflets 8-25-pinnate.

Albizzia odoratissima (Willd.) Benth. Lond. Journ. Bot. 3: 88. 1844.

Mimosa odoratissima Willd. Pl. Corom. 2: 12. pl. 120. 1798.

CHINA: Yunnan; Meng-tsze, *Henry* 9910, 10811A.

Albizzia odoratissima mollis Benth. in Hook. Fl. Brit. Ind. 2: 299. 1878.

CHINA: Yunnan; Tapin-tze, *Delavay* 658.

Sect. III. FALCIFOLIAE. Leaves many(5-10)-pinnate; leaflets many(10-40)-pinnate, small(5-10 mm. long), often falcate; costa close to the upper margin.

A. Stipules linear, caducous; leaflets 10-20-pinnate.

Albizzia julibrissin Scop. Del. Insubr. 18. pl. 8. 1786.

Acacia julibrissin Willd. Sp. Pl. 4: 1065. 1806.

Forms of this species are occasionally found with the branches, foliage, and inflorescence densely pubescent or even velutinous throughout (*A. julibrissin mollis* (Wall.) Benth.). The commonest form, however, has these parts but slightly pubescent or almost glabrous.

CHINA: Hupeh; *Henry*, without locality, 6185; *Wilson* 792, 1315, 2032 without locality. Chili; Peking, *Sargent*, Sept. 18, 1903; Tientsin, *Meyer* 1001, June 12, 1913.

COREA: Chemulpo, *Faurie*, Sept. 28, 1901; Quelparte, *Faurie* 1695, July, 1907; *Jaquet* 728, without locality, July, 1908.

AA. Stipules broad, coriaceous, caducous; leaflets 20-40-pinnate.

Albizzia chinensis (Osbeck) Merrill, Amer. Journ. Bot. **3**: 575. 1916.

Mimosa chinensis Osbeck, Dagbok Ostind Resa 233. 1838.

Mimosa marginata Lam. Encycl. **1**: 12. 1783.

Mimosa stipulata Roxb. Hort. Beng. 40. 1814, nom. nud.

Acacia stipulata D. C. Prodr. **2**: 469. 1825.

Mimosa stipulacea Roxb. Fl. Ind. ed. 2. **2**: 549. 1832.

Acacia marginata Hamilt.; Wall. Cat. No. 5243. 1832, nom. nud.

Albizzia stipulata Boivin, Encycl. XIX Siecle **2**: 33. 1838.

Albizzia marginata Merrill, Philipp. Journ. Sci. Bot. **5**: 23. 1910.

There are no specimens of this species in the National Herbarium or Arnold Arboretum from China. Osbeck describes it from an island near Wampoa (not far from Canton), where it had probably been introduced from Cochin-china, Siam, Java, or the Philippines, where it is a native.

CHINA: Hong-kong, *Hance*; Hainan, *B. C. Henry*.