

NOTES ON THE LIGNEOUS PLANTS DESCRIBED BY LEVEILLE FROM EASTERN ASIA¹

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RUTACEAE

Zanthoxylum simulans Hance in Ann. Sci. Nat. Bot. sér. 5, v. 208 (1866), "*Xanthoxylum*."—Rehder in Jour. Arnold Arb. vii. 181 (1826).

Zanthoxylum Bungei Planchon in Ann. Sci. Nat. Bot. sér. 3, xix. 82 (1853), nomen.—Hance in Jour. Bot. xiii. 131 (1875) "*Xanthoxylum*"; non Ann. Sci. Nat. sér. v. 209 (1866).

Zanthoxylum Argyi Léveillé in Mem. Acad. Ci. Barcelona, xii. 560 (Cat. Pl. Kiang-Sou, 20) (1916).—**Synon. nov.**

CHINA. K i a n g s u : montagnes, d'*Argy*, May (1846-66) (holotype of *Z. Argyi*; merotype in A. A.).

Zanthoxylum stenophyllum Hemsley in Ann. Bot. ix. 147 (1895).—Rehder & Wilson in Sargent, Pl. Wilson. ii. 127 (1914).

Zanthoxylum Esquirolii Léveillé in Fedde, Rep. Spec. Nov. xiii. 266 (1914); Fl. Kouy-Tchéou, 377 (1915).—**Synon. nov.**

CHINA. K w e i c h o u : without locality, *J. Esquirol*, no. 425, June 1904 "arbrisseau" (holotype of *Z. Esquirolii*; photo. and fragments in A. A.).

Zanthoxylum Chaffanjonii Léveillé in Fedde, Rep. Spec. Nov. xiii. 266 (1914).

Zanthoxylum oxyphyllum Léveillé, Fl. Kouy-Tchéou, 377 (1915).—Non Edgeworth.

CHINA. K w e i c h o u : environs de Kouy-yang, mont du Collège, *J. Chaffanjon* in herb. Bodinier, no. 2171, April 12, 1898 "arbuste liane épineux" (holotype; photo. in A. A.).

This species which belongs to the section *Fagara* D. Don differs from *Z. oxyphyllum* Edgew. to which it was referred by Léveillé in 1916 (l. c.) chiefly in the 1-3 pairs of minutely serrulate leaflets, in the small inflorescences and the small flowers with the perianth only about 3 mm. long. It is rather similar to *Z. cuspidatum* Champ. but easily distinguished by the serrulate fewer leaflets, the smaller inflorescence and the distinct pedicels 1-3 mm. long; from *Z. nitidum* DC. it differs in the acuminate serrulate leaflets.

¹Continued from vol. xiii. 332; for preceding parts see vol. x. 108-132, 184-196 and vol. xii. 275-281.

Zanthoxylum dissitum Hemsley in Jour. Linn. Soc. XXIII. 106 (1886).—Rehder & Wilson in Sargent, Pl. Wilson. II. 128 (1914).—Léveillé, Fl. Kouy-Tchéou, 377 (1915).

Zanthoxylum Bodinieri Léveillé in Fedde Rep. Spec. Nov. XIII. 266 (1914).

CHINA. K w e i c h o u : environs de Kouy-yang, mont du Collège, trou au pied de la montagne de Ste. Anne (item à Tsin-gay, Che-téou-tchay) *E. Bodinier*, no. 2058 (in part; flower buds), Feb. 10, 1898 "grande liane épineuse," (syntype of *Z. Bodinieri*); environs de Gan-pin, torrent des Ligularia, *L. Martin* & *E. Bodinier*, no. 2058 (in part; open flowers), Feb. 25, 1898 "grande liane épineuse" (syntype of *Z. Bodinieri*; photo in A. A.); Pin-fa, bois, *J. Cavalerie*, no. 748, Dec. 4, 1902 "fruit à odeur forte" (syntype of *Z. Bodinieri*; photo. in A. A.).

Zanthoxylum Bodinieri was enumerated by Léveillé in 1915 as a synonym of *Z. dissitum* Hemsl.

Zanthoxylum odoratum Léveillé in Fedde, Rep. Spec. Nov. XIII. 266 (1914).

Evodia odorata Léveillé in Fedde, Rep. Spec. Nov. IX. 458 (1911); Fl. Kouy-Tchéou, 375 (key) (1915).

Fagara gigantea Handel-Mazzetti in Akad. Anz. Wien, 1921, p. 64 (Pl. Nov. Sin. Forts. 10, p. 2) (1921).—**Synon. nov.**

Zanthoxylum giganteum (Handl.-Mazz.) Rehder in Jour. Arnold Arb. VIII. 151 (1927).

CHINA. K w e i c h o u : Ma-jo, *J. Cavalerie*, no. 2978, Aug. 1908 "odeur forte et agreable" (holotype of *Evodia odorata*, in fruit; photo. in A. A.); Pin-fa, montagne *J. Cavalerie*, no. 1771, April 17, 1904, "trouvé un pied seulement, 3 ou 4 m. de haut; les nombreuses fleurs blan. avaient une odeur forte et agreable"; cited under *Zanthoxylum odoratum*; photo. in A. A.); Ta-hi-yen, Feng-hsiang-ping, on bushy slope, alt. 1700 m., *Steward, Chiao & Cheo*, no. 708, Oct. 18, 1931 (tree 8 m. high, 40 cm. diam.; fruit reddish). H u n a n : in monte Yunschan prope urbem Wukang, in silva, alt. 1150-1250 m., *Handel-Mazzetti*, no. 12327, Aug. 8, 1918 "arbor 15 m.; fl. virenti-flavi cum foliis citriodori" (holotype of *Fagara gigantea*; isotype in A. A.).

Under *Evodia odorata* Léveillé enumerates only Cavalerie's no. 2978 and under *Z. odoratum* he enumerates only Cavalerie's no. 1771, though he cites *E. odorata* as synonym. Cavalerie no. 1771 bears inflorescences with flower-buds like Handel-Mazzetti's specimen with which it agrees perfectly; Steward, Chiao and Cheo, no. 708, has ripe fruits.

Orixa japonica Thunberg, Fl. Jap. 61 (1784).—Rehder & Wilson in Sargent, Pl. Wilson. II. 135 (1914).

Sabia Feddei Léveillé in Fedde, Rep. Spec. Nov. IX. 456 (1911); Fl. Kouy-Tchéou, 379 (1915).—**Synon. nov.**

Sabia Cavaleriei Léveillé in Fedde, Rep. Spec. Nov. ix. 456 (1911); Fl. Kouy-Tchéou, 378 (1915).—**Synon. nov.**

Glochidion Vanioti Léveillé in Fl. Kouy-Tchéou, 164 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : Pin-fa, *J. Cavalerie*, no. 22bis, April 4, 1902 "2-3m.; bonne odeur; fleurs vertes" (holotype of *Sabia Feddei*; merotype in A. A.); Pin-fa, *J. Cavalerie*, no. 23bis, April 4, 1902 "petal. 5, vert-jaunes" (holotype of *S. Cavaleriei*, photo. in A. A.); Pin-fa, bois de La-tong, *J. Cavalerie*, no. 575, Oct. 1, 1902 "arbuste" (holotype of *Glochidion Vanioti*, photo. in A. A.).

The specimen of *Sabia Feddei* bears staminate and that of *S. Cavaleriei* pistillate flowers, that of *Glochidion Vanioti* is in fruit.

Boenninghausenia albiflora (Hook.) Reichenbach apud Heynhold, Nomencl. Bot. Hort. i. 126 (1840).¹—Léveillé, Fl. Kouy-Tchéou, 374 (1915).

Bodiniera thalictrifolia Léveillé & Vaniot in Bull. Acad. Intern. Géog. Bot. xi. 48 (1902).

CHINA. K w e i c h o u : mont de Kao-po (Tsin-gay), haies, herbages de la haute montagne, *J. Laborde* in herb. Bodinier, no. 2702, Nov. 8, 1899 "pétales d'un blanc pur" (syntype of *Bodiniera thalictrifolia*, photo. in A. A.); environs de Hoang-ko-chou, haies, buissons, *J. Seguin* in herb. Bodinier, no. 2499, Aug. 1898 "fleurs blanches" (syntype of *Bodiniera thalictrifolia*, photo. in A. A.).

Bodiniera thalictrifolia had been already identified with *Boenninghausenia albiflora* as shown by a note on the sheet of Seguin's specimen. If var. *longipes* Franchet, Pl. Delavay. 123 (1889) is to be considered a distinct variety, the specimens cited above should be referred to that variety, but the difference in the length of the stipe of the carpels seems to be too slight and too gradual to maintain var. *longipes* as distinct. In the typical form the stipe is about 3-4 mm. long and the carpels reach to about the middle of the petals, while in var. *longipes* the stipe is about 5-8 mm. and the carpels are nearer the apex of the petals. The typical form occurs in India and Japan, while the var. *longipes* seems to be the prevailing form in China, except in the southwest where the following variety occurs.

Boenninghausenia albiflora var. α **brevipes** Franchet, Pl. Delavay. 123 (1889).

¹The binomial is usually credited to Reichenbach, Consp. Reg. Veg. 197 (1828), but at the place Reichenbach published neither a description of the genus nor did he transfer the specific epithet of *Ruta albiflora* Hook. which is cited as a synonym. The first generic description was published in 1836 by Meisner, Pl. Vasc. Gen. 60, and the authority for the generic name therefore should be "Reichenbach apud Meisner."

Boenninghausenia sessilicarpa Léveillé in Fedde, Rep. Spec. Nov. XII. 282 (1913).

Boenninghausenia brevipes (Franch.) Léveillé, Cat. Pl. Yun-Nan, 249 (1917).

CHINA. Y u n n a n : pâturages des mont. derrière Tong-tchouan, alt. 2550-2700 m., *E. E. Maire*, July 1912 "plante vivace, sous-ligneuse, en touffes dressées" (syntype of *B. sessilicarpa*; photo. in A. A.); pied des mont. vallées de Tong-tchouan, alt. 2500 m., *E. E. Maire*, Aug. 1912 "Ancolie sous-ligneuse, rameuse, petites fleurs blanches" (syntype of *B. sessilicarpa*; photo. in A. A.)

This variety is well distinguished from the type by the nearly sessile carpels, but as there are no concomitant characters except that the leaves are rarely thrice pinnate and the leaflets are smaller, it can hardly be considered specifically distinct. It seems, however, geographically well separated; ten specimens from Yunnan and one from southwestern Szechuan close to the Yunnan border have subsessile carpels except one which like the specimens from all other parts of China has long-stipitate carpels.

Toddalia asiatica (L.) Lamarck, Tab. Encycl. Méth. II. 116 (1793).—Rehder & Wilson in Sargent, Pl. Wilson. II. 137 (1914).

Aralia Labordei Léveillé in Bull. Acad. Géog. Bot. XXIV. 144 (1914); Fl. Kouy-Tchéou, 34 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : environs de Tsin-gay, montagne boisée escarpée près de la ville, *J. Laborde*, Nov. 6, 1898 "arbuste" (holotype of *Aralia Labordei*; merotype in A. A.).

Glycosmis Esquirolii (Lévl.) Tanaka in Bull. Soc. Bot. France, LXXV. 709 (1928); in Tanaka Citrus Exp. Sta. I. no. 2, p. 40 (1932).

Clausena Esquirolii Léveillé in Fedde, Rep. Spec. Nov. IX. 324 (1911); Fl. Kouy-Tchéou, 374 (1915).

CHINA. K w e i c h o u : without locality, *J. Esquirol*, no. 744 (holotype of *Clausena Esquirolii*, photo. in A. A.).

Clausena Dunniana Léveillé in Fedde, Rep. Spec. Nov. XI. 67 (1912).

Clausena Willdenowii Léveillé, Fl. Kouy-Tchéou, 375 (1915); non Wight & Arnott.

CHINA. K w e i c h o u : Pin-fa, rochers, *J. Cavalerie*, no. 1072, June 18, 1903 "petit arbrisseau, fleurs blanches" (holotype; photo. in A. A.).

Léveillé reduced this species in his Flore de Kouy-Tchéou to *C. Willdenowii*, but T. Tanaka in revising Léveillé's specimens maintained the name *C. Dunniana*. Also the determinations by Evans of Handel-Mazzetti's no. 10386 from Kweichou as *C. Dunniana* was confirmed by

T. Tanaka according to his note on the specimen in the Arnold Arboretum herbarium.

Citrus ichangensis Swingle in Jour. Agric. Research. i. 1, fig. 1-7, t. 1 (1913); in Sargent, Pl. Wilson. II. 144 (1914).

? *Citrus Cavaleriei* Léveillé apud Cavalerie in Bull. Géog. Bot. XXI. 211, 236 (1911), nomen.—Koidzumi, Fl. Symb. Or.-As. 55 (1930).

CHINA. K w e i c h o u : (no specimen in herb. Léveillé).

There are no specimens of *Citrus Cavaleriei* in the Léveillé herbarium and the name was published without description by Cavalerie who states that it is a spiny Orange growing wild at an altitude of 1700 m. near Ma-jo and Kai-tchéou in the province of Kweichou. In the same article Cavalerie publishes a few other manuscript names of *Citrus* given by Léveillé. Léveillé states on p. 236 that W. T. Swingle is inclined to refer *C. Cavaleriei* tentatively to *C. hystrix* DC. Koidzumi, however, identifies it (l. c.) with *C. ichangensis* and makes the latter name a synonym of the former, in spite of the fact that *C. Cavaleriei* is a nomen nudum.

SIMAROUBACEAE

Ailanthus Esquirolii Léveillé, Fl. Kouy-Tchéou, 404 (Sept. 1915), nomen; in Monde Pl. sér. 2, XVII. 23 (Nov. 1915).

CHINA. K w e i c h o u : without locality, *J. Cavalerie*, no. 773 (not now in herb. Léveillé).

Léveillé remarks in Monde des plantes (l. c.) that unfortunately the specimen which had been put aside for a future diagnosis has been mislaid and that only a short diagnosis could be given which runs as follows: "differt ab *A. glutinosa* [sic] foliis majoribus conspicue dentatis et floribus coloratis." The plant may not be an *Ailanthus* at all.

MELIACEAE

Chickrassia tabularis A. Jussieu in Mém. Mus. Paris, XIX. 251 (1830).

Dysoxylon Esquirolii Léveillé in Cat. Pl. Yun-Nan, 176 (1916).—

Synon. nov.

CHINA. K w e i c h o u : Ycoca-may, *J. Esquirol*, no. 858 (? 898) June 1906 "grand arbre, fleurs jaunes" (holotype of *Dysoxylon Esquirolii*; merotype in A. A.).

The specimen represents a form with the leaves soft-pubescent beneath and sparingly pubescent above; also the rhachis of the leaf and the inflorescence is finely pubescent.

Cipadessa baccifera Miq. var. **sinensis** Rehder & Wilson in Sargent, Pl. Wilson. II. 159 (1914).

Rhus Blinii Léveillé, Fl. Kouy-Tchéou, 411 (1915).—**Synon. nov.**

CHINA. K w e i c h o u : sud de Tin-fan, *J. Cavalerie*, no. 1911, Nov. 1904 (holotype of *Rhus Blinii*; photo. in A. A.).

MALPIGHIACEAE

Aspidopterys Cavaleriei Lévillé in Fedde, Rep. Spec. Nov. ix. 458 (1911); Fl. Kouy-Tchéou, 271 (1914) in part.—Hutchinson in Kew Bull. Misc. Inform. 1917, p. 97.—Niedenzu in Engler, Pflanzenr. iv.-141 (Heft 91) p. 32 (Malpigh.) (1928).

Aspidopterys Dunniana Lévillé in Fedde, Rep. Spec. Nov. xi. 65 (1912); Fl. Kouy-Tchéou, 271 (1914).—Niedenzu, l. c. (1928).

CHINA. K w e i c h o u : Lo-fou, *J. Cavalerie*, no. 2993, April 1908 (holotype of *A. Cavaleriei* and syntype of *A. Dunniana*; photo. in A. A.); Lo-fou, *J. Cavalerie*, no. 3477, March 1909 "fleurs blanches" (syntype of *A. Dunniana*; photo. and fragments in A. A.).

Aspidopterys Dunniana was referred as a synonym to *A. Cavaleriei* by Hutchinson who drew attention to the fact that Lévillé cites Cavalerie no. 2993 under both species, under *A. Dunniana* together with Cavalerie, no. 3477. In his Flore de Kouy-Tchéou, however, Lévillé omits Cavalerie's no. 2993 under *A. Cavaleriei* and cites instead Cavalerie, no. 1882, and Esquirol, no. 712, which do not belong to *Aspidopterys* at all, but represent Combretaceae.

Aspidopterys Esquirolii Lévillé in Fedde, Rep. Spec. Nov. xi. 65 (1912); Fl. Kouy-Tchéou, 271 (1914).—Hutchinson in Kew Bull. Misc. Inform. 1917, p. 100.—Niedenzu in Engler, Pflanzenr. iv.-141 (Heft 91) p. 21 (Malpigh.) (1928).

Cavalierella cordata Lévillé, Fl. Kouy-Tchéou, 61 (1914).—

Synon. nov.

CHINA. K w e i c h o u : without locality, *J. Esquirol*, no. 593, Aug. 1905 "arbrisseau, fleur jaune" (ex Lévillé et Hutchinson; syntype); Houa-kiang, *J. Cavalerie*, no. 2032, June 6, 1904 (syntype; photo. in A. A.); Gan-chouen, *J. Cavalerie*, no. 3961, May 1912 (holotype of *Cavalierella cordata*; photo. and merotype in A. A.).

This species is according to Hutchinson easily distinguished from the other species by the externally densely hairy sepals.

Esquirol's no. 593 I have not seen, but it is cited by Hutchinson and apparently does not differ from Cavalerie's 3961.

Cavalierella cordata Lévl. one of the two species on which Lévillé based the new genus *Cavalierella* placed into the Caprifoliaceae is undoubtedly an *Aspidopterys* and seems referable to *A. Esquirolii* except that the leaves are subcordate to cordate at the base and generally broader and larger than in Cavalerie's no. 3961; the specimen is in fruit and the fruit is suborbicular, about 3 cm. broad and slightly longer,

cristate between the wings which are furnished with setose hairs except near the margin. The other species of *Cavalierella*, *C. Dunniana*, belongs to *Dipelta*.

EUPHORBIACEAE

Andrachne Bodinieri Léveillé in Fedde, Rep. Spec. Nov. XII. 187 (1913); Fl. Kouy-Tchéou, 158 (1914).

Andrachne hypoglauca Léveillé, l. c. (1913); l. c. (1914).

CHINA. K w e i c h o u : montagnes de Lou-tsong-koan, rocaïlles, talus pierreux, *E. Bodinier*, no. 1662, July 12, 1897 "petit arbuste" (holotype of *A. Bodinieri*, merotype in A. A.); bord de la plaine de Tou-chan, *J. Cavalerie*, July 16, 1897 (holotype of *A. hypoglauca*; photo. in A. A.).

This species seems nearest to *A. chinensis* Bge., but differs in its narrower, oblong to lanceolate glabrous leaves, cuneate at the base, with revolute margin and of chartaceous texture with the midrib and lateral veins impressed above and prominent beneath. In the type of *A. hypoglauca* the leaves are narrower and more glaucous beneath than in *A. Bodinieri*. In the shape of the leaves it resembles *A. lolonum* Hand.-Mazz., but this has the leaves densely pubescent beneath.

This and the other species of *Andrachne* described by Léveillé are only mentioned by name as species dubiae by Pax and Hoffmann, in Engler, Pflanzenr. iv.-147, xxv. p. 178 (1922).

Andrachne Esquirolii Léveillé in Fedde, Rep. Spec. Nov. ix. 327 (1911); Fl. Kouy-Tchéou, 158 (1914).

Andrachne persicariifolia Léveillé in Fedde, Rep. Spec. Nov. xi. 187 (1913).

Andrachne attenuata Handel-Mazzetti in Akad. Anz. Wiss. Wien, 1921, p. 178 (Pl. Nov. Sin. Forts. 13, p. 2) (1921). **Synon. nov.**

CHINA. K w e i c h o u : without locality, *J. Esquirol*, no. 110 (holotype of *A. Esquirolii*; photo. in A. A.); environs de Kouy-yang; bois de la pagoda de Kien-lin-chan, dans les rocaïlles, "item au Ke-ma-tong," *E. Bodinier*, no. 1695, July 20, 1897 (holotype of *A. persicariifolia*, photo. in A. A.); Djitschangping prope oppidum Muyu ad austr.-occ. oppidi Dschenning, *Handel-Mazzetti*, no. 10402, June 22, 1917 (holotype of *A. attenuata*; isotype in A. A.).

In the shape of its leaves and other characters *A. Esquirolii* resembles closely the type of *A. attenuata*, while *A. persicariifolia* has much narrower leaves varying from oblong-lanceolate to narrow-lanceolate, but in the acute sepals and the strigose-setose ovary it agrees with *A. attenuata*.

Securinega suffruticosa (Pall.) Rehder in Jour. Arnold Arb. XIII. 338 (1932).

Securinea ramiflora (Ait.) Mueller Arg. in De Candolle, Prodr. xv. pt. i. 449 (1866).

Securinea fluggeoides Mueller Arg., l. c. 550 (1866).

Phyllanthus Argyi Léveillé in Mem. Acad. Ci. Barcelona, XII. 550 (Cat. Pl. Kiang-Sou, 10) (1916).—**Synon. nov.**

CHINA. K i a n g s u : without locality, *d'Argy*, no. 78, (1846-66) "arbrisseau" (holotype of *Phyllanthus Argyi*; merotype in A. A.)

Phyllanthus emblica Linnaeus, Spec. Pl. 982 (1753).

Phyllanthus Mairei Léveillé in Bull. Géog. Bot. xxv. 23 (1915); Cat. Pl. Yun-Nan, 97 (1916).—**Synon. nov.**

CHINA. Y u n n a n : rives du fleuve Bleu, à Siao-ho, alt. 400 M., *E. E. Maire*, May 1912 "arbrisseau toujours vert; fleurs jaunes; fruits verts, acides, en forme de cerise" (holotype of *P. Mairei*, merotype in A. A.).

Phyllanthus Mairei has been already identified by W. W. Smith with *P. emblica* according to a note on the sheet.

Phyllanthus Franchetiana Léveillé in Bull. Géog. Bot. xxv. 23 (1915); Cat. Pl. Yun-Nan, 97 (1916).

CHINA. Y u n n a n : river du fleuve Bleu, à Siao-ho, alt. 400 m., *E. E. Maire*, May 1912 "fleurs rougeâtres, drupes vertes, acidulées, en forme de cerise" (holotype; photo. and fragments in A. A.).

This species resembles *P. pulcher* Wall., but the leaves which are 6-8 mm. long are not mucronate and the sepals are crenate-dentate rather than laciniate. The fruits which are not present on the specimen are cherry-like according to the collector's note.

Phyllanthus Dunnianus (Lévl.) Handel-Mazzetti in herb.

Phyllanthodendron Dunnianum Léveillé in Fedde, Rep. Spec. Nov. ix. 324 (1911); Fl. Kouy-Tchéou, 166 (1914).—Handel-Mazzetti, Symb. Sin. VII. 224 (1931).

Phyllanthodendron Cavaleriei Léveillé in Fedde, Rep. Spec. Nov. ix. 454 (1911); Fl. Kouy-Tchéou, 116 (1914).—**Synon. nov.**

Phyllanthodendron Dunnianum Lévl. var. *hypoglaucum* Léveillé, Fl. Kouy-Tchéou, 166 (1914).

CHINA. K w e i c h o u : Lo-fou, *J. Cavalerie*, no. 2659, Nov. 1905 "fl. vertes" (holotype of *Phyllanthodendron Dunnianum*; merotype in A. A.); O-to près Lo-fou, *J. Cavalerie*, no. 3284, April 1907 "arbrisseau" (holotype of *Ph. Cavaleriei*; merotype in A. A.); Lo-fou, *J. Cavalerie*, no. 3500, April, May 1909 (holotype of *Ph. Dunnianum* var. *hypoglaucum*; merotype in A. A.).

The three specimens cited above agree in the distinctly winged branchlets and generally in the shape of the leaves, but differ in several other characters. In *Phyllanthodendron Dunnianum* var. *hypoglaucum* (Cavalerie, no. 3500) which is in fruit the leaves are glaucous beneath and the branchlets are pilose, while in the other two specimens they are

perfectly glabrous. *Phyllanthodendron Dunnianum* (Cavalerie, no. 2659) has thin membranous leaves, while *Ph. Cavaleriei* (Cavalerie, no. 3284) has subcoriaceous leaves with prominent veins on both sides; both specimens are in flower. Cavalerie's nos. 3284 and 3500 have dimorphic leaves, while no. 2659 which consists only of two small sterile branchlets (with a detached flower in a pocket) has only one kind of leaves. The specimen of no. 2659 bears in Handel-Mazzetti's handwriting the new combination "*Phyllanthus Dunnianus* (Lévl.)" but in his remarks on *Phyllanthodendron Dunnianum* under his *Phyllanthus anthopotamicus* (in Symb. Sin. VII. 224. 1931) he does not cite this combination; he only states that the two species are closely related. *Phyllanthus Dunnianus*, however, differs markedly from *P. anthopotamicus* in the strongly angular, slightly winged glabrous or only slightly pilose branchlets, the quite glabrous, more acuminate leaves dark green above and generally larger, and in the larger, longer-stalked glabrous flowers.

Phyllanthus spec.

Sterculia Bodinieri Lévillé, Fl. Kouy-Tchéou, 406 (1915).—

Synon. nov.

CHINA. K w e i c h o u : environs de Hoang-ko-chou, grande cascade, au bord de l'eau, *J. Seguin* in herb. Bodinier, no. 2194, April 1898 "arbuste, fleurs rougeâtres" (holotype of *Sterculia Bodinieri*; merotype in A. A.).

This plant is undoubtedly a Euphorbiacea and seems referable to the sect. *Eriococcus* of *Phyllanthus* except that it has 4 anthers.

Glochidion puberum (L.) Hutchinson in Sargent, Pl. Wilson. II. 518 (1916).

Glochidion Bodinieri Lévillé in Fedde, Rep. Spec. Nov. XII. 183 (1913); Fl. Kouy-Tchéou, 163 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : Kouy-yang, mont du Collège, *E. Bodinier*, no. 2307, July 21, 1897 (fruit), June 9, 1898 "arbuste de 1 m., très branchu" (holotype of *G. Bodinieri*; merotype in A. A.).

Glochidion villicaule Hooker f., Fl. Brit. Ind. v. 326 (1887).

Glochidion Esquirolii Lévillé in Fedde, Rep. Spec. Nov. XII. 186 (1913); Fl. Kouy-Tchéou, 163 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : Ouang-mou, *J. Esquirol*, no. 714, June 1904 "fleurs jaunes" (holotype of *G. Esquirolii*; photo. in A. A.).

Baccaurea Cavaleriei Lévillé, Fl. Kouy-Tchéou, 159 (1914).

CHINA. K w e i c h o u : Lo-fou, *J. Cavalerie*, no. 3299, April 1907 "petit arbre" (holotype, photo. in A. A.).

In the general habit and in the leaf this species has some resemblance to *B. sapida* Muell. Arg., but the material is insufficient for exact

determination; it consists of a leafy branch and broken fragments of immature inflorescences.

Antidesma microphyllum Hemsley in Jour. Linn. Soc. Bot. xxvi. 432 (1894).—Handel-Mazzetti, Symb. Sin. vii. 218 (1931).

Antidesma Seguini Lévillé in Fedde, Rep. Spec. Nov. ix. 460 (1911); Fl. Kouy-Tchéou, 158 (1914).—Pax & Hoffmann in Engler, Pflanzenr. iv.-147, xv. 166 (1922).

Myrica Darrisii Lévillé in Fedde, Rep. Spec. Nov. xii. 537 (1913); Fl. Kouy-Tchéou, 281 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : district de Tchen-lin, bord du fleuve à la cascade de Hoang-ko-chan, *J. Seguin*, June 10, 1898 "fleur blanche" (ex Lévillé; syntype of *A. Seguini*); fleuve Hoa-kiang, *J. Esquirol*, no. 505, June 1905; (ex Lévillé; syntype of *A. Seguini*); Tchai-chouï-ho, *J. Esquirol*, no. 1586, July 1909 (syntype of *A. Seguini*; merotype in A. A.); route de Mou-you-se à Houang-ko-chou, *J. Cavalerie*, no. 2058, June 10, 1904 (holotype of *Myrica Darrisii*; photo. and fragment in A. A.).

Of the three syntypes of *A. Seguini* I have before me only Esquirol, no. 1568, which agrees exactly with Henry's 9530a of *A. microphyllum* Hemsl., while Cavalerie, no. 2058, the holotype of *Myrica Darrisii*, differs slightly in, at least partly, somewhat broader leaves. *Antidesma Seguini* had been identified with *A. microphyllum* by Dr. Stapf according to a note in a letter from Dr. Handel-Mazzetti of Dec. 25, 1922.

Croton Tiglium Linnaeus, Spec. Pl. 1004 (1753).—Handel-Mazzetti, Symb. Sin. vii. 218 (1931).

Alchornea Vanioti Lévillé, Cat. Pl. Yun-Nan, 95 (1916).

CHINA. Y u n n a n : Tong-tchouan, *E. E. Maire*, 1911 (holotype of *Alchornea Vanioti*; merotype in A. A.).

Alchornea Vanioti was identified with *Croton Tiglium* by Handel-Mazzetti (l. c.).

Speranskia cantonensis (Hance) Pax & Hoffmann in Engler, Pflanzenr. iv.-147, vi. 15 (Euphorb.) (1912).

Mercurialis acanthocarpa Lévillé in Fedde, Rep. Spec. Nov. iii. 21 (1906).

Speranskia tonkinensis Lévillé, Fl. Kouy-Tchéou 167 (1914).

CHINA. K w e i c h o u : Pin-fa, près d'une rivière, très rare, *J. Cavalerie*, no. 1585, Oct. 19, 1903 (holotype of *Mercurialis acanthocarpa*; photo. in A. A.).

Mercurialis acanthocarpa was referred by Lévillé together with *Speranskia Henryi* Oliv., to *Speranskia tonkinensis*, a name cited without author and probably a mistake for *S. cantonensis*.

Mallotus Leveillanus Fedde, Rep. Spec. Nov. x. 144 (1912).—Pax & Hoffmann in Engler, Pflanzenr. iv.-147, vii. p. 165 (1914).

Mallotus Esquirolii Léveillé in Fedde, Rep. Spec. Nov. ix. 461 (1911), non Léveillé, l. c. 327.

Mallotus Leveillei Fedde apud Léveillé, Fl. Kouy-Tchéou, 165 (1914).

CHINA. K w e i c h o u : Ouang-mou, *J. Esquirol*, no. 120, June 1904 (holotype of *M. Esquirolii*; photo. in A. A.); Lo-fou, *J. Cavalerie*, no. 3666, Aug. 1909 (duplicate in A. A.).

Cavalerie's no. 3666 is cited together with Esquirol's no. 120 by Léveillé under *M. Leveillei* (l. c.) and by Pax & Hoffmann under *M. Leveillanus* (l. c.).

Mallotus philippinensis (Lam.) Mueller Arg. in Linnaea, xxxiv. 196 (1865).—Pax & Hoffmann in Engler, Pflanzenr. iv.-147, vii. p. 184 (1914).

Evonymus hypoleucus Léveillé in Fedde, Rep. Spec. Nov. xiii. 260 (1914).—**Synon. nov.**

Phyllanthodendron sp. Léveillé, Fl. Kouy-Tchéou, 166 (1914).

CHINA. K w e i c h o u : Lo-fou, *J. Cavalerie*, no. 2733, April 1906 (holotype of *Evonymus hypoleucus* and *Phyllanthodendron* sp.; photo. in A. A.).

Evonymus hypoleucus is cited by Léveillé in his Flore de Kouy-tchéou as a synonym of *Phyllanthodendron* sp.

Mallotus Esquirolii Léveillé in Fedde, Rep. Spec. Nov. ix. 327 (1911); Fl. Kouy-Tchéou, 165 (1914).—Pax & Hoffmann in Engler Pflanzenr. iv.-147, vii. 196 (1914).

CHINA. K w e i c h o u : without precise locality, *J. Esquirol*, no. 898 (holotype; photo. and fragments in A. A.); Lo-fou, *J. Cavalerie*, no. 3114, March 1909 (cited in Fl. Kouy-Tchéou; duplicate in A. A.).

Mallotus Milliettii Léveillé, Fl. Kouy-Tchéou, 165 (1914).

CHINA. K w e i c h o u : route de Gan-chouen à Hin-y-fou, *Cavalerie*, no. 3967, July 1912 (holotype; photo. and fragments in A. A.).

This species seems nearest to *M. contubernalis* Hance, but differs chiefly in the leaves being sparingly stellate-pubescent above and rather densely and softly so below, and in the sessile larger capsules about 1.4 cm. in diam. with a heavier indumentum. In the pubescence of the leaves it seems to approach var. *chrysocarpus* (Pamp.) Hand.-Mazz. which I have not seen, the type of it being missing from the Herb. Biondi when I was in Florence in 1932.

Léveillé cites Cavalerie, no. 3697, as the type of his species, but the specimen is numbered 3967 and bears in Léveillé's handwriting the name *Mallotus Cavaleriei* in ink and below in pencil *M. Milliettii*. Léveillé apparently changed the name *M. Cavaleriei* which was never published for this plant, to *M. Milliettii*, because he had already given

the former name to a species which was later referred to *Discocleidion rufescens* (Fr.) Pax & Hoffm.

Discocleidion rufescens (Franch.) Pax & Hoffmann in Engler, Pflanzenr. iv.-147, vii. p. 45, fig. 6 (1914).—Léveillé, Fl. Kouy-Tchéou, 161 (1914).

Mallotus Cavaleriei Léveillé in Fedde, Rep. Spec. Nov. xi. 296 (1912).

CHINA. K w e i c h o u : Gan-chouen, *J. Cavalerie*, no. 3825, June 1910 (holotype of *Mallotus Cavaleriei*; photo. in A. A.).

Acalypha Mairei (Lévl.) Schneider in Sargent, Pl. Wilson. iii. 301 (1916).—Léveillé, Cat. Pl. Yun-Nan, 94 (1916).—Pax & Hoffmann in Engler, Pflanzenr. iv.-147, xvi. 137 (1924).

Morus Mairei Léveillé in Fedde, Rep. Spec. Nov. xiii. 265 (1914).

CHINA. Y u n - n a n : brousse derrière Mo-tsou fleuve Bleu, alt. 800 m., *E. E. Maire*, May (ex Léveillé; syntype of *Morus Mairei*); rochers de Ma-hong, alt. 3000 m., *E. E. Maire*, June 1912 (syntype of *Morus Mairei*, merotype in A. A.).

Tragia involucrata Linnaeus, Spec. Pl. 980 (1753).—Pax & Hoffmann in Engler, Pflanzenr. iv.-147, ix-xi. 81 (1919).—Handel-Mazzetti, Symb. Sin. vii. 218 (1931).

Alchornea Mairei Léveillé, Cat. Pl. Yun-Nan, 94 (1916).

CHINA. Y u n n a n : vallon de Yon-fong-keou, alt. 800 m., *E. E. Maire*, July 1912 (holotype of *Alchornea Mairei*; photo. in A. A.).

Alchornea Mairei was first identified with *Tragia involucrata* by Handel-Mazzetti who states that it approaches var. *intermedia* Muell. Arg.

Sapium rotundifolium Hemsley in Jour. Linn. Soc. Bot. xxvi. 445 (1894).—Handel-Mazzetti, Symb. Sin. vii. 212 (1931).

Baccaurea Esquirolii Léveillé, Fl. Kouy-Tchéou 159 (1914).—

Synon. nov.

CHINA. K w e i c h o u : Mou-you-se, *J. Cavalerie*, no. 2137 (no. 13), June 1904 "arbre, fl. jaunes" (syntype of *Baccaurea Esquirolii*; photo. in A. A.); Lo-fou, *J. Cavalerie*, no. 3458, Oct. 1908 (syntype of *B. Esquirolii*; photo. in A. A.); without precise locality, *J. Esquirol*, no. 517, June 1905 (syntype of *B. Esquirolii*; photo. in A. A.).

This species was collected in Kweichou also by Handel-Mazzetti (nos. 10279 and 10371).

DAPHNIPHYLLACEAE

Daphniphyllum macropodum Miquel in Mus. Bot. Lugd.-Bat. iii. 129 (1867).—Rosenthal in Engler, Pflanzenr. iv.-147a, p. 9 (1919).

Webera Marchandii Léveillé in Fedde, Rep. Spec. Nov. xiii. 178 (1911); Fl. Kouy-Tchéou, 372 (1915).—**Synon. nov.**

CHINA. K w e i c h o u : moulins de Tong-tchéou, *J. Esquirol* & *R. Marchand*, no. 3252, June 22, 1912 (holotype of *Webera Marchandii*; photo. in A. A.).

BUXACEAE

Sarcococca Hookeriana Baill. var. *humilis* Rehder & Wilson in Sargent, Pl. Wilson. II. 164 (1914).

Maesa spec. Léveillé, Fl. Kouy-Tchéou, 287 (1914).

Myrsine Chevalieri Léveillé, Fl. Kouy-Tchéou, 287 (1914).—

Synon. nov.

Pachysandra Mairei Léveillé, Cat. Pl. Yun-Nan, 97, fig. 23 (1916).

CHINA. K w e i c h o u : enfoncement de Ouan-ly près Thou-ly, *J. Esquirol*, no. 2593, Feb. 1911, "fleurs jaunâtres, fruits rouges" (holotype of *Myrsine Chevalieri*; merotype in A. A.). Y u n n a n : an pied de rochers, collines arides à l'est de Tong-tchouan, alt. 2600 m., *E. E. Maire*, March 1912 "arbrisseau toujours vert en touffes; fleurs blanches; fruits noirs" (holotype of *Pachysandra Mairei*; merotype in A. A.).

Esquirol's no. 2593, *Myrsine Chevalieri*, agrees exactly with specimens of *Sarcococca Hookeriana* var. *humilis* and I have no doubt that it belongs here, though Esquirol states that it has red fruits; the specimen before me bears only immature inflorescences. Under *Myrsine Chevalieri* Léveillé cites (l. c. p. 288) *Maesa* spec., Esquirol 2593, appearing on the preceding page as being the same. *Pachysandra Mairei* was identified by Handel-Mazzetti (Symb. Sin. VII. 235) with *S. Hookeriana* var. *digyna*, but I think it belongs with var. *humilis* which, however, may be only a dwarf and smaller form of var. *digyna*. A topotype or perhaps an isotype of *P. Mairei* was distributed as *Sarcococca* spec. *E. E. Maire*, no. 355, by the Arnold Arboretum.

Pachysandra stylosa Dunn in Jour. Bot. XLVI. 326 (1908).—Handel-Mazzetti, Symb. Sin. 236 (1931).

Pachysandra Bodinieri Léveillé in Fedde, Rep. Spec. Nov. XII. 187 (1913).

Pachysandra axillaris Franch. var. *Kouytchensis* Léveillé, Fl. Kouy-Tchéou, 166 (1914).

CHINA. K w e i c h o u : monts entre Ma-kay et Se-tchong-hien à Tien-sen-kiao, rochers à l'entrée du Tien-sen-kiao, *E. Bodinier*, no. 1525, Aug. 5, 1897 (holotype of *P. Bodinieri*; photo. in A. A.); Tsin-gay, *E. Bodinier* (holotype of *P. axillaris* var. *Kouytchensis*; photo. in A. A.).

Pachysandra Bodinieri is not enumerated in the Flore de Kouy-Tchéou, nor is Bodinier's no. 1525 cited under *Pachysandra*. According to Handel-Mazzetti both belong to *P. stylosa*.

Buxus microphylla S. & Z. var. **aemulans** Rehder & Wilson in Sargent, Pl. Wilson. II. 169 (1914).

Buxus Bodinieri in Fedde, Rep. Spec. Nov. XI. 549 (1913); Fl. Kouy-Tchéou, 160 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : environs de Kouy-yang, mont du Collège, *E. Bodinier*, no. 2079, Feb. 25, 1898 "arbuste plus ou moins grand" (holotype of *B. Bodinieri*; merotype in A. A.).

The filaments in Bodinier's plant are longer than in the type of var. *aemulans*.

Buxus megistophylla Léveillé, Fl. Kouy-Tchéou, 160 (1914); Cat. Ill. Pl. Seu-Tchouen, pl. 26 (1918).

CHINA. K w e i c h o u : environs de Hoang-ko-chou, rocaillies de la cascade, *J. Seguin* in herb. Bodinier, no. 2607, March 15, 1899 "arbuste de 0.60 cm., fleurs blanches" (syntype; merotype in A. A.); Kiao-men, près Lo-fou, *J. Esquirol*, no. 2560, Dec. 1910 (syntype; photo. in A. A.).

In its large leaves and subterete branchlets *B. megistophylla* resembles *B. Henryi* Mayr, but differs in the glabrous inflorescence, subsessile staminate flowers (in *B. Henryi* on pedicels 2-3 mm. long) and short stigmas; from *B. microphylla* S. & Z. it differs besides in the large leaves, chiefly in the short rudimentary ovary and the long filaments of the staminate flower.

Buxus Myrica Léveillé in Fedde, Rep. Spec. Nov. XI. 549 (1913); Fl. Kouy-Tchéou, 160 (1914).

Frutex ramulis tetragonis breviter pilosis gracilibus. Folia brevissime petiolata petiolis pilosulis, oblongo-lanceolata vel anguste lanceolata, 2-5 cm. longa et 0.5-1.4 cm. lata, acuta, mucronulata, basi cuneata, glabra, tenuiter coriacea et in sicco utrinque distincte reticulata, costa media utrinque elevata. Racemi axillares numerosi, rhachi dense pilosula elongata 5-7 mm. longa; bractearum paria 6-8, bracteae ovatae, acutae, 2 mm. longae, dorso dense pilosulae et intus ad marginem villosulis; flores ♂ breviter pedicellati pedicello 1-1.5 mm. longo dense pilosulo, sepalis ovalibus, 2 exterioribus carinatis carina ciliata, 2 interioribus longioribus glabris circ. 3 mm. longis, staminibus sepala superantibus 4 mm. longis, rudimento ovarii sepalis triplo brevioribus; flos ♀ terminalis, sepalis oblongo-ovatis 3-4 mm. longis, 3 exterioribus dorso dense 3 interioribus sparse pilosulis, ovario stylis complanatis apice recurvis multo brevioribus (ovarium 1.5 mm. longum, styli 3.5 cm. longi), stigmatibus ad medium stylum decurrentibus. Fructus non visus.

CHINA. K w e i c h o u : Pin-fa, *J. Cavalerie*, no. 3198, April 8, 1907 (syntype; merotype in A. A.); Lo-hou, *J. Esquirol*, no. 2566, Dec. 1910 (ex Léveillé; syntype); grande cascade de Hoang-ko-chou, dans

les rochers, *J. Seguin* in herb. Bodinier, no. 2266, April 3, 1898 (syn-type; photo. in A. A.).

This species, of which I have given a description above, since that of L  veill   is inadequate, seems most closely related to *B. Henryi* Mayr, but differs in the quadrangular pilose branchlets, narrower and smaller thinly coriaceous and reticulate leaves, smaller and acute densely pilose bracts not scarious on the margin, in the shorter pedicels of the staminate flowers (in *B. Henryi* 2-3 mm. long) shorter filaments and shorter flattened styles. The two specimens which I have seen differ slightly in the size and shape of the leaves; Cavalerie's no. 3198 has the leaves mostly 3-5 cm. long and up to 1.4 cm. broad, while Bodinier's no. 2266 has comparatively narrower leaves 2-5 cm. long (a few even smaller) and 5-10 mm. broad; in the former the staminate flowers have mostly dropped while the latter is in full bloom.

Buxus Harlandi Hance var. ***cephalantha*** (L  vl. & Vant.), comb. nov.

Buxus cephalantha L  veill   & Vaniot in Fedde, Rep. Spec. Nov. III. 21 (1906).

Buxus sempervirens var. *microphylla* L  veill  , Fl. Kouy-Tch  ou, 160 (1914).—Non Siebold & Zuccarini.

CHINA. K w e i c h o u : Pin-fa, rochers dans ou pr  s ruisseaux, *J. Cavalerie*, no. 1797, Aug. 25, 1904 "tout petit buis, 1 pied de h." (holotype of *B. cephalantha*; photo. in A. A.).

This form differs from the type chiefly in its very small size; the plant is about 30 cm. high with short branchlets, the leaves measure 6-11 mm. in length and are mostly slightly emarginate and partly obovate (8:4 mm.), the inflorescences are mostly terminal.

CORIARIACEAE

Coriaria sinica Maximowicz in M  m. Acad. Sci. St. P  tersb. s  r. 7, XXIX. no. III. 9, fig. (1881).—L  veill   Cat. Pl. Yun-Nan, 249 (1917).

Morus calva L  veill   in Fedde, Rep. Spec. Nov. XIII. 265 (1914).

CHINA. Y u n n a n : coteaux arides    La-kou, alt. 2400 m., *E. E. Maire*, March 1912 "grand arbuste    l'  corce fibreuse, fleurs jaun  tres, d'abord rouges" (holotype of *Morus calva*; merotype in A. A.).

Morus calva was first identified with *Coriaria sinica* by C. Schneider (in Sargent, Pl. Wilson. III. 301. 1916).

ANACARDIACEAE

Spondias axillaris Roxburgh, Cat. Hort. Beng 34 (1814), nomen; Fl. Ind. II. 453 (1832).—Rehder & Wilson in Sargent, Pl. Wilson. II. 172 (1914).

Rhus Bodinieri Léveillé in Fedde, Rep. Spec. Nov. x. 437 (1912).—

Synon. nov.

CHINA. H o n g k o n g : bois de Happy Valley; bord de la route à Pok-fu-lum, *E. Bodinier*, no. 1103, April 6 & 15, 1895 (holotype of *Rhus Bodinieri*; photo. in A. A.).

Pistacia chinensis Bunge in Mém. Div. Sav. Acad. Sci. St. Pétersb. II. 89 (Enum. Pl. Chin. Bor. 15) (1833).—Rehder & Wilson in Sargent, Pl. Wilson. II. 173 (1914).

Rhus gummifera Léveillé in Fedde, Rep. Spec. Nov. x. 474 (1912);

Fl. Kouy-Tchéou, 412 (1915).—**Synon. nov.**

Rhus Argyi Léveillé in Mem. Acad. Ci. Barcelona, ser. 3, XII. 562

(Cat. Pl. Kiang-Sou, 22) (1916).—**Synon. nov.**

CHINA. K i a n g s u : without precise locality, *Ch. d'Argy*, (1846-66) (holotype of *Rhus Argyi*; merotype in A. A.). K w e i - c h o u : au sud de Pin-fa près ruisseau, sur rochers, *J. Cavalerie*, no. 1078, June 18, 1903 "arbre produisant une espèce de gomme odorante" (holotype of *Rhus gummifera*; photo. and fragments in A. A.).

The specimen from Kiangsu has the rachis and the midrib of the leaflets below densely and finely pubescent while that from Kweichou is nearly glabrous. This in general seems to constitute a difference between the eastern and the western plants of this species; the specimens before me from the eastern provinces are mostly more or less pubescent on the rachis and the midrib of the leaflets, while the western specimens are glabrous or nearly so.

Rhus punjabensis Stewart var. **sinica** (Diels) Rehder & Wilson in Sargent, Pl. Wilson. II. 176 (1914).

? *Rhus echinocarpa* Léveillé in Fedde, Rep. Spec. Nov. x. 475 (1912); Fl. Kouy-Tchéou, 411 (1915), pro parte, quoad specim. Cavalerie, no. 2003.

Rhus Esquirolii Léveillé in Fedde, Rep. Spec. Nov. XII. 181 (1913);

Fl. Kouy-Tchéou, 411 (1915).—**Synon. nov.**

? *Rhus Mairei* Léveillé, Sert. Yunnan. 2 (1916); Cat. Pl. Yun-Nan, 269 (1917).—**Synon. nov.**

CHINA. K w e i c h o u : Tsin-gai, bois, *J. Cavalerie*, no. 1157, July 13, 1903, "petit arbre, fruit rouge-velour" (holotype of *Rh. Esquirolii*; photo. in A. A.). Y u n n a n : pied de montagne, derrière Tong-tchouan, alt. 2550 m., *E. E. Maire*, May 1912 "petit arbre cassant, rameaux rares, fleurs blanches" (syntype of *Rh. Mairei*; merotype in A. A.); haies de la plaine à Tong-tchouan, alt. 2500 m., July 1912 "fruit d'un petit arbre cassant, fl. blanches en grappes," *E. E. Maire* (syntype of *Rh. Mairei*; photo. in A. A.); plaine de Tche-hai, haies, alt. 2500 m., *E. E. Maire*, Aug. 1912 (ex Léveillé; syntype of *Rh. Mairei*).

Rhus Mairei I refer here with some doubt; it has partly only 5-7 leaflets and the rachis is not or very slightly winged, but otherwise it

seems to agree with *Rh. punjabensis* var. *sinica*. I also refer here doubtfully Cavalerie's no. 2003 numerated by Lévillé as a syntype of *Rh. echinocarpa*.

Rhus trichocarpa Miquel in Ann. Mus. Bot. Lugd.-Bat. II. 84 (1866); Prol. Fl. Jap. 16 (1866).—Rehder & Wilson in Sargent, Pl. Wilson. II. 180 (1914).

Rhus echinocarpa Lévillé in Fedde, Rep. Spec. Nov. x. 475 (1912); Fl. Kouy-Tchéou, 411 (1915); specim. no. 2003 excluso.—

Synon. nov.

CHINA. K w e i c h o u : Mou-you-se, *J. Cavalerie*, no. 1016 (flowers), May 28, 1903 (syntype of *Rh. echinocarpa*; photo. and fragments in A. A.); without precise locality, fruit, *J. Cavalerie*, no. 108 (2) [?] (photo. in A. A.).

Under *Rhus echinocarpa* Lévillé cites two specimens, nos. 1016 and 2003, of which only the first belongs here, while the second is identical with *Rhus punjabensis* var. *sinica*; both are flowering specimens. The description of the fruit, from which the name of the species is derived, is apparently based on an unnamed specimen in the Lévillé herbarium marked only "J. Cavalerie, 108 (2)" on a slip and placed in the same cover with the other two specimens. As there is no other fruiting specimen of *Rhus* in the Lévillé herbarium which answers to the description of the very characteristic fruit of this species, this must be the specimen from which the description of the fruit was drawn, though it is not cited.

This record extends the range of *Rh. trichocarpa* west into Kweichou.

AQUIFOLIACEAE

Ilex suaveolens (Lévl.) Loesener in Ber. Deutsch. Bot. Ges. XXXII. 541 (1914).—Lévillé, Fl. Kouy-Tchéou, 201 (1914).

Celastrus suaveolens Lévillé in Fedde, Rep. Spec. Nov. XIII. 263 (1914).

CHINA. K w e i c h o u : environs de Kouy-yang, bois de Kien-lin-chan, *E. Bodinier*, no. 2663 [not 2683], June 19, 1899, "arbre de haute taille" (syntype of *Celastrus suaveolens*; photo. and fragments in A. A.); Pin-fa, *J. Cavalerie*, no. 17bis, June 3, 1902 "arbrisseau 5-6 m., fleurs blanches parfumées" (syntype of *C. suaveolens*; fragments in A. A.).

A full description of the species is given by Loesener (l. c.).

Ilex purpurea Hasskarl, Cat. Pl. Bogor. 230 (1844).—Loesener in Nov. Act. Leop.-Carol. Akad. LXXVIII. 111 (Monog. Aquifol.) (1901).

Callicarpa Cavaleriei Lévillé in Fedde, Rep. Spec. Nov. IX. 455 (1911); Fl. Kouy-Tchéou, 439 (1915).—**Synon. nov.**

Embelia rubro-violacea Lévillé in Fedde, Rep. Spec. Nov. x. 375 (1912); Fl. Kouy-Tchéou, 285 (1914).—**Synon. nov.**

Celastrus Bodinieri Léveillé in Fedde, Rep. Spec. Nov. XIII. 263 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : environs de Tou-chan, *J. Cavalerie*, no. 2624, June 3, 1899 "grand arbuste, fleurs roses" (holotype of *Calli-carpa Cavaleriei*; photo. in A. A.); Pin-fa, *J. Cavalerie*, no. 1334, June 23, 1902 (ex Léveillé; syntype of *Embelia rubro-violacea*); forêts, *J. Esquirol*, no. 429, June 1905, "grand arbrisseau" (syntype of *E. rubro-violacea*; merotype in A. A.); environs de Kouy-yang, mont du Collège, *E. Bodinier*, no. 2384, June 10, 1898 "arbuste" (holotype of *Celastrus Bodinieri*; photo. in A. A.).

The specimens cited above belong to var. *Oldhami* (Miq.) Loes. which represents the type of *I. purpurea* Hassk.; all are staminate plants in bloom.

Ilex pedunculosa Miq. var. **continentalis** Loesener in Nov. Act. Leop.-Carol. Akad. LXXVIII. 110 (Monog. Aquifol.) (1901); in Sargent, Pl. Wilson. I. 76 (1911).

Ilex purpurea var. δ *Leveilleana* Loesener in Léveillé, Fl. Kouy-Tchéou, 201 (1914).

CHINA. K w e i c h o u : Pin-fa, bois, *J. Cavalerie*, no. 1066, June 1903 (holotype of *I. purpurea* var. *Leveilleana*; photo. in A. A.).

Cavalerie's no. 1066 was considered by Loesener according to a note by him on the sheet of the type specimen, a possible hybrid between *I. purpurea* Hassk. and *I. pedunculosa* Miq., but the specimen seems to agree well in all respects with *I. pedunculosa* except that the petioles are not as deeply channelled as in *I. pedunculosa* and the margins of the leaves are somewhat more serrulate. In the solitary flowers (or in one case a 3-flowered cyme) and in the texture of the leaves it certainly agrees with *I. pedunculosa* which often has slightly serrulate leaves; the midrib above is short-pilose as it is, though usually to a lesser degree, in *I. pedunculosa*; in *I. purpurea* it is perfectly glabrous.

Ilex metabaptista Loes. var. **myrsinoides** (Lévl.), var. nov.

Maesa myrsinoides Léveillé in Fedde, Rep. Spec. Nov. x. 375 (1912); Fl. Kouy-Tchéou, 286 (1914).

Myrsine Feddei Léveillé in Fedde, Rep. Spec. Nov. x. 376 (1912); Fl. Kouy-Tchéou, 288 (1914).—**Synon. nov.**

Embelia Cavaleriei Léveillé, Fl. Kouy-Tchéou, 284 (1914).—**Synon. nov.**

Ilex Fargesii Franch. var. *Bodinieri*, Loesener apud Léveillé, l. c. 200 (1914).—**Synon. nov.**

Ilex metabaptista Léveillé, l. c. 200 (1914), vix Loesener.

CHINA. K w e i c h o u : Pin-fa, ruisseau de La-tong, *J. Cavalerie*, no. 579, Oct. 1, 1902 (holotype of *Maesa myrsinoides*; merotype in A. A.); Pin-fa, ruisseaux, *J. Cavalerie*, no. 842, May 23, 1902, "fleurs blanches" (holotype of *Myrsine Feddei*; merotype in A. A.); bords des

ruisseaux et torrents, *J. Cavalerie* in hb. Bodinier no. 2635, June 3, 1899, "fleurs blanches parfumées" (holotype of *Embelia Cavaleriei*; merotype in A. A.); environs de Kouy-yang, Mont du Collège, à la Cascade, *J. Chaffanjon*, May 28, 1898, et environs de Tou-chan, *J. Cavalerie*, June 3, 1899, in herb. Bodinier, no. 2310 (2 sheets, one is the holotype of *I. Fargesii* var. *Bodinieri*, the other represents *I. metabaptista* Lévl., vix Loes.; photos. in A. A.).

This variety differs from the type chiefly in the smaller leaves 2.5-4, rarely up to 6.5 cm. long, shorter 2-4 mm. long petioles and glabrous inflorescences. Of the three specimens cited above, *Cavalerie*, no. 579, is in fruit, while his no. 842 bears pistillate flowers and no. 2635 staminate flowers; the latter differs in the slightly broader elliptic-oblong leaves perfectly glabrous below, while the other two numbers are like the type sparingly short-pilose on the midrib below chiefly toward the base and pubescent on the midrib above. Bodinier's no. 2310 is represented by two sheets, one containing two staminate specimens, and named by Loesener *I. metabaptista*, while the other with one pistillate specimen is named by Loesener "*I. Fargesii* var. vel forma δ *Bodinieri* Loes. forma nova." The labels on each sheet contain the same information and give two localities, though one sheet has only a single specimen. All three are slightly different. The sheet named *I. metabaptista* by Loesener with two staminate specimens has slightly pilose inflorescences and thus approaching the type of the species, but the pubescence is less dense and the leaves are smaller than in the type. The one named *I. Fargesii* f. *Bodinieri* by Loesener is a pistillate specimen with narrow leaves up to 6.5 cm. long and glabrous inflorescences; on account of the latter character I refer it to var. *myricoides*. From *Ilex Fargesii* to which Loesener referred it, it is at once distinguished by the short petioles which are only half as long as the inflorescence, while in *I. Fargesii* the petioles are 1-1.5 cm. long and exceed the inflorescence, also the leaves are larger and broader and distinctly serrulate to below the middle.

The variety has also been collected in Kweichou by Y. Tsiang (no. 8525) near Tin-fan, Binshaw, and by Steward, Chiao and Cheo (no. 950) near Hung-shieh-lang, Kang-kou-hseh; in the latter specimen some of the leaves are up to 6 cm. long. Tsiang, no. 8525, was first identified by E. D. Merrill with *Maesa myrsinoides* Lévl. and distributed as *I. myrsinoides* (Lévl.) Merr.

Ilex corallina Franchet in Bull. Soc. Bot. France, xxxiii. 452 (1886).—Loesener in Nov. Act. Leop.-Carol. Akad. lxxviii. 327 (Monog. Aquifol.) (1901).

Ilex Dunniana Léveillé in Fedde, Rep. Spec. Nov. ix. 458 (1911); Fl. Kouy-Tchéou, 200 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : Long-ly, *J. Cavalerie*, no. 3000, May, 1908, "petit arbre, fleurs jaunes" (holotype of *I. Dunniana*; merotype in A. A.).

Cavalerie's specimen represents a form with broad leaves rather closely denticulate with upright-spreading not incurved teeth. Lévillé had recognized the close relation of his species to *I. corallina*, but the differences he gives are either trivial or do not hold.

Ilex corallina Franch. var. ***Loeseneri*** Lévillé, Fl. Kouy-Tchéou, 200, (1914), nomen.

A typo recedit foliis angustioribus spinuloso-dentatis.

CHINA. K w e i c h o u : Kouy-yang, mont du Collège, *J. Chaffanjon* in herb. Bodinier, no. 2242, Apr. 1898 (syntype; photo. in A. A.); Pin-fa, montagnes, *J. Cavalerie*, no. 580," arbrisseau, fl. odor." (syntype; photo. in A. A.).

The two specimens cited above bear Loesener's identification "*Ilex corallina* Franch. forma" on the sheets without any descriptive note, neither does Lévillé give a description. From the type this variety differs chiefly in the spinulose-serrate narrower leaves; in Cavalerie's no. 580 the spinulose mucro of the teeth is about 1 mm. long, but in Chaffanjon's specimens the mucro is much shorter and the leaves measure 1.5-2 cm. in width, while in Cavalerie's specimen they are 8-10 × 2-2.5 cm.

Ilex macrocarpa Oliver in Hooker, Icon. XVIII. t. 1787 (1888).—Loesener in Nov. Act. Leop.-Carol. Akad. LXXVIII. 489 (1901); Ber. Deutsch. Bot. Ges. XXXII. 543 (1914).—Lévillé, Fl. Kouy-Tchéou, 200 (1914).

Celastrus salicifolia Lévillé in Fedde Rep. Spec. Nov. XIII. 263 (1914).

Diospyros Bodinieri Lévillé, Fl. Kouy-Tchéou, 144 (1914).—

Synon. nov.

CHINA. K w e i c h o u : without precise locality, *J. Esquirol*, May 10, 1906 "arbre" (holotype of *Celastrus salicifolia*; photo. in A. A.); Kouy-yang, mont du Collège, *J. Chaffanjon* in herb. Bodinier, April 1898 "arbre" (holotype of *Diospyros Bodinieri*; merotype in A. A.).

Celastrus salicifolia was first identified with *Ilex macrocarpa* by Loesener (l. c.), and Lévillé enumerates in his Flore de Kouy-Tchéou the type of *C. salicifolia* under *I. macrocarpa* var. *genuina* Oliv., but does not cite *C. salicifolia* as a synonym.

CELASTRACEAE

Evonymus grandiflora Wallich in Roxburgh, Fl. Ind. ed. Carey, II. 404 (1824).—Loesener & Rehder in Sargent, Pl. Wilson. I. 484

(1913).—Loesener in Ber. Deutsch. Bot. Ges. xxxii. 540 (1914).—Léveillé, Cat. Pl. Yun-Nan, 34 (1915).

Evonymus Mairei Léveillé in Fedde, Rep. Spec. Nov. xiii. 260 (1914), excl. specim. "Siao-ho."

CHINA. Y u n n a n : brousse, pied de mont. à Tong-tchouan, alt. 2500 m., *E. E. Maire*, May 1912 "petit arbre, feuilles caduques, fleurs blanc-jaunâtre"; haies à pied de mont. à Tche-hai, alt. 2500 m., *E. E. Maire*, Aug. 1912 "petit arbre, toujours vert, fleurs jaunâtres, fruits item"; brousse des rochers à Ma-hong, alt. 2700 m., *E. E. Maire*, May 1912 "petit arbre, fleurs jaunes, fruits rouges"; (all three syntypes of *E. Mairei*; photos. in A. A.).

Evonymus Mairei was first identified with *E. grandiflora* by Loesener (l. c.).

Evonymus yunnanensis Franchet in Bull. Soc. Bot. France, xxxiii. 454 (1886).

Evonymus Mairei Léveillé in Fedde, Rep. Spec. Nov. xiii. 260 (1914), quoad specim. "Siao-ho."

CHINA. K w e i c h o u : mont. derrière Siao-ho, alt. 2800 m., *E. E. Maire*, June 1912 "grande arbuste, feuilles caduques, fleurs jaunâtres" (syntype of *E. Mairei*; photo. in A. A.).

The specimen cited above was identified with *E. yunnanensis* by H. F. C[omber] according to a note on the sheet. Specimens recently collected in Kweichou by Y. Tsiang under nos. 9124 and 9133 belong here.

Evonymus uniflora Léveillé & Vaniot in Bull. Soc. Agr. Sci. Arts Sarthe, lxi. 320 (Bouquet Fl. Chine, 5) (1904); in Fedde, Rep. Spec. Nov. vi. 374 (1908); Fl. Kouy-Tchéou, 73 (1913).—Loesener in Ber. Deutsch. Bot. Ges. xxxii. 539 (1914).

Evonymus Blinii Léveillé in Fedde, Rep. Spec. Nov. xiii. 259 (1914), quoad specim. Esquirol, no. 478.

CHINA. K w e i c h o u : Pin-fa, sud ouest, bord d'un ruisseau, *J. Cavalerie*, no. 256, Aug. 21, 1902 (holotype of *E. uniflora*; merotype in A. A.); without locality, *J. Esquirol*, no. 478, (fruit) (syntype of *E. Blinii*, and cited in Fl. Kouy-Tchéou; photo. in A. A.).

There are two entirely different specimens marked Esquirol, no. 478, in the Léveillé herbarium. One is a fruiting specimen, named on the label *E. uniflorus* by Léveillé; this is apparently the syntype of *E. Blinii*, upon which the description of the fruit was based. The other is a flowering specimen which bears the name *E. Blinii* in pencil in Léveillé's handwriting, which may be the specimen referred by Loesener to *E. theaeifolia* Wall., but I am unable to distinguish this specimen which is in flower, from *E. Forbesiana* Loes.

This species has also been collected recently in Kweichou by Y. Tsiang (no. 4579).

Evonymus theaefolia Wallich, Cat. 4293 (1828), nomen.—M. A. Lawson in Hooker f., Fl. Brit. Ind. i. 612 (1875).—Léveillé, Fl. Kouy-Tchéou, 73 (1914).—Loesener in Ber. Deutsch. Bot. Ges. xxxii. 541 (1914).

? *Evonymus Blinii* Léveillé in Fedde, Rep. Spec. Nov. xiii. 259 (1914) quoad specim. "Esquirol, no. 478."

The syntype of *E. Blinii*, J. Esquirol, no. 478 (flowers), was first identified by Loesener (l. c.) with *E. theaefolia* Wall. as "*E. theifolia* var. vel forma" and is cited by Léveillé as a synonym of the latter. The specimen, however, of *E. Blinii*, Esquirol, no. 478, which I have before me, I cannot distinguish from *E. Forbesiana* Loes., but there may be or may have been another specimen of the same number which I have not seen and which may belong to *E. theaefolia* Wall. See also my remarks under the preceding species.

Evonymus theaefolia Wall. occurs in Kweichou, as Y. Tsiang's no. 7274 shows which was collected in 1930 near Gan-wu, Lohou in southern Kweichou.

Evonymus Esquirolii Léveillé in Fedde, Rep. Spec. Nov. xiii. 261 (1914); Fl. Kouy-Tchéou, 71 (1914).—Loesener in Ber. Deutsch. Bot. Ges. xxxii. 539 (1914).

CHINA. K w e i c h o u : Tang-tchang (Hoang-tsao-pa), *J. Esquirol*, no. 1569, June 1909 (holotype; merotype in A. A.).

Related to *E. myriantha* Hemsl. according to Loesener from which it differs chiefly in the much smaller leaves and denser less branched cymes.

Evonymus Leclerei Léveillé in Fedde, Rep. Spec. Nov. xiii. 260 (1914); Fl. Kouy-Tchéou, 72 (1914).—Loesener in Ber. Deutsch. Bot. Ges. xxxii. 539 (1914).

CHINA. K w e i c h o u : Ma-jo, *J. Cavalerie*, no. 3058, Sept. 5, 1907 (holotype; merotype in A. A.).

This species is like the preceding closely related to *E. myriantha* Hemsl. from which it differs in the longer leaves more densely and distinctly reticulate above.

Evonymus centidens Léveillé in Fedde, Rep. Spec. Nov. xiii. 262 (1914); Cat. Pl. Yun-Nan, 34 (1915).—Loesener, in Ber. Deutsch. Bot. Ges. xxxii. 262 (1914).—Rehder in Jour. Arnold Arb. xi. 164 (1930).

CHINA. Y u n n a n : collines broussailleuses a Long-ky, alt. 700 m., *E. E. Maire*, June 1912 "grand arbuste à feuilles caduques, fleurs jaunâtres, fruits rouges" (holotype; merotype in A. A.).

Of this species I gave a full description in 1930 (l. c.) based on the specimen cited above and Fang's no. 5819.

Evonymus Dielsiana Loes. var. *Y latifolia* Loesener in Bot. Jahrb. xxx. 455 (1902); in Ber. Deutsch. Bot. Ges. xxxii. 540 (1914).

Evonymus Cavaleriei Léveillé in Fedde, Rep. Spec. Nov. xiii. 259 (1914).

Evonymus Dielsiana Léveillé, Fl. Kouy-Tchéou, 71 (1914), non Loesener sensu stricto.

CHINA. K w e i c h o u : Pin-fa, rochers de Ouen-pi, Li-tseou-gai, *J. Cavalerie*, no. 87, July 23, 1902 "haut 3-4 m." (syntype of *E. Cavaleriei*; merotype in A. A.); Pin-fa, *J. Cavalerie*, no. 865, Feb. 17, 1903 (syntype of *E. Cavaleriei*; photo. in A. A.).

Evonymus Cavaleriei Léveillé in Fedde (not in his Fl. Kouy-Tchéou) was first identified with *E. Dielsiana* var. *latifolia* by Loesener, but Léveillé in his Flore de Kouy-Tchéou omits the variety.

Evonymus Feddei Léveillé in Fedde, Rep. Spec. Nov. xiii. 260 (1914); Fl. Kouy-Tchéou, 72 (1914).—Loesener in Ber. Deutsch. Bot. Ges. xxxii. 539 (1914).

CHINA. K w e i c h o u : route de Pin-fa à Lo-fou, *J. Cavalerie*, no. 3353, April 1908 (holotype; merotype in A. A.).

According to Loesener this species is related to *E. attenuata* Wall. and *E. bullata* Wall.; from the former it differs in the much larger leaves and more branched inflorescences and from the latter in the narrower leaves and less branched inflorescences.

Evonymus Rehderiana Loesener in Sargent, Pl. Wilson. i. 488 (1913); in Ber. Deutsch. Bot. Ges. xxxii. 540 (1914).—Léveillé Fl. Kouy-Tchéou, 73 (1914).

Evonymus bicolor Léveillé in Fedde, Rep. Spec. Nov. xiii. 260 (1914).

Evonymus proteus Léveillé, l. c.

CHINA. K w e i c h o u : Long-ly, Ma-jo, *J. Cavalerie*, no. 2238 (in part), Nov. 13, 1907 "arbre" (holotype of *E. bicolor*; photo. in A. A.); Paitchen, *J. Cavalerie*, no. 2238 (in part), March 30, 1905 "3 or 4 m. de haut, les fleurs et les jeunes feuilles vert-jaunes" (holotype of *E. proteus*; photo. in A. A.).

Evonymus bicolor and *E. proteus* were first identified with *E. Rehderiana* by Loesener (l. c. 1914). Both specimens cited bear the number 2238. The published name *E. proteus* for the specimen from Paitchen does not appear on the original label, but instead another name referring to the color of the branches. Also collected in Kweichou by Y. Tsiang (nos. 5121 and 9029).

Evonymus Forbesiana Loesener in Bot. Jahrb. xxx. 457 (1902); in Ber. Deutsch. Bot. Ges. xxxii. 540 (1914).—Léveillé, Fl. Kouy-Tchéou, 72 (1914).

Evonymus Crosnieri Léveillé in Bull. Soc. Bot. France, LI. p. cxlvi (1904).

Evonymus Blinii Léveillé in Fedde, Rep. Spec. Nov. XIII. 259 (1914), quoad specim. "Esquirol, no. 478."

Evonymus Vanioti Léveillé, l. c. (1914).

CHINA. K w e i c h o u : Pin-fa, bord des ruisseaux, *J. Cavalerie*, no. 1274, June 2, 1902 "fl. rousse" (holotype of *E. Crosnieri*; photo. in A. A.); Pin-fa, *J. Cavalerie*, no. 1272, March 10, 1902 "fl. rousse" (syntype of *E. Vanioti*; photo. in A. A.); moulins de Tong-tchéou, *J. Esquirol*, no. 3236, July 10, 1912 (syntype of *E. Vanioti*; photo. in A. A.); Pin-fa, *J. Cavalerie*, no. 1273, May 5, 1902 (syntype of *E. Blinii*; photo. in A. A.); without precise locality, "coteaux," *J. Esquirol*, no. 478 (flowers), June 1905 (? syntype of *E. Blinii*; photo. in A. A.).

Evonymus Crosnieri, *E. Vanioti* and one of the syntypes of *E. Blinii* were first referred to *E. Forbesiana* by Loesener (l. c.), and the first two names placed as synonyms under *E. Forbesiana* by Léveillé in his Flore de Kouy-Tchéou. *Evonymus Blinii* is not cited as a synonym, but Esquirol's no. 478, one of the syntypes of that species which, however, partly belongs to *E. uniflora* Lévl., while *Cavalerie*, no. 1273, which belongs here, is not cited.

Evonymus aculeata Hemsley in Kew Bull. Misc. Inform. 1893, p. 209.—Sprague in Kew Bull. Misc. Inform. 1908, p. 33.

Echinocarpus hederarhiza Léveillé in Fedde, Rep. Spec. Nov. x. 474 (1912).—**Synon. nov.**

Evonymus acanthocarpa Léveillé, Fl. Kouy-Tchéou, 71 (1914); non Franchet.

CHINA. K w e i c h o u : Pin-fa, rampant sur les rochers, *J. Cavalerie*, no. 2761, April 1906 (holotype of *Echinocarpus hederarhiza*; photo. in A. A.).

Echinocarpus hederarhiza was referred by Léveillé in his Flore de Kouy-Tchéou to *Evonymus acanthocarpa* Franch., but it differs from that species chiefly in the longer compressed spines of the fruit, in the black bud-scales persisting at the base of the branchlets for some time and in the non-verruculose branchlets.

Evonymus acanthocarpa Franchet, Pl. Delavay. 129 (1889).—Sprague in Kew Bull. Misc. Inform. 1908, p. 32.

Echinocarpus erythrocarpa Léveillé in Fedde, Rep. Spec. Nov. x. 474 (1912).—**Synon. nov.**

Evonymus erythrocarpa Léveillé, Fl. Kouy-Tchéou, 72 (1914).

CHINA. K w e i c h o u : environs de Gan-pin, dans la montagne,

L. Martin in hb. Bodinier, no. 2493, Oct. 9, 1898 "arbuste lianeux" (holotype of *Echinocarpus erythrocarpa*; merotype in A. A.).

***Evonymus subtrinervis*, nom. nov.**

Echinocarpus Esquirolii Lévillé in Fedde, Rep. Spec. Nov. x. 474 (1912); non *Evonymus Esquirolii* Lévillé.—**Synon. nov.**

Echinocarpus Cavaleriei Lévillé, l. c.—**Synon. nov.**

Evonymus Blinii Lévillé, Fl. Kouy-Tchéou, 71 (1914); non Lévillé in Fedde, Rep. Spec. Nov. XIII. 259 (1914).

Evonymus Cavaleriei Lévillé, Fl. Kouy-Tchéou, 71 (1914); non Lévillé in Fedde, Rep. Spec. Nov. XIII. 259 (1914).

Frutex glaber, ramis gracilibus tenuiter verruculosus quadrangulatis angulis subalatis; gemmae terminales parvae pauciperulatae, obtusae, pallide cinereo-virescentes. Folia persistentia chartacea, ovato-oblonga vel oblongo-lanceolata, 4.5-9 cm. longa et 1.8-3 cm. lata, acuminata, basi late cuneata vel rarius fere rotundata, fere ad basin denticulata denticulis mucrone fusco inflexo, basi trinervia, costa medio utrinque elevata, nervis lateralibus 4-6, pari inferiore superioribus aequilongo vel longiore, supra in sicco manifeste, subtus leviter elevatis, supra laete viridia, reti nervulorum in sicco visibili, subtus pallida, reti obsoleto; petioli 2-4 mm. longi, tenues. Flores desiderantur. Inflorescentiae fructiferae bis dichotomae; pedunculus circiter 1.5 cm. longus, gracilis, quadrangularis, ramulis circiter 1 cm., pedicellis 2-3 mm. longis; capsula subglobosa, aculeis inclusis circiter 1 cm. diam., pallide flavo-carnea, aculeis complanatis 1-1.5 mm. longis, dissitis non dense aggregatis; semina 6 mm. longa, nigra, arillo pallide aurantiaco apice laciniato aperto excepto inclusa.

CHINA. K w e i c h o u : without precise locality, *J. Esquirol*, no. 844 (holotype of *Echinocarpus Esquirolii*, *E. Blinii* and *E. subtrinervis*; photo. and merotype in A. A.); without precise locality, *J. Esquirol* (holotype of *Echinocarpus Cavaleriei*; photo. in A. A.).

The specimens cited above I have not been able to identify with any previously described species; they seem nearest to *E. echinata* Wall. from which they are easily distinguished by the leaves being 3-nerved at the base, with fewer veins diverging at a more acute angle. From *E. Hemsleyana* Loes. they differ in the shape of the leaves, shorter petioles, and the shorter spines of the fruit and smaller winter-buds. As Lévillé's description is insufficient I have drawn up a more complete description based on Esquirol no. 844. The other specimen, the type of *Echinocarpus Cavaleriei*, is rather poor with all the leaves dropped from the branches and very young fruit; it differs from the type in the broader leaves, ovate-oblong, partly rounded at base, about 5 cm. long and 2.2 cm. broad.

Unfortunately none of the names proposed by Lévillé can be used

for this species. The two specific epithets under *Echinocarpus* cannot be transferred to *Evonymus* since the resulting combinations are pre-occupied and *Evonymus Blinii*, based on *Echinocarpus Esquirolii* is invalidated by an earlier homonym, which by L  veill   was considered non-valid, because it had been reduced to synonymy. It should be noted here that in 1914 three important publications relating to *Evonymus* came out: L  veill  's descriptions of many new species in Fedde's Repertorium on May 5, 1914, Loesener's corrections in Ber. Deutsch. Bot. Ges. on July 30, 1914, and L  veill  's Flore de Kouy-Tch  ou which contains these corrections, in September or October of that year.

Evonymus Maackii Ruprecht in Bull. Phys. Math. Acad. Sci. St. P  tersb. xv. 358 (1857).—Loesener in Ber. Deutsch. Bot. Ges. xxx. 540 (1914).—L  veill  , Fl. Kouy-Tch  ou, 71 (1914).

Evonymus coreanus L  veill   in Fedde, Rep. Spec. Nov. viii. 284 (1910).

KOREA: in dumosis Chinnampo, *U. Faurie*, no. 520, Aug. 1906 (holotype of *E. coreanus*, isotype in A. A.).

Evonymus coreanus was first referred to *E. Maackii* by Loesener (l. c.).

Evonymus Hamiltoniana Wallich in Roxburgh, Fl. Ind. ed. Carey, II. 403 (1824).—Loesener in Ber. Deutsch. Bot. Ges. xxx. 541 (1914).—L  veill  , Fl. Kouy-Tch  ou, 72 (1914).

Evonymus rugosa L  veill   in Fedde, Rep. Spec. Nov. xiii. 261 (1914).

Evonymus Darrisii L  veill  , l. c.—**Synon. nov.**

Evonymus Maackii L  veill  , Fl. Kouy-Tch  ou 73 (1914); non Ruprecht.

CHINA. K w e i c h o u : Hoang-tsao-po, colline de la pagode, *J. Esquirol*, no. 1532 (holotype of *E. rugosa*; photo. in A. A.); without precise locality, *J. Esquirol*, no. 711 (holotype of *E. Darrisii*; photo. in A. A.).

Evonymus rugosa was first referred to *E. Hamiltoniana* by Loesener with some doubt, while he identified *E. Darrisii* with *E. Maackii*. Though *E. Darrisii* in its leaves resembles *E. Maackii* rather than *E. Hamiltoniana*, the fruit seems to agree better with that of the latter species. Also for geographical reasons it seems unlikely that the Kweichou plant belongs to *E. Maackii* which has not yet been recorded from central and western China.

Evonymus lanceifolia Loesener in Bot. Jahrb. xxx. 462 (1902); in Ber. Deutsch. Bot. Ges. xxxii. 541 (1914).—L  veill  , Fl. Kouy-Tch  ou, 72 (1914).

Evonymus Bodinieri L  veill   in Fedde, Rep. Spec. Nov. xiii. 261 (1914).

CHINA. K w e i c h o u : Gan-chouen, *J. Cavalerie*, no. 3824, June 1910 "petit arbre" (holotype of *E. Bodinieri*; photo. in A. A.).

Evonymus Bodinieri was referred to *E. lanceifolia* by Loesener with the remark that it approaches *E. Hamiltoniana*. The type specimen consists of two branches, a flowering and a fruiting branch; according to the dark colored anthers the specimen belongs to *E. lanceifolia*, for *E. Hamiltoniana* differs from both closely related species *E. Maackii* and *E. lanceifolia* in the yellowish white anthers. The label of the type specimen bears in Lévillé's handwriting an unpublished name referring to the color of the leaves, to which is added rather indistinctly written in pencil "vel Bodinieri."

Evonymus alata (Thbg.) Regel, Fl. Ussur. 40, t. 7 (1861).—Loesener & Rehder in Sargent, Pl. Wilson. I. 493 (1913).

Microrhamnus Taquetii Lévillé in Fedde, Rep. Spec. Nov. VIII. 284 (1910).—**Synon. nov.**

KOREA. Q u e l p a e r t : secus torrentes, *T. Taquet*, no. 153, Sept. 1907 (holotype of *Microrhamnus Taquetii*; fragments of type and isotype in A. A.).

Besides the type specimen the cover of *Microrhamnus Taquetii* contains Taquet, no. 4095, consisting of flowering branches of *E. alata*; both specimens belong to the form *aptera* Regel with the branches not or very slightly winged.

Evonymus disticha Lévillé in Fedde, Rep. Spec. Nov. XIII. 261 (1914); Fl. Kouy-Tchéou, 71 (1914).—Loesener in Ber. Deutsch. Bot. Ges. XXXII. 540 (1914).

CHINA. K w e i c h o u : environs de Kouy-yang, bois de la pagode de Kien-lin-chan, *E. Bodinier*, no. 2455, June 27, 1898 "petit arbuste, fleurs jaunes" (holotype, merotype in A. A.).

This species was collected also at the same locality in 1930 by Y. Tsiang, no. 8488. This specimen bears flowers and young fruits which differ from those of *E. alata* in their shorter and broader lobes.

Celastrus Vanioti (Lévl.), comb. nov.

Saurauja Vanioti Lévillé, Fl. Kouy-Tchéou, 415 (1915, before October.)

Celastrus spiciformis Rehder & Wilson in Sargent, Pl. Wilson. II. 348 (1915, Dec. 28).—**Synon. nov.**

CHINA. K w e i c h o u : environs de Kouy-yang, route du Collège, dans les haies, *E. Bodinier*, May 30, 1898 "liane ligneuse" (holotype of *Saurauja Vanioti*; photo. and merotype in A. A.).

Saurauja Vanioti is without doubt identical with *Celastrus spiciformis*, the former differing only slightly in the somewhat more reticulate leaves resembling in this respect *C. gemmata* Loes., but paler on the under

surfaces. As *Saurauja Vanioti* was published several months earlier, the Flore de Kouy-Tchéou having been received at the Arnold Arboretum in October 1915, the transfer of the specific epithet to *Celastrus* becomes necessary.

Celastrus gemmata Loesener in Bot. Jahrb. xxx. 468 (1902).—Rehder & Wilson in Sargent, Pl. Wilson. II. 352, (1915).

Embelia Esquirolii Lévillé in Fedde, Rep. Spec. Nov. x. 374 (1912).—**Synon. nov.**

CHINA. K w e i c h o u : Collège, *J. Esquirol*, no. 4, May 10, 1906 "arbre, fleurs blanc-verdâtres" (holotype of *Embelia Esquirolii*, merotype in A. A.).

Celastrus gemmata has been collected in Kweichou by Y. Tsiang under nos. 4661, 5360 and 6450.

Celastrus stylosa Wallich in Roxburgh, Fl. Ind. ed. Carey, II. 401 (1924).—Lévillé, Fl. Kouy-Tchéou, 69 (1914).

Celastrus Cavaleriei Lévillé in Monde Pl. sér. 2, XVIII. 31 (1916); non Lévillé (1914).

CHINA. K w e i c h o u : Pin-fa, ruisseaux, *J. Cavalerie*, no. 496, Sept. 16, 1902 (holotype of *C. Cavaleriei*; photo. in A. A.).

Celastrus Cavaleriei was by Loesener according to his note on the type sheet referred to *C. stylosa* or a related species.

Celastrus flagellaris Ruprecht in Bull. Acad. Sci. St. Pétersb. sér. 3, xv. 357 (1857); Decas Pl. Amur. t. 4 (1859).—Loesener in Ber. Deutsch. Bot. Ges. xxx. 541 (1914).—Rehder & Wilson in Sargent, Pl. Wilson. II. 357 (1915).

Celastrus clemacanthus Lévillé in Fedde, Rep. Spec. Nov. VIII. 284 (1910).

KOREA. Q u e l p a e r t : scandens in muris agrorum Haouen, *T. Taquet*, no. 632, May 8, 1908 (holotype of *C. clemacanthus*; photo. and isotype in A. A.).

Celastrus clemacanthus Lévillé was identified with *C. flagellaris* by Loesener (l. c.).

Celastrus Hindsii Benth. var. ***Henryi*** Loesener in Bot. Jahrb. XXIX. 444 (1900); xxx. 467 (1902).

Erythrospermum Cavaleriei Lévillé, Fl. Kouy-Tchéou, 51 (1914).—**Synon. nov.**

CHINA. K w e i c h o u : Gan-chouen, rochers, *J. Cavalerie*, no. 3976, in 1912, "liane" (holotype of *Erythrospermum Cavaleriei*; merotype in A. A.).

Gymnosporia Esquirolii Lévillé in China Rev. Ann. 1916, p. 18 (1916).—Schneider in Oester. Bot. Zeitschr. LXVII. 140, in nota (1918).

Berberis Cavaleriei Lévillé, Fl. Kouy-Tchéou, 48 (1914); non Lévillé in Fedde, Rep. Spec. Nov. IX. 454 (1911).

Berberis Esquirolii Léveillé, Fl. Kouy-Tchéou, 47, in clavi (1914).

CHINA. K w e i c h o u : Lo-fou, colline du fort, 800 m., terrain rocheux aride, *J. Esquirol*, no. 3645, June 20, 1912 (holotype of *Berberis Cavaleriei*; merotype in A. A.).

Gymnosporia Esquirolii is closely related to *G. diversifolia* Maxim. but easily distinguished by the slender peduncles of the inflorescence 0.5-1.5 cm. long and by the closely and finely crenulate or serrulate leaves, often acute at the apex and of thinner texture. To this species I also refer Siméon Ten, nos. 169 and 378, from Pe-yen-tsin, Henry, no. 9391, from Mengtze, and Forrest no. 10738. *Gymnosporia Esquirolii* seems to be restricted to Yunnan and Kweichou, while *G. diversifolia* Maxim. is widely distributed through southeastern China, Indochina, Formosa and the Liukiu Islands.

Gymnosporia Esquirolii was published without reference to a specimen, only with the citation of *Berberis Cavaleriei* as a synonym. This citation refers without doubt to *B. Cavaleriei* Léveillé, Fl. Kouy-Tchéou, 48, which appears in the key on the preceding page as *B. Esquirolii*. This species is based on Esquirol's no. 3645 and fragments were sent to C. Schneider by Léveillé in November 1915 as *B. Esquirolii*, but without indication of collector and number. These fragments agree with the specimen cited above and were referred by Schneider to *Gymnosporia* (in Sargent, Pl. Wilson. II. 359). Léveillé apparently had first given to Esquirol's no. 3645 the name *B. Esquirolii*, but when Schneider, to whom Léveillé had sent in October 1913 specimens of his earlier *B. Cavaleriei* based on Cavalerie, no. 3209, and published in 1911 (in Fedde Rep. Spec. Nov. IX. 454), had referred this species to *B. Griffithiana* Wall., he changed the name of his not yet published *B. Esquirolii* to *B. Cavaleriei*, wishing to keep Cavalerie's name attached to a valid species, but forgot to change the name in the key. *Berberis Cavaleriei* of 1911, however, which was in 1913 considered a synonym of *B. Griffithiana* by Schneider, and was accepted as such by Léveillé in his Flore de Kouy-Tchéou with the citation of "*B. Cavaleriei* Lévl. olim" as a synonym, was revived as a valid species by Schneider in 1918 (in Oesterr. Bot. Zeitschr. LXVII. 140) and applied to the Chinese species formerly referred to *B. Griffithiana* which according to his revised opinion does not occur at all in China.

Gymnosporia acuminata Hooker f., Fl. Brit. Ind. I. 619 (1875).

Evonymus yunnanensis Léveillé, Fl. Kouy-Tchéou, 73 (1914); non Franchet.

CHINA. K w e i c h o u : Lo-fou, *J. Cavalerie*, no. 3530, March 1909 (cited under *E. yunnanensis* Franch. by Léveillé; photo. in A. A.).

The specimen cited above differs from typical *G. acuminata* of which

I have isotypes of Hooker's and Griffith's specimens before me, in the smaller and narrower scarcely acuminate leaves 7-9 cm. long and 2-3 cm. broad and rather closely serrulate to near the base, but fruit and inflorescence does not seem to differ. It looks rather different and I was inclined to consider it at least a distinct variety, if not Hemsley's no. 13437 from Szemao represented an intermediate form, agreeing in the size of the leaves with the type and in the serration, though less dense and fine, with Cavalerie's specimen.

Tripterygium hypoglaucum (Lévl.) Hutchinson in Kew Bull. Misc. Inform. 1917, p. 101.—Léveillé, China Rev. Ann. 1916, p. 23 (Mscr.).

Aspidopterys hypoglauca Léveillé in Fedde, Rep. Spec. Nov. ix. 458 (1911).

Pentace Virginis Léveillé in Monde Pl. sér. 2, xviii. 28 (1916).—

Synon. nov.

CHINA. K w e i c h o u : Ma-jo, *J. Cavalerie*, no. 3316, Aug. 1908 "petit arbre lianeux" (holotype of *Aspidopterys hypoglauca*; merotype in A. A.). Y u n n a n : brousse du plateau de Ie-ma-tchouan, 3300 m., *E. E. Maire*, June 1912 "arbuste grimpant, long rameaux, fleurs blanches, fruit rouge sombre" (holotype of *Pentace Virginis*; photo. in A. A.).

Hutchinson first recognized *Aspidopterys hypoglauca* as a *Tripterygium* and communicated the resulting new combination to Léveillé who published it in his "China; revue annuelle 1916" distributed as manuscript to the larger botanical institutions before Hutchinson's paper was printed.

(To be continued)

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