Keys to the Siamese Species of Myrsinaceae

BY

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Although Mez's monograph of the Myrsinaceae in 1902 (1) was a tremendous advance on any previous treatment of the family, it not only left many problems unsolved, but has since caused some confusion in the identification of certain groups of species. Moreover, Mez's interpretation of certain genera, *Myrsine* and *Rapanea* for instance, has not been universally accepted by all subsequent workers. Since 1902, extensive collections of this family have accrued from Eastern and South-Eastern Asia, with the result that Mez's work has become only of very limited use in the identification of the Asiatic collections.

Much of the confusion has now been set aright by certain regional revisions of the family. King and Gamble (2) and Ridley (3) enumerated the Malay Peninsular species. Pitard (4) monographed the, until then, comparatively unknown French Indo-Chinese representatives. Walker (5) very recently revised completely the Eastern Asiatic Myrsinaceae. A similar revision is required for the Indian and Burmese species. The result is that not only are comprehensive descriptions now available of all known Chinese, French Indo-Chinese and Malay Peninsular species, but valuable keys have also been drafted which greatly facilitate species determination. Such keys of course are of vital importance to any one working on these notoriously critical Myrsinaceous genera. Naturally enough, in view of the material which has accumulated since the publication of the Pflanzenreich Monograph, many of the characters used in these keys differ rather considerably from those employed by Mez.

In 1936 and 1937 (6), the writer published many descriptions of new species of Myrsinaceae from Siam, and in 1938 (7), an enumeration of all the species known from this area. However, no keys to the identification of these Siamese species were published nor have any ever been available. Obviously, in view of the analyses of Walker, Pitard, Ridley, and King and Gamble, keys to the Siamese species are a desideratum. Therefore it is the purpose of this paper to supply the omission, in the hope that such keys may be of some use to the future monographer, who essays the task of co-ordinating the Asiatic Myrsinaceae.

For the sake of completeness, the keys are supplemented by an enumeration, and a record of the present known distribution, of the Siamese species.

References

1. Mez, C. Myrsinaceae. In A. Engler, *Das Pflanzenreich* 9 (iv. 236), (1902), 1–437.

2. King, G., & J. S. Gamble. Materials for a flora of the Malayan Peninsula. *Journ. Asiat. Soc. Bengal*, lxxiv. II. Extra No. (1905), 93–157. (Reprint, Gamopetalae (1905), 303–367).

3. Ridley, H. N. *Flora of the Malay Peninsula*, ii (1923), 226–256.

4. Pitard, J. Myrsinacées. In H. Lecomte, *Flore générale de l'Indo Chine*, iii (1930), 765–877.

5. Walker, E. H. A revision of the Eastern Asiatic Myrsinaceae. In *Philippine Journal of Science*, lxxiii (1940), 1–258.
6. Fletcher, H. R. *Kew Bulletin*, (1936), 42–47 ; (1937), 26–40.
7. Fletcher, H. R. Myrsinaceae. In W. G. Craib, *Florae Siamensis Enumeratio*, ii (1938), 325–352.

KEY TO THE GENERA OF THE MYRSINACEAE OF SIAM

A Ovary and fruit half inferior ; seeds numerous . . *Maesa*

AA Ovary and fruit completely superior ; seeds solitary :—

B Anther cells transversely septate ; fruit an elongated capsule *Aegiceras*

BB Anther cells not septate ; fruit a globose berry or drupe :—

C Flowers hermaphrodite ; stigma never ligulate :—

D Corolla lobes contorted in bud . . . . . *Ardisia*

DD Corolla lobes valvate in bud . . . . . *Labisia*

CC Flowers unisexual, or if occasionally hermaphrodite, then the stigma ligulate ; corolla lobes imbricate or valvate :—

D Inflorescence obviously of elongated type, or if subfasciculate or subumbellate then on special more or less leafy branches, or leaves distichous . . . . . *Embelia*

DD Inflorescence subfasciculate or subumbellate, leaves never distichous :—

E Stigma disk-like . . . . . *Myrsine*

EE Stigma ligulate . . . . . *Rapanea*

KEY TO THE SIAMESE SPECIES OF MAESA, Forsk.

A Inflorescence a large terminal panicle ; pedicels c. 4 mm. long *M. paniculata*

AA Inflorescence axillary *or* also terminal ; pedicels usually up to 2 mm. long :—

B Corolla-tube 4/5 the length of the corolla ; inflorescence short, branched ; leaves dentate, softly pubescent below *M. permollis*

BB Corolla-tube not half the length of the corolla, or, if half the length of the corolla, then the leaves are glabrous below :—

C Inflorescence usually equal in length to, or longer than, the leaves :—

D Leaves entire . . . . . *M. ramentacea*

DD Leaves dentate . . . . . *M. paniculata*

CC Inflorescence much smaller than the leaves, usually at most up to 4–6 times the length of the petiole :—

D Branchlets or leaves on the mid-rib below, or both, puberulous, and covered with scattered longer hairs as well :—

E Petiole usually c. 1·5 cm. long ; leaves minutely puberulous above in the young stage . . . . . *M. paniculata*

EE Petiole usually c. 1 cm. long ; leaves more strongly puberulous above and with a few longer hairs . . . *M. montana*

DD Branchlets and the lower leaf surface glabrous, or at most faintly puberulous :—

E Leaves rounded to truncate or cordulate at the base :—

F Leaves entire . . . . . *M. integrifolia*

FF Leaves not entire —

G Leaves distinctly and regularly toothed :—

H Leaves up to 26 cm. long and 11 cm. broad ; not black-lineolate below . . . . . *M. crenata*

HH Leaves up to 15 cm. long and 9·5 cm. broad ; black-lineolate below *M. indica*

GG Leaves irregularly crenate :—

H Leaves sub-lanceolate to lanceolate . . *M. sublanceolata*

HH Leaves elliptic . . . . . *M. perlarius*

EE Leaves cuneate to rounded at the base—never truncate or cordulate :—

F Leaves distinctly black-lineolate below :—

G Infructescence c. 5 mm. long . . . . *M. lineolata*

GG Young infructescence c. 15 mm. long . . *M. indica*

FF Leaves not black-lineolate below *M. paniculata* var *pauciflora*

M. crenata Fletcher in Kew Bull. (1936), 42.—Endemic to Siam.

M. indica (Roxb.), A.DC. in Trans. Linn. Soc. xvii (1837), 134, quoad syn. Roxb.—India, Yunnan, Tonkin, Laos, Annam, Siam, Malaya.

M. integrifolia Ridl. in Journ. F.M.S. Mus. x (1920), 98.—Endemic to Siam.

M. lineolata Fletcher in Kew Bull. (1936), 43.—Endemic to Siam.

M. montana A.DC. in DC. Prodr. viii (1844), 79.—Tropical India, Szechwan to Indo-China, Siam.

M. paniculata A.DC. in Trans. Linn. Soc. xvii (1837), 133.—Burma, Siam.

M. paniculata A.DC. var. *pauciflora* Fletcher in Kew Bull. (1936), 43.—Endemic to Siam.

M. perlarius (Lour.) Merr. in Trans. Amer. Philos. Soc. N. Ser. 24 (1935), 298.—Formosa and Kweichow to Indo-China and Siam.

M. permollis Kurz in Journ. As. Soc. Beng. xl., ii (1871), 66.—Yunnan to Burma, Siam and Indo-China.

M. ramentacea (Roxb.) A.DC. in DC. Prodr. viii (1844), 77.—Eastern Bengal and Burma, Andaman and Nicobar Islands, Yunnan and Kwangsi, French Indo-China, Siam, Malaya.

M. sublanceolata Fletcher in Kew Bull. (1936), 43.—Endemic to Siam.

AEGICERAS Gaertn.

The only known Siamese representative of this genus is :—

A. corniculata (Linn.) Blanco, Fl. Filip. (1837), 79.—Coasts of India and China to Australia.

KEY TO THE SIAMESE SPECIES OF ARDISIA, Swartz.

A Leaves with regularly spaced glands along, or within the margin ; margin usually quite conspicuously crenate, never serrate or toothed—section *Crispardisia* Mez :—

B Leaves not completely glabrous :—

C Leaves coriaceous up to 7 cm. long, and 2·5 cm. broad, glabrous above, sub-pilose below, at first all over but ultimately on the mid-rib only ; pistil glabrous . . . . . *A. pilosa*

CC Leaves chartaceous, at least 8 cm. long and 3 cm. broad, usually considerably larger ; glabrous on neither surface, or occasionally glabrescent above ; style sparsely pilose towards the base :—

D Leaves with tufts of hairs on large marginal glands on the upper surface ; ovary always long pilose . . . . *A. Rabilii*

DD Leaves without tufts of hairs as above ; ovary subglabrous or with long or short hairs . . . . . *A. villosa*

BB Leaves glabrous :—

C Calyx eglandular or with a few brownish glands but not with black glands (except *A. translucida* which sometimes has 1–3 black glands on the calyx) :—

D Inflorescence distinctly puberulous :—

E Leaves not exceeding 4 cm. broad ; extra-marginal glands present especially towards the apex . . . . . *A. rosea*

EE Leaves at least 4 cm. broad ; extra-marginal glands not present :—

F Leaves without large translucent glands . . *A. maculosa*

FF Leaves with large translucent glands ; calyx segments sometimes with 1–3 black glands . . . . . *A. translucida*

DD Inflorescence glabrous . . . . *A. longipedicellata*

CC Calyx very conspicuously black-glandular ; (in *A. translucida* some segments are eglandular) :—

D Leaves with large conspicuous translucent glands . *A. translucida*

DD Leaves without large translucent glands :—

E Straight continuous intra-marginal nerve not present *A. corymbifera*

EE Straight continuous intra-marginal nerve present, just within or well within the margin :—

F Calyx segments deltoid :—

G Intra-marginal nerve well within the margin . *A. stipitata*

GG Intra-marginal nerve not far within the margin :—

H Inflorescence of several terminal umbels . . . *A. crenata*

HH Inflorescence of one terminal umbel . . . . *A. Ridleyi*

FF Calyx segments oblong :—

G Leaves lanceolate, up to 16 cm. long, 3·5 cm. broad at most *A. lenticellata*

GG Leaves oblong to elliptic, at least 3·5 cm. broad . . *A. virens*

AA Leaves without regularly spaced glands, margin entire or variously serrate or conspicuously toothed, not undulate or merely irregularly toothed :—

B Leaves conspicuously toothed or coarsely undulate-dentata—section *Bladhia* (Thunb.) Mez :—

C Leaves regularly and closely fimbriate-denticulate :—

D Leaves glabrous below ; inflorescence a raceme of corymbs *A. fimbriata*

DD Leaves not glabrous below :—

E Leaves long-attenuate at the base ; inflorescence a raceme of corymbs or almost of umbels . . . . *A. odontophylla*

EE Leaves obtuse to cordulate at the base ; inflorescence a simple corymb :—

F Leaves appressed-puberulous on the nerves below *A. cordulata*

FF Leaves with distinct longish hairs on the nerves below :—

G Leaves appressed-hirsute on the nerves below ; nerves c. 13 pairs *A. cordulata* var. *appresso-hirsuta*

GG Leaves spreading-hirsute on the nerves below ; nerves c. 8–9 pairs *A. cordulata* var. *patulo-hirsuta*

CC Leaves coarsely undulate-dentate :—

D Peduncle c. 5 cm. long, with a small leafy bract at the apex ; calyx c. 3·5 mm. long ; leaves with larger blacker glands than *A. undulato-dentata* . . . . . *A. pendunculata*

DD Peduncle considerably shorter or 0, without a leafy bract at the apex ; calyx less than 2 mm. long :—

E Leaf nerves prominent below, not impressed above *A. undulato-dentata*

EE Leaf nerves prominent below, impressed above . *A. impressa*

BB Leaves entire or subentire (sometimes shallowly crenate but never with glands in the crenations) :—

C Calyx segments of the open flower not over-lapping, or only slightly so at the base :—

D Style in bud exsert—section *Stylardisia* Mez :—

E Inflorescence a distinct terminal panicle :—

F Pedicels 4 mm. long :—

G Leaves oblong to lanceolate ; nerves conspicuous *A. colorata*

GG Leaves lanceolate ; nerves inconspicuous *A. colorata* var. *salicifolia*

FF Pedicels 8 mm. long . . . . . *A. andamanica*

EE Inflorescence lateral and/or/in small panicles *apparently* terminating main or lateral branches :—

F Corolla eglandular in the bud, or with translucent glands only :—

G Leaves elliptic to obovate, obtuse at the apex . *A. nervosa*

GG Leaves oblanceolate to obovate-lanceolate, abruptly acuminate at the apex . . . . . *A. Kerrii*

FF Corolla distinctly brown- or black-glandular in bud :—

G Inflorescence short and compact :—

H Pedicels glabrous or nearly so . . . . *A. puberula*

HH Pedicels densely rusty-furfuraceous . . . *A. cymosa*

GG Inflorescence up to 8·5 cm. long a lax raceme of umbels *A. punicea*

DD Style in bud not exsert :—

E Inflorescence a distinct terminal panicle—section *Acrardisia* Mez :—

F Petiole hardly differentiated . . . . . *A. alata*

FF Petiole quite distinct :—

G Flowering pedicels 15 mm. long . . . . *A. porosa*

GG Flowering pedicels up to 10 mm. long :—

H Flowering pedicels up to 5 mm. long . . . *A. oxystemon*

HH Flowering pedicels up to 10 mm. long . . *A. Murtonii*

EE Inflorescence lateral and/or/in small panicles *apparently* terminating main or lateral branches :—

F Inflorescence solely axillary, equal to or shorter than the petioles—section *Pimelandra* (A.DC.) Mez :—

G Inflorescence puberulous ; flowers white . . *A. betongensis*

GG Inflorescence glabrous ; flowers crimson . . *A. congesta*

FF Inflorescence clearly longer than the petiole—section *Akosmos* Mez :—

G Pedicels persistently furfuraceous ; calyx segments furfuraceous on the back, and ciliate :—

H Leaves lanceolate to oblong-lanceolate . *A. rubro-glandulosa*

HH Leaves elliptic to oblong-elliptic :—

J Corolla distinctly brown- or black-glandular in the bud ; leaves without translucent round glands . . . *A. cymosa*

JJ Corolla eglandular in the bud or with translucent glands only ; leaves with translucent round glands . *A. ferrugineo-pilosa*

GG Pedicels glabrous or inconspicuously sparsely puberulous ; calyx segments ciliate, usually glabrous on the back :—

H Fruit not angled . . . . . *A. eglandulosa*

HH Fruit angled . . . . . *A. quinquegona*

CC Calyx segments overlapping at the base or nearly throughout the entire length at flowering time ; also overlapping, especially at the base, in fruit :—

D Inflorescence forming a terminal panicle, sometimes terminating special 2-leaved branches :—

E Inflorescence not terminating special 2-leaved branches—section *Tinopsis* Mez :—

F Calyx 5 mm. long . . . . . *A. lanceolata*

FF Calyx 2–3 mm. long :—

G Leaves oblong-oblanceolate or broadly oblanceolate *A. sumatrana*

GG Leaves of elliptic dimensions . . . *A. langsuanensis*

EE Inflorescence terminating special 2-leaved branches—section *Pyrgus* (Lour.) Mez. . . . . *A. rigida*

DD Inflorescence lateral sometimes forming an apparently terminal panicle—section *Tinus* (Burm.) Mez :—

E Terminal vegetative bud puberulous or glandular all over :—

F Branchlets glabrous or very nearly so :—

G Pedicels 1 cm. long . . . . . *A. oxyphylla*

GG Pedicels 2 cm. long . . . . . *A. attenuata*

FF Branchlets at least puberulous for a time :—

G Inflorescence distinctly racemose, the flower bearing part at least 2 cm. long :—

H Calyx segments as long as broad ; pedicels and rhachis at first shortly and sparsely puberulous, later glabrous . *A. Collinsae*

HH Calyx segments longer than broad; pedicels and rhachis persistently puberulous :—

J Leaves glabrous . . . . . *A. pendula*

JJ Leaves hairy . . . . . *A. Helferiana*

GG Inflorescence corymbose, the flower bearing part less than 1·5 cm. long :—

H Calyx segments more or less ovate, acute at the apex *A. attenuata* var. *pubescens*

HH Calyx segments oblong to rounded, round at the apex :—

J Calyx segments ciliolate :—

K Corolla lobes ciliolate . . . . *A. sanguinolenta*

KK Corolla lobes not ciliolate . . . . . *A. subpilosa*

JJ Calyx segments long-ciliate :—

K Calyx segments 2·5–3 mm. long, shortly pubescent on the back *A. siamensis*

KK Calyx segments up to 2 mm. long; puberulous or glabrescent on the back :—

L Leaves hairy below :—

M Corolla lobes not ciliate . . . . . *A. fulva*

MM Corolla lobes ciliate . . . . . *A. fulva* var. *ciliata*

LL Leaves glabrous below :—

M Leaf reticulation prominent below . . *A. multipunctata*

MM Leaf reticulation not prominent below . . . *A. furva*

EE Terminal vegetative bud glabrous or sometimes sparsely glandular —puberulous or furfuraceous near the apex :—

F Inflorescence distinctly simply racemose, flower bearing part at least 4 cm. long (except in *A. arborescens* and *A. littoralis*) :—

G Fertile part of inflorescence rarely 4 cm. long :—

H Fruiting calyx segments 4 mm. long . . . *A. arborescens*

HH Fruiting calyx segments 2 mm. long . . . *A. littoralis*

GG Fertile part of inflorescence always 4 cm. long or even more :—

H Fruiting calyx segments 1·5 mm. long; pedicels up to 2 cm. long *A. pendulifera* var. *microsepala*

HH Fruiting calyx segments 3 mm. long; pedicels up to 1·5 cm. long; leaves thicker usually drying darker . . *A. pendulifera*

FF Inflorescence or partial inflorescence corymbose or umbelliform or shortly racemose, and then the fertile part under 4 cm. long, or panicled :—

G Inflorescence branched, i.e. secondary peduncles developed *A. aprica*

GG Inflorescence simple, i.e. secondary peduncles not developed :—

H Calyx segments tapering at the apex—not emarginate; fruit obscurely 5-angled . . . . . *A. lankawiense*

HH Calyx segments rounded at the apex—not tapering, or if slightly tapering then distinctly emarginate; fruit not obscurely 5-angled :—

J Leaves coriaceous :—

K Fruiting calyx segments 4 mm. long . . . *A. arborescens*

KK Fruiting calyx segments 2 mm. long . . . *A. littoralis*

JJ Leaves chartaceous to coriaceo-chartaceous :—

K Glands on leaf not seen by the naked eye . . *A. Garrettii*

KK Glands on leaf clearly seen by the naked eye . *A. solanacea*

A. alata Fletcher in Kew Bull. (1937), 26.—Endemic to Siam.

A. andamanica Kurz, For. Fl. Burma, ii (1877), 108.—Andamans, Siam, Malay Peninsula.

A. aprica Fletcher in Kew Bull. (1937), 26.—Endemic to Siam.

A. arborescens Wall. ex A.DC. in Trans. Linn. Soc. xvii (1837), 120.—South-West China, Burma, Siam.

A. attenuata Wall. ex A.DC. in Trans. Linn. Soc. xvii (1837), 119.—Pegu, Tenasserim, Andamans, Siam.

A. attenuata Wall. var. *pubescens* Fletcher in Kew Bull. (1937), 27.—Endemic to Siam.

A. betongensis Fletcher in Kew Bull. (1937), 27.—Endemic to Siam.

A. bractescens Ridl. in Journ. F.M.S. Mus. x (1920), 99.—Endemic to Siam.

A. Collinsae Fletcher in Kew Bull. (1937), 27.—Endemic to Siam.

A. colorata Roxb. Hort. Beng. (1814), 16—nomen tantum—et Fl. Ind. ed. Carey, ii (1824), 271.—Indo-China, Siam, Malaya.

A. colorata Roxb. var. *salicifolia* King et Gamble in Jour. As. Soc. Beng. lxxiv, ii (1905), 131.—Siam, Malay Peninsula.

A. congesta Ridl. in Journ. F.M.S. Mus. x (1920), 100.—Endemic to Siam.

A. cordulata Fletcher in Kew Bull. (1937), 28.—Endemic to Siam.

A. cordulata Fletcher var. *appresso-hirsuta* Fletcher in Kew Bull. (1937), 28.—Endemic to Siam.

A. cordulata Fletcher var. *patulo-hirsuta* Fletcher in Kew Bull. (1937), 29.—Endemic to Siam.

A. corymbifera Mez in Engler, Pflanzenr. Myrsinac. (1902), 149.—Kwangsi, Yunnan, Siam.

A. crenata Sims, Curtis's Bot. Mag. xlv (1918), pl. 1950.—Assam, Burma, Siam, French Indo-China, Malaya, South China and Japan.

A. crenata Sims var. *angusta* C. B. Clarke in Hook. f. Fl. Brit. Ind. iii (1882), 525.—Malay Peninsula, Siam, Annam.

A. cymosa Blume, Bijdr. (1826), 689.—Siam, Malay Archipelago.

A. eglandulosa Fletcher in Kew Bull. (1937), 29.—Endemic to Siam.

A. ferrugineo-pilosa Fletcher in Kew Bull. (1937), 29.—Endemic to Siam.

A. fimbriata Fletcher in Kew Bull. (1937), 30.—Endemic to Siam.

A. fulva King et Gamble in Jour. As. Soc. Beng. lxxiv, ii (1905), 124.—Malay Peninsula, Siam.

A. fulva King et Gamble var. *ciliata* Fletcher in Kew Bull. (1937), 30.—Endemic to Siam.

A. furva Ridl. in Journ. Str. Br. Roy. As. Soc. No. 59 (1911), 125.—Endemic to Siam.

A. Garrettii Fletcher in Kew Bull. (1937), 30.—Endemic to Siam.

A. Helferiana Kurz in Journ. As. Soc. Beng. xliii, ii (1873), 86.—Burma, Manipur, Siam, Cambodia, Cochin-China.

A. Helferiana Kurz var. *septentrionalis* Pitard in Fl. Gen. de L'Indo-Chine, iii (1930), 846.—Laos, Tonkin, Siam.

A. impressa Fletcher in Kew Bull. (1937), 31.—Endemic to Siam.

A. Kerrii Craib in Kew Bull. (1911), 407.—Endemic to Siam.

A. lanceolata Roxb. Hort. Beng. (1814), 85—nomen tantum—et Fl. Ind., ed. Carey, ii (1824), 275.—Malaya.

A. langsuanensis Fletcher in Kew Bull. (1937), 31.—Endemic to Siam

A. langkawiensis King et Gamble in Journ. As. Soc. Beng. lxxiv, ii (1905), 125.—Endemic to Siam.

A. lenticellata Fletcher in Kew Bull. (1937), 32.—Endemic to Siam.

A. longipedicellata Fletcher in Kew Bull. (1937), 32.—Endemic to Siam.

A. littoralis Andr. Bot. Rep. (1811), t. 630.—India, Siam, Malaya.

A. maculosa Mez in Engler, Pflanzenr. Myrsinac. (1902), 146.—Kwangsi, Yunnan, Siam, Tonkin.

A. multipunctata Fletcher in Kew Bull. (1937), 33.—Endemic to Siam.

A. Murtonii Fletcher in Kew Bull. (1937), 33.—Endemic to Siam.

A. nervosa Fletcher in Kew Bull. (1937), 34.—Endemic to Siam.

A. odontophylla Wall. ex A.DC. in Trans. Linn. Soc. xvii (1937), 125, t. 6.—Assam, Burma, Malay Peninsula, Borneo.

A. oxyphylla Wall. ex A.DC. in Trans. Linn. Soc. xvii (1937), 119.—Burma, Andamans, Malaya.

A. oxystemon Ridl. ex Fletcher in Kew Bull. (1937), 381.—Endemic to Siam.

A. pedunculata Fletcher in Kew Bull. (1937), 34.—Endemic to Siam.

A. pendula Mez in Engler, Pflanzenr. Myrsinac. (1902), 125.—Java, Siam.

A. pendulifera Pitard in Fl. Gen. de L'Indo-Chine, iii (1930), 849.—Tonkin, Siam.

A. pendulifera Pitard var. *microsepala* Fletcher in Kew Bull. (1937), 35.—Endemic to Siam.

A. pilosa Fletcher in Kew Bull. (1937), 35.—Endemic to Siam.

A. porosa C. B. Clarke in Hook. f. Fl. Brit. Ind. iii (1882), 522.—Malay Peninsula, Siam.

A. puberula Fletcher in Kew Bull. (1937), 35.—Endemic to Siam.

A. punicea Fletcher in Kew Bull. (1937), 36.—Endemic to Siam.

A. quinquegona Blume, Bijdr. (1826), 689.—Liu Kiu Islands, Formosa, Fukien, Hongkong, Hainan, Kwangtung, Kwangsi, French Indo-China, Siam.

A. Rabilii Fletcher in Kew Bull. (1937), 36.—Endemic to Siam.

A. Ridleyi King et Gamble in Journ. As. Soc. Beng. lxxiv, ii (1905), 148.—Malay Peninsula, Siam.

A. rigida Kurz in Journ. As. Soc. Beng. xlii, ii (1873), 87.—Burma, Siam, Cambodia.

A. rosea King et Gamble in Journ. As. Soc. Beng. lxxiv, ii (1905), 150.—Malay Peninsula, Siam.

A. rubro-glandulosa Fletcher in Kew Bull. (1937), 37.—Endemic to Siam.

A. sanguinolenta Wall. ex Mez in Engler, Pflanzenr. Myrsinac (1902), 129.—Burma, Siam.

A. siamensis Fletcher in Kew Bull. (1937), 37.—Endemic to Siam.

A. solanacea Roxb. Cor. Pl. i (1795), 27, t. 27.—South-Western China to Ceylon and Singapore.

A. stipitata Fletcher in Kew Bull. (1937), 38.—Endemic to Siam.

A. subpilosa Fletcher in Kew Bull. (1937), 38.—Endemic to Siam.

A. sumatrana Miq. Pl. Junghuhn. i (1853), 195.—Siam, Sumatra, Java.

A. translucida Fletcher in Kew Bull. (1937), 39.—Endemic to Siam.

A. undulato-dentata Fletcher in Kew Bull. (1937), 39.—Endemic to Siam.

A. villosa Roxb. Hort. Beng. (1814), 85—nomen tantum—et Fl. Ind. ed. Carey, ii (1824), 274.—Southern China to Burma, Siam, French Indo-China, Malaya.

A. virens Kurz, For. Fl. Burma, ii (1877), 575.—Formosa, Hainan and Yunnan south to Bengal, Assam, Burma, Siam and Sumatra.

LABISIA Lindl.

The only representative in Siam is :—

L. pumila (Blume) Benth. et Hook. var. *alata* Scheff. Myrs. (1867), 92.—Malaya, Siam.

KEY TO THE SIAMESE SPECIES OF EMBELIA, Burm. f.

A Inflorescence a terminal panicle :—

B Flowers sessile or subsessile :—

C Leaves oblong-elliptic, round at the base . . . *E. stricta*

CC Leaves elliptic, tapering at the base . . . *E. sessiliflora*

BB Flowers distinctly pedicellate :—

C Pedicels c. 1 mm. long . . . . . *E. coriacea*

CC Pedicels at least 3 mm. long . . . . . *E. ribes*

AA Inflorescence racemose, axillary :—

B Leaves crowded, up to 3 cm. long, truncate or cordate at the base ; racemes minute, hardly any longer than the petioles and scaly at the base—section *Micrembelia* Mez :—

C Corolla in bud shortly pilose on the outside and without red glands *E. disticha*

CC Corolla in bud with red glands on the outside . *E. pulchella*

BB Leaves not crowded, much longer than the above and mostly cuneate at the base; racemes subequal to or larger than the petioles and sometimes larger than the leaves :—

C Inflorescence without basal scales—section *Pattara* (Adans.) Mez :—

D Leaves with a conspicuous more or less ferrugineous indumentum all over the lower surface ; petiole not wavy-alate near the apex :—

E Racemes, including the peduncle, up to 3 cm. long ; indumentum on both surfaces of the leaf of short glandular-capped hairs *E. villosa*

EE Racemes more than 3 cm. long, or if shorter than 3 cm. then the leaf indumentum mostly of distinct non-glandular hairs :—

F Indumentum of the lower surface of the leaf very dense and ferrugineous, completely covering the epidermis . *E. ferruginea*

FF Indumentum on the lower surface of the leaf much paler and not completely covering the epidermis . . . . *E. villosa*

DD Leaves glabrous or only faintly puberulous on the nerves below :—

E Leaves toothed, at least towards the apex ; petiole wavy-alate near the apex :—

F Leaves toothed only towards the apex ; inflorescence dense, only slightly longer than the petiole ; pedicels c. 1·5 mm. long *E. impressa*

FF Leaves more deeply toothed at least on the upper half; inflorescence lax, obviously longer than the petiole; pedicels c. 3 mm. long:—

G Nerves impressed above . . . *E. impressa* var. *serrata*

GG Nerves conspicuous above . . . . *E. sootepensis*

EE Leaves entire . . . . . *E. Kerrii*

CC Inflorescence with basal scales—section *Chori-petalum* (A.DC.) Mez:—

D Flowers sessile or subsessile:—

E Leaves up to 7 cm. broad, strongly tapering at the base and with numerous short translucent lines . . . *E. calcarea*

EE Leaves up to 12 cm. broad, not so strongly tapering at the base, sometimes round and then suddenly decurrent at the base; leaves with numerous short dark lines, not with translucent lines *E. grandifolia*

DD Flowers pedicellate . . . . . *E. subcoriacea*

E. calcarea Fletcher in Kew Bull. (1936), 44.—Endemic to Siam.

E. coriacea Wall. ex A.DC. in Trans. Linn. Soc. xvii (1837), 135.—Siam, Malaya.

E. disticha Fletcher in Kew Bull. (1936), 45.—Endemic to Siam.

E. ferruginea Wall. ex A.DC. in Trans. Linn. Soc. xvii (1837), 129.—Burma, Siam, French Indo-China.

E. grandifolia Fletcher in Kew Bull. (1936), 45.—Endemic to Siam.

E. impressa Fletcher in Kew Bull. (1936), 46.—Endemic to Siam.

E. impressa Fletcher var. *serrata* Fletcher in Kew Bull. (1936), 46.—Endemic to Siam.

E. Kerrii Fletcher in Kew Bull. (1936), 46.—Endemic to Siam.

E. pulchella Mez in Engler, Pflanzenr. Myrsinac. (1902), 324, fig. 53.—Assam (Manipur), Siam, Tonkin.

E. ribes Burm. f. Fl. Ind. (1768), 62, t. 23.—India, Burma, and Ceylon, Siam, French Indo-China, Malaya and northwards to southern China.

E. sessiliflora Kurz in Journ. As. Soc. Beng. xlii (1871), 66.—Burma, Manipur, Siam and South-Western China.

E. sootepensis Craib in Kew Bull. (1911), 406.—Endemic to Siam.

E. stricta Craib in Kew Bull. (1911), 407.—Endemic to Siam.

E. subcoriacea Mez in Engler, Pflanzenr. Myrsinac. (1902), 329.—Assam, Siam, French Indo-China, South-Western China.

E. villosa Wall. in Roxb. Fl. Ind. ed. Carey, ii (1824), 289.—Bengal, Burma.

MYRSINE, Linn.

I have accepted the very narrow concept of this genus as adopted by Mez, who, in transferring over 70 species of *Myrsine* to *Rapanea* greatly enlarges the concept of this latter genus. The Pflanzenreich treatment is followed by Pitard and by Walker, but not by King and Gamble.

M. semiserrata Wall. in Roxb. Fl. Ind. ed. Carey, ii (1824), 293.—North-West Himalaya, India, Burma, South-Eastern Tibet, Central and Western China, Siam.

KEY TO THE SIAMESE SPECIES OF RAPANEA, Aubl.

A Leaves up to 7 cm. long ; inflorescence branchlets under 2 mm. in diameter :—

B Leaves up to 1·7 cm. broad, narrowed to an obtuse apex, not at all obovate . . . . . *neriifolia* var. *yunnanensis*

BB Leaves 2 cm. or more broad, on the average distinctly obovate, or if under 2 cm. broad then emarginate at the apex . *Porteriana*

AA Leaves over 7 cm. long ; inflorescence branchlets 2 mm. or over 2 mm. in diameter :—

B Inflorescence branchlets 4–5 mm. long :—

C Inflorescence branchlets over 2 mm. in diameter ; fruiting pedicels 1–2 mm. long . . . . . *capitellata*

CC Inflorescence branchlets 2 mm. in diameter ; fruiting pedicels up to 5 mm. long . . . . *neriifolia* var. *yunnanensis*

BB Inflorescence branchlets up to 3 mm. long :—

C Fruiting pedicels up to 8 mm. long, slender ; calyx under 1 mm. long . . . . . *umbellulata*

CC Fruiting pedicels up to 5 mm. long ; calyx about 1 mm. or over 1 mm. long :—

D Fruiting pedicels c. 1 mm. long ; leaves with conspicuous elongate glands (canals ?) quite evident on the lower surface *subpedicellata*

DD Fruiting pedicels up to 5 mm. long ; leaves with only circular glands or with scattered short linear ones, not conspicuous except by transmitted light . . . *neriifolia* var. *yunnanensis*

The Pflanzenreich treatment greatly enlarged the conception of this genus, for Mez transferred to it many species of *Myrsine*. As understood by Mez, *Rapanea* is thus a genus of both the Old and the New Worlds. He is followed by Pitard and by Walker. King and Gamble, however, reject Mez's interpretation and restrict *Rapanea* to the New World. I have accepted Mez's concept of the genus.

R. capitellata (Wall.) Mez in Engler, Pflanzenr. Myrsinac. (1902), 356.—Nepal, Sikkim, Bhutan, Assam, Burma, French Indo-China, Siam.

R. neriifolia (Sieb. & Zucc.) Mez var. *yunnanensis* (Mez) Walker in Bull. Fan Mem. Inst. Biol. ix (1939), 189.—South-Western China and Siam.

R. Porteriana (Wall.) Mez in Engler, Pflanzenr. Myrsinac. (1902), 358.—Malay Peninsula and Siam.

R. subpedicellata Fletcher in Kew Bull. (1936), 44.—Endemic to Siam.

R. umbellulata Mez in Engler, Pflanzenr. Myrsinac. (1902), 358.—Malaya, Siam.

A New Chinese Primula

BY

FENG-HWAI CHEN

(*With Plate* CCLIX)

Primula ranunculoides Chen. Sp. nov.

Species affinis *P. cicutariifoliae* Pax a qua foliorum glabrorum forma, calyce fere ad basin partito, corolla multo majore divergit, a *P. erodioides* Schlechter atque *P. Merrilliana* Schlechter foliis glanduloso-punctatis aliter divisis, calyce alte fisso, corolla valde majore distinguitur.

Breviter perennis, efarinosa, rhizomate gracillimo, 7–10 cm. alta. Folia tenuiter membranacea, glabra, striato-glandulosa, dimorphica; alia, fortasse primaria, simplicia, lamina ovata circ. 1 cm. longa et lata grosse dentata, petiolo gracili 2–3 cm. longo; alia cum petiolo ad 8 cm. longa, pinnata, lobo terminali multo majore, inferioribus saepe minimis, omnibus grosse dentatis, petiolo laminam subaequante. Scapus circ. 7 cm. altus, filiformis, umbellam 2–4 floram gerens; pedicelli 2–3 cm. longi, tenues; bracteae 1–2 mm. longae, lineares. Calyx 5 mm. longus, anguste campanulatus, glaber, in lobos lineari-lanceolatos fere ad imum divisus. Corolla heteromorphica, exannulata?, albo-purpurea, infundibularis, tubo calycem fere duplo superante, limbo 1·5–2 cm. lato, lobis obcordatis paulo emarginatis. Stamina in flore brevistylo ad os attingentia. Stylus calycem subaequans. Capsula non visa.

China. Near Wuling Hsien, East Kiangsi—at Ying Nu, Tang Tung Tze Temple, on marshy ground near the pond; 27th March 1946, (*Hsiung* No. 1000) in Herb. Lu Shan and in Edinburgh.

(Mr. Feng-hwai Chen of the Lu Shan Botanical Garden, who before the war made a study of the genus in Edinburgh, has forwarded to me the above diagnosis and material of this new species. It belongs to the imperfectly known section Pinnatae which now consists of five members, each collected only once and none have been in cultivation. Mr. Chen states that the plant now described is the first record of the occurrence of the genus in Kiangsi Province. W.W.S.)