ON TWO NEW OR NOTEWORTHY SAPOTACEAE FROM CHINA

by

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(Issued June 15, 1939).

Madhuca GMEL.

M. (sect. *Dasyaulus*) **subquincuncialis** H. J. LAM & D. A. KERPEL, nova species. — *Fig. 1.*

Arbor mediocris. *Ramuli* teretes, novelli griseo-fulvo-tomentosi. *Stipulae* subulatae, caducae, pubescentes, 0.2 cm longae. *Folia* subcoriacea, obovata, basi cuneata, apice breviter obtuseque acuminata vel rotundata vel rare paulo emarginata, 5—10 × 2.5—4.5 cm, subtus minute sparse adpresse ferrugineo-tomentosa, ultimatim glabrata; petioli graciles, supra sulcati, 1.3—2 cm longi; costa media subtus praecipue folii basi prominens, nervi secundarii graciles, utrinque 11—14, angulo 65°—75° de costa adscendentes; nervi tertiarii pergraciles, typo § *Dasyauli*, i. e. prope marginem laxe reticulati, prope costam uno vel nonnullis nervis secundariis brevibus adscendentibus. *Flores* solitarii vel bini in foliorum axillis; pedicelli graciles, sub calyce paulo incrassati, griseo-fulvo-tomentosi, per anthesin 1.4—3, in fructu 2.5—3 (—3.5) cm longi; calyx 0.6—0.7 cm altus plerumque biserialis sepalis 2 exterioribus valvata vel aperta, inferioribus 2 imbricata, haud rare tamen 5-merus quasi-quincuncialis; sepala ovata extus dense ferrugineo-villosa, intus paulo adpresse tomentosa, 0.5—0.63 cm longa, 0.4—0.5 cm lata; corolla glabra, 0.3 cm exserta, 0.6—0.7 cm longa, tubo infundibuliformi 0.15 cm alto, petalis 8 (an semper?) oblongis, 0.45—0.55 × 0.1—0.15 cm, apices versus angustatis obtusis; stamina 16 (an semper?) uniserialia, glabra, filamentis 0.1 cm longis, antheris lanceolatis acutis 0.25 × 0.1 cm, basi-dorsifixis, extrorsis; ovarium subglobosum 0.1—0.2 cm diam., 0.1—0.13 cm altum, cum styli basi hispido-pilosum, (6—)7-loculatum, in stylum 0.8 cm longum subulatum, supra glabrum contractum. *Fructus* calyce persistente, i. s. ferrugineo-tomentosus, ovatus, apice in stylum

persistentem 0.8—1.2 cm longum subabrupte contractus, 2—2.5 cm longus, circ. 1.3 cm diam.; semen (unum tantum vidimus) testa brunnea nitida, 1.2 × 0.5 cm, cicatrice longa angustaque; embryo ignotum.

A tree, about 15 m high, with dark grey bark (f. WANG). *Branchlets* slender, terete, smooth, grey-brownish tomentose. *Stipules* subulate, caducous, pubescent, 0.2 cm. *Leaves* subcoriaceous, obovate, light brown when dry, 5—10 by 2.5—4.5 cm, base cuneate, apex rounded or bluntly acuminate, rarely slightly emarginate, sparsely tomentose underneath, ultimately glabrous; petioles slender, sulcate above, 1.3—2 cm long;

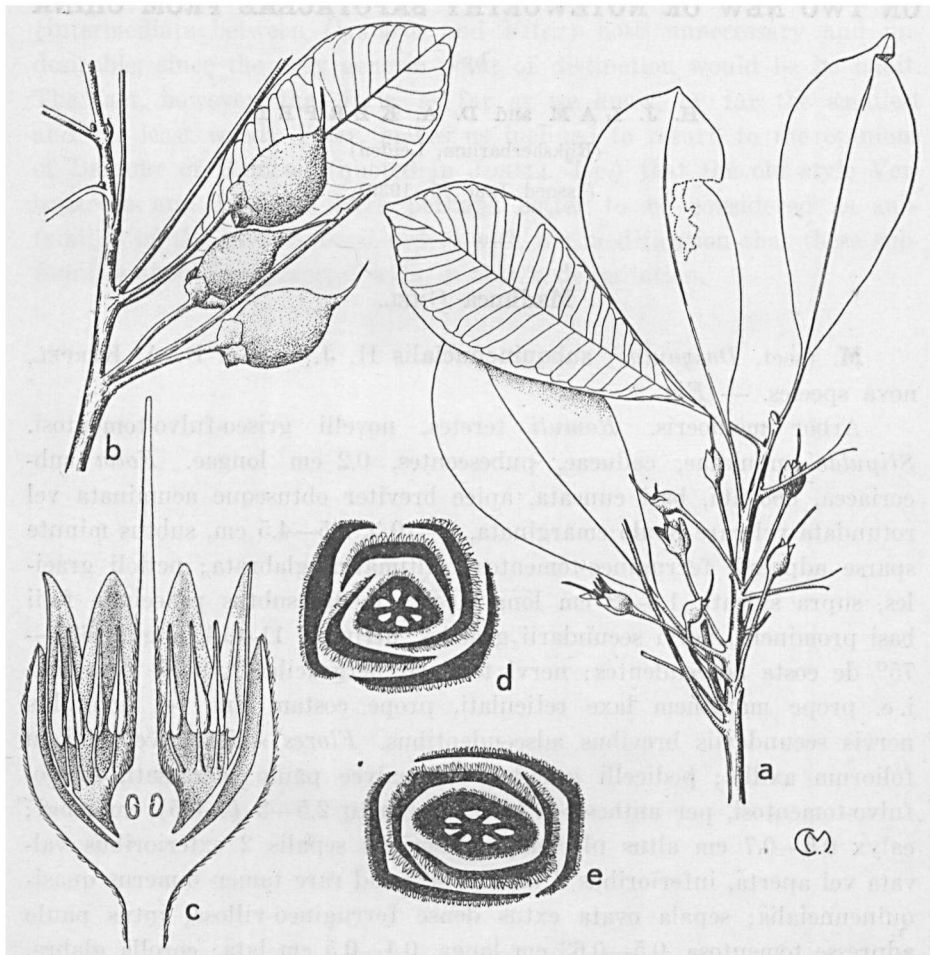

Fig. 1 — *Madhuca subquincuncialis*, n. sp. — a. branchlet and flowers; b. ditto with fruit; c. flower, longitudinal section; d. and e. cross-sections of ovary and calyx (two types) — a, c, d, e, after WANG 38520, b. after type specimen.

midrib prominent beneath, especially at the base of the leaf; secondary nerves 11—14, very slender, angle towards the midrib 65°—75°, tertiary ones almost inconspicuous, of the *Dasyaulus*-type. *Flowers* solitary or two in the leaf axils, the pedicels slender and tomentose, up to 3 cm long; calyx woolly pubescent, slightly tomentose within, 0.6—0.7 cm long, sepals usually 4 in two whorls, not rarely 5 and then quasi-quincuncially arranged; corolla glabrous, 0.3 cm exsert, petals 8 (always?); stamens 16 (always?) in one whorl, glabrous, filaments short, anthers narrow

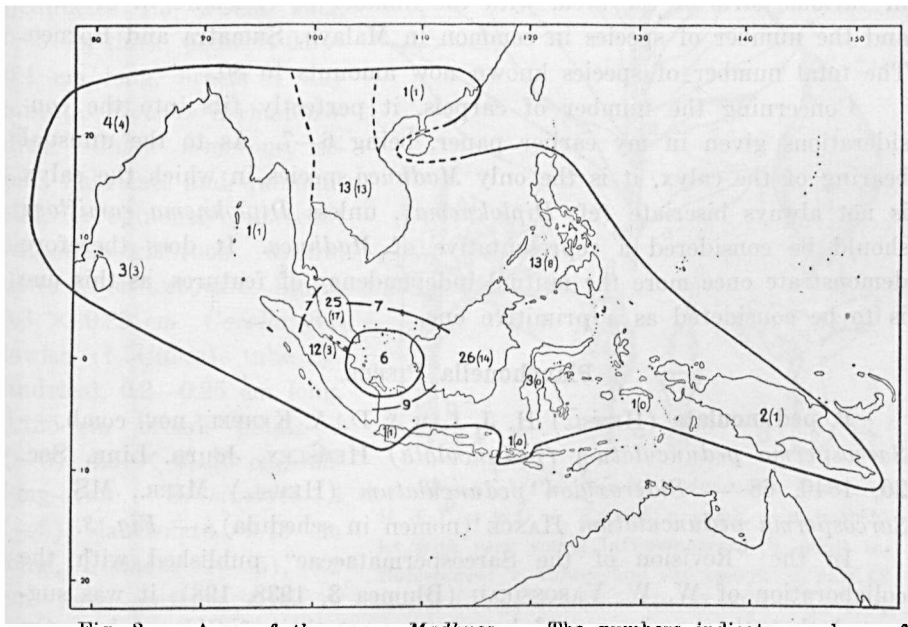

Fig. 2 — Area of the genus *Madhuca* — The numbers indicate numbers of species in each area, those between brackets show the number of endemics. In Western Malaysia some connections between Malaya, Sumatra and Borneo are indicated.

and subulate; ovary subglobose, pilose as is the lower portion of the subulate style, (6—)7-celled, ovary 0.1—0.13 cm, style 0.8 cm. *Fruit* ovoid, tomentose, 2—2.5 by 1.3 cm, with permanent style and calyx; seed 1.2 by 0.5 cm, with long and narrow scar; embryo unknown.

CHINA, Kwantung, Yang-Ch'un (Yeungchun), in mixed woods: C. WANG 38520 (Herb. Sun Yatsen Univ., Canton; Herb. Leiden), tree to 15 m, flow. white, in Oct. 1935; in light woods: ID., 38801 (*type specimen*, in Herb. Canton and Herb. Leiden), bark grey, fruit green, brown glaucous, flow. and fr. in Nov. 1935 — Ts'ing-yuen, in forest: F. C. HOW 74147 (Herb. Canton; Herb. Leiden), tree 7 m, leaves lustrous green, subcoriaceous, flower buds ferruginously tomentose, in Sept. 1936 — Kwangsi, no locality mentioned: R. C. CHING 8277 and 8099 (Herb. Nanking; Herb. Canton), flowers in Oct. 1928.

Remarks: This is the first record of *Madhuca* in China. The localities have been located with the paper by F. A. McCLURE, Outline maps of Kwantung Province, etc. (Lingnan Science Journal **12**, 1933, 367—380). The generic area boundary on the map, published by me in "The Gardens' Bulletin, Straits Settlements" IX, 1935, 109, has therefore to be extended as is shown on *fig. 2.* I avail myself of this opportunity to correct another mistake in that map so as to include New Guinea in the area of *Madhuca.* It moreover shows the number of species known in various parts of the area, with the number of endemics in brackets and the number of species in common in Malaya, Sumatra and Borneo. The total number of species known now amounts to 80.

Concerning the number of carpels, it perfectly fits into the considerations given in my earlier paper, being 6—7. As to the unusual bearing of the calyx, it is the only *Madhuca*-species in which the calyx is not always biseriate (cf. *Diploknema*), unless *Diploknema ramiflora* should be considered a representative of *Madhuca.* It does therefore demonstrate once more the mutual independency of features, as this one is to be considered as a primitive one.

Planchonella PIERRE.

P. pedunculata (HEMSL.) H. J. LAM & D. A. KERPEL, nov. comb. — *Sarcosperma pedunculatum (pedunculata)* HEMSLEY, Journ. Linn. Soc. **26**, 1840, 68 — *Sideroxylon pedunculatum* (HEMSL.) MERR., MS. — *Sarcosperma pedunculatum* HANCE (nomen in schedula). — *Fig. 3.*

In the "Revision of the Sarcospermataceae" published with the collaboration of W. W. VAROSSIEAU (Blumea **3**, 1938, 198), it was suggested that the species would be a representative of *Sideroxylon.* On closer examination, however, it appeared that an insertion into *Planchonella* is more probable, since the seed possess a long and relatively narrow scar. As this species is practically unknown, we are giving here a new description, as complete as the material available affords.

Tree, 9—12 m high, stem about 0.3 m in diam., bark grey to dark grey (f. CHING). *Branchlets* densely foliate, terete, dark brown, about 0.4 cm in diam., the younger parts densely lenticellate. *Stipules* none. *Leaves* alternate, glabrous, more or less shining above, rigid-coriaceous, bright green above, pale below (f. CHING), often greenish when dry, narrowly ovate to ovate-lanceolate, base attenuate, apex tapering into a rather long and narrow but blunt acumen, (5—) 8—9 cm long, 3—4 cm broad, petioles furrowed above, keeled below; midrib prominent below; secondary nerves very slender, (8—) 10—12, slightly curved

towards the margins, ascending at an angle of 50°—70° with the midrib; tertiary nerves almost inconspicuous, in general transverse and perpendicular to the midrib. *Inflorescences* fasciculate, usually inserted along short and ferruginously pubescent axillary shoots, 1—3-florous but often close together, peduncles 1.5—2 cm long, 0.05 cm thick, pedicels 0.3—0.4 cm long, bracts if any minute. *Flowers* hermaphroditic. *Calyx* 5-merous, sepals imbricate and quincuncial, ferruginously pubescent without, glabrous within, deltoid, or subovate, blunt, 0.3 × 0.25 cm. *Corolla* yellowish (f. CHING), tube cylindrical, 0.2—0.25 cm long, 0.125 cm broad, petals 4 (—5), 0.2 × 0.125 cm, oblong-ovate. *Staminodes* 4 (—5), lanceolate, 0.15 cm long. *Stamens* 4(—5), 0.2 cm long, anthers 0.05 × 0.025 cm, sagittate-cordate, dorsifix, extrorse, with bifid apex. Ovary 4(—5)-celled, entirely glabrous, subglobose, 0.125 × 0.1 cm, narrowing into a subulate style, which is 0.25 cm long. *Fruit* (only one examined) 1-seeded, striate, glabrous, ovoid with curved acuminate apex, 2.5 × 1.5 × 0.9 cm, persistent style 1 cm long. *Seed* 1.6 × 0.9 × 0.6 cm, testa very shining, brown, scar narrowly ovate, 1.1 × 0.4 cm, rather rough, dull, greyish brown. *Embryo* unknown.

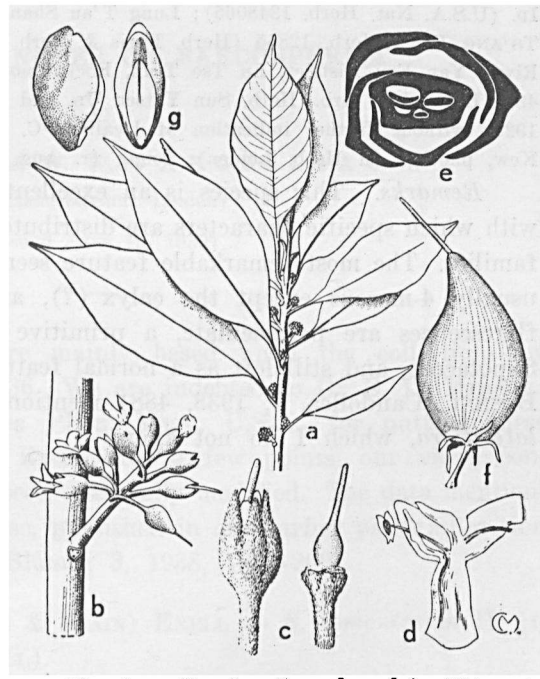

Fig. 3 — *Planchonella pedunculata* (HEMSL.) H. J. LAM & D. A. KERPEL, n. comb. — a. branchlet with very young inflorescences; b. adult inflorescence; c. flower bud and ovary; d. part of corolla within; e. cross-section of calyx and ovary; f. fruit; g. seed, lateral and ventral side. — After WANG (for CHUN) 498.

FRENCH INDO-CHINA, Cochinchina, Giaray: POILANE 2540 (Herb. Paris & Herb. Arn. Arb.), fr. 13. 2. 1921 — Annam, Vinh, Sông Cou, Liu Ca, 390 m alt.: POILANE 16477 (Herb. Arn. Arb.), 27. 7. 1929.

CHINA, Kwangsi, Tia Lian Shan, Luchen N., in wood, alt. 1800 ft.: R. C. CHING 5316 and 5353 (Herb. Arn. Arb. and Herb. Nanking), a tree of dense foliage, 30—40 ft. high, stem 1 ft. in diam., very common in forest, leaves thick, lustrous

green above, pale below, grey bark, flow. yellowish, 25. 5. 1928 — Kwantung, North River Region, Fung Wan, near rocks: To Kang Peng, Ts'ang Wai Tak and Ts'ang Un Kin, C. C. C.-Herb. 12855 (Herb. Arn. Arb.), young fr. 13—18. 7. 1924; Id. (U.S.A. Nat. Herb. 1248065); Lung T'au Shan, Fungwanhui, near rocks: To and Ts'ang, C.C.C.-Herb. 12855 (Herb. Paris & Herb. Lingnan Un.), 14. 7. 1924; West River, Yan Fou District, Lu Tse Tsun, Rocky mountain: Wang (for W. Y. Chun) 498 (Herb. Arn. Arb., Herb. Sun Yatsen Un. and Herb. Leiden), young flow., 24. 1. 1928; without further indication of locality: C. Ford 246 (*Type specimen,* Herb. Kew, photogr. in Herb. Leiden), young fr. Aug. 1887.

Remarks. This species is an excellent example for the complexity with which specific characters are distributed in related genera and even families. The most remarkable feature seems to be that the flowers are usually 4-merous except the calyx (?), and particularly that the inflorescences are pedunculate, a primitive condition, very rare in the Sapotaceae, and still left as a normal feature in the Sarcospermataceae. Baehni (Candollea, 7, 1938, 488) mentions a similar case in *Pouteria lateriflora,* which I do not know.