

NOTES ON SOME ASIATIC SPECIES OF  
MICROTROPIS (CELASTRACEAE)

DING HOU

Among the unnamed material of *Celastraceae* received from the Paris Herbarium for determination, there was one flowering specimen of *Microtropis*, collected by M. Schmid from South Vietnam in 1953. It was difficult to name it to species with certainty. In order to clarify its identity, I received kind help from the Herbaria of Kew and Paris by sending me specimens on loan for comparison. After studying the specimens concerned, I have concluded that the collection of Schmid represents an undescribed species.

In the course of studying the new species and annotating the material of *Celastraceae* received recently by the Rijksherbarium, Leiden, I examined also other specimens of extra-Malesian *Microtropis*. Together with the description of the new species, the results of the observation on those *Microtropis* species may follow here.

I am very grateful to the Directors and Keepers of the following institutions for putting the material at my disposal: Royal Botanic Garden, Edinburgh (E), Royal Botanic Gardens, Kew (K), Rijksherbarium, Leiden (L), and Muséum National d'Histoire Naturelle, Paris (P).

1. *Microtropis apiculata* Ding Hou, *sp. nov.*—Fig. 1 a—i.

Frutex; foliis chartaceis, anguste ellipticis,  $27 \times 7\frac{1}{4}$  cm, apice acuminatis, basi cuneatis, nervis primariis utroque latere c. 20, gracilibus, patentibus, utrinque leviter elevatis, petiolo  $1\frac{1}{4}$ — $1\frac{1}{2}$  cm longo; cymis axillaribus, 3—6-dichotomis; pedunculo 7—17 mm longo, bracteolis triangularibus, c. 1 mm longis, leviter erosis; floribus sessilibus, 5-meris, calycis lobis inaequalibus, subreniformibus vel rotundatis,  $\frac{3}{4}$ — $2\frac{1}{4} \times 1\frac{1}{2}$ — $2\frac{1}{2}$  mm, margine brunneis, irregulariter erosis, petalis oblongis vel oblongo-ovatis,  $2\frac{1}{4} \times \frac{3}{4}$ —1 mm, basi leviter connatis, disco tenui, c.  $\frac{3}{8}$  mm alto, staminibus in margine disci insertis, antheris c.  $\frac{3}{8}$  mm longis, distincte apiculatis, pistillo subcylindrico, c. 2 mm longo, stylo obscuro, stigmatibus 2-lobatis; fructu immaturo, ovoideo,  $1 \times \frac{3}{8}$  cm.

Shrub. Leaves chartaceous, narrow-elliptic,  $27$  by  $7\frac{1}{4}$  cm, apex acuminate, base cuneate; nerves c. 20 pairs, slender, spreading, slightly elevated on both surfaces; petioles  $1\frac{1}{4}$ — $1\frac{1}{2}$  cm. Cymes axillary, 3—6-dichotomously branched; peduncle 7—17 mm; bracteoles 2 or 3 at the base of each flower, triangular, c. 1 mm long, slightly erose. Flowers sessile, 5-merous. Calyx lobes unequal in size, the outer 2 smaller than the 3 inner ones, subreniform or rotundate,  $\frac{3}{4}$ — $2\frac{1}{4}$  by  $1\frac{1}{2}$ — $2\frac{1}{2}$  mm, margin brown and irregularly erose. Petals oblong or oblong-ovate,  $2\frac{1}{4}$  by  $\frac{3}{4}$ —1 mm, slightly united at the base. Disk thin, c.  $\frac{3}{8}$  mm high. Stamens 1— $1\frac{1}{4}$  mm long, inserted on the margin of the disk; anthers c.  $\frac{3}{8}$  mm long, distinctly apiculate. Pistil subcylindric, c. 2 mm long; style obscure; stigma slightly 2-lobed. Fruit (young) ovoid, 1 by  $\frac{3}{8}$  cm.

SOUTH VIETNAM. *M. Schmid*, s.n. (typus, P), April 22, 1953, in forest on granite.

Following the key given by Tardieu-Blot (Suppl. Fl. Gén. I.-C. 1, 1948, p. 797) for the genus *Microtropis*, Schmid's specimen appears to fit *M. petelotii*, but its large leaves, stamens attached on the margin of disk, petals slightly united at the base, and

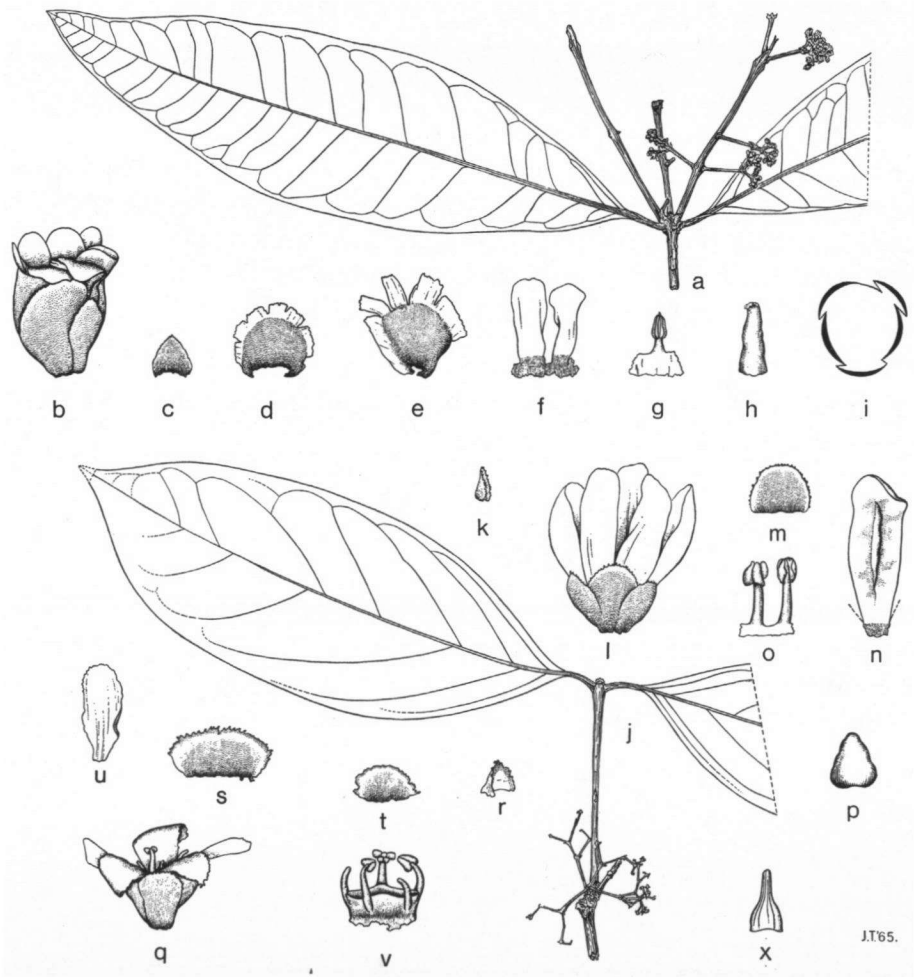


Fig. 1. *Microtropis apiculata* Ding Hou—*a.* Habit,  $\times \frac{1}{2}$ ; *b.* flower,  $\times 5$ ; *c.* bracteole,  $\times 5$ ; *d.* & *e.* calyx lobes,  $\times 5$ ; *f.* petals, inside view,  $\times 5$ ; *g.* stamen with attached disk,  $\times 5$ ; *h.* pistil,  $\times 5$ ; *i.* diagram showing arrangement and proportional size of calyx lobes.—*M. macrophylla* Merr. & Freem.—*j.* Habit,  $\times \frac{1}{2}$ ; *k.* bracteole,  $\times 5$ ; *l.* flower,  $\times 5$ ; *m.* calyx lobe,  $\times 5$ ; *n.* petal, inside view,  $\times 5$ ; *o.* stamens with attached disk,  $\times 5$ ; *p.* pistil,  $\times 5$ .—*M. petelotii* Merr. & Freem.—*q.* flower,  $\times 5$ ; *r.* bracteole,  $\times 5$ ; *s.* & *t.* calyx lobes,  $\times 5$ ; *u.* petals,  $\times 5$ ; *v.* showing stamens attached to the outside of disk,  $\times 5$ ; *x.* pistil,  $\times 5$  (*a*—*i.* *M. Schmid s.n.*, *j*—*p.* *S. M. Toppin s.n.*, *q*—*x.* *Henry 11417*).

distinctly apiculate anthers differ from those of that species (cf. fig. 1 a—i, q—x). In using the key prepared by Merrill and Freeman (Am. Acad. Arts & Sc. 73, 1938, 277—281) this specimen seems to belong to *M. macrophylla* but differs from the type of that species by the following characters: the rather thin leaves with distinct venation, the calyx with its two outer lobes smaller than the three inner ones, the smaller petals with smooth inner surface, the apiculate anthers with the two thecae free only at the lower  $\frac{1}{3}$ , and the subcylindric pistil (cf. fig. 1 a—p).

2. *Microtropis macrophylla* Merr. & Freem. Am. Acad. Arts & Sc. 73 (1938) 299.—Fig. 1 j—p.

BURMA. Kachin Hills, Capt. S. M. Toppin s.n. (typus, K).

The authentic material is so far the only known of this species. Since I had the good fortune to receive it on loan from the Kew Herbarium and there are only two good detached flowers, a drawing was prepared to show the habit and especially the details of the flower.

The important characters of this species are: large leaves (18—23 by  $7\frac{1}{2}$ — $8\frac{1}{2}$  cm) which are coriaceous, slightly rugose, with obscure or invisible veins; calyx with lobes equal in size (this phenomenon is not common in this genus); petals keeled inside (this character is only known also shared by *M. discolor*); and obtuse anthers with the two thecae separated by the filament.

3. *Microtropis petelotii* Merr. & Freem. Am. Acad. Arts & Sc. 73 (1938) 291; Tardieu-Blot, Suppl. Fl. Gén. I.-C. (1948) 797, fig. 97, 1.—Fig. 1 q—x.

VIETNAM (North). Tonkin: Fan Tsi Pan, along the old route of the pass to Lo Qui Ho, near Chapa, alt. c. 1900 m, *Pételot 4428* (young fl.-buds from the isotype, P); route from Lo Qui Ho to Ta Rhinh, forest, c. 1500 m, Chapa, *Pételot 4405* (cited by Tardieu-Blot, l.c., as 4305, fl.-buds, P).

CHINA. Mengtze, forests, 1500 m, tree 6 m, flowers white, *Henry 11417* (K); forests, 1500 m, shrub 1.8 m, *Henry 11491A* (K).

In all the species of *Microtropis* so far known, the stamens are borne or inserted on the edge of the disk. In a few species what may represent the disk is made up entirely of the fused basal portions of the filaments. I was surprised when I first read the description of *M. petelotii* indicating that its disk is short-cupular and the stamens are attached to the outside of the disk. I have some young flower-buds from the type duplicate (*Pételot 4428*) and *Pételot 4405* on loan from the Paris Herbarium. Unfortunately the buds are too young and I am not certain about the attachment of the stamens. Whenever suitable material of this species from that area is available, one should check again this character.

I have also received the two specimens of Henry, collected from Mentze, Yunnan (China), on loan from the Kew Herbarium, which were cited with the original description. One of them, *Henry 11417*, is a very well preserved flowering specimen. I have examined the flowers and the stamens are attached to the outside of the disk (fig. 1, v) as recorded in the original description. Although this kind of stamen-attachment is common in some other genera of *Celastraceae*, e.g. *Maytenus* and *Pleurostylia* (cf. Fl. Mal. I, 6, fig. 2 & 20), it is the only species of *Microtropis* sharing this character.

4. *Microtropis discolor* (Wall.) Wall. Cat. (1830) nr 4337; for basionym, literature and distribution see Fl. Mal. I, 6 (1962) 275.

BURMA. Kachin State: Sumprabum Sub-Division, Keenan, *U Tun Aung & U Tha Hla* 3168, 3265, 3297, 3479, 3752, 3942 (E); Amherst Dist., F. G. Dickason 6889 (L).

INDIA. Assam: near Nokrek, Garo Hills, *Thakur Rup Chand* 2752 (L); Mawryngkneng, Khasi Hill, *Thakur Rup Chand* 5158 (L); Cherrapunjee, W. N. Koelz 29619 (L).

The Burmese specimens collected by Keenan and his associates cited above were found at various altitude between 1200 and 2700 m. It is interesting that the highest elevation recorded for this species in my treatment in the Flora Malesiana is 1260 m. The information from those collections just mentioned extends our knowledge of the occurrence of this species up to as high as 2400—2700 m. All the specimens cited above, except the first one, are homogeneous.

According to the field note, Keenan *et al.* 3168 is a small, scattered tree of 12 m tall, occurring on western slopes in *Rhododendron* moss forest, at 2400—2700 m. It has leaves which are elliptic to broad-elliptic (15—16½ by 7½—11½ cm), rather coriaceous and the upper surface slightly rugose under the binocular similar to that of *M. macrophylla*. This specimen consists of a branchlet and a well preserved, detached fruit. Although there is no difficulty to recognize it as to the genus, I could not name it to species at first glance. I found two deflorate flowers still attached to the branchlet and covered by epiphytic moss. Unfortunately the petals were fallen off. Because of the 4-merous flowers, the stigmata with 4 reflexed lobes, and the rather large, thick leaves, this specimen may represent an ecological form of *M. discolor* or even an undescribed species.

5. *Microtropis crassifolia* Craib in Kew Bull. (1926) 349; Fl. Siam. En. I (1926) 281; Merr. & Freem. Acad. Arts & Sc. 73 (1938) 283.

THAILAND. Sam Roi Yawt, a common tree on limestone rocks, Kerr 11008 (K); Loei, Phu Krading, Tham Saw, small tree 3 m, flowers white, forest, alt. c. 1300 m, T. Smitinand 4997 (L); Khao Khieo, Khao Yai National Park, small tree 3—4 m, scattered in evergreen forest, alt. 1300 m, Smitinand & Sleumer 8330 (L).

This species can be recognized by the elliptic to narrow-elliptic leaves which are rather small (6—9 by 2—3½ cm), coriaceous, slightly rugose under binocular, and with obscure or invisible veins, and by the very short or subsessile inflorescences or infructescences.