

A NOTE ON *CHILOCARPUS MALABARICUS* BEDD. (APOCYNACEAE)

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The genus *Chilocarpus* comprising of about 16-18 species is widely distributed in Burma, Malayasia and Australia and our concept of the various species is still incomplete due to paucity or lack of fruiting samples. During the years 1961-63, one interesting rare species of *Chilocarpus* was repeatedly collected from the outskirts of the evergreen forests in Shimoga District (Mysore State), which on examination proved to be *C. malabaricus* Bedd. On the basis of information obtained from the various Indian herbaria, it is found that ever since Beddome described this species in 1874, based on flowering twigs collected from Malabar and South Kanara in Peninsular India nearly a century ago, this species has not been collected again. After this long lapse, the present collections are the first to be made and more particularly the fruiting specimens, not known even at the time when the species was known to science. From the literature it is obvious that some confusion exists on the correct identity of *C. malabaricus* Bedd. (1874) in relation to *C. atro-viridis* Bl. (1850), a native of Malayan Peninsula. Evidently due to meagre herbarium material and lack of fruiting samples, Hooker (1882), Brandis (1906) and Gamble (1923) have all treated this species as identical to *C. atro-viridis* Bl. and hence included it as a synonym under the latter species. However, King and Gamble (1910) who had a more comprehensive knowledge of the Malayan species of *Chilocarpus* have indicated on the possible distinctness of *C. malabaricus* Bedd. which is now confirmed.

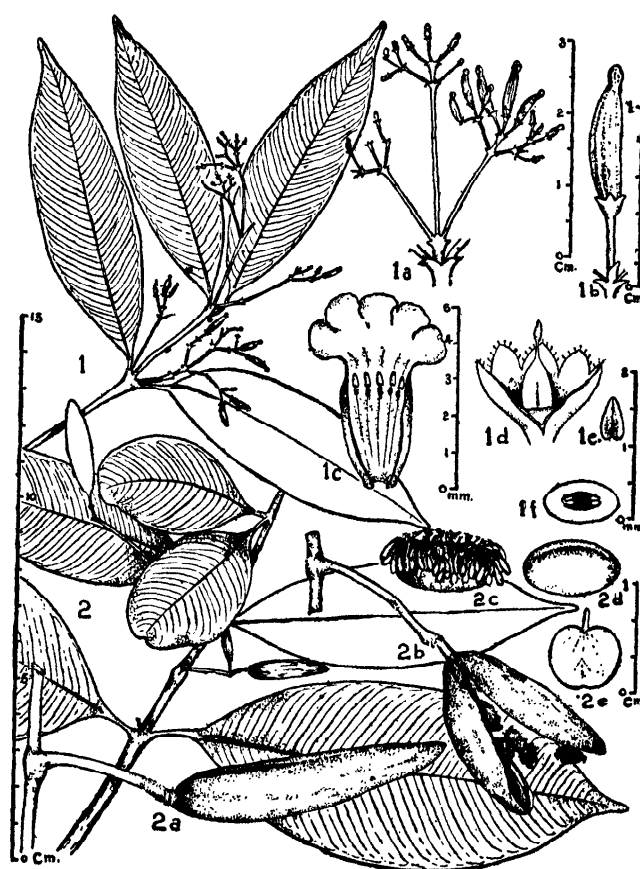
An examination of the photograph of the type of *C. atro-viridis* Bl. (= *Hunteria? atro-viridis* Wall. Cat. No. 1614) and herbarium material particularly of fruiting specimens of both these species together with description of the fruits as given by King & Gamble (1910) and Ridley (1923), clearly establishes the distinctness of *C. malabaricus* Bedd. The present collections agree well with Beddome's specimens from South Kanara and his Icon. No. 175.

***Chilocarpus malabaricus* Bedd.** Icon. Pl. Ind. Or. t. 175, 1874. *C. atro-viridis* Bl. in Hooker f., Fl. Brit. Ind. 3: 626, 1882 *pro parte*; Brandis, Ind. Trees 456, 1906, non Bl.; Gamble, Fl. Pres. Madras 5: 802, 1923, non Bl.

Robust, glabrous, straggler. **Leaves** elliptic, coriaceous glossy with stout petioles. **Inflorescence** dense, compact, much shorter than lamina (Figs. 1, 1a). **Flowers** 9-11 mm long (Fig. 1b), bracteate, creamy. **Fruits** elliptic oblong, 7-9 mm long, dehiscing at

length by two valves (Figs. 2a, 2b), brownish. **Seeds** many, ellipsoid, brown (Fig. 2d); aril shaggy, prominent, orange-yellow, enveloping about three quarters of the seed (Fig. 2c); cotyledons suborbicular, about 7 mm across; radicles slender, 2.5-3 mm long (Fig. 2e).

For a better understanding of *C. malabaricus* when compared to *C. atro-viridis*, the important dis-



Chilocarpus malabaricus Bedd.

Figs. 1-1f. Flowering twig and other details

1. Flowering twig. 1a. Cymule. 1b. An older bud showing constricted corolla tube. 1c. Opened corolla of a younger bud. 1d. Calyx cup opened to show ovary. 1e. Anther. 1f. Cross-section of ovary.

Figs. 2-2e. Fruiting twig and other details

2. Twig with very young fruits. 2a. Fruit before dehiscence. 2b. A dehiscing fruit. 2c. Seed with aril. 2d. Seed with aril removed. 2e. Embryo.

[Drawings from Sundara Raghavan 80670 and 86213 (BSI)]

tinguishing characters of both the species are given below.

Characters of *C. malabaricus* and *C. atro-viridis*.

C. malabaricus

1. Large robust woody climber ascending up to 4.5 m; flowering twigs 2.5 mm or more in thickness.
2. Lamina on drying, thickly coriaceous, rounded at base or gently attenuated, generally 8-13 cm long 3-6 cm broad. (average 12 cm long and 4.8 cm broad); petiole stout, much shorter in young twigs, 6-12 mm long and 1.5 mm or more in thickness.
3. Inflorescence always shorter than leaves, never exceeding half the length of the lamina; secondary and tertiary peduncles shorter than the primary; flowers dense and crowded near apices of inflorescence; pedicels of flowers of ultimate cymules very much shortened, apparently sessile.
4. Flowers creamy yellow ('white' according to Beddome), 9-11 mm long; corolla tube 8-9 mm long, corolla lobes 1-1.5 mm long.
5. Immature and mature fruits elliptic-oblong but never ovoid (Figs. 2, 2a, 2b); mature fruits 7-9 cm long, 1.3-1.6 cm broad.
6. Seeds 12-20 per fruit, brownish, ellipsoid, 10-12 mm long, 5-6 mm broad (Fig. 2d); aril orange yellow, villous, each villus spatulate, covering more than half the seed width.

C. atro-viridis

- Slender climbing shrub flowering twigs less than 2 mm thick, generally even less than 1.5 mm.
- Lamina on drying, chartaceous, sharply attenuate at base, generally 6-10 cm long and 1.5-3 cm broad (average 8 cm long and 2.8 cm broad; occasionally nearly 12 cm long and 4 cm broad); petiole slender, more or less uniform in flowering and fruiting twigs, 9-12 mm long and less than .75 mm in thickness.
- Inflorescence shorter or longer than the leaves (Ridley, 1923) generally exceeding more than half the length of lamina; branching peduncles nearly as long as the primary; flowers lax, comparatively fewer; pedicels distinct even in flowers in ultimate cymules.
- Flowers deep yellow, corolla tube 2.5-4 mm long, corolla lobes 2.5 mm long.
- Immature fruits distinctly ovoid; mature fruits ovoid about 4.5 cm long and 2.5-3.2 cm broad.
- Seeds numerous, black, oblate-globose, 9 mm long, 8 mm broad; aril consisting of yellow angular corky masses and a tuft of minute net like fibres covering a third of seed width.

(Details of mature flowers, fruits and seeds as given by King & Gamble).

The flower buds of *Chilocarpus malabaricus* Bedd. vary from 4-11 mm depending on the particular stage of development but the corolla is always constricted. In the young buds the corolla is constricted in the middle, the corolla tube almost equalling the corolla lobes (Fig. 1c). Later, there is a rapid elongation of the corolla tube with the result that in an older bud, the corolla tube (8-9 mm long) looks considerably longer than the corolla lobes (1-1.5 mm). The very short filaments (anthers are

almost sessile) and the style look obsolete in relation to flower size especially when examined after the elongation of the corolla tube (Figs. 1c, 1d, 1e). It is apparent that Beddome's reference to the South Kanara specimens having larger flowers with obsolete style and filaments was due to his examination of flower buds in the various stages of development which is substantiated by present detailed field observations.

Specimens examined: (1) *Chilocarpus malabaricus* Bedd.

MYSORE STATE: South Kanara District. No precise locality, *Beddome* s.n. (31363, 31364 MH). Shimoga District. Min-hole in Agumbe, *Sundara Raghavan* 69499 (BSI); Malandur in Agumbe, *Sundara Raghavan* 69485 (BSI); Kammardy near Agumbe, *Sundara Raghavan* 80670 (BSI); Begar village, 9 km from Agumbe on Agumbe-Koppa route, *Sundara Raghavan* 83299 (BSI); Gubbiga near Yedur, *Sundara Raghavan* 86213 (BSI).

(2) *Chilocarpus atro-viridis* Bl.

BURMA: Tenasserim, *A. Meebold* 14440 (CAL); MALAYASIA Perak, *King's collector* 6303, 8317 (CAL); *Scortechini* 321 (CAL).

Distribution: Even though the collections are confined to limited areas along the Western Ghats, this species may be regarded for the present as endemic along the slopes of Western Ghats.

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