

THE STATUS AND AFFINITIES OF *CLERODENDRUM MACROSTACHYUM* TURCZ. (VERBENACEAE)

Turczaninow (1863) described *Clerodendrum macrostachyum* as a new species based on material collected by Thomas Lobb in [?] Singapore. Clarke (1885) recorded it for India based on *Clerodendron* n. 34, *Herb. Ind. Or. H. f. & T.*, Verbenaceae, Wall. Cat. 6316 and material collected by Wallich, J. D. Hooker & T. Thomson above Chela in the Khasia hills, as well as his own collection from Upper Kala Pani. Besides, he also cited the collection of Parish and Lobb from Moulmein in Burma. Based on Clarke (*l.c.*) it was dealt with by Brandis (1906) underscoring its occurrence on limestone rocks both on the Khasia hills in India and Tenasserim in Burma. Kanjilal *et al.* (1939) too depended only on Clarke (*l.c.*) but emphasized that it is an imperfectly known species and that there is no specimen at the Forest Herbarium. After Kanjilal *et al.* (*l.c.*) in no Indian flora/work has this species been taken up.

When the materials in Indian herbaria were studied for a revision of the genus *Clerodendrum* L., as part of the Indian Verbenaceae, absence of a specimen of this species from any herbarium came to light, proving that it has never been collected in India after Clarke, before 1885. This in turn may show that this species is extremely rare in India. The causal factors / reasons for the rarity are not known at present. However, factors such as remoteness and consequent inaccessibility of the localities, disturbed / destroyed habitat and the plant being uncommon due to biological factors, inherent or otherwise, deserve due consideration.

The habitat preference of the plant, 'limestone rocks', both in India and Burma might serve as a lead for an indomitable field botanist to hunt for the plant and rediscover it. A detailed description and a figure provided here might be of further assistance.

***Clerodendrum macrostachyum* Turcz.** in Bull. Soc. Imp. Naturalistes Moscou 36 : 220. 1863 (as '*Clerodendron*'); C.B. Clarke in Hook. f., Fl. Brit. India 4 : 591. 1885 (as

'*Clerodendron*'); Brandis, Indian Trees 508. 1906 (as '*Clerodendron*'); Lace, List Trees etc. Burma ed. 2, 132. 1922 (as '*Clerodendron*'); Kanj. *et al.*, Fl. Assam 3: 492. 1939 (as '*Clerodendron*'); Mold. in Phytologia Mem. 2 : 539. 1980; in Phytologia 62 : 134. 1987. Type : [?] Singapore, Lobb 361 (K, MH photo!) Fig. 1). *Clerodendrum subscaposum* Hemsley in Hooker's Icon. Pl. 27 : t. 2675. 1900 (as '*Clerodendron*'); Chung in Mem. Sci. Soc. China 1 : 228. 1924 (as '*Clerodendron*'); P'ei in Mem. Sci. Soc. China 4 : 128. t. 24. 1932 (as '*Clerodendron*'); Mold. in Phytologia 62 : 134. 1987, in syn. Type : China, Yunnan, mountains southeast of Mengtze, 7000', A. Henry 9181 (N, n.v.) *l.c.* (Moldenke, 1987: 136).

Herb. tender, 1-2 m high; branches slender, 4-angular or subterete, stramineous, scabrous. Leaves decussate-opposite, ovate or cordate-ovate, deeply cordate at base, unevenly and distantly crenate-dentate, to closely and pronouncedly dentate (in Indian material) along margins, acute at apex, 5-19 × 3-17 cm, membranous, dark green and scabrous above, paler beneath, sparsely pubescent on nerves on both surfaces; lateral nerves 4-8 pairs, distinct beneath; petioles cylindric, up to 16 cm long. Panicles terminal, composed of 6-18 decussate-opposite 1-3-flowered remote cymes, up to 30 cm long, pubescent, minutely glandular or glabrous; peduncles 4-5 cm long, 4-angular, sulcate between angles; bracts ovate or oblong, acuminate at apex, ca 0.6 mm long; pedicels filiform, 1-1.5 cm long. Calyx cupular, ca 3 × 2 mm, shallowly 5-toothed, glabrous or minutely pubescent with red glands outside. Corolla subinfundibular, pale blue or purple, glabrous, delicate; lobes obovate or ovate-oblong, obtuse, ca 8 mm long; tube slender, ampliate towards apex, ca 8 mm long. Stamens 4, didynamous; filaments slender, glabrous, ca 2.5 cm long, exserted. Ovary 2-or imperfectly 4-lobed with red glands; style slender; stigma 2-lobed;

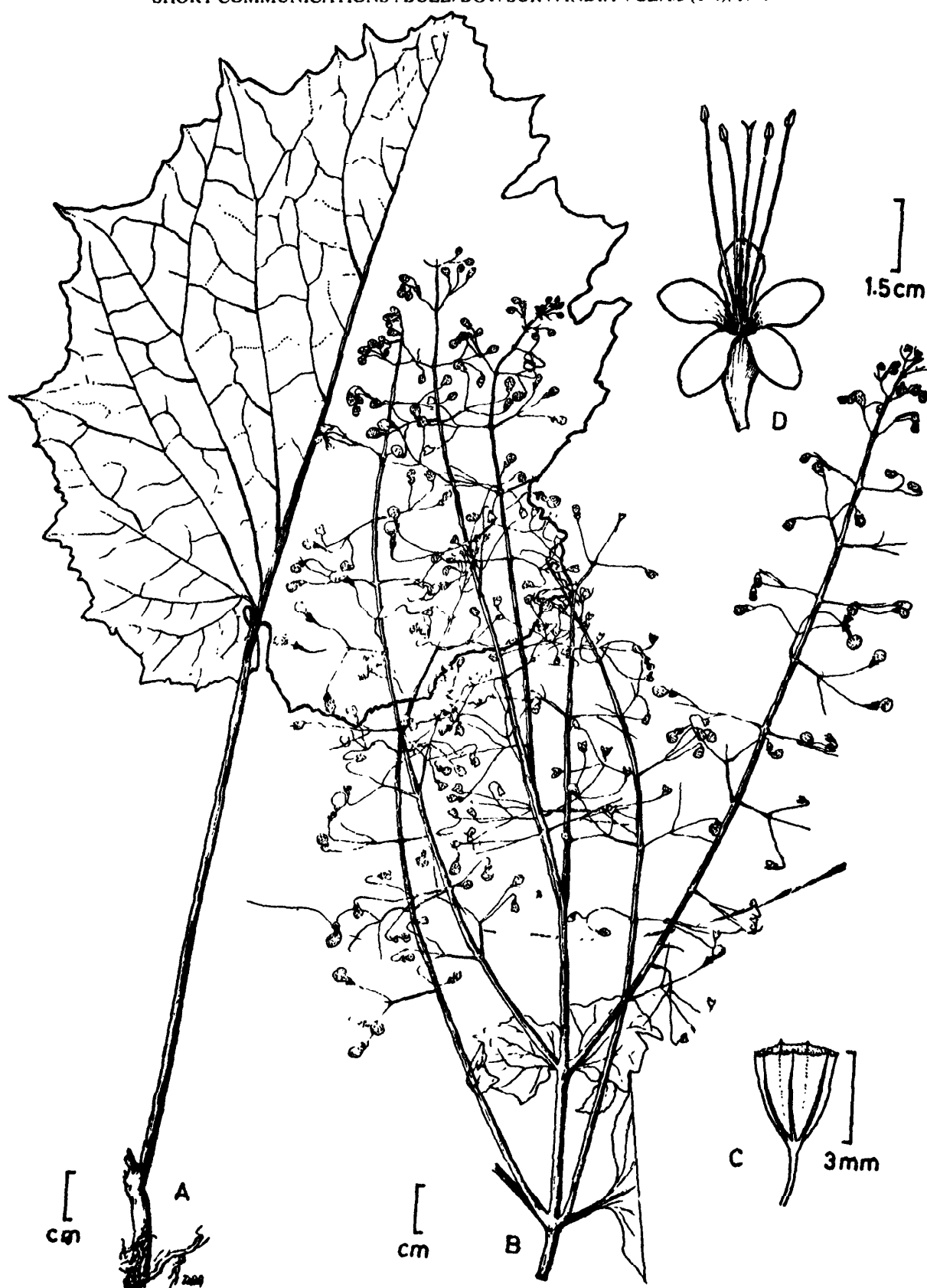


Fig. 1.A-D : *Clerodendrum macrostachyum* Turcz. [A. J.D. Hooker & T. Thomson 2213 (K); B-D, J.D. Hooker & T. Thomson s.n. (K)]. A. Habit; B. Inflorescence; C. Calyx; D. Corolla, stamens & style.

lobes linear, subequal. Drupes obovoid, ca 2 mm long, covered with red glands, dividing into 4 pyrenes; fruiting calyx slightly inflated.

Fl. : Sept. *Fr.* : [not known].

Habitat : Occurs on limestone rocks.

Distribution : India : Meghalaya. Burma, China, Malaya [Singapore] and Vietnam (Moldenke, 1987). Moldenke's inclusion of Singapore seems untenable as Keng (1990) has not included it in his flora.

Comments : Moldenke (1987 : 135) stated, "The subterminal style, subverticillate inflorescence ramifications and other unusual characters lead me to wonder if this species may not actually belong in the Lamiaceae".

Examination of the specimens at our disposal shows that the style which is terminal with a 2-fid stigma is characteristic of a *Clerodendrum*. The cymes are opposite and not verticillate. The "other unusual characters" referred to by Moldenke (*l.c.*) are not clear. It may be added that none of the specimens at K was seen by Moldenke (1987 : 136, *vide Citations*).

In the presence of an evenly 5-toothed calyx, long-tubed corolla with 5 equally spreading lobes at the top without differentiation into 2 lips, much-exserted stamens and style this species certainly is a *Clerodendrum*. Hence, its belonging in the Lamiaceae may be safely discounted.

As stated by Clarke (1885) the Moulmein (Burma) material has smaller, less toothed leaves and has more pubescence and glands than the Chela [India] plants. Clarke (*l.c.*) observed that *C. macrostachyum* is not allied to any other *Clerodendrum*. Among the 23 species of *Clerodendrum* in India (Rajendran & Daniel, unpublished) *C. macrostachyum* seems to be allied to *C. wallichii* Merr. (= *C. nutans* Wallich ex D. Don, non Jack 1820) in the inflorescence being a terminal elongate panicle with distantly arranged cymes even though it differs from the latter in habit, shape of the leaf, presence of red glands on the calyx and colour of the corolla.

Since none of the specimens at our disposal was in fruit, the description of the drupe is based on that of Clarke (1885). It appears that after Clarke (*l.c.*) nowhere has it been collected in fruits as may be evident from the consolidated account of Moldenke (1987), wherein too, the description of the drupe is based only on that of Clarke (*l.c.*).

Specimens examined : INDIA : Meghalaya, Khasia, above Chela, on limestone rocks, 4.9.1850, J. D. Hooker & T. Thomson 2213 (K 2 specimens!, MH photo !); Khasia, without precise locality and date, J. D. Hooker & T. Thomson s.n. (K !, MH photo !). BURMA : Moulmein, 1837, Parish s.n. (K!, MH photo !); Moulmein, 1862, Parish No. 5 (K !, MH photo !); Moolmein, Lobb No. 361 (K, MH photo !, Type). Without locality, Wallich, Numer. List No. (6316 (K, CAL, MH microfiche!).

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A. RAJENDRAN AND P. DANIEL
Botanical Survey of India, Coimbatore

REFERENCES

- KENG, H. The concise Flora of Singapore. Univ. Press, Singapore. 1990.
MOLDENKE, H. N. Additional notes on the genus *Clerodendrum* (Verbenaceae). XXXII. *Phytologia* 62 126-153. 1987.