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A NOTE ON THE SPECIES OF *VITEX* L. (VERBENACEAE) ENDEMIC TO THE ANDAMANS

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ABSTRACT

Vitex diversifolia Kurz ex C.B. Clarke and *V. wimberleyi* Kurz are endemic to the Andaman Islands. They are rare and confined to only certain localities on these Islands. Detailed descriptions and illustrations are provided. Their present status is discussed. Both the names are typified.

Material of *Vitex* L., in Indian herbaria was studied for a taxonomic revision as part of the revision of the Indian Verbenaceae. It is found that *Vitex diversifolia* Kurz ex C.B. Clarke and *V. wimberleyi* Kurz are the only endemic species. They are confined to the Andamans and rare. Descriptions provided in existing floras are inadequate and these two species have never been illustrated. Hence, detailed descriptions and illustrations are provided for both. Status of these species is discussed and measures are suggested to conserve them.

Vitex diversifolia Kurz [Rep. Veg. Andaman Isl. 45 & 75. 1870, *nom. nud.*] ex C.B. Clarke in Hook. f., Fl. Brit. India 4 : 585. 1885; Gamble, Man. Indian Timb. ed. 2, 539. 1902; Brandis, Indian Trees 504. 1906; C.E. Parkinson, Forest Fl. Andaman Isl. 221. 1923; Bor, Man. Indian Forest Bot. 306. 1953. Mold. in Phytologia 5 : 321. 1955 & Phytologia Mem. 2 : 589. 1980; M.K.V. Rao in J. Econ. Tax. Bot. 8 : 139. 1986. *Type* : Clarke in the protologue stated, "Andaman Island; Kurz". Kurz's herbarium and types are at CAL (Stafleu & Cowan, 1979 : 708). There is a specimen at CAL collected by Kurz in the Andaman Islands which is without a number or date (Acc. No. 348930). Clarke during his superintendence of the Calcutta Botanic Garden could have studied this specimen. But in the absence of his annotation on the sheet this is unlikely to be original material.

There is a sheet at K with four specimens collected by Kurz in South Andaman and annotated by Clarke. The one at the right hand corner at the top, which conforms to be protologue more than the rest, is selected here as lectotype.

Tree, 10-12 m high ; bark ashy brown; branches and branchlets subterete or terete, glabrous ; internodes 2-6.5 cm long. Leaves 3-5-foliolate, or sometimes simple ; petioles slender, canaliculate, 4-5 cm long, pubescent ; leaflets elliptic or elliptic-lanceolate to oblong, obtuse to cuneate at base, entire along margins, acuminate at apex ; middle leaflets 8-12 × 2.5-5.5 cm ; lateral leaflets 5-6.5 × 2-2.5 cm; subcoriaceous or chartaceous, dark or pale green, glabrous on both surfaces ; lateral nerves 8-10-pairs, ascending, arcuate at margins, obscure above, distinct beneath ; petiolules 0.3-1 cm long. Panicles terminal and supra-axillary, compound, 8.5-15 × 6-10 cm, pubescent ; peduncles subterete or obtusely 4-angular, sulcate between angles, 3-6.5 cm long, sparsely pubescent ; bracts linear-lanceolate, *ca* 1.5 × 0.6 cm, pubescent. Flowers subsessile. Calyx campanulate, minutely 5-toothed, *ca* 5 × 4 mm ; teeth bright green with pink tinge, ciliate along margins, pubescent outside. Corolla infundibular, 2-lipped, 5-lobed; upper lip 2-lobed ; lobes ovate, acute, *ca* 4 × 3 mm; lower lip 3-lobed ; midlobe obovate, *ca* 5 × 4 mm; lateral lobes ovate, *ca* 3 × 2 mm. Stamens 4, didynamous filaments filiform, hairy at base; anthers globose, black. Ovary

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Fig. 1 : *Vitex diversifolia* Kurz ex C.B. Clarke. A. Habit, B. Calyx; C. Corolla.

globose; style slender, glabrous ; stigma 2-lobed ; lobes equal, acute. Drupes globose, *ca* 8 mm, black, glabrous, slightly depressed (Fig. 1 A-C).

Fl. & *Fr.* : May-November.

Habitat : Usually in open places and along streams, but not common (Parkinson, 1923: 221).

Distribution : Middle and South Andamans.

Notes : *Vitex diversifolia* is attributed to Kurz (1870) in literature. On p. 45 all that Kurz said is *Vitex diversifolia* Kurz - Steep hill sides along the northern coast of Port Blair from South Point to Flat Shallows, rather frequent. And on p. 75 what amounts to a diagnosis given by Kurz is total height of the plant, height of clear stem, girth and locality. As this does not constitute a diagnosis (Art. 32. 2), the name *V. diversifolia* was not validly published by Kurz. Clarke (1885) only validly published it by providing a description.

Parkinson (1923) recorded its occurrence in Middle Andaman (Mt. Baker, Ronghat Bay and Bomlungta) and South Andaman (in several localities). There are 9 collections of this species in Indian herbaria ; the fourth one was made in 1913 by Parkinson. The rest have been made after the establishment of the Botanical Survey at Port Blair in 1972. All the later collections are from South Andaman. It appears not to have been collected in Middle Andaman after Parkinson (vide Specimens examined). As this species seems to be rare, further explorations are necessary particularly in Middle Andaman to establish the causes of rarity and take up conservation measures if need be.

Specimens examined : ANDAMAN ISLAND : Port Mount, hill jungle, 20.1.1891, *King s.n.* (Acc. No. 348920) ; without precise locality, 6.2.1899, *Prains's collector s.n.* (Acc. No. 348926) (CAL); Ronghat Bay, July 1913, *C.E. Parkinson* 186; Dundas Point, Island forests, 26.5.76, *A.K. Sadasivan* 3758; Port Mount, hill jungle, 30.7.1976, *N. Bhargava & N.G. Nair* 4261; Baratang Island, Jarawa Creek, 16.7.1977, *N. Bhargava* 5910 ; Havelock Island, near jetty, 3.8.1977, *R.K. Premanath* 5995; Viper Islands, 29.7.1978, *P. Basu* 6681 (CAL, PBL).

Vitex wimberleyi Kurz, Forest Fl. Burma 2: 270. 1877; C.B. Clarke in Hook.f., Fl. Brit. India 4: 586. 1885; Balakr. in Bull. Bot. Surv. India 19: 138. 1979 (as *"wimberleyii"*); Mold. in phytologia Mem. 2: 595. 1980; Balakr. & M.K.V. Rao in Jain & R.R. Rao, Assessm. Threat. Pl. India 193. 1983 (as *"wimberleyii"*); M.K.V. Rao in J. Econ. Tax. Bot. 8: 139. 1986. *Type*: Kurz (*l.c.*) in the protologue stated that it occurs in tropical forests of the Andaman but did not cite any specimen. There are only two collections of this species in Indian herbaria made by Prain in the Little Cocos Island and Heinig in South Andaman. In the absence of a collection by kurz at CAL, K or L (Stafleu & Cowan, 1979 : 708) and a reference to Little Cocos Island by Kurz in the protologue the specimen of Heinig at DD is designated as neotype.

Tree, small, evergreen ; young parts pubescent. Leaves 3-5-foliolate ; petioles slender, canaliculate, 7-9 cm long, sparsely pubescent ; leaflets elliptic-oblong to lanceolate, acute or cuneate at base, coarsely crenate-serrate along margins, acuminate at apex, 5-12 × 2-3.5 cm, subcoriaceous or chartaceous, glabrous, glossy on both surfaces ; lateral nerves 4-6 pairs. Panicles terminal, up to 15 cm long, densely pubescent ; bracts deciduous, foliaceous, elliptic-lanceolate, *ca* 6 × 3 mm, pubescent. Flowers small, sessile or subsessile, minutely pubescent. Calyx cupular, *ca* 3 × 3 mm, subentire or minutely toothed, densely pubescent. Corolla infundibular, 5-lobed ; lobes ovate, acute or obtuse, *ca* 3 × 2 mm ; tube narrow, *ca* 4 × 3 mm. Stamens 4, didynamous ; filaments filiform, *ca* 5 mm long, exserted, glabrous. Fruit not seen. (Fig. 2).

Fl. : March. Rainy season (Kurz, *l.c.*).

Habitat : In tropical forests.

Distribution : Little Cocos Island (Burma) and South Andaman.

Notes : The enumerations of Balakrishnan (1979), Balakrishnan and Vasudeva Rao (1983), and Vasudeva Rao (1986) were based on literature. The present study brought to light the existence of

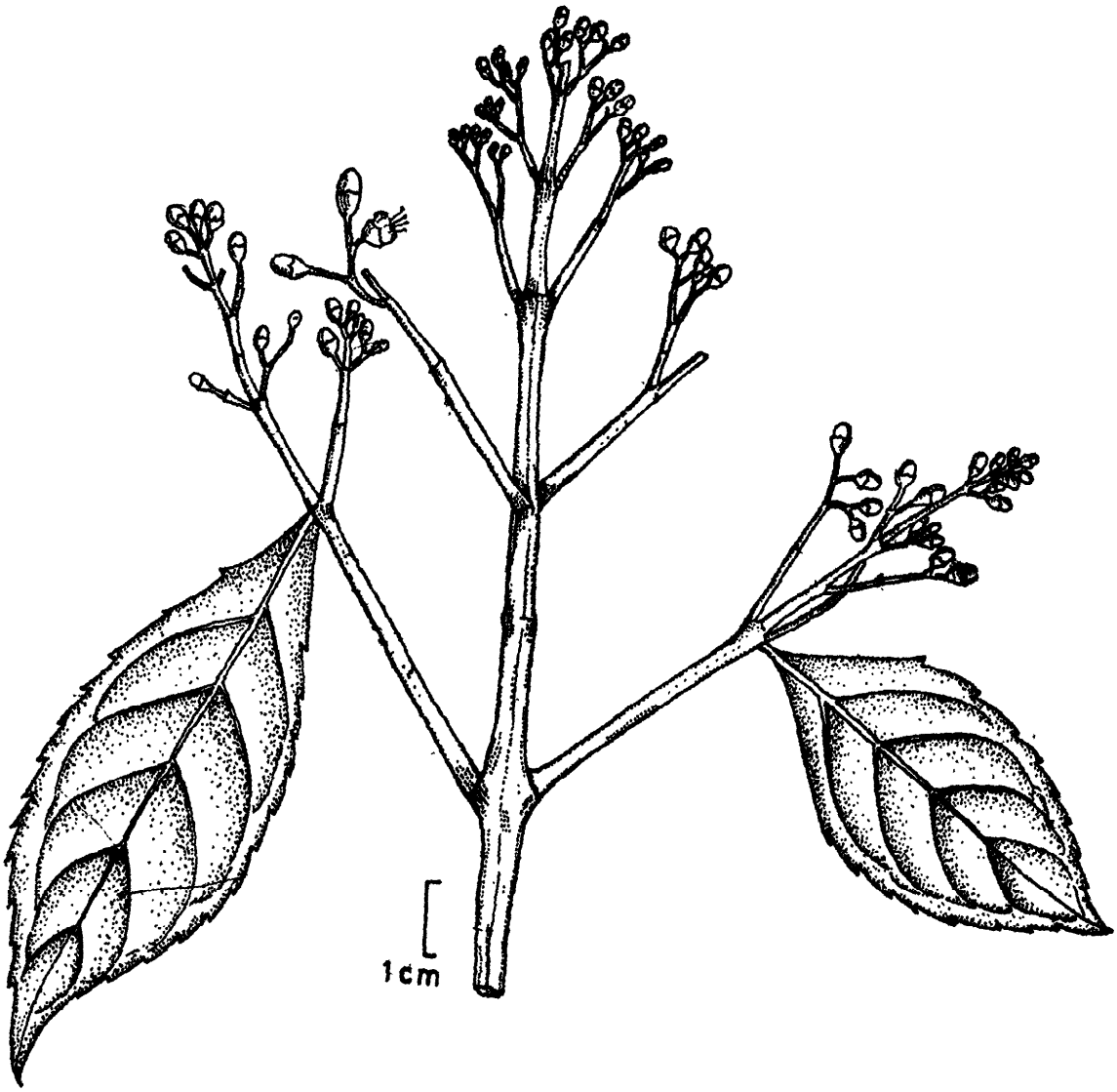


Fig. 2 : *Vitex wimberleyi* Kurz. Habit.

two collections, both made at the end of the last century. The one by Prain (CAL) is from Little Cocos Island, now in Burma. The other one by Heinig (DD) collected in 1898 is from South Andaman. Both the specimens are in flowers. In the field notes Prain refers to East Coast in South Andaman implying perhaps it is a coastal plant. As this species has not been re-collected after 1898 in the Andamans, it calls for intensive explorations to locate this plant and prove its existence.

Specimens examined : ANDAMAN ISLANDS: Little Cocos Island, 1890, *Prain, s.n.* (Acc. No. 349027) (CAL); South Andaman, East Coast, March 1898, *R.L. Heinig s.n.* (DD, neotype).

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REFERENCES

BALAKRISHNAN, N. P. Recent botanical studies in Andaman and Nicobar Islands. *Bull. Bot. Surv. India* 19 132-138. 1979.

——AND M. K. VASUDEVA RAO. The dwindling plant species of Andaman and Nicobar Islands. In: S.K. Jain & R.R. Rao ed. An assessment of threatened plants of India. 186-201. Botanical Survey of India, Howrah. 1983.

PARKINSON, C. E. A forest flora of the Andaman Islands. Govt. Central Press, Simla. 1923.

STAFLEU, F.A. AND R.S. COWAN. Taxonomic literature. ed. 2. Vol. II. H-Le. *Regnum Veg.* 98 : 1-991. 1979.

VASUDEVA RAO, M. K. A preliminary report on the angiosperms of the Andaman and Nicobar Islands. *Journ. Econ. Tax. Bot.* 8: 107-184. 1986.