

WHAT IS *KANJARUM PALGHATENSE* RAMAM. (ACANTHACEAE)?

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A B S T R A C T

The long established *Kanjarum palghatense* Ramam. is now proved that it is nothing but the less known *Strobilanthes dupeni* Bedd. ex C. B. Clarke. It is redescribed, illustrated and its critical status reviewed.

I N T R O D U C T I O N

Strobilanthes dupeni was validly published by Clarke (1884) based on a Beddome's manuscript name. Beddome had collected material of this plant at the top of the Neliampatti Ghat, Anamalais in 1881. Clarke (*l.c.*) diagnosed the species as "leaves subcordate-ovate, acuminate at tip, bristly pubescent on both surfaces; spikes oblong, dense viscous, slightly hairy; bracts 4-ranked, closely imbricate, large, ovate, adnate at base, obtuse at tip; bracteoles small, lanceolate; calyx 1/2 in., deeply 5-lobed; linear acumination of the segments longer than the short elliptic scarious base; corolla large, blue; capsule 4-seeded; seeds areolate, hairy". Gamble (1924) included it based on the earlier Beddome collection. He described the species as a very little known shrub with well-marked bracts and blue flowers.

Having been not reported thereafter Khan & al. (1996) made a detailed description of *S. dupeni* after its rediscovery in Wynad and Idukki. However, they failed to elaborate certain discrepancies in the description and key given by earlier workers. Clarke (*l.c.*) described bracteoles as very small and lanceolate. Gamble (*l.c.*), on the contrary, overlooked their presence and placed this species along with *S. sessilis* in a group where bracteoles are absent. Bracteoles, in fact, are present and are small, slender, terete, subequal, with one having a gland and the other eglandular and slightly curved inwards. Another discrepancy is that Khan & al. (*l.c.*) described calyx lobes as almost glabrous. Their illustration shows multicellular hairs sparsely scattered on all five lobes

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(Fig. 1D). Neither Clarke nor had Gamble said anything about the hairy calyx lobes leaving one to assume that it is glabrous. A good number of specimens now examined possess hairs which are multicellular and are confined to the two anterior calyx lobes on the midvein outside only while the other three are glabrous. This is one of the important characters that distinguishes *S. dupeni* from the other South Indian species and the figure by Khan & al. (*l.c.*) fails to reflect this. Besides, calyx lobes grow in size, turn subequal and caudate in which the capsule is included. Capsule walls are apparently thin. None of the specimens examined had mature seeds. Clarke (*l.c.*) described seeds with a large areole and hairy at the margins. Khan & al. (*l.c.*) described them as hairy and not the areole. *Strobilanthes dupeni* was thought to be confined to Wynad, Idukki and Palghat in Kerala and was presumed to be a narrow endemic and critically endangered so much so suggestions were made for intensive searches for rediscovery (Vajravelu, 1990a).

Ramamurthy (1971) described a unispecific new genus *Kanjarum palghatense* based on material collected in Kanjarumpuzha submergible area, Palghat district, with the purported affinity to unispecific *Carvia* Bremek. in having large bracts and from the absence of bracteoles. He also stated that it resembles *Nilgirianthus* Bremek. in having included stamens and the filaments of the outer stamens hirtellous. He distinguished it from *Carvia* in (i) the short shoot by which inflorescence is produced is of greater length (ii) flattened spikes have lateral bracts folded and apparently sterile (iii) bracts having greater number of lateral nerves and the palmately spreading nerves are absent from its base (iv) calyx lobes are narrower and (v) corolla lobes are smaller and white. Certain important characters of his new genus were not included by Ramamurthy (*l.c.*) to distinguish it from the reportedly allied *Carvia callosa*. In *C. callosa* the bracts are orbicular and not adnate to the main axis; bracteoles are absent; calyx lobes are divided to the base, softly glandular-hairy in fruit and long staminal filaments are hairy and short ones glabrous. In these characters it differs significantly from *K. palghatense*. Moreover, the greater differences exhibited by *K. palghatense* in the leaves of flowering shoots which are pandurate, cuspidate with winged petioles, venation pattern in bracts and the two anterior calyx lobes which are sparsely hairy only on the midvein among the five lobes make it far more distinctive than allied to *Carvia*.

While revising the genus *Strobilanthes* Blume for the flora of India, it became necessary to look for a species truly allied to *K. palghatense* particularly after the rediscovery of *S. dupeni*. Critical examination of the types and copious material of *K. palghatense* and *S. dupeni* shows

that the former is conspecific with the latter. There are certain discrepancies in the description and illustration by Ramamurthy (*l.c.*). Not all the calyx lobes have multicellular hairs. Only the two anterior ones as in *S. dupeni* (Figs. 4 & 5) have. Stamens are didynamous and the difference in height between the long and the short ones is much more than what is shown in the figure (Fig. 3). The filaments of all the four stamens and the staminal sheath are hirtellous and not the outer ones alone. Furthermore, bracteoles are reportedly absent from *K. palghatense* which is incorrect. All specimens examined have two small linear and curved bracteoles. These results confirm its conspecificity with *S. dupeni*. No specimen determined as *K. palghatense* at MH has mature seeds. Ramamurthy (*l.c.*) too did not describe the capsule and seed while Vajravelu (1990b) never stated anything about them but Sasidharan & Sivarajan (1996) clarified that they had not seen capsules and seeds. Though there is fruit setting, seeds do not seem to develop in many plants. Clarke (*l.c.*) described capsules of *S. dupeni*, based on type, as 1/3 in. long, ellipsoid, sessile, glabrous with 4 hairy seeds. Khan & al. (*l.c.*) described both capsules and seeds after its rediscovery.

Bremekamp (1944) who divided the genus *Strobilanthes* into 54 segregate genera under 27 groups used, among various characters, the differences in the structure of the pollen grains and the testa of the seed. Though Ramamurthy (*l.c.*) studied the pollen in *K. palghatense* he never related it to that of the purportedly allied genus *Carvia* Bremek. Bremekamp (*l.c.*) did not assign *S. dupeni* to any of his new genera. Though collected by many (vide Specimens examined) but never outside Kerala, it was invariably determined as *K. palghatense*. In spite of the presence of good collections of *Kanjarum palghatense* no one ever suspected that it could be another name for *S. dupeni* including Vajravelu (1990a & 1990b) who pleaded for its intensive searches though had also collected it in Palghat and determined it as *K. palghatense*. Having been based perhaps partly on the 'valuable opinion' of Bremekamp, who had a great reputation at that time, on the material, appears to have carried a certain amount of authenticity that prevented an inquisitive taxonomist from subjecting the material to criticality and enabled the name *K. palghatense* to get entrenched in literature. Absence of an authenticated specimen of *Strobilanthes dupeni* from any Indian herbarium including MH could have been another reason. In the present investigation, a number of specimens of *Kanjarum palghatense* including the types were studied and it is found identical with *S. dupeni*. With the now confirmed conspecificity, the distribution of *S. dupeni* extends to Idukki, Trichur and Wynad districts besides Palghat in Kerala. Field notes in all the

collections say it is extremely common in the areas collected. Its designation as “critically endangered” by Vajravelu (1990) needs correction.

Strobilanthes dupeni Bedd. ex C.B. Clarke in Hook. f., Fl. Brit. India 4: 453. 1884; Gamble, Fl. Madras: 1043. 1924; A.N. Henry & al. in J. Bombay Nat. Hist. Soc. 75: 693. 1979; Ahmedul. & M.P. Nayar, Endem. Pl. Indian Region: 153. 1987; Vajr. in M.P. Nayar & Sastry, Red Data Book of Indian Pl. 3: 6. 1990. Type : (Kerala, Palghat) Anamalais, top of Nelliampatti ghat, January, 1881, *Beddome* 212 (BM!). (Fig. 1 & Photo A). *Kanjarum palghatense* Ramam. in Bull. Bot. Surv. Ind. 13: 153, ff. 1 - 7. 1971; Ahmedul. & M.P. Nayar, Endem. Pl. Indian Region: 149. 1987; Vajr., Fl. Palghat: 354. 1990; Sasidh. & Sivar., Fl. Thrissur: 343. 1996; M.P. Nayar, Hot Spots Endem. Pl. India: 205. 1996. Type : Kerala, Palghat, *Kanjarumpuzha* submergible area, 27.10.1964, *K.M. Sebastine* 22312A (CAL holotype); 22312B - 22312F (CAL, MH isotypes!). (Photo B).

Shrubs, 2 - 4 m high; stems erect, subcylindric, nearly glabrous. Leaves simple, opposite, subpeltate, broadly ovate, cordate to auriculate at base, crenate at margin, cuspidate-acuminate at apex, ca 15 x 11 cm, lineolate, sometimes faintly rugose, bristly-pubescent on both surfaces; secondary nerves 7 - 10 pairs; petioles c. 6 cm long, sulcate, hairy; leaves of flowering shoots pandurate, auriculate at base, crenate at margin, cuspidate-acuminate at apex, pilose on both surfaces. Inflorescences terminal and lateral spikes on short peduncles with a pair or two of strongly reduced leaves in middle of peduncle; spikes c. 5 cm long, subtetragonous-oblong, dense-viscous; lower bracts on peduncle obovate-elliptic, c. 1.5 cm, auriculate at base, entire at margin, obtuse or retuse at apex; secondary nerves 7 or 8 pairs; bracts 4-ranked, imbricate, ovate-elliptic, cordate and adnate at base, entire at margin, large, obtuse or retuse at apex, membranous, venose, very sticky, coloured; some lateral bracts sterile; secondary nerves 6 or 7 pairs, c. 1.6 x 0.5 cm; bracteoles subequal, cylindric, c. 4 mm and 3 mm long, pubescent; longer bracteole with a gland in adaxial face. Calyx c. 8 mm long, deeply 5-lobed; lobes linear-lanceolate with a midvein, equal in flower, acute with a linear green acumination of longer than elliptic scarious base, glabrous except for white multicellular scattered hairs on midvein in two anterior lobes outside, accrescent and turn subequal, c. 1.5 cm long in fruit. Corolla shortly-cylindric ventricose, c. 2 cm long, cylindric portion slightly bent; tube c. 2.5 mm long; ventricose portion c. 1.8 cm long, white-hairy near mouth inside, glabrous outside, white, yellow or blue; lobes rounded or



Photo A
Strobilanthes dupeni Bedd. ex C. B. Clarke
R. H. Beddome 212 (Type BM)



Photo B
Kanjarum palghatense Ramam.
K. M. Sebastine 22312D (Isotype MH)

ovate. Stamens 4, monodelphous, united by pairs in a short sheath at base; anthers oblong, muticous, 2-loculed. Disc prominent, equalling ovary. Ovary thin-walled, glabrous; style c. 2 cm long, slender, minutely pubescent; stigma linear. Capsules ellipsoid, c. 1.2 cm long, glabrous, included, 4-seeded; seeds orbicular-rounded, c. 2 mm, with a prominent areole, hairy when wet.

Fl. & Fr.: Aug. - Oct. Flowering periodicity between 3 and 5 years.

Habitat : Evergreen forests between lower to middle elevations.

Distrib.: KERALA : Idukki, Palghat, Trichur and Wynad. Endemic.

Specimens examined : (All specimens from MH except where stated otherwise) Kerala, Palghat Distr., Mukkali forest, 475 m, 14.10.1965, E. Vajravelu 26248; Mukkali forest, 500 m, 26.8.1966, E. Vajravelu 27839 (determined as *K. palghatense*); Ayyappan Kovil area, 950 m, 26.10.1976, E. Vajravelu 48687 (determined as *K. palghatense*); Aruvampara slopes, 725 m, 10.10.1979, N.C. Nair 64482 (determined as *K. Palghatense*); Mukkali forest, 550 m, 11.10.1979, N.C. Nair 64526 (determined as *K. palghatense*); Idukki Distr., Pooyamkutty, 5.10.1994, E.S. Santhosh Kumar 17559 (TBGRI) (determined as *S. dupeni*).

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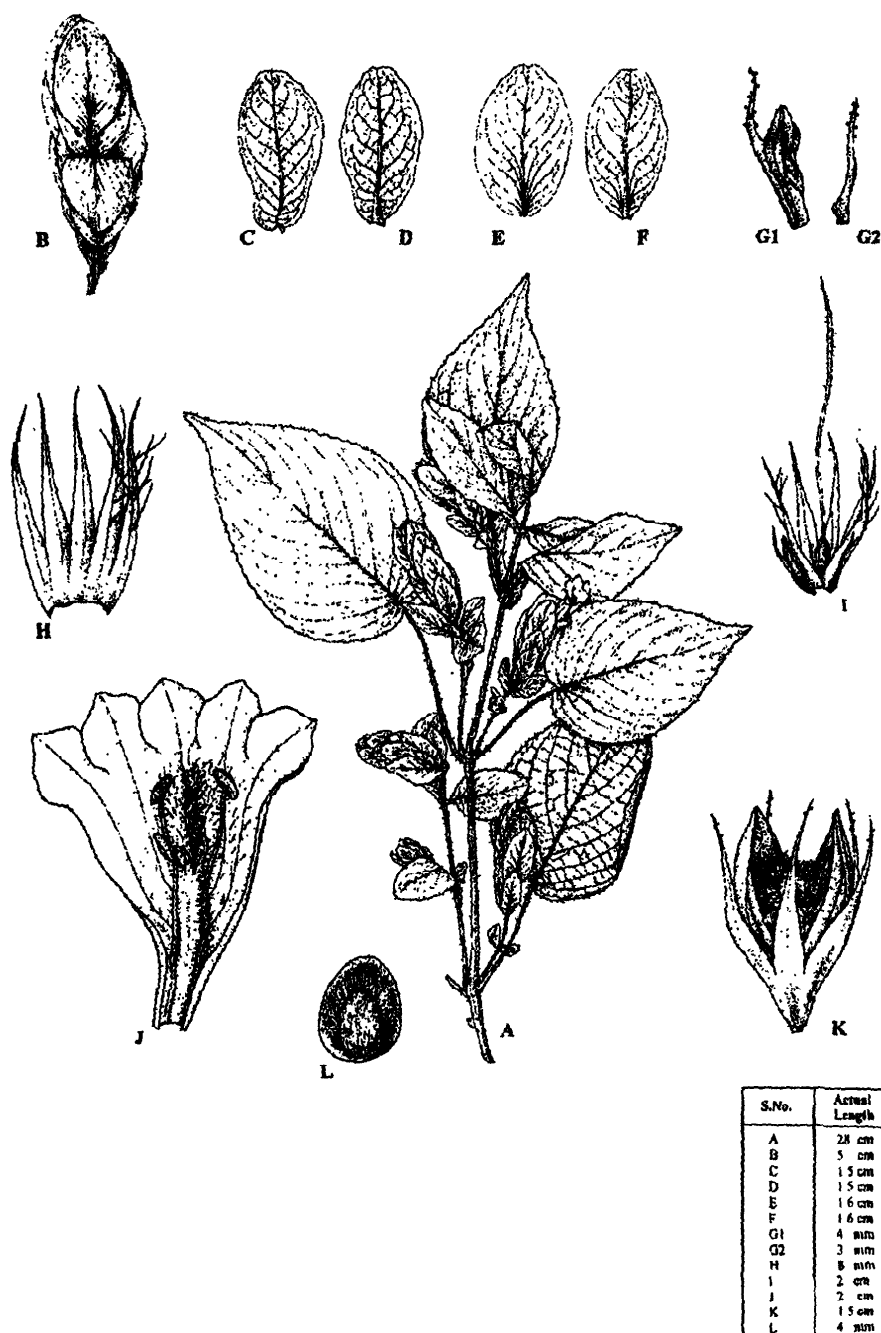


Fig.1 (A-L) *Strobilanthes dupeni* Bedd. ex C. B. Clarke

A. Habit; B. Spike; C. Lower bract adaxial face; D. Lower bract abaxial face; E. Bract adaxial face; F. Bract abaxial face; G1 & G2. Bracteoles; H. Calyx; I. Calyx with pistil; J. Corolla split open (E. Santhosh Kumar 17559); K. Capsule with seeds when wet and calyx; L. Seed (R. H. Beddome 212)

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