

THE IDENTITY OF *STENOSIPHONIUM WIGHTII* BREMEK. (ACANTHACEAE)

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Nees (1847) described *Stenosiphonium diandrum* based on Walker's material collected from Ceylon (Sri Lanka). He described it as leaves ovate, crenate-dentate, glabrous; bracts oblong, obtuse, glandular-hairy; flowers solitary with 2 stamens and filament bases lanate. He stated that the species fluctuated between *Endopogon* and *Stenosiphonium* but the calyx is scarcely divided down to the middle, terminal spikes trifid, the axillary ones leafy at the base and smaller leaves roundish. He allied it to *S. confertum* Nees. On a closer scrutiny of the material, Clarke (1884) transferred it appropriately under *Strobilanthes* based on capsules which are 4-seeded, and had given a new name, *S. exareolatus*. He described it as leaves elliptic-acuminate at both ends, slightly undulate-crenate, glabrous; spikes linear, hairy; calyx narrow, overtopping the bract and divided less than half-way down. But the name, *S. exareolatus*, is superfluous as Clarke (*l.c.*) included the type of validly published name *Stenosiphonium diandrum* Nees under it, but excluding that of Wight. Clarke (*l.c.*) probably mistook the facts on two counts while giving the new name. He assumed that there existed two names of *Stenosiphonium diandrum* one of Nees (1847) and the other of Wight (1850). Secondly, he presumed Nees' name is a later homonym to that of Wight and ignored the epithet of Nees' name while giving the new name. In fact, Wight (1850) misapplied *Stenosiphonium diandrum* Nees to a new material collected from Courtallum, Tamil Nadu and never described it as a new species. But Wight had a doubt himself whether the Courtallum specimen is identical with that of the Ceylon's collected by Walker on the basis of which Nees described *S. diandrum*. Wight also recognized that in habit his plant approached *S. confertum*, but is distinct by its diandrous flowers. Probably the similarity of Nees' and Wight's material in ovate, ovate-elliptic or elliptic leaves, smallness of bracts in relation to calyces, the tardy splitting of calyx during flower to fruit transition and their resemblance to *S. confertum* made Wight to believe that his plant is no different from that of Nees. Nees' brief description is also in conformity with the Wight's tabula (t. 1502). But later Alston (1931) not only recognized the affinity of *S. diandrum* Nees to *Strobilanthes* as made out earlier by Clarke (1884) but corrected the citation of *S. exareolatus* and named it more rightly as *S. diandra* (Nees) Alston (as diandrus). He also relegated *S. exareolatus* as a synonym of *Strobilanthes diandra*. *S. diandra* is a variable species which flowers apparently in 7-8 year cycle. *Stenosiphonium diandrum* sensu Wight though similar to *Strobilanthes diandra* in some features as stated earlier, has the bract oblong and somewhat obtuse, corolla cylindric base resupinate and capsules 6-seeded. Gamble (1925) also followed Clarke (1884) in attributing the name to Wight. Later Bremekamp (1944) also realised that *Stenosiphonium diandrum* sensu Wight is true *Stenosiphonium* without a name and thus gave the new name, *Stenosiphonium wightii* in honour of Robert Wight who collected, described and illustrated it. Though he removed the nomenclatural confusion, he never designated a type, but much later Carine & Scotland (2000) lectotypified it. Both *Stenosiphonium* and *Strobilanthes* are closely allied genera with certain overlapping features. *Stenosiphonium* can be diagnosed by the combination

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of features such as thyrsoid inflorescence, secondary flowers in the axils of bracteoles; corolla ventricose above a narrow, twisted (resupinate) tube; the presence of papillae bearing hairs to retain the style against the corolla and seeds *ca* 6-8 per capsule. On the other hand *Strobilanthes* can be distinguished from *Stenosiphonium* on the basis of ovule number which are four or fewer. The other distinctive characters in *Strobilanthes* are corolla erect or curved and usually with 2 linear rows of hairs inside on the corolla wall that retain the style. Very rarely hairs on papillae are seen in *Strobilanthes exserta* C.B. Clarke, *S. gardneriana* T. Anderson and *S. stenodon* C.B. Clarke and vestigial secondary flowers in the axils of bracteoles in *Strobilanthes exserta* C.B. Clarke, *S. gardneriana* T. Anderson, *S. helicoides* (Nees) T. Anderson, *S. humilis* Gamble and *S. jeyporensis* Bedd. (Carine & Scotland *l.c.*).

Stenosiphonium wightii is often confused with other two species of *Stenosiphonium* and can be recognized by the following key.

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|---|-----|-----------------------|
| 1a. Fertile stamens 4, didynamous; bracts obovate or elliptic, often clearly 3-veined and slightly longer, equal or slightly shorter than the calyx at anthesis | ... | <i>S. cordifolium</i> |
| 1b. Fertile stamens 2; bracts narrowly triangular or ovate, single veined | ... | 2 |
| 2a. Staminodes 2, 2-3 mm, rarely a third staminode <i>ca</i> 0.5 mm also present; bracts narrowly triangular, acuminate, recurved and as long as or longer than calyx at anthesis | ... | <i>S. setosum</i> |
| 2b. Staminodes 2, as small projections from the staminal sheath, <i>ca</i> 0.25 mm long or rarely staminodes absent; bracts ovate, acute, shorter than the calyx at anthesis | ... | <i>S. wightii</i> |

The other names that appeared in literature such as *Stenosiphonium russellianum* Nees (Wight, 1850, Anderson, 1867, Clarke, 1884, Trimen, 1895, Rama Rao, 1914, Gamble, 1925, Mayuranathan, 1929, Bremekamp, 1944, Sharma & Singh, 1984, Nair & Nayar, 1987, Kumari, 1987, Livingston & Henry, 1994, Moulali, 1997, Mohanan & Sivadasan, 2002, Suryanarayana & Sreenivasa Rao, 2002 and Manickam & *al.*, 2003); *S. russellianum* Nees var. *subsericeum* (Nees) T. Anderson (Clarke, 1884 and Gamble, 1925); *S. cordifolium* (Vahl) Alston var. *subsericeum* (Nees) L.H. Cramer (1998), based on indumentum characters; *S. confertum* Nees, based on prominently hairy calyx (Wight, 1850, Anderson, 1867, Clarke, 1884, Rama Rao, 1914, Gamble, 1925, Mayuranathan, 1929, Bremekamp, 1944, Kumari, 1987, Livingston & Henry, 1994, Moulali, 1997 and Manickam & *al.*, 2003) and *S. parviflorum* T. Anderson, based on size of inflorescence together with qualitative differences (Clarke, 1884, Rama Rao, 1914, Gamble, 1925, Bremekamp, 1944, Razi, 1946, Ramamoorthy & Razi, 1973, Rao & Razi, 1981, Sharma & Singh, 1984, Kumari, 1987, Keshavamurthy & Yoga Narasimhan, 1990, Moulali, 1997, Mohanan & Sivadasan, 2002 and Manickam & *al.*, 2003) are all placed in synonymy of one or the other of the above species as key characters projected in erecting these species are linked to development or inconsistent (Carine & Scotland, *l.c.*). While the other species *S. zeylanicum* T. Anderson was shifted to *Strobilanthes* by Clarke under *S. exsertus* C.B. Clarke as it does not agree with *Stenosiphonium* in its leaves, inflorescence and the number of ovules (Clarke, 1884).

Jacob & *al.* (1995) reported the collection of *Stenosiphonium wightii* which was hitherto considered endemic to Tirunelveli hills of Tamil Nadu, from Achankovil forests of Pathanamthitta district, Kerala. They claimed that the collection was made after a gap of 100 years. The authors noticed a discrepancy in the description of the species under reference and doubted thereby its stated identity as *S. wightii*. The characters pertaining to bract shape, size and indumentum (described as ovate-lanceolate, obtusely acuminate, equal to the size of calyx and sericeous), the length and connation of calyx lobes (described as connate 1/3 of their length) and the presence of filiform staminodes do not go well with *S. wightii*. The cited specimens in the report, E.S. Santhosh Kumar 15546 (TBGT) and J.S. Gamble *s.n.* (MH 37457) are examined. Santhosh Kumar's specimen has turned out to be *S. setosum* as the bracts are narrowly triangular and the staminodes prominent and filiform. The other specimen cited (Gamble *s.n.*) is in fact collected by Rangachari and incorrectly annotated as *S. diandrum* Wight by him. Much later, Gamble determined it rightly as *S. russellianum* Nees var *subsericeum* (= *S. cordifolium* (Vahl) Alston). Thus the true *S. wightii* was neither cited nor its description in order. Likewise, Mohanan & Sivadasan (2003) reported its presence in Agasthyamalais based on wrong identity of *S. setosum* collected from Athirumala (Thiruvananthapuram district) ca 900 m (N. Mohanan 11302, TBGT!). Therefore, its stated distribution in Pathanamthitta and Thiruvananthapuram districts needs correction. MH has 6 sheets from Tirunelveli district which were wrongly annotated as either *Stenosiphonium russellianum* or *S. confertum* and were collected from either Mancholai, Singampatti (K.M. Sebastine) or Kannikatti (K. Rangachari) or Sengaltheri (N. Parthasarathy). The rarity and endemism of this species, its closer similarity in habit with other *Stenosiphonium* species, its poor representation either as correctly or wrongly identified species and that too in fewer herbaria are some reasons for misidentification and misreporting.

Stenosiphonium wightii Bremek. in Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. 2, 41(1): 15. 1944; Kumari in A. N. Henry & *al.*, Fl. Tamil Nadu 2: 161. 1987; M.A. Carine & R.W. Scotland in J. Linn. Soc., Bot. 133: 121 – 123. 2000. Type: (India, Tamil Nadu), Courtallum, R. Wight *s.n.* (lecto. K) *S. diandrum sensu non* Nees 1847 : Wight, Icon. Pl. Ind. Orient. 4: Tab. 1502. 1849; C. B. Clarke in Hook. f., Fl. Brit. India 4: 426. 1884 (attributed wrongly to Wight); Rama Rao, Fl. Pl. Travancore. : 301. 1914; Gamble, Fl. Madras 2: 1020. 1924. *S. confertum sensu* T. Anderson in J. Linn. Soc., Bot. 9: 464. 1867, p.p. (Fig. 1)

Shrub; branches subterete or subquadrangular, lineolate, shallowly sulcate, glandular hairy when young, glabrescent when old. Leaves isophyllous to strongly anisophyllous; leaves at lower nodes ovate, ovate-elliptic or elliptic, 3.5-10 cm × 2-5 cm, cuneate, slightly decurrent on petiole at base, crenate-dentate at margin, acute at tip, glabrous or sparsely hairy at upper surface, prominently lineolate on either side; cystoliths arranged randomly sometimes radially around hairs on the upper surface; veins 5-8 pairs; petiole 1-3.5 cm; leaves at upper nodes or subtending inflorescence obovate or orbicular, 1.5-5.5 cm × 1.5-3 cm, acute or mucronate at tip, glabrous or with few marginal hairs on lower surface along the veins, glabrous or with few simple hairs on upper surface; veins 4-6 pairs, sessile or subsessile. Inflorescence 6-15 cm long; axis prominently glandular hairy often subtended by two orbicular bracts; flowers clustered more densely or not towards the apex; bracts ovate, ca 3 mm long, shorter than calyx, acute at apex, densely lineolate, single veined, glandular hairy; bracteoles linear-lanceolate, ca 3 mm long, single veined, glandular hairy, secondary flowers in axils. Calyx green, ca 7 mm long, connate for more than 3/4th of their length, linear; lobes ca 1.5 mm long, acute at apex,

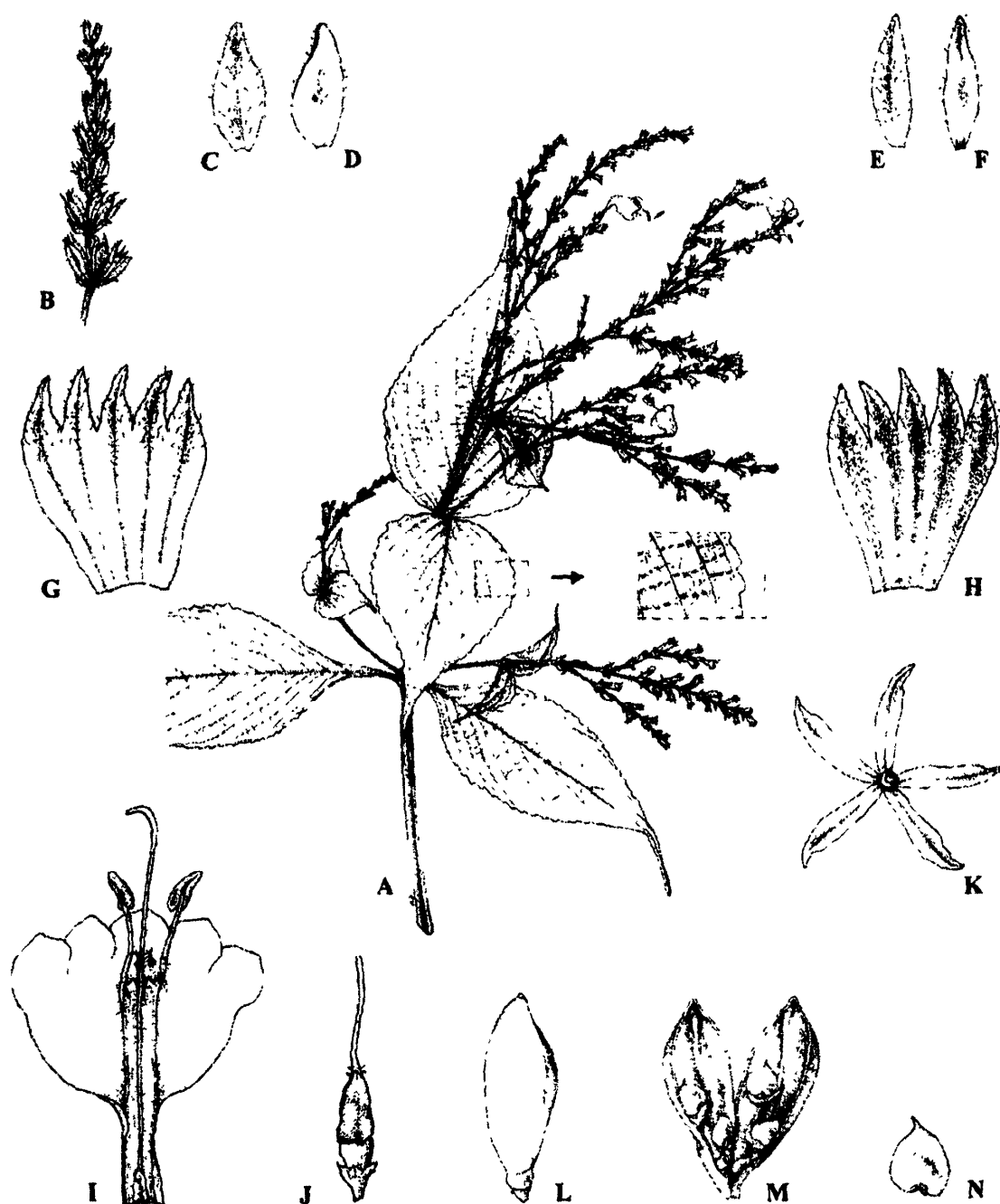


Fig. 1: *Stenosiphonium wightii* Bremek. :

A. Habit (*N. Parthasarathy* 653); B. Spike in fruit (*K.M. Sebastine* 5428);
C. Bract abaxial face; D. Bract adaxial face; E. Bracteole abaxial face;
F. Bracteole adaxial face; G. Calyx inside; H. Calyx outside
I. Corolla split open; J. Ovary (*N. Parthasarathy* 653); K. Calyx in fruit;
L. Capsule; M. Dehiscent capsule; N. Seed (*K. M. Sebastine* 5428).

Actual Length

A	24	cm
B	7	cm
C	3	mm
D	3	mm
E	3	mm
F	3	mm
G	7	mm
H	7	mm
I	12	cm
J	5	mm
K	12	cm
L	8	mm
M	8	mm
N	1.5	mm

densely lineolate, single veined, glandular hairy outside, sparsely pubescent inside, Calyx in fruit accrescent, *ca* 1.2 cm long; tardily splitting, prominently lined inside. Corolla pale mauve-white, tubular ventricose, glabrous inside; glandular hairy outside in bud, glabrous at anthesis, tube slender, resupinate, *ca* 6 mm long; throat campanulate-ventricose *ca* 1 cm long, bilipped, upper lip with two pink dots on each of the 3 lobes and lower lip with one dot each on the 2 lobes; lobes 5–6 mm long. Stamens 2, exserted and curved upwards; staminal sheath extends 2/3 of ventricose portion, sparsely hirtellous at base; free filaments *ca* 5 mm long, flattened; anthers *ca* 2 mm long, muticous; staminodes 2 (rarely 0), *ca* 0.25 mm long; staminodes as small projections at the tip of staminal sheath. Ovary *ca* 2 mm long, glandular comose at apex; ovules 3 in each locule; style glabrous, exserted, *ca* 2.5 cm long, flattened; stigma broad and recurved placed between hair bearing papillae on the lower lip. Fruits capsule, obovoid, *ca* 8 mm long, glabrous, seeded from base, the bulged portion above empty, finely pubescent, included as the tips of calyx lobes closing in; seeds 6 (but only 4 seeds in some capsules), orbicular, acute at tip, *ca* 1.5 mm long, areolate, hygroscopic hairy.

Distrib.: Tamil Nadu, Tirunelveli district. The species is reported to occur in Kalakkadu hills (Sengaltheri & Dhonavur) and Papanasam hills (Kannikatti, Mancholai, Kodamadi, Banathirtham and Injikkuzhi) besides Courtallum, the type locality. However, this species was not included in Flora of Courtallum (Nair & Nayar, 1987). The species is confined to *ca* 1000 m except at Dhonavur which is nearly plains and its occurrence is restricted to the eastern slopes of Agasthyamalai hills and never on the Western slopes.

Fl. & Fr.: January–March.

Habitat: Evergreen forests; *ca* 1000 m.

Specimens examined: (all at MH) INDIA, Tamil Nadu: Tirunelveli distr., Kannikatti, 19.03.1917, K. Rangachari 14673; Kannikatti, 19.03.1917, Rangachari 14678; Mancholai, Singampatti, 28.02.1958, 833 m, K. M. Sebastine 5428; Mancholai, 01.03.1958, K. M. Sebastine 5459; Sengaltheri, Kalakkad Reserve Forest, 25.01.1984, 910 m, N. Parthasarathy 653.

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