

HOW DISTINCT IS
STROBILANTHES PUSHANGADANII E.S.S. KUMAR & AL.
FROM *S. LAWSONI* GAMBLE (ACANTHACEAE)?

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A B S T R A C T

The specific status of *Strobilanthes pushangadanii* E.S.S. Kumar & al. is disputed and the name is reduced to a synonym under *S. lawsoni* Gamble.

Kumar & al. (2002) described *Strobilanthes pushangadanii* as a new species based on material collected in the Mankayam hill in Thiruvananthapuram district, Kerala. It is reportedly allied to *S. lanatus* Nees and *S. lawsoni* Gamble. Though *S. pushangadanii* is distinct from *S. lanatus* as stated by the authors, its reported distinction from *S. lawsoni* in possessing coriaceous leaves, uninterrupted inflorescences, ovate-acute bracts, shorter calyxes in fruit (1.3 cm long), and shorter capsules (less than 1 cm) is untenable.

Gamble (1923) described *S. lawsoni* based on material from the Sispara Ghat, Nilgiris which has leaves ovate-lanceolate, long cuspidate-acuminate, covered beneath with appressed grey wool, up to 12 - 16 cm long and 5 - 6 cm broad, with parallel main nerves 9 - 10 pairs; spikes 6 - 10 cm long, single or in panicles, axillary or terminal, interrupted, covered with fulvous or greyish appressed wool in flower, becoming glandular-hispid in fruit; bracts ovate-lanceolate, glabrous within; bracteoles small and calyx lobes acuminate, enlarging in fruit. Gamble (*l.c.*) allied it to *S. gossypinus* T. Anderson (= *S. lanatus* Nees) but differentiated it in leaves long-cuspidate, acuminate, spikes slender, interrupted and covered with fulvous or greyish appressed wool. In *S. gossypinus* (= *S. lanatus*) leaves are ovate, short acuminate with a twisted point and soft spreading floccose tawny wool beneath and spikes thick,

cylindrical, uninterrupted and covered with yellow tawny wool. There is ample material of both *S. gossypinus* and *S. lawsoni* from different localities at MH.

Specimens of *S. lawsoni*, including the types (*vide* Specimens examined) show considerable variation in certain features. The leaf shape varies from broadly ovate (*R.H. Beddome s.n.*), to ovate-orbicular (*E. Vajravelu* 48748) to ovate-lanceolate (*A.G. Pandurangan* 79296), the size varies from 5 - 20 cm long and 3 - 8 cm broad and with 7 - 10 pairs of secondary nerves. The leaf texture varies from chartaceous to moderately thick to coriaceous (Gamble did not mention the texture either in the protologue or in his flora), the coloration of upper surface on drying from pale green or dark brown and undersurface from pale green (*E. Vajravelu* 48748), dull grey (*A. Kadavil* 953), greyish (*V.S. Ramachandran* 61957) or creamy yellow (*R.H. Beddome s.n.*); leaf margin entire to minutely serrulate or denticulate; leaf base cuneate, not decurrent (*Ramachandran* 61957) to faintly decurrent (*E. Vajravelu* 48748). The spikes are distinctly interrupted (*M.A. Lawson s.n.*, *C.N. Mohanan* 74683), faintly interrupted (*A. Kadavil* 953; *E. Vajravelu* 48748; *V.S. Ramachandran* 61957) or uninterrupted (*R.H. Beddome s.n.*). The more striking characters of *S. lawsoni* are flowers in pairs at each node (flores ad nodos binos gerentes) and spikes more complanate than cylindrical, stamens 2, included, with hairs confined to filament base (Stamina 2, inclusa, filamentis ad basim albo-villosis), ovary and style glabrous excepting puberulous tip (stylus gracilis, glaber, ad apicum minutissime puberula) and seeds 4, discoid, black or brown, areolate, glabrous when dry (siccitate glabra) and villose when wet (madida conspicue villosa). In these characters *S. lawsoni* compares well with *S. pushpangadanii*. The characters used to distinguish the new species by Kumar & al. (*l.c.*) are shorter calyx (1.3 cm), ovate-acute bracts and shorter capsules (less than 1 cm). However, the calyx length in *S. lawsoni* is same as in *S. pushpangadanii*; while bracts which are ovate-acute or -acuminate and capsules which are of 1.5 cm long are not much different nor distinctive from that of *S. pushpangadanii*. The size of capsules varies in some species of *Strobilanthes* depending on the degree of development of seeds therein and minor variations in capsule length does not warrant any consideration. The characters used in the diagnosis of *S. pushpangadanii* to differentiate it from *S. lawsoni* thus merit no consideration and in spite of the opinion by an expert that it deserves a separate entity (*vide* Kumar & al. *l.c.*), the former needs to be synonymised under the latter. The glandular-hispid nature of the spike in

fruit in *S. pushpangadanii* further corroborates its conspecificity with *S. lawsoni*. Gamble used the nature of the spike (interrupted/uninterrupted) and indumentum to distinguish *S. lawsoni* from *S. lanatus*. However, there is a gradation in floral density on the peduncle in the later collections of *S. lawsoni*, in which the peduncle is more usually interrupted and rarely uninterrupted appearing almost as dense as in *S. lanatus* but the flowers, always, are in pairs at each node. Gamble (1923) mentioned (flores ad nodos binos gerens) it but did not use it in keying out this species from the allied *S. lanatus*, which does not produce, at least distinctively such flower pairs at each node. An isotype of *S. pushpangadanii* now examined matches well with one of the types of *S. lawsoni* and an authenticated specimen of Beddome at MH (Figs. 1 - 3).

Another species which is apparently similar to *S. lawsoni* is *S. cuspidatus* (Benth.) T. Anderson because of the leaf shape and the indumentum beneath. There is a possibility of misjudgement in determining *S. cuspidatus* as *S. lawsoni* or *vice versa*. In one of the sheets of Lawson, Gamble notes - "It is the new one but we first called it *S. cuspidatus* because of its apparent similarity with *S. cuspidatus*" and, which was later described by Gamble as *S. lawsoni*. Even a collection of Beddome in which spikes are uninterrupted and densely flowered and which was annotated in schedule as *S. cuspidatus* earlier was later (correctly) determined as *S. lawsoni* by Scotland (OXF). But *S. cuspidatus* has recurved bracts, bracts, bracteoles and calyx lobes glandular-hairy even in flower, staminal filaments sparsely hairy all along, and ovary hairy at tip and in which characters it differs from both *S. lawsoni* and *S. lanatus*.

There is scope of misidentification as the distribution of the 3 species involved sometimes overlaps in Tamil Nadu and Kerala. The species under discussion can be easily distinguished as follows :

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|---|---------------------------------|
| 1 a. Spikes glandular-hispid in flower; bracts lanceolate, acuminate, recurved; staminal filaments hairy throughout | ... <i>S. cuspidatus</i> |
| 1 b. Spikes not glandular-hispid but with grey or tawny wool in flower; bracts ovate acute, not recurved; staminal filaments hairy only at base | ... 2 |

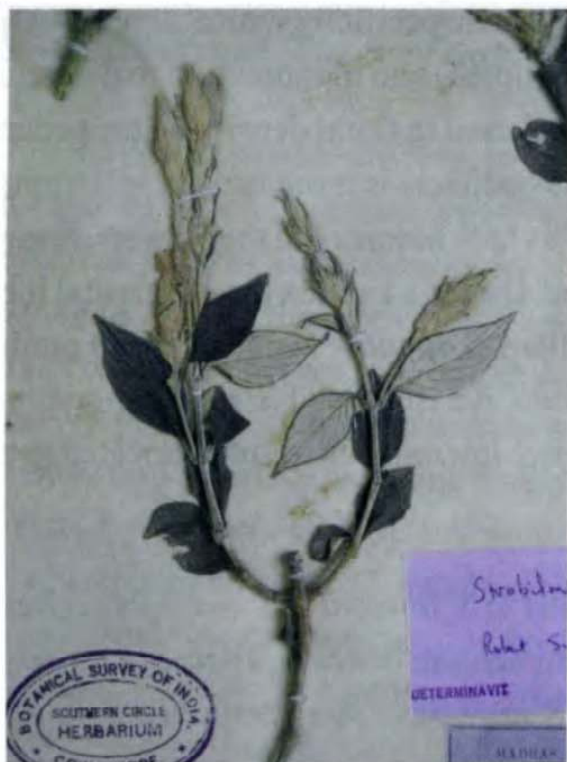


Fig.1 *Strobilanthes lawsoni* Gamble
M. A. Lawson & J. S. Gamble 13387
(Type MH)



Fig.2 *S. lawsoni* Gamble
R. H. Beddome s.n. (MH)

- 2a. Leaves ovate-lanceolate, long-cuspidate-acuminate without a twisted point at tip, covered with appressed greyish pale green or creamish yellow wool beneath; petioles not wooly; secondary veins 9 - 10 pairs; spikes slender, usually interrupted rarely not, 2-flowered at each node, covered with greyish appressed wool in flower, glandular-hispid in fruit

... ***S. lawsoni***

- 2b. Leaves elliptic-ovate, acute or acuminate with a twisted point at tip, covered with soft floccose tawny wool beneath; petioles soft floccose yellow wooly; secondary veins 10 - 13 pairs; spikes thick, uninterrupted, not necessarily 2-flowered at each node, never glandular-hispid; fruit not known

... ***S. lanatus***



Fig.3 *S. pushpangadanii* Kumar & al.
E.S.S. Kumar & al. 14722 (Isotype MH)

1. *Strobilanthes lawsoni* Gamble in Bull. Misc. Inform. 1923: 374. 1923 & Fl. Madras: 1034. 1924. Type : Nilgiris, Sispara Ghat, at about 1600 m, Nov. 1883, *M.A. Lawson & J.S. Gamble* 13387 (in flower) (MH); *J.S. Gamble* 14252 June 1884 (in fruit) (MH); Wynaad, Tambracheri Ghat, Jan. 1903, *C.A. Barber* 5686 (3 sheets) (MH); Travancore, Peermade, among rocks, without date, *T.F. Bourdillon* 42 (in flower) (MH). *Phlebophyllum lawsoni* (Gamble) Bremek. in Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Tweede Sect. 41: 169. 1944; B.D. Sharma & al. in Biol. Mem. 2: 108. 1977; V.S. Ramach. & al. in J. Econ. Tax. Bot. 1: 96. 1980; V.S. Ramach. & V.J. Nair, Fl. Cannanore: 347. 1988; Kumari in A.N. Henry & al., Fl. Tamil Nadu 2: 156. 1987; Sasidh. & Sivar., Fl. Thrissur: 348, t. 41. 1996. *S. pushpangadanii* E.S.S. Kumar & al. in Rheedea 12: 73, f. 1 a - k. 2002, syn. nov. Type : Kerala, Thiruvananthapuram Distr., Mankayam hills, 800 m, E.S.S. Kumar & al. 14722 (TBGRI holotype; MH isotype!)

Note : Though Gamble spelt the specific epithet as lawsoni in the protologue, all later authors spelt it as lawsonii following Bremekamp (*l.c.*).

Specimens examined : (all at MH) : *S. cuspidatus*: TAMIL NADU: Nilgiri Dist., Sigur ghat, without date, *Beddome s.n.*; Kartairy, Aug., 1883, *J.S. Gamble s.n.*; (Nilgiris?), Kuchgerch, 24.1.1884, *M.A. Lawson s.n.*; Segur ghat, 6000 ft., Nov., 1884, *J.S. Gamble* 15670; Kalhatti, 4500 ft., July 1885, *M.A. Lawson s.n.*; Kalhatti, 4500 ft., Aug., 1886, *J.S. Gamble* 17945; Saigur ghats, 4000 ft., Nov., 1886, *J.S. Gamble* 18445; Chinna Coonoor, 2600 m, 17.10.1957, *K. Subramanyam* 4703; Maryland R.F., 2000 m, 10.12.1957, *K.M. Sebastine* 4886; Bamaka Shola, 1700 m, 26.8.1970, *G.V. Subba Rao* 36382; Doddai kombai, 1800 m, 4.1.1971, *B.V. Shetty* 37703; Kalhati - Masinagudi road, 1550 m, 29.11.1971, *N.C. Rathakrishnan* 39076; Madanad R.F., 1500 m, 23.1.1972, *E. Vajravelu* 39603; View Point, Kodanad, 1800 m, 29.1.1972, *E. Vajravelu* 39696; Kalhatti-Masinagudi road, 1500 m, 18.2.1972, *B.D. Sharma* 39843.

S. lanatus: TAMIL NADU: Nilgiris, Sispara ghat, without date, *Beddome s.n.*; Sispara, Nov., 1883, *M.A. Lawson s.n.*; Velleramallay, 2000 - 2300 m, 19.11.1890, *Lawson s.n.*; Ootacamund, 2500 m, 15.4.1950, Curator, Bot. Gard. 93865.

S. lawsoni : KERALA: Kottayam Distr., Kurisumala, 1000 m, 8.11.1984, *A. Kadavil* 953; Palghat Distr., Karapara river, 900 m, 29.10.1976, *E. Vajravelu* 48748; Canannore Distr., on way to Chandanathode, 27.2.1979, *V.S. Ramachandran* 61957; Idukki Distr., Calvery mount, 14.10.1982, *C.N. Mohanan* 74683; Pambadam, 1100 m, 10.10.1983, *C.N. Mohanan* 80111; Kakkidam area, 1200 m, *A.G. Pandurangan* 79296. TAMIL NADU: Nilgiri Distr.(?), Sispara ghat, 1873, *R.H. Beddome s.n.*

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