



## ***Swainsona formosa* (Fabaceae; Papilionoideae): A New Addition to the Garden Flora of India**

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(Received: 17 January 2024; Revised: 02 February 2024; Accepted: 23 February 2024; Published: 15 March 2024)

(Published by Research Trend)

**ABSTRACT:** *Swainsona formosa* (G. Don) Joy Thomps., is a legume native to Australia which has been spotted for the first time in Indian gardens as an ornamental and presented here as a new addition to the garden flora of India.

**Keywords:** India, *Swainsona formosa*, new addition, Garden flora.

### **INTRODUCTION**

The genus *Swainsona* Salisb. comprises about 86 accepted species and is distributed worldwide (Lewis *et al.*, 2005; Legume Phylogeny Working Group (LPWG), 2017; IPNI, 2024; POWO, 2024). Out of which, 02 species [*Swainsona formosa* (G. Don) Joy Thomps. and *Swainsona galegifolia* (Andrews) R. Br.] are introduced in South Asia (Sri Lanka) elsewhere as an ornamental (Kumar & Sane 2003). However, the species *Swainsona formosa* is rarely cultivated as ornamental now in Indian gardens in general and particularly in AJC Bose Indian Botanic Garden, Howrah, West Bengal although very much suitable to be grown in conservatory. The plant is both rare in the wild and rarely seen in cultivation.

During a botanical exploration and collection trip for the collection of live plants to be introduced in the Acharya Jagdish Chandra Bose Indian Botanic Garden, Howrah district of the state of West Bengal (India) as ex-situ conservation, an unfamiliar legume species was collected from the garden and identified as *Swainsona Formosa* (Thompson, 1990 & 1993; George, 2018) which is not yet been reported in any flora or list of cultivated plant in India.

### **Taxonomic Treatment**

*Swainsona formosa* (G. Don) Joy Thomps., *Telopea* 4(1): 4. 1990; S. Kumar & Sane, *Legumes South Asia A Check-list*, 259: 2003.

*Donia formosa* G. Don, *Gen. Syst.* 2: 468. 1832.

Type: Holotype: "Northwest coast of New Holland, at the Curlew River, Capt. King". W. A., Malus Islands, Dampier Archipelago [1 March 1818], A. Cunningham (G 00418563).

*Clianthus formosus* (G. Don) Ford & Vickery, *Contr. New South Wales Natl. Herb.* 1: 303. 1950.

*Vernacular name:* English: Sturt's desert pea [PLATE 1]

An annual or short-lived perennial herbaceous, horizontally-lying or ascending, covered with long whitish silky hairs. Stem stout, terete or ribbed, slightly angular, tinged with red, densely pubescent with long, spreading fine hairs of varying length most 1–2 mm long. Leaves rachis 5–23 cm long, imparipinnate, c. 15–18-foliolate; leaflet sessile, elliptic to obovate, apex acute to broadly rounded or obtuse, usually mucronate, matured upper one little extended petiolule, retuse, long fine spreading hairs both surfaces, 0.5–2.6 × 1–5 cm, entire. Stipules leafy broad, 0.5–0.9 × 1.2–1.5 cm, tapering acicular apex, short lateral teeth, extended down the stem, green, densely pubescent on both sides. Racemes umbel c. 8–15 cm long stalks, 2–6 flowers bear of almost even age. Peduncle c. 3–4 mm wide, with flowers only in the top centimetre, ribbed, fine spreading hairs. Bracts broad, 2–4 × 4–8 mm, ovate-lanceolate, long-acuminate. Flowers red, c. 50–70 mm long, pedicels c. 10–20 mm long, villous. Hypanthium long-attenuate base, conspicuously contracted top under the fruiting calyx; bracteoles long-tapering, 5 mm long or more, lanceolate. Calyx slightly tubular, tube 5–6 mm long with 7 mm wide, broadly and obliquely expanding above the hypanthium, dense spreading pubescence; calyx 5-lobed, lobes narrowly ovate-lanceolate, filiform tips, c. 1 cm often twice as long as the tube. Standard narrow, folded in middle with usually dark black-purplish blotch, 2.5–3 × 5–6 cm, tapered claw, concave above, two angled thickenings above, below large, c. 2 cm across, tapering narrow tip. Wings 2, lanceolate, c. 0.5 × 2.5–2.8 cm, curved-narrow-deltoid, tapering narrow acute tip, claw slenderly tapered, slightly curved, auricle deep, broadly rounded. Keel 1.2–1.5 × 5–6 cm, apex long-tapering, narrow acute tip, upper margin curved, little curved towards base, without folds, claw short, recurved, scarcely tapered, auricles deep, narrow to broadly deltoid. Staminal sheath c. 6 cm long; stamens

diadelphous 9+1, nine united stamens, filaments c. 5 mm long, one free stamen filament 2.5 cm long; anther lobe c. 4 mm long, basifixed. Gynoecium c. 6 cm long, hairy. Ovary c. 20 mm long, narrowly elliptic, dense pubescence, along the suture recurves near base. Ovules numerous. Fruits inflated, c. 1–1.2 × 4–9 cm, narrowly

elliptic-oblong, dorsiventrally compressed, suture broadly or deeply intruded, variably tapered base stipe 5–15 mm long, apex tapering, rounded slender straight beak subtending straightening style, pendulous, raised at maturity, dehiscent at suture, both sides, stipe, densely pubescent, texture rigid.



**PLATE 1: *Swainsona formosa*** (G. Don) Joy Thomps., (a) Habit, (b) Inflorescence, (c) Flowers, (d) Stipules, (e) Bracts, (f) Calyx, (g) Wing petals, (h) Adaxial surface of leaves, (i) Abaxial surface of leaves, (j) Gynoecium, (k) Androecium, (l) Stamen, (m) Standard petal, (n) Keel petal.

*Specimen Examined:* India, West Bengal, Howrah, 10.01.2024, V.K. Mastakar 69382 (CAL).

*Flowering & Fruiting:* December – April.

*Distribution:* The native range of this species is Australia (New South Wales, Northern Territory, Queensland, South Australia, Western Australia),

Introduced into: Sri Lanka and India (cultivated rarely in gardens as ornamental in tropical countries including India as reported here).



**Fig. 1.** Distribution of *Swainsona formosa* (G. Don) Joy Thomps. in the world based on current record (POWO, 2024).

**Note:** The plant was grown in the garden as an ornamental. It can be concluded that it is already in India and plant nurseries must be propagating and marketing it. However, it is difficult to trace the route of its entry into the country.

**Acknowledgements.** We sincerely thank to Dr. A.A. Mao, Director, Botanical Survey of India and Dr. Devendra Singh for encouragement and support. Also, thanks to Mr. Samindra Nath Mitra, Gardener (Outsourcing), AJC Bose Indian Botanic Garden, Howrah for supporting the plant collection in different field nurseries and Mr. Rakesh Mondal (Mounter, outsourcing) for preparing the herbarium specimens and submitting in CAL (Central National Herbarium), Howrah.

## REFERENCES

George, A. S. (2018). The type of Sturt pea found. *Swainsona*, 31, 49–53.

IPNI (2024). *International Plant Names Index*. Published on the Internet <http://www.ipni.org>, The Royal Botanic

Gardens, Kew, Harvard University Herbaria & Libraries and Australian National Botanic Gardens. [Retrieved 10 January 2024].

Kumar, S. and Sane, P. V. (2003). *Legumes South Asia A Check-List*. (Royal Botanic Gardens: Kew, UK).

Legume Phylogeny Working Group (2017). A new subfamily classification of the Leguminosae based on a taxonomically comprehensive phylogeny. *Taxon*, 66, 44–77.

Lewis, G., Schrire, B., Mackinder, B. and Lock, M. (2005). *Legumes of the World*. Royal Botanic Gardens: Kew, UK.

POWO (2024). "Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; <http://www.plantsoftheworldonline.org>/Retrieved 10 January 2024."

Thompson, J. (1990). New species and new combinations in the genus *Swainsona* (Fabaceae) in New South Wales. *Telopea: A Journal of Plant Systematic*, 4(1), 1–5.

Thompson, J. (1993). A revision of the genus *Swainsona* (Fabaceae). *Telopea: A Journal of Plant Systematic*, 5(3), 427–581.

**How to cite this article:** V.K. Mastakar, Zeeshan Mazhar and S.P. Panda (2024). *Swainsona formosa* (Fabaceae; Papilionoideae): A New Addition to the Garden Flora of India. *Biological Forum – An International Journal*, 16(3): 239-241.