

Research Article

STYLOSANTHES VISCOSA SW. (FABACEAE): A NEW RECORD FOR INDIA

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ABSTRACT

Stylosanthes viscosa Sw., known so far from Australia, America, Tropical Africa and South East Asia. However, *Stylosanthes fruticosa* is widely distributed throughout the southern peninsular regions of India. *S. viscosa* is brought by Indian Grassland and Fodder Research Institute (IGFRI), Jhansi for evaluation as fodder along with other five species from Australia. However there is negative recommendation for this plant as fodder. A detailed description of *S. viscosa* is provided.

INTRODUCTION

The genus *Stylosanthes* is a diverse group of species (about 44 species and subspecies) with a wide distribution in Tropical, Subtropical and temperate regions of the America, Tropical Africa and South East Asia (Williams and Gardner, 1984). Since the introduction of *Stylosanthes* sps., in India primarily from Australia, Indian Grassland and Fodder Research Institute (IGFRI), Jhansi provided a strong platform for the evaluation of five species namely *S. scabra*, *S. hamata*, *S. viscosa*, *S. humilis* and *S. guianensis*) in India (Rai and Patil, 1985; Ramesh *et al.*, 1997; Chandra *et al.*, 2006). This was in addition to the native perennial *S. fruticosa* Alston, which is widely distributed throughout the southern peninsular regions (Hooker, 1879).

Morphological and agronomical evaluation at IGFRI and its regional center as well as institute like Central Arid Zone Research Institute (CAZRI) also generated information pertaining to the adaptation and utilization. Though initial success has been limited in the <400 mm rainfall zones of CAZRI, however, the performance of *S. hamata* and *S. scabra* was significant in IGFRI, Jhansi zones. Evaluation in West Bengal showed *S. humilis* as the best species for marginal lands. In contrast, *S. guianensis* was the most suitable species for the fodder production in areas of Kerala and Manipur (Gupta *et al.*, 1989). Multifaceted use of *Stylosanthes* has been advocated since the time of its evaluation. In drought prone areas to mitigate the fodder shortage the dry matter yield from 2-6 hectare have been reported for *S. hamata* and *S. scabra* (Rai and Pathak, 1985). Under 1300-1500mm rainfall in Ranchi (25° N and altitude 625 m) and Kalyani, yields of 7.5 to 10 hectare have been recorded for *S. humilis* (Chatterjee *et al.*, 1985). However *Stylosanthes viscosa* is given low preference after evaluation due to highly stickiness of the leaves and stems, growing in very sparse manner and less height(less than 50 cm.). Animals do not prefer to chew it due to its viscous nature. Kumar and Sane (2003) have reported about the presence of *S. fruticosa*, *S. guianensis* and *S. humilis* from South Asia.

Way to India- It is brought from Australia by Indian Grassland and Fodder Research Institute (IGFRI), Jhansi and now escaped in the forest of Ranchi. A detailed description, illustration and photographs are provided to facilitate its easy identification in the field.

***Stylosanthes viscosa* Sw. Prod.Veg.Ind. Occid.108 (1788)**

Observed at N 23°14.627', E 085°27.633' and Elevation: 650 m. An erect, ascending, spreading, multi-branched, perennial from 15 cm to 0.8 m tall. Stem densely pubescent with short viscid pin head like glandular hairs secreting a very pleasant smell. Leaves trifoliolate, with leaflets ovate to lanceolate, 20- 25 mm long and 5 mm wide (usually smaller), acute or obtuse, shortly hairy, with two to four pairs of conspicuous veins margin entire; Petioles 2.5 to 5.0 mm long, hispidulous, viscid. Rachis 1 to 2 mm long stipule sheath shortly hairy, viscid 3.5 to 5.5 mm long, three- to five-nerved. Inflorescence a small, crowded, viscid ovoid spike, with 2-5 yellow flowers with reddish centre; Calyx 4-7 mm long, 5 sepals;

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Corolla -5 petals, standard 4-7 mm long, Wings 4 to 5 mm long, auriculate, spurred within at the base. Keel petals 3 to 4 mm long, falcate. Stamens -10, Anther-alternately versatile and non versatile; Ovary-monomerous, superior, 1-celled; style -1, simple; Loment to 2.5-4mm long, shortly hairy. Beak short, less than half as long as the upper articulation, usually from one-third to one-quarter as long, shortly hairy, curved, 1-seeded.

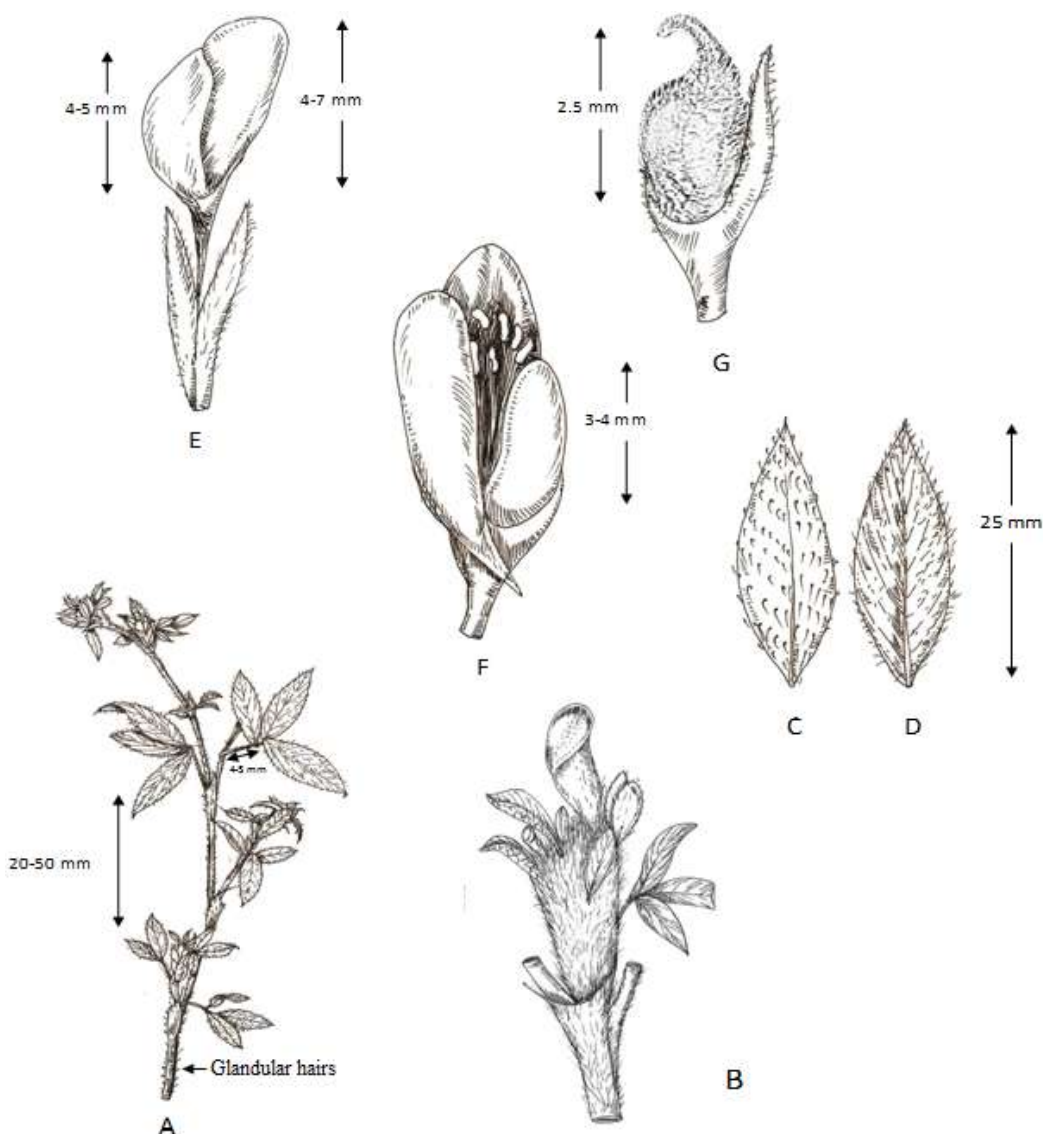
Flowering and fruiting: August – March.

Habitat: On sandy and granite soil, Perennials.

Distribution: Tropical, Subtropical and temperate regions of the America, Tropical Africa, South East Asia and Australia and now in (Raisa, Ranchi, Jharkhand) India.

Specimen examined and matched with: Herbarium sheet No.-118081, 118082, 118083, 118084, 118085 of CNH, Howrah.

Specimen submitted to Herbarium (LWG) of NBRI, Lucknow.



A-Twig; B-Inflorescence; C-Leaf (Ventral Surface); D- Leaf (Dorsal surface); and E&F – Flower; G- Loment

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Figure 1: Plant of Stylosanthes viscoso



Figure 2: Flowers



Figure 3: Pin head like Glandular hairs on Stem & petiole



Figure 4: Pin head like Glandular hairs on Ventral side of Leaf



Figure 5: Pod



Figure 6: Dry Pod & Seed



Figure 7: G.P.S. data showing the position of plant



Figure 8: Measurement of Pod & Seeds

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