

Trichodesma zeylanicum (Burm. f.) R. Br.: an unwelcome addition to flora of Allahabad

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Abstract: *Existence of Trichodesma zeylanicum (Burm. f.) R. Br. reported for the first time as an addition to the flora of Allahabad district, Uttar Pradesh. Description of the plant, habitat, phenology, distribution, ecology and socio-economic importance of the species are highlighted in this paper.*

Keywords: Boraginaceae; New addition; *Trichodesma zeylanicum*; Weed.

Introduction:

Trichodesma zeylanicum (Burm. f.) R. Br. was first published as *Borago zeylanica* Burm. f. by Burman (1768) from Australia, then transferred into genus *Trichodesma* to become *Trichodesma zeylanicum* (Burm. f.) R. Br. by Brown (1810), later Mueller (1882), Kuntze (1891) and Hiern (1898) recited as *Pollichia zeylanica* (Burm. f.) f. Muell., *Boraginella zeylanica* (Burm. f.) Kuntze. and *Boraginoides zeylanica* (Burm. f.) Hiern respectively. Despite these many later transfers, it's recent and valid publication is accepted as *Trichodesma*

zeylanicum (Burm. f.) R. Br. by Brown (1810). The genus *Trichodesma* R. Br. is represented by 5 species in India (Clarke, 1883) and no further taxonomic revision of the genus has been done. Regional and district flora shows 2 species in Upper Gangetic Plains (Duthie, 1903-29), 3 species in Uttar Pradesh (Khanna et al., 1999) and 1 species (*Trichodesma indicum* (L.) Lehm.) in Allahabad district (Misra and Verma, 1992). During the field survey author found that species is abundant on roadsides, in agricultural fields, along the river, unused fields and disturbed ground, often competitive, creates a mess in land formation and regarded as a significant weed. The species is a quick grower and covers many of areas. *Trichodesma zeylanicum* (Burm. f.) R. Br. creates nuisance along with growing crop and after harvest also. The mechanical control of the species is difficult as it has white scabrous spiny hairs that break off in the skin when touched. It can spread and has capacity to dominate in unused areas and would be a most unwelcome addition to

the flora. This paper brings forth descriptions, upto date nomenclature, phenology, ecology, distribution and colored photograph.

Material and Method:

Regular excursions were arranged to cover entire area in the district Allahabad of Uttar Pradesh during different seasons. Observations on the habit/habitat, flower color, fruiting, seeds, including other features of interest were recorded and photographed. The diagnostic traits such as flower, fruit of the specimen were well observed in field by using hand lens, scale and characters were noted down and identified later in the laboratory. The specimens were carefully selected before pressing. It was made sure that specimens are in flowering or fruiting condition. It was ensured that specimens are free from fungal infection, insect feeding and other pathological symptoms. As a general rule single specimen was pressed in folded pressing paper and to avoid discoloration and molding, blotters were changed frequently depending upon nature of specimen and humidity levels than dried in the sun. The dried specimens were poisoned by solution of mercuric chloride and alcohol. The solution was applied to the specimens by dipping into it. Then specimens were pasted on herbarium

sheets, voucher specimens were recorded with their name, place, and date, specimen number and made herbarium. After careful examination the specimen found to be as *Trichodesma zeylanicum* (Burm. f.) R. Br. of family Boraginaceae. Voucher specimen was identified and confirmed with the help of various flora's and herbarium studies in Botanical Survey of India, Central Circle, Allahabad and Duthie Herbarium, Department of Botany, University of Allahabad. These specimens were deposited in Duthie Herbarium, Botany department, University of Allahabad, Allahabad, U. P.

Taxonomic Treatment:

Trichodesma zeylanicum (Burm. f.) R. Br., Prod. Fl. Nov. Holl.: 496. 1810; C. B. Clarke in Hook. f., Fl. Brit. India 4: 154. 1883; Duthie, Fl. Gangetic Plain 2: 95. 1911. *Borago zeylanica* Burm. f., Fl. Ind. 41. 1768; *Pollichia zeylanica* (Burm. f.) F. Muell., Syst. Census Austral. Pl. 100. 1882; *Boraginella zeylanica* (Burm. f.) Kuntze., Revis. Gen. Pl. 2: 435. 1891; *Boraginoides zeylanica* (Burm. f.) Hiern., Cat. Afr. Pl. 1: 720. 1898.

Erect annual hispid herb up to 1.2 ft high exceedingly branched, rough. Leaves 8-10 x 2 cm, oblong-lanceolate, acute at base and acute or obtuse at apex, densely tubercled hairs above, tomentose beneath;

petiole 4-5 mm long. Flowers pedicelled in axillary or solitary cymes; sepals 10 x 5 mm, enlarging in fruit, lobes 5, acuminate; corolla blue, 8 mm long, campanulate, lobes 5, triangular with twisted narrow tip; stamens 5, anthers sessile, hairy below, connivent, connective produced in manner of twisted threads; ovary 4-lobbed and 4-celled; ovules solitary in each cell, style terminal. Fruit of 4 nutlets, rugose on the inner surface, about ½ in., enclosed in persistent calyx lobes, grey when ripe.

Fl. & Fr.: July- January.

Meja, S. kumar: 31034

Distribution and Ecology:

Native to Australia and globally distributed to Asia (India, the Philippines, Malaysia), Africa (Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Namibia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zaire, Zambia, Zimbabwe) and Australasia (Mauritius, Australia and Fiji) (NGRP, 2002; Holm et al., 1979; Reed, 1977; Wells et al., 1986).

Discussion and conclusion:

Interestingly the species was found in agricultural field left after the harvest in big and small patches both. On revisiting the same locality after a few months the species was present there with growing crops and it clearly indicates that it is a

potent weed for crops and agriculture. It is common in occurrence on different localities in different seasons. The species differentiates itself from *Trichodesma indicum* (L.) Lehm. by having lesser variability in leaf, flower and size of the plant.

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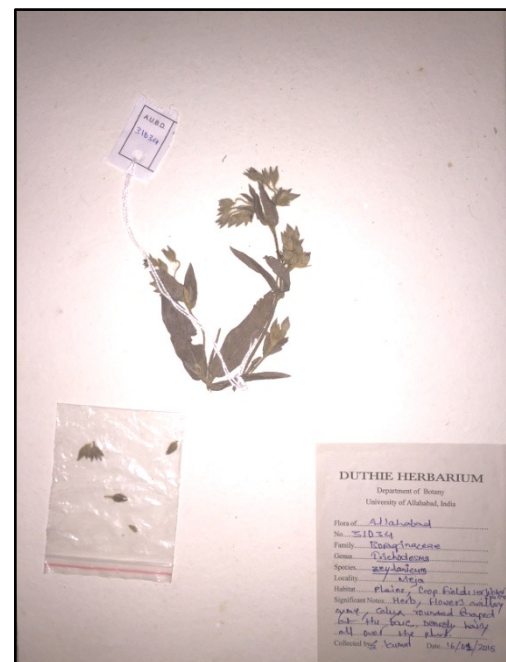


Fig. 1. *Trichodesma zeylanicum* (Burm. f.) R. Br.

REFERENCES

- [1] Brown, R. (1810). *Prodromi Florae Novae Hollandiae*. Vol. 6. 496.
- [2] Burman, N. L. (1768). *Flora Indica*. 41.
- [3] Clarke, C.B. (1883). "Boraginaceae" In J.D. Hooker's *Flora of British India*. Vol. 4. 154. London.
- [4] Duthie, J.F. (1903-1929). *Flora of the Upper Gangetic Plain and of the Adjacent Siwalik and Sub-Himalayan tracts*. (ed.1) Vol. 3. Govt. of India, Central Publication Branch, Calcutta.
- [5] Hiern, W. P. (1898). *Catalogue of the African Plants*. Vol. I. 720.
- [6] Khanna, K. K., Mudgal V. and Uniyal, B. P. (1999). *Dicotyledonous Plants of Uttar Pradesh (A checklist)*. Bishan Singh, Mahendra Pal Singh, Dehradun.
- [7] Kuntze, O. (1891). *Revisio Generum plantarum*. Vol. 2. 435.
- [8] Mishra, B.K. & Verma B.K. (1992). *Flora of Allahabad district, Uttar Pradesh, India*. Bishan Singh, Mahendra Pal Singh, Dehradun.
- [9] Mueller, B. F. V. (1882). *Systematic Census of Australian Plants*. Vol. I. 100.
- [10] NGRP (2002). *World Economic Plants in GRIN (Germplasm Resources Information Network)*. United States Department of Agriculture, Agricultural Resources Service, National Germ plasm Resources Program (NGRP). Beltsville.
- [11] Reed, C. F. (1977). *Economically Important Foreign Weeds: Potential Problems in the United States*. Agricultural Research Service, Animal and Plant Health Inspection Service, U.S. Dept. of Agriculture, Washington, DC. 746.
- [12] Wang, J. C., Shen, S. D. (2001). The genus *Trigonotis* Steven (Boraginaceae) in Taiwan. *Taiwania* 47:159-63.
- [13] Wells, M. J., Balsinhas, A. A., Joffe, H., Engelbrecht, V. M., Harding, G. and Stirton, C. H. (1986). *A Catalogue of Problem Plants in Southern Africa*. *Memoirs of the Botanical Survey of South Africa* 53:1-658.