

RECORD OF *SOLANUM ELAEAGNIFOLIUM* CAV. (SOLANACEAE) FROM VIJAYAPUR DISTRICT OF KARNATAKA

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ABSTRACT

Solanum elaeagnifolium Cav., a silvery pubescent herb was identified during the documentation of Flora of Vijayapur District, Karnataka. The species is close related to *S. nigrum* L., but it can be distinguished by presence of silvery green stellate trichomes on the surfaces of plants, the size and color of the flowers and fruits. The species is recorded on the invasive species list in the subtropical or temperate regions of many European, Mediterranean, African, South American, Asian, and Australian countries. A brief account of habitat, morphological description and photographs is provided for easy identification of the species.

Keywords: Invasive, New Report, *Solanum elaeagnifolium*, Vijayapur, Karnataka

INTRODUCTION

The family Solanaceae comprises 92 genera and ca 2300 species in the world (Hunziker, 2001). It is mostly concentrated in the tropics and subtropics and a few in temperate regions. The family is generally known as the potato or the nightshade family. The *Solanum* L. is the largest genus in Solanaceae. It has approximately 1,250 to 1,700 species (Frodin, 2004; Mabberley, 2008). It is one of the most economically important genus of plants, containing important crop species such as the tomato (*S. lycopersicum* L.), potato (*S. tuberosum* L.), eggplant (*S. melongena* L.), etc. (Weese and Bohs, 2007). In India, the genus is represented by 48 species (Reema Kumari, 2004).

MATERIALS AND METHODS

During floristic exploration surveys in view of documenting the Phyodiversity of Vijayapur district, a species of *Solanum* L. was collected in the vicinity of Vijayapur city, Karnataka. The location has been recorded with the aid of Global Positioning System (GPS-Garmin GPSMAP 60Csx) as 16° 49' 45.3 N 75° 41' 6.0 E. After thorough examination and reference to relevant published literatures, it was identified as *S. elaeagnifolium* Cav. The collected specimen was processed and deposited in the Herbarium of the Botany Department, G. P. Porwal Arts, Commerce and V. V. Salimath Science College, Sindagi, Vijayapur.

RESULTS AND DISCUSSION

Result

Solanum elaeagnifolium Cav., Icon. 3: 22, t. 243. 1795; Willd., Enum. Pl.: 240. 1809; Dunal, Solan. Syn.: 26. 1816; Walp., Repert. Bot. Syst. 3: 67. 1844 - 1845 & in DC., Prodr. 13(1): 290. 1852; R.R. Rao & Razi, Curr. Sci. 43: 734. 1974. (Figure 1).

Type: Cult, in Hortii Bot. Matrit. ex America (MA.)

Armed herb, typical silver-green appearance, reaching up to 40-60 cm high; stems terete, stellately-pubescent, grey; somewhat procumbent, brownish prickles when young throughout; prickles straight, 0.5-1.5 mm long. Leaves simple, alternate, oblong to oblong-elliptic, rounded or oblique at base, entire and slightly undulate at margin, acute-obtuse at apex, 1.5-6 x 0.5-2 cm, lower surface is more silvery than upper; lateral nerves 5-10 on either side, distinct beneath; petioles terete, 0.5-1 cm long. Inflorescence

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solitary cyme, terminal, 1-7 flowered, to 4 cm long, densely prickly. Flowers bisexual; pedicels 1-1.5 cm long. Calyx 5-8 cm long, 5-lobed, united 2/3 from base, lobes valvate, acute tip, hyaline at margin. Corolla rotate, with plicate thickenings, to 1.5 cm long, 5-lobed, lobes ovate, acute, to 13 cm long; tube to 0.2 cm long, yellow. Stamens 5, epipetalous, anthers unequal, oblong, 7-7 mm long, basifixed, poricidal dehiscing, yellow. Ovary globose, to 2-5 mm long, ovary covers by white woolly hairs, style stout, stigma round. Fruit irregularly dehiscent berry, spherical, 10-15 mm in diameter, green (with white patches) and fleshy at first, drying and becoming yellow to orange at maturity. Seed flat and round, 2-3 mm in diameter, 60-120 seeds per fruit.

Phenology: Flowering and fruiting from July to September.

Habitat and Ecology: Especially in wasteland, by roadsides, up to 650 m. Most commonly, the accompanying species are *Boerhavia diffusa* L., *Croton bonplandianus* Baill., *Euphorbia hirta* L., *Parthenium hysterophorus* L., *Sida spinosa* L., *Senna uniflora* (Mill.) Irwin & Barneby and *Tribulus terrestris* L.

Distribution: Native to temperate S. America, Mexico and C. America; Gujarat, Karnataka, Jammu & Kashmir, Maharashtra, Rajasthan and Tamil Nadu Naturalized.

Specimen Examined: India, Karnataka, Vijayapur Dt. Freedom Fighters Colony, 7 July 2017, SBG 720.



Figure 1: *Solanum elaeagnifolium* Cav.; A. Habitat; B. Habit; C. Close View of Flower; D. Close View of Fruits

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Discussion

Organisms migrating to new localities and their descendants have been referred to as alien, adventive, exotic, introduced and non-indigenous (Kambhar and Kotresh, 2011). The species of *S. elaeagnifolium* has been introduced from North America to Africa, Asia, Australia, Europe, and South America where it is an invasive weed of croplands and pastures, mostly in cultivated land, disturbed areas, and overgrazed areas with low rainfall (Uludage *et al.*, 2016). The species of *S. elaeagnifolium* has been reported from numbers of localities in the different parts of the country. In Razi and Rao (1974) reported this *Solanum* species from Mysore city in very compact population and they were observed that the fruit setting was very rare. The present report is a new arrival to the flora of Vijayapur district, we have found more than 100 individuals and observed good fruit setting. The same species have been reported in Barshi, Solapur District of Maharashtra (Garad *et al.*, 2015). This species has a negative impact on crops, causing yield loss and also toxic to livestock due to presence of Solasodine alkaloid in berries (Uludage *et al.*, 2016). The plant is officially declared as a noxious weed in several countries. Therefore, it is require careful monitoring the population in future and its impact on local biodiversity in the Karnataka.

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