



Spigelia anthelmia L. (Loganiaceae): A new generic record to the flora of Kachchh, Gujarat, India

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Abstract

Spigelia anthelmia L. (Loganiaceae) is newly recorded to the Flora of Kachchh from coastal area of Mundra taluka. The landscape is dominated by mixed thorn forest with sparse grassland and sandy substratum. For long-term conservation and detail analysis on ecological aspect we proposing to start in-depth survey in and around the recorded habitats and coastal ecosystem. Detailed description and photographs are also provided here for easy identification.

Keywords: *Spigelia anthelmia* L., new record, flora of Kachchh, Gujarat, India

Introduction

Kachchh, a largest district of India located in western India close to Indo-Pakistan border. Main forest types of Kachchh are thorn forests and Savannah forest with undulating scrubland. During the plant diversity survey of coastal area in Mundra taluka, the authors was observed an interesting herb species. After critical observations in the field as well as laboratory collected specimens was identified as *Spigelia anthelmia* L. with the help of authentic literature (S. L. Meena, 2014; R. J. Desai & V. M. Raole, 2013) [16, 15]. The genus *Spigelia* L. comprises about 70 species, distributed in the modern world (Heywood *et al.*, 2007) [22]. For India, the first occurrence of *Spigelia anthelmia* L. was reported from Jabalpur, Madhya Pradesh by Oomachan & Srivastava (1987) [18]. Subsequently few more records found from India (Umamaheshwari, 2000; Perdeshi & Srinivasu, 2006; Meena & Yadav, 2010) [20].

The district Kachchh, despite having arid climate and unique geography, can be consider as a biologically rich region. Due to unique geographic location Kachchh district contains many valuable rare, endangered and threatened plants which was restricted only for this region. In past, many researchers had been worked extensively on various expects of angiosperm systematic like Palin (1880) [6], Blatter (1908-1909) [7], Thaker (1926) [1], Kapadia (1954) [8], Puri, Jain, and Despande (1959), Jain and Kanodia (1960) [10], Anon (1971) [3], Patel (1971), Rao, K. S. S. and Sabnis S. D. (1977) [11], Shah (1978) [2], Bhandari (1990) [4], Bhatt (1993) [5], Joshi (2002) [13] and Patel *et al.*, (2011) [14]. Apart from this, the last comprehensive study on the Flora of Kachchh done by Gujarat Institute of Desert Ecology (Patel *et al.* 2011) [14], they have recorded a total 988 angiosperm plant species (including one gymnosperm). Our recent literature review concluded that the family Loganiaceae was first time observed from the entire region. Hence, *Spigelia anthelmia* L. recorded as new generic addition to the Kachchh flora. A brief description, field notes and photographs provided for easy identification.

Taxonomic description

Spigelia anthelmia L., Sp. Pl. 149, 1753; Oomachan & Srivastava in J. Bombay Nat. Hist. Soc. 84 (3): 730-732. 1987; Umamaheshwari *et al.* in Nelumbo. 37 (1-4): 133-137. 1995; Pardeshi & Srinivasu in Nelumbo. 48 (1-4): 201-204. pl.1 & 2. 2006; Meena & Yadav in J. Indian Bot. Soc. 89 (3 & 4): 258-261. 2010. Meena *et al.* in J. Econ. Taxon. Bot. 38 (2): 340-342. 2014.

Annual herb, 10-60 cm high, glabrous, Unbranched or with few pairs of branches arising near the base; Stem erect, cylindrical, glabrous; Leaves opposite decussate, 5-8 x 2-4 cm, ovate-lanceolate, base cuneate, apex acute, margin entire, leaves from the main stem are larger than lateral branches; Inflorescences terminal, one sided cymose, very short peduncle; Flower bisexual, 1.5-2 cm, sessile or subsessile; Calyx lobes 5, free up to base, slightly unequal in length, ovate-linear-lanceolate. Corolla lobes 5, white with two pink nerves in the middle; Stamens 5, inserted slightly below the middle of the corolla tube; anthers yellow; Ovary superior, placentation axile; Capsules 2 lobed, 4 valved; Seeds ovoid, black.

Flowering and Fruiting

June – October

Specimen Collected

India, Gujarat, Kachchh, Mundra, near coastal area of Shiracha village.

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Field notes

The actual habitat of plant was moist places in the forest, near streams and river banks (Narmada river), but here we incidentally recorded in sandy-loamy flat land near costal area. Habitat is dominated by thorny-mixed species are *Procopis juliflora* and other aassociate species are *Achyranthes aspera* L., *Abutilon indicum* L., *Aristida* sp., *Rhynchosia minima* (L.) DC., *Ipomoea coptica* (L.) Roth ex

R. & S., *Vernonia cinerea* (L.) Less., *Commelina* sp., and *Pentatropis capensis* (L. F.) Bullock. etc. In addition, recorded localities are also very close to several industries and power plants with dominated by green belt plantation in

and around the developmental projects. This landscape is also observed grazing by local livestock as well as blue bull (locally called Nilgai) and wild boar (locally called Jungli Suvar).



A



B



C



D

Fig 1: *Spigelia anthelmia* L.: A- Habit, B- Flower, C- Inflorescence, D- Fruit

Conservation status

In present study only 4 individuals were observed from single locality which shows urgent need for site specific conservation of this species. Since this is very rare species in recorded habitats, a detail survey is proposed to carryout for status assessment and long-term conservation of this species. Herbarium of *Spigelia anthelmia* L. deposited at Vande Vasundhara Research Laboratory, Bhuj- Kachchh.

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