



HELIOTROPIUM L. IN HAROTI PLATEAU, SOUTH-EAST RAJASTHAN

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Heliotropium L. is cosmopolitan genus, which are commonly known as heliotropes, belongs to family Boraginaceae. It is most common weed, usually annual herbs. Inflorescence of this genera transformed into the heliotrope, whose flowers supposedly always face the Sun. Habitat and systematic enumeration of various species of *Heliotropium* L. of Haroti plateau is considered in this communication.

Key Words: Boraginaceae, Ecosystem, Floristic, *Heliotropium* L., Herbarium,

INTRODUCTION

Haroti plateau is situated at the edge of the Malwa plateau at 23°45' to 25°53' N latitude and 75°9' to 77°26' E longitude in the south eastern corner of Rajasthan. *Heliotropium* L. belongs to family Boraginaceae. Boraginaceae is the borage or forget-me-not family, includes herbs, shrubs and trees with a worldwide distribution. The name 'heliotrope' derives from the old idea that the inflorescences of these plants turned their rows of flowers to the Sun.

Heliotropium L. is mostly annual hispid herbs or subshrubs. Leaves alternate or in a few species opposite, sessile or petiolate, entire or denticulate. Inflorescences cymes unilateral, spike-like, dense or lax, usually scorpioid, terminal, simple or branched, with or without bracts or flowers solitary at apices of leafy branches. Flowers are small, hermaphrodite and regular. Fruit dry or slightly fleshy, breaking into 4 distinct 1-seeded nutlets at maturity or cohering in pairs or reduced to 1 nutlet by abortion. Seeds straight or curved, generally with endosperm. Occurrence and morphological description of different species of *Heliotropium* L. in Haroti plateau have been pointed out in this observation.

RESEARCH METHODOLOGY

Important floristic and ecological studies of various part of India have been made by various authors (Das and Bhimaya, 1964; Vyas, 1967; Agarwal, 1971; Kanodia and Gupta, 1972; Dadhich, 1974; Shetty and Singh, 1987-93; Meena, 2012; Sharma, 2017, 2021 and 2022). The main herb associate species of *Heliotropium* L. in the area are *Solanum virginianum*, *Portulaca oleracea*, *Malvastrum coromandelianum*, *Indigofera cordifolia*, *Indigofera linnaei*, *Euphorbia hirta*, *Euphorbia prostrata*, *Phyllanthus fraternus* etc.

A survey of the whole area was carried out during July 2019 to May 2022. The information regarding the present work was noted. Herbarium specimen of different species of this weed were collected and preserved in herbarium chamber, Govt. College Bundi by author. Considerable account of *Heliotropium* L. of area are discussed in this communication.

RESULTS AND DISCUSSION

Heliotropium L. species are typically herbs or subshrubs exclusively, and belongs to family Boraginaceae. *Heliotropium* word given from the Greek *helios*, the sun and *trope*, to turn towards as spikes uncoiling as the flower opens. *Heliotropium* L. have 5-merous, tetracyclic flowers and actinomorphic corollas. They likewise share in their characteristic terminal styles and highly modified stigmatic heads. The plants characterized by their dry fruits that divide into two or four mericarps. The present work deals with distribution and habits of various species of *Heliotropium* L. in Haroti Plateau, a part of south-east Rajasthan.

1. *Heliotropium europaeum* L.

Family: Boraginaceae

A much hairy herb, rough, semi woody base, ascending, leaves ovate, to obovate. Flowers in long spikes, in two rows, violet-white, fruit lobed, nutlets hairy.

The weed occurs in fallow fields after *Rabi* cereals have been harvested, and also common in moist places.

Fls. and Frs: August to March.

2. *Heliotropium indicum* L.

Family: Boraginaceae

A perennial hispid weed, leaves ovate, wavy and hairy. Flowers in terminal two ranked spikes with marked dorsiventral uncoiling as the flower opens, uniparous Scorpions, white to pale violet, fruits ovoid, 4 nutlets.

Common in wastelands and along the road sides.

Fls. and Frs: Almost throughout the year.

The plant is applied externally to boils and swelling.

3. *Heliotropium ovalifolium* Forssk. (Syn. *Euploca ovalifolia* (Forssk.) Diane & Hilger)

Family: Boraginaceae

A decumbent weed, velvet hairy, leaves obovate, elliptic. White flowers in terminal forked spikes, fruits spherical, nutlets hairy and ovate.

Common in cultivated fields and near the ponds, tanks etc.

Fls. and Frs: August to June.

4. *Heliotropium strigosum* Willd.

Family: Boraginaceae

Common name: Arkali

A procumbent weed, stiff-hairy, perennial herb, branched, woody at the base, leaves linear-lanceolate. Flowers in lax spikes, calyx lobes ovate, enlarging in fruit, corolla salver shaped, stigma conical, fruit nutlets conical.

Common in fields, open areas and wastelands.

Fls. and Frs: August to December.

5. *Heliotropium supinum* L.

Family: Boraginaceae

A prostrate annual herb, branched, clothed with brown-woolly densely hairs, leaves ovate to obovate, with dense hairs. Flowers are arranged in a single row, white, fruits spherical, nutlets tubercled.

Common on road sides and cultivated fields.

Fls. and Frs: August to March.

6. *Heliotropium zeylanicum* (Burm. f.) Lam.

Family: Boraginaceae

Common name: Kali bui

An erect, annual, herb, annual to perennial, appressed hairy, ascending branches; leaves linear, sparse hairy, dark green. Flowers in long spikes, white, hairy. Fruit spherical, compressed, lobed and hairy.

Common in dry and waste lands.

Fls. and Frs: August to March.

Environmental factors especially biotic and edaphic factors much influences the herbaceous local vegetation of area. These six species of *Heliotropium* L. are commonly distributed in Haroti region.

CONCLUSION

Rich species diversity of various herbs is found in south-east Rajasthan. These plays a significant role in maintaining the biodiversity of area. Different weed species of angiosperm plants grows in different habitat. These weeds invading the various sub-moist vegetations of area. This paper communicates information about habitat and general account of various species of *Heliotropium* L. in this area.

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