



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 11, Issue 10, October 2022

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.118

 9940 572 462

 6381 907 438

 ijirset@gmail.com

 www.ijirset.com



Parasitic Plants of Haroti Region, South-East Rajasthan, India

Dr. O. P. SHARMA

Associate Professor, Department of Botany, Government College Bundi, Rajasthan, India

ABSTRACT: Some wild plant obtained their food for others plants known as parasitic plants. Parasites weeds develop a specialized organ called the haustorium, which penetrates the host plants, connecting them to the host vascular union. Parasitic weeds of Haroti region (a part of south-east Rajasthan) have been communicated in present paper.

KEYWORDS: Angiosperm, Deciduous, Haroti region, Haustorium, Parasitic

I. INTRODUCTION

Parasite plants obtain all or part of its nutrition from another plant without contributing to the benefit of the host. Generally parasitic plants causing extreme damage to the host. With the help of haustorium parasitic plants penetrates the host. Haustorium is a structural feature of these plants which penetrates the parent host plant.

Haroti region covers Kota division of Rajasthan and includes Kota, Bundi, Jhalawar and Baran districts respectively. The climate of the region favours the growth of dry deciduous forests vegetation. 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. The Haroti plateau has dense floristic diversity suggests various plant species. The present observation aimed at studying the plant species of parasitic plants as a case study in reference of Haroti region of Rajasthan state.

II. RELATED WORKS

The notable contribution from ecological studies particularly on vegetation of angiosperms of India includes Brigopal, 1971; Dadhich, 1974; Majumdar, 1981; Sharma, 2002; Singh, and Kushwaha, 2006; Hegde and Bhat, 2012; Kumar, 2012; Meena, 2012; Sharma, 2017 and 2022. Parasitic angiosperms of Haroti region have been observed in present communication.

III. METHODOLOGY

The present study is based on field observations and collection tours during 2020 to 2022. An attempt has been made to record the parasitic plants of Haroti region. Extensive surveys were conducted of whole area (forest, grassland and crop fields) in different seasons to assess the parasitic plant species of different families. During investigation 05 common parasitic plant species were identified. Herbarium specimen were collected and preserved in herbarium chamber, Government college Bundi by author.

IV. EXPERIMENTAL RESULTS

Parasite plants obtained their food for others (host) plants. Some parasites are most common like *Orobanchaegyptiaca* Pers., *Orobanchecernua* Loefl., *Striga angustifolia* (D. Don.) Saldhana., *Striga asiatica* (L.) Ktze. and *Cuscutareflexa* Roxb., they may be seen elsewhere. The most common parasite among them is *Cuscutareflexa* Roxb., commonly known as Amerbel, which is found on many angiosperm trees and shrubs as stem parasite. Another important parasite is *Orobanchaegyptiaca* Pers. and *Orobanchecernua* Loefl. These are root parasites, growing on tomato and brinjal plants. *Striga angustifolia* (D. Don.) Saldhana. and *Striga asiatica* (L.) Ktze.,



are also common parasite found on the grasses. These five common parasitic angiosperm species are enumerated in present communication which are arranged alphabetically.

1. *Cuscutareflexa* Roxb.

Family: Convolvulaceae

Common name: Amar bel, Dodder, Akash bel

A twining herb, root absent, stems smooth, leafless, yellow green, twining about and adhering by absorbing roots to the stem of the host plant, leaves reduced to scales. Flowers solitary or clustered in the axils of these scales, corolla white and bell shaped, coronary outgrowth present, stamens 5, carpels 2, style short or absent, stigma bilobed and reflexed. Fruit capsule globose, depressed.

Cuscutareflexa Roxb. is twining total stem parasitic herbs with yellow stem and without root, leaves absent or scaly and growing on many angiosperm plants. Its stem is weak, twiner, pale green, climbing and develop haustoria at the point of contact with the host.

Most common parasite weed on many bushes and medium sized trees.

Fls. and Frs: September to February

It growing as a total stem parasite on many hedges and small trees like *Ziziphus*, *Duranta*, *Adhatoda*, *Acacia nilotica* etc. Adventitious parasitic roots or haustoria penetrate the tissue of the host. The *Cuscutareflexa* Roxb. do much damage to their hosts about which they twine and grow their haustoria into their stems and rob them of their food.

2. *Orobanchaegyptiaca* Pers.

Family: Orobanchaceae

Common name: Sarson banda, Banda

An annual fleshy root parasite, stems scaly, few branches. Flowers many, in dense or lax racemes, sessile or minutely stalked, bracteates. Sepals 4, tubular, petals 4, bluish, bi-lipped, tube curved, upper and lower lips, stamens didynamous, hairy at the base, ovary 1 celled, many ovuled. Capsules oblong, many seeded, 2 valved, seeds minute, ovoid, reticulate.

The weed comes up in agricultural lands during winter seasons. It generally parasitizes on the roots of Rabi crops like Brassicaceae (*Brassica* spp. mostly) and Solanaceae (*Solanum melongena* and *Nicotiana* spp. very common) crops in most of the areas.

Fls. and Frs: January to March.

3. *Orobanchecernua* Loefl.

Family: Orobanchaceae

Common name: Banda

An annual erect root parasite, fleshy, leafless stalk, pale purple or brown. Flowers arranged in long spikes, pale-violet, bi-lipped, capsules sub orbicular, seeds ovoid.



An aggressive root parasitic weeds, generally parasitizes on the roots of Solanaceae family members (particularly *Solanum melongena*, *S. tuberosum*, *Nicotiana tobacum* and *Lycopersicon esculentum*). Its seedling put out a root like growth, which attaches to the roots of solanaceous hosts and cause considerable damage commercially to host plants.

Fls. and Frs: December to April.

4. *Striga angustifolia* (D. Don.) Saldhana.

An erect, annual root parasite, leaves sessile and rough. Flowers white, solitary, in long racemes, axillary borne, sepals rough, 15 ribbed, tubular, tube toothed in upper half, petals white, corolla bi-lipped, tubular, tube slender. Fruit capsules cylindric, dehiscing by two valves, seeds many, dark brown and ovoid.

Locality: Common semi root-parasite on crop fields and grassy areas.

Fls. and Frs: August to October.

5. *Striga asiatica* (L.) Ktze.

An erect, annual root parasite, stems slender, with stiff hairs, leaves sessile, linear and hairy. Flowers in long spikes, calyx ribbed and 5 toothed, corolla 2 lipped, red or yellow, capsules oblong.

Locality: Common semi root-parasite on crop fields and grassy areas.

Fls. and Frs: August to October.

V. CONCLUSION

Haroti plateau has been found to support luxuriant growth of angiosperms. The forest vegetation of area is described as 'tropical dry deciduous. Parasitic plants derive some or all of its nutritional requirements from another living plants. Haustorium forms a vascular union between the host and parasite plant. The toughest conflict between crops and weeds mostly for food and sometimes it causes serious damage to host plant. This article deals with parasites of Haroti region of Rajasthan state.

REFERENCES

1. Brig gopal. (1971). Introductory plant ecology. Tara Publication, Varanasi. Pp. 1-144.
2. Dadhich, L.K. (1974). Studies on vegetation of Jhamarkotra hills and its neighbourhood, Ph.D. Thesis, University of Udaipur.
3. Hegde, G.T. and Bhat, D.M. (2012). Wild plant species used in Hindu festivals- A case Study from Uttara Kannada district, Western Ghats, South India. Life Sciences Leaflets, 3: 1-6.
4. Kumar, S. (2012). Herbaceous flora of Jaunsar-Bawar (Uttarkhand), India: enumerations Phytotaxonomy. 12: 33-56.
5. Majumdar, R.B. (1981). Synoptic flora of the Kota division (S.E. Rajasthan), III Bull. Bot. Surv. India 22: 24-41.
6. Meena, S. L. (2012). A checklist of the vascular plants of Banaskantha district, Gujarat, India Nelumbo. 54: 39-91.
7. Sharma, N. K. (2002). Tree flora of Jhalawar district (Rajasthan) with reference to floristic diversity and phytogeography. Bull. Bot. Surv. India. 44 (1) 25 – 60.
8. Sharma, O. P. (2017). Traditional practices of *Ziziphus* Mill in Haroti plateau, Rajasthan. Int. J. Pure App. Bio. Sci. 5 (5): 1252 – 1254.
9. Sharma, O. P. (2022). Common weeds of Kharif crops of Bundi district, Rajasthan, India. IJIRSET. Vol. 11. Issue 05: 6098-6100.



10. Sharma, O. P. (2022). Weed-seed identification: A useful tool for seed biology. IJRAR. Vol. 9, Issue 02: 383-385.
11. Singh, K. P. and C. P. Kushwaha. (2006). Diversity of flowering and fruiting phenology of trees in a tropical deciduous forest in India. Annals of Botany. 97: 265-276.



INNO SPACE
SJIF Scientific Journal Impact Factor
Impact Factor: 8.118



ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 **9940 572 462**  **6381 907 438**  **ijirset@gmail.com**



www.ijirset.com

Scan to save the contact details