



## Research paper

### Exotic Versus Native Plant Species: A Case Study in Ramgarh Vishdhari Wildlife Sanctuary, Bundi, Rajasthan

O. P. Sharma

Department of Botany, Government College Bundi, Rajasthan, India

Email: opsharmabundi68@gmail.com

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**Abstract:** Ramgarh Vishdhari wildlife sanctuary is a single compact and large forest ecosystem in Haroti region. Exotic species cause several negative impacts on forest ecosystem of sanctuary area. Exotic plant species does not allow the native species to grow naturally. Native plant species are adaptable to climatic and edaphic conditions of area. The present paper deals as a case study of exotic versus native plant species of Ramgarh Vishdhari wildlife sanctuary.

**Keywords:** Angiosperm, Ecosystem, Exotic, Habitat, Keystone species, Native

#### Introduction:

Ramgarh Vishdhari wildlife sanctuary of Bundi district, is a part of Haroti plateau. It is a single compact and large forest ecosystem in Haroti region. It lies in the south-eastern portion of Rajasthan between 24° 59' 11" to 25° 53' 11" North latitude and 75° 19' 30" to 76 ° 49' 30" East longitudes. In the present paper, an attempt has been made to record and enumerate the conflict between native and exotic plant species of Ramgarh Vishdhari wildlife sanctuary and their impact on ecosystem and natural habitat.

Exotic species grows and spread fast and interfere the natural floristic composition of forest stand and thus, ultimately disturb the native biodiversity. These exotic species cause several negative impacts on forest ecosystem of sanctuary area. Therefore, some keystone plant species of angiosperms becomes threatened, so it is urgent need to conserve them into natural habitat.

The vegetation of the Ramgarh Vishdhari wildlife sanctuary of Bundi district is tropical dry deciduous. The Indigenous dominant trees and shrubs species of the area are *Anogeissus pendula*, *Butea monosperma*, *Manilkara hexandra*, *Mitragyna parvifolia*, *Acacia nilotica*, *Acacia catechu*, *Wrightia tinctoria*, *Sterculia urens*, *Balanites aegyptiaca*, *Bauhinia racemose*, *Acacia leucophloea*, *Grewia flavescens*, *Phoenix sylvestris*, *Ziziphus mauritiana*, *Ziziphus nummularia* and *Adhatoda zeylanica*. In order to present study indigenous versus invasive plant species according to different physical regions of forest ecosystem of Ramgarh Vishdhari wildlife sanctuary have been taken into consideration.

### Materials and Methods:

To record the relevant information, different areas of Ramgarh Vishdhari wildlife sanctuary were visited in different seasons by author from 2020 to 2022. Many indigenous plant species of these localities need to be conserved. Hence herbal plant wealth of this area should be protected through in-situ conservation.

Important studies on the floristic and ecological work of various part of India have been made by Mathur (1960), Das and Bhimaya (1964), Vyas (1967), Bell, et. al., (2010), Meena (2012), Gayake et. al., (2013), Vashistha and Kaur (2013), Jadhav (2016) and Sharma (2018, 2019 and 2022). Considerable account of indigenous versus invasive plant species of area are discussed in this communication.

### Results and Discussion:

Ramgarh Vishdhari wildlife sanctuary area is rich in flora and fauna. The area shows more diverse plant species of angiosperms. Invasive alien plant species are non-indigenous species that spread fast and interfere in a new ecosystem by posing a dangerous threat to the native biodiversity. *Prosopis juliflora* (Sw.) DC. is considered as most noxious invasive exotic weeds. It causes several negative impacts on forest ecosystem of sanctuary area. Some valuable plant species becomes threatened, so it is urgent need to identify these indigenous important plant species of area and conserve them into natural habitat. Dominant exotic and native plant species of forest of Ramgarh Vishdhari wildlife sanctuary along with botanical name, common name and family have been documented and presented in this paper. Therefore, field botanical survey and systematic study is required. A general account of indigenous plant diversity of area is considered in this communication. Important native plants of area have been documented and presented in a table form,

along with importance, present status and conservation measures are also described.

### Exotic plant species of area –

1. *Ipomoea carnea* subsp. *fistulosa* (Mart. ex Choisy) D. F. Austin.  
Family: Convolvulaceae  
Common name: Besharam, Nagar pan.
2. *Lantana camara* L.  
Family: Verbenaceae  
Common name: Badbina
3. *Lantana veronicifolia* Hayek (Syn. *Lantana wightiana* Wall. ex-Gamble)  
Family: Verbenaceae  
Common name: Safed badbina
4. *Parthenium hysterophorus* L.  
Family: Asteraceae  
Common name: Gajar ghas
5. *Prosopis juliflora* (Sw.) DC.  
Family: Mimosaceae  
Common name: Bulia, Angreji Babool.

### Native plant species of area –

1. *Acacia catechu* (L. f.) Willd.  
Family: Mimosaceae  
Common name: Kattha
2. *Acacia nilotica* (L.) Willd.  
Family: Mimosaceae  
Common name: Babool
3. *Aegle marmelos* (L.) Corr.  
Family: Rutaceae  
Common name: Bilva, Bel
4. *Anogeissus pendula* Edgew.  
Family: Combretaceae  
Common name: Dhok, Dhokra
5. *Azadirachta indica* A. Juss.  
Family: Meliaceae  
Common name: Neem
6. *Balanites aegyptiaca* (L.) Del.  
Family: Balanitaceae  
Common name: Hingota
7. *Butea monosperma* (Lam.) Taub.  
Family: Fabaceae  
Common name: Dhak, Khakhra
8. *Cassia fistula* L.  
Family: Caesalpiniaceae  
Common name: Amaltash
9. *Dichrostachys cinerea* (L.) Wt. & Arn.

Family: Mimosaceae

Common name: Goya khair, Kunali

10. *Ehretia laevis* Roxb.

Family: Ehretiaceae

Common name: Tamboli, Chamaror

11. *Holoptelea integrifolia* (Roxb.) Planch.

Family: Ulmaceae

Common name: Churel

12. *Manilkara hexandra* (Roxb.) Dubard

Family: Sapotaceae

Common name: Rayan, Raini

13. *Mitragyna parvifolia* (Roxb.) Korth.

Family: Rubiaceae

14. *Moringa oleifera* Lam.

Family: Moringaceae

Common name: Sahejana

15. *Pongamia pinnata* (L.) Pierre

Family: Fabaceae

Common name: Karanj

16. *Terminalia arjuna* (Roxb. ex Dc.)

Wight & Arn.

Family: Combretaceae

Common name: Arjun

17. *Vitex negundo* L.

Family: Verbenaceae

Common name: Nirgundi, Negarh

Ramgarh Vishdhari wildlife sanctuary is famous for bio diversity, and many water reservoirs. Due to climate changes, environmental degradation, deforestation, over exploitation of resources, invasive of exotic species and many biotic factors, number of indigenous plants are going under endangered condition. Present observation forms base-line information of exotic as well as indigenous plant diversity of this area.

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