

Valmiki Tiger Reserve: The Green Heart of Bihar

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OPEN ACCESS

Keywords

Valmiki Tiger Reserve; Diversity; Tiger reserve; Green Heart

How to cite this article:

Kumar, P., Ranjan, V. K., Kumari, R. and Sonalika. 2026. Valmiki Tiger Reserve: The Green Heart of Bihar. *Vigyan Varta* 7 (09): 168-172.

ABSTRACT

The Valmiki Tiger Reserve is the only tiger reserve in the state of Bihar, and it is the green heart of Bihar; located in the Terai arc landscape of North India, which supports diverse flora and fauna. The reserve consists of Sal forests that are very dense, grasslands, wetlands and riverine habitats. It is considered as home to the Royal Bengal Tiger as well as many other species, and its ecosystem provides important services for climate, air, soil and water. It has numerous values beyond ecology supports scientific research, environmental education, eco-tourism and local people's livelihood. The long-term conservation of the state's heart zone sustained environmental health and sustainable development through the flora and fauna.

INTRODUCTION:

Valmiki Tiger Reserve (VTR) has been blessed by nature with marvellous natural gems. An animated wilderness where nature thrives in its unadulterated form. Suppose in a forest where the magisterial roar of a Bengal tiger resonates through stately Sal trees, multi colored birds' high goosebumps in their surrounding with the melodious sound and crystal-clear rivers, wind peacefully sheltered by the towering Sal trees.

Valmiki Tiger Reserve is the only tiger reserve in the state of Bihar. This sanctuary is nestled in the northwestern corner of the Bihar at the foothills of the Himalayas and is one of India's richest biodiversity hotspots. VTR is the largest ecosystem in Bihar, a sanctuary for rare wildlife and a symbol of successful conservation. Due to this reason, it is affectionately called as the "**Green Heart of Bihar**"(Maheswaran, 2024).

Geographical Distribution

The VTR is situated in Bihar's West Champaran district along the India-Nepal border, between 27°10'N and 27°30'N and 83°50'E and 84°10'E. Centred near 27.33167°N, 84.16250°E, the VTR borders Chitwan National Park in the north and Uttar Pradesh to the west. It covers 900 km² area and encompasses grasslands, swamps, forests, valleys and riverine habitats in the Shivalik foothills. It is formed by Terai or Bhabar landscapes, and nourished by rivers like Pandai or Gandak; and hence provides an important ecological corridor in the Terai Arc Landscape, and supports rich biodiversity (NTCA).

Historical overview

Valmiki Nagar where VTR is situated, is also called the "Bhainsalotan" meaning 'buffaloes wallow'. The city was named because it was once the natural habitat of the haunt of wild buffaloes in the region of the Terai. It is rich in folklore and heritage. It is related to Rishi Valmiki ashram, Triveni Dham and sacred temples like Jata Shankar Mandir, Nar Devi Mandir and Kaleshwar Mandir. The Kaleshwar Mandir was built during the reign of Bettiah Raj.

Climate

VTR has three different types of seasons. Summers hold out from mid-March until June. The hot westerly winds in the starting month of May show the maximum temperature of 45°C. The monsoon season expands from June and stays till September, and the area receives ~1106 mm rainfall yearly (Singh, 2013). Winter sets in from November and goes on by fog and light showers till the month of January. This season generally show the lowest temperature downfall to 5°C.

The Green Heart of Bihar

The VTR and wildlife sanctuary is surrounded by a large forest area. Forests are often the "green lungs" and "green heart" of an area because they sustain life through conserving biodiversity or wildlife, producing oxygen, sustaining tropical forests, grasslands, wetlands and riverine habitats. In the state, it is the largest green ecosystem, a sanctuary for rare wildlife and a symbol of successful conservation. For these reasons, it is affectionately known as the "Green Heart of Bihar" (WTI, 2012).

Floral diversity

VTR denotes a notable landing place for nature lovers for the reason that, as per Seth and Champion's classification, it holds 7 types of forests designed by diverse topographical and edaphic conditions (**Champion and Seth, 1968**). It contains West Gangetic Moist Mixed Deciduous Forest, Khair Sissoo Forest, Bhabar Dun Sal Forest, Eastern Wet Alluvial Grassland, Dry Siwalik Sal Forest, Barringtonia Swamp Forest, and Cane Brakes and also gives a very pretty naturalistic landscape.

The valley region are rich in important tree species like as Asan (*Terminalia tomentosa*), Bahera (*Terminalia balerica*), Sal (*Shorea robusta*), Simal (*Salmelia malaberica*), Satsal (*Dalbergia latifolia*), Asidh (*Lagestromia parviflora*), and Karam (*Adina cardifolia*). In the hilly regions, Harra (*Terminalia chebula*), Piyaar (*Buchanania lanzon*), Bhelwa (*Semicarpus anacardium*), Boderia (*Eugenia operculata*), Mandar (*Dillenia aurea*), and Banjan (*Anogeissus latifolia*) are usually found in this region.

In the Madanpur Forest block are specially found cane breaks, those are good for Tiger habitat. The cane is called as BETTH in Hindi. The term "Bettiah" name is derived from this BETTH. Another unique feature of VTR is the

Chir pine forest which is isolated in small area in those are called as DHUP, in the block of Raghia forest. In general, the Chir pine tree occurs at height of 4000 to 5000 ft. but in VTR it is seen at an altitude of 1000 to 1700 ft. and this is the unique feature of the Chir pine tree present in this region.

The grasslands of Valmiki Tiger Reserves contain Elephant grass (*Typha elephantina*), Kans (*Saccharum spontaneum*), Narkat (*Phragmites karka*), Munj (*Saccharum munja*), Choranth (*Heteropogon contortus*), *Imperata cylindrica*, *Vitiveria zizanioides*, Sabai (*Eulaliopsis binata*), etc. Climbers are also most common in VTR, the common species being Panilat (*Vitis repanda*), Arar (*Acacia pinnata*), Mahulan (*Bauhinia vahlii*), Ramdatwan (*Smilax parviflora*), and Mahai (*Butea parviflora*).

The VTR also contains different type of medicinal plants. Some of them are Amla (*Emblica officinalis*), Piper (*Piper longum*), Satawar (*Asparagus racemosus*), Dudhkoraiya (*Holarrahenia antidysenterica*), Safed Musli etc.

Some of the rare elements of VTR are Saraca asoca, Naravelia zeylanica, Pterospermum acerifolium, Xantolis tomentosa, Abrus pulchellus, Olax scandens, Trevesia palmata, Coffea khasiana, Leucas helicterifolia, Agrostemma sarmentosum, Lobelia nicotianaefolia (Johnsingh *et al.* 2004).



Figure -: Mimosa pudica, Bhabar Dun Sal Forest, Zingiber zerumbet, Chlorophytum tuberosum
Source -: <https://valmikitigerreserve.com/plant-diversity/>

Faunal Diversity

The Valmiki tiger reserves regions is rich in diverse wildlife. Valmiki Tiger Reserve included 50 species of fishes, approximately 37 species of reptiles, 250 species of birds, and 58 species of mammals among the vertebrate fauna. In the category of invertebrate, VTR include 100 species of moths, 30 species of spiders, 50 species of dragonflies and damselflies and 100 species of butterflies and almost 250 species of different insects have been sighted (Caughley, 1977).

Mammals species like Tigers, wild dogs, leopard, hyena, Indian gaur, wild dogs, sloth bear etc, reside in VTR. Many species of antelope and deer viz hog deer, barking deer, spotted deer, blue bull, sambhar, are also present. Apart from these, wildcat, leopard cat, fishing cat, Himalayan pangolin, fishing cat, serow, wild boar, flying squirrel, civets, serow, etc. species are viewed in the VTR (Nand Kishor, personal observation).

Reptiles species like king cobra, krait, cobra, viper, king cobra, banded krait, sand boa, python, monitor lizard etc are also prominently found in this region. Gandak River which forms the western boundary of the reserve is home to Crocodiles, Ghariyal, and Dolphins (Maheswaran, 2024).

Birds species not like as Stork-Billed Kingfisher, Common Hoopoe, Brown Fish-Owl, Rufous Woodpecker, Indian Peafowl and butterflies species such as Plain Tawny Rajah, Peacock Pansy, Glassy Tiger, Lime Butterfly are found in VTR. Apart from these, some fish species are also found there, including Rohu, Catla, Mrigal, Mahseer, etc.



Figure -: Tiger, Indian rhinoceros, Indian Gharial and Vernal hanging parrot

Source-:<https://valmikitigerreserve.com/wildlife-diversity/> (merge using Gemini AI)

Valmiki Tiger Reserve

VTR is the only one tiger reserve in the state of Bihar. Valmiki National Park was its established not situated in 1990. The history of conservation in this region begins with the Valmiki Wildlife Sanctuary establishment in 1978 for the safety for rich biodiversity and forest ecosystem. After that the Indian Government declared the area as Valmiki Tiger Reserve in 1990 under Project Tiger and VTR became the 18th Tiger Reserve in India (Wildlife Institute of India). It is connected with the Suhagi Barwa Wildlife Sanctuary in Maharajganj district of Uttar Pradesh and Chitwan National Park of south-central Nepal. It is divided into two forest divisions and those are managed by the under 8 ranges such as Valmiki Nagar, MadanPur, Harnatand, Raghia, Gobardhana, Ganuali, Chiutaha, and Manguraha. The reserve is into 65 sub-beats forests which serve as the management units. Valmiki Tiger Reserve is internationally recognized for its exceptional biodiversity. It is home to the **Royal Bengal Tiger**, Sambar, Indian gaur, wild boar, barking deer, leopard, chital, and sloth bear, fishing cat, langur, rhesus macaque, and many other mammals. The tiger has become locally extinct in 29% of

the districts of this landscape where it was historically recorded (Jhala *et al.* 2008). It is the one of the richest biodiversity hotspots in eastern India. The reserve is managed by the administration of the **Bihar Forest Department** under the guidance of the **National Tiger Conservation Authority (NTCA)**. VTR has gained the well-deserved title of “The Green Heart of Bihar” as it comprises an invaluable ecosystem and biodiversity.

CONCLUSION

Valmiki Tiger Reserve of Bihar is not only a tiger reserve of Bihar but also an environmentally friendly heart to support rich heritage of Bihar (Maheswaran, 2024). Its vast forests and varied wildlife ecosystem support biodiversity, regulate ecosystem conservation, climate and water resources, and support the livelihoods of local communities. As an internal part of the Terai Arc Landscape, the reserve also helps significantly to wildlife conservation at both the international and national levels.

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