

FAUNA OF INDIA CHECKLIST

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ARTHROPODA : MEROSTOMATA

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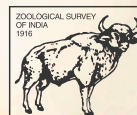
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ZOOLOGICAL SURVEY OF INDIA
Ministry of Environment, Forest & Climate Change

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Introduction: The Class Merostomata contains living fossils and the only living members of the Order Xiphosurida (WoRMS, 2023). The class is defined by the three body segments of the hard skeleton, the prosoma, opisthosoma, and telson. The prosoma is the horseshoe-shaped front part of the horseshoe crab's body. The prosoma of the horseshoe crab has ten eyes and six pairs of appendages on the underside. The horseshoe crab has five pairs of walking appendages and one pair of chelicerae to assist it in moving food into its mouth. The opisthosoma, or abdomen, is joined to the prosoma by a hinge. The opisthosoma is connected to the telson, which is the tail.

Global diversity: There are only four species living fossils extant in the world i.e. *Limulus polyphemus* (Linnaeus, 1758), *Carcinoscorpius rotundicauda* (Latreille, 1802), *Tachypleus gigas* (O. F. Müller, 1785), and *Tachypleus tridentatus* (Leach, 1819).

Diversity in India: In India, two species belonging to two genera under the family Limulidae Leach, 1819 are recorded.

Diversity in States: Presented in table 1.

Table 1: Merostomata of India, State-wise distribution

Sl. No.	State/UT	No. of Species
	INDIA TOTAL	2
1.	Andhra Pradesh	1
2.	Odisha	2
3.	West Bengal	2

Endemism No endemism has been recorded from India.

Habitat: They live in mud flats, saline estuaries or near-shore coastal areas. They frequently inhabit in coves, bays, or wetlands that are protected from strong wave action. When they migrate to beaches to spawn, most of their life time spends in sandy or muddy sublittoral areas.

Ecological Significance: This living fossil play key role in marine ecosystems as bioturbators, predators of bivalves, prey of seabirds, and hosts for a large number of epibionts.

Human Significance: Coastal villages or fishermen resale as pets in aquariums, research subjects, or as educational specimens. One of the potential biomedical importance due to their unique, copper-based blue blood contains a substance called “Limulus Amebocyte Lysate”, or “LAL”.

Threatened species: These two species are assessed Data Deficient under IUCN Red List Category and Criteria.

Protected Species as per WPA (2022): These two species listed under Schedule-II of Indian Wildlife (Protection) Amendment Act, 2022.

Species under CITES: Indian horseshoe crabs are not listed under any appendices of CITES.

Invasive alien species: No horseshoe crab species are reported to be invasive in Indian waters.

Gap areas: Two Merostomata (horseshoe crab) species have been documented from India’s northeast coast. *Tachypleus gigas* (Muller, 1785) is common in northern Andhra Pradesh, the Odisha coast, and West Bengal. There are no reports of these two species occurring in the state of Tamil Nadu and west coast of India. Even though there have been ecological studies on horseshoe crabs, more research is needed to understand why they are restricted to the north east coast of India. The most serious threats to the horseshoe crab population are habitat loss, shoreline development and armoring against coastal erosion, overfishing, use as fish bait, and overexploitation due to biomedical and pharmaceutical importance.

Systematic list: Species list cited below (Table 2).

Table 2: Merostomata of India

Sl. No.	Species
1.	<i>Tachypleus gigas</i> (O. F. Müller, 1785)
2.	<i>Carcinoscorpius rotundicauda</i> (Latreilla, 1785)

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