



JULY 2025
ONLINE VERSION 2.0

ZOOLOGICAL SURVEY OF INDIA

Ministry of Environment, Forest & Climate Change

CHORDATA: CEPHALOCHORDATA

Tamal Mondal* and C. Raghunathan

Zoological Survey of India, Prani Vigyan Bhavan, M-Block, New Alipore – 700053, Kolkata, West Bengal. *Correspondence author: t_genetics@yahoo.com

DOI : <https://doi.org/10.26515/Fauna/2/2025/Cephalochordata>

Key words: Cephalochordates, Lancelets, amphioxi

Citation: Mondal, T. and Raghunathan, C. (2025). Fauna of India Checklist: Chordata: Cephalochordata. Version 2.0. Zoological Survey of India. DOI: <https://doi.org/10.26515/Fauna/2/2025/Cephalochordata>

Comments on the checklist:

E-mail your comments and suggestions to improve the checklist to zsifaunachecklists@gmail.com

FAUNA OF INDIA CHECKLIST



CHORDATA: CEPHALOCHORDATA

Tamal Mondal* and C. Raghunathan

Zoological Survey of India, Prani Vigyan Bhavan, M-Block, New Alipore – 700053, Kolkata, West Bengal. *Correspondence author: t_genetics@yahoo.com

Introduction: Cephalochordata is the subphylum under Phylum Chordata and found exclusively in the marine habitats. These laterally compressed and 4-8 cm long burrowing animals have translucent fish-like body. The body tapers at both the ends. These animals are commonly called amphioxus or lancelets. These animals burrow vertically in the sands of ocean floor and are filter-feeder in nature. However, a few species are detritivore in nature. When disturbed these animals hurriedly leave burrows and swim fast for a very short distance and quickly burrow again. Cephalochordates are gonochoristics in nature and external fertilization is seen. Fossils of cephalochordate

are found from early Cambrian but, these animals do not have any exoskeleton. The fossil usually gets confused with other primitive chordates.

Global diversity: Only 30 valid species are reported world-wide Ocean, the phylum consists of single class Leprocardii and single family Branchiostomatidae.

Diversity in India: Only six species of cephalochordates are reported from Indian waters till date belonging to two genera.

Diversity in States: Presented in table 1.

Table 1: Cephalochordates of India, State-wise distribution

Sl. No.	State/ Union Territory	No. of Species
1.	Andhra Pradesh	01
2.	Gujarat	02
3.	Kerala	02
4.	Odisha	01
5.	Tamil Nadu	06
6.	Lakshadweep	01
7.	Puducherry	04
	Total number of species	06

Endemism: No endemism has been recorded from India.

Habitat: Cephalochordates are benthic burrowing animals living in the burrows of

ocean floor. The common habitats of these fauna are shallow subtidal tropical, subtropical, and temperate sand flats. Cephalochordates have preferences for coarse sand with fast water flow and do not found in silty sediments.



Ecological Significance: Adult cephalochordates act as prey of bottom feeding fish, small crustaceans and shorebirds.

Human Significance: Cephalochordates are used as food in China and harvested as a part of lancelet fisheries (Lambert, 2005).

Threatened species: No species of cephalochordate from India is assessed for IUCN threatened categories.

Protected Species as per WPA: Cephalochordates are not listed under any schedules of Indian Wildlife (Protection) Act, 1972.

Species under CITES: There is no species enlisted under the CITES Appendices.

Invasive alien species: No cephalochordate species is reported from India as an invasive.

Gap areas: Works on Indian cephalochordate are very scanty from Indian waters and the group itself is representing very few species. Comprehensive studies are required to explore the faunal group from the coasts of India.

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

Table 2: Cephalochordates of India

Sl. No.	Species
1.	<i>Asymmetron lucayanum</i> Andrews 1893
2.	<i>Branchiostoma belcheri</i> (Gray, 1847)
3.	<i>Branchiostoma indicum</i> (Willey, 1901)
4.	<i>Branchiostoma lanceolatum</i> (Pallas, 1774)
5.	<i>Branchiostoma malayanum</i> Webb, 1956
6.	<i>Branchiostoma tattersali</i> Mayer, 1907

References

- Lambert, G., 2005. Ecology and natural history of the Protochordates. *Canadian Journal of Zoology*, **83**(1): 34-50.
- Mondal, J., Raghunathan, C., Mondal, T. and Venkataraman, K., 2015. Diversity of Protochordates in India: 375-399. In: *Lesser known marine animals of India*, (Published by the Director Zoological Survey of India, Kolkata).
- Tudu, P.C., 2020. Cephalochordata. In: *Faunal Diversity of Biogeographic Zones: Coasts of India*: 639-641. (Published by the Director, Zoological Survey of India, Kolkata).

