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ZOOLOGICAL SURVEY OF INDIA
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GNATHOSTOMULIDA

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FAUNA OF INDIA CHECKLIST

GNATHOSTOMULIDA

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Introduction: Faunal group under the Phylum Gnathostomulida is considered as non-segmented meiofauna. These are commonly known as jaw worms. Size of the gnathostomulids varies from 0.5 to 1 mm. These animals are hermaphrodite in nature. Maximum abundances of the faunal group have been reported from the discontinuity layer between aerobic surface and anaerobic subsurface sediment. The phylogenetic of the faunal group is debatable.

Diversity in States: Presented in table 1

Global diversity: Gnathostomulida comprises of 100 species throughout the globe classified under two orders 12 families.

Diversity in India: Only three species of gnathostomulids are reported from the Andaman and Nicobar Islands belonging to two orders and three families. No other species are reported from any coastal belt of India.

Table 1: Gnathostomulida of India, Report of occurrence from A&N Islands

Sl. No.	State / Union Territory	No. of Species
1.	Andaman & Nicobar	03
	Total number of species	08

Endemism: No endemism has been recorded from India.

Habitat: Gnathostomulids are found from intertidal to greater depth of oceans. These burrowing animals are mostly found on the mudflats or ocean floor. The benthic group resides in the sand and mud and survives even in low oxygenated conditions. Species are common in sulphur environment.

Ecological Significance: The fauna is found from anaerobic environment and the association with polychaete burrows leads to the link to activity of sulphur bacteria. They also have an importance in linking the microbial production in the sediment.

Human Significance: Gnathostomulids have no known direct significance on human society.

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

Protected Species as per WPA: Gnathostomulids 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 gnathostomulids species is reported from India as an invasive.

Gap areas: Works on gnathostomulids are scanty worldwide. Their preferred habitats make them quite uncommon and are not always very easily detectable. The phylogenomics of the fauna is not clear from both morphological and molecular perspectives. Comprehensive studies are required to explore the faunal group from the coasts of India.

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

Table 2: Gnathostomulids of India

Sl. No.	Species
1.	*Austrognathia* sp.
2.	*Gnathostomula* sp.
3.	*Haplognathia* sp.

References

Pascal, P.Y., Bellemare, C., Sterrer, W., Boschker, H.T., Gonzalez-Rizzo, S. and Gros, O., 2015. Diet of *Haplognathia ruberrima* (Gnathostomulida) in a Caribbean marine mangrove. *Marine Ecology*, **36**(2):246-257.

Chitra, J., 2020. Gnathostomulida. In: *Faunal Diversity of Biogeographic Zones: Coasts of India*: 225-226. (Published by the Director, Zoological Survey of India, Kolkata).