

FAUNA OF INDIA CHECKLIST

JULY, 2024

ONLINE VERSION 1.0



ANNELIDA: POLYCHAETA: ECHIURA

C. Raghunathan^{1,2,*} and Tamal Mondal^{1,3}

¹Zoological Survey of India, M-Block, New Alipore, Kolkata-700053, ²raghuksc@rediffmail.com, <http://orcid.org/0000-0003-1417-5496>, ³t_genetics@yahoo.com; <http://orcid.org/0000-0003-4966-6746>,

*Correspondence author email id: raghuksc@rediffmail.com

Key words: Spoon worms, Sausage-shaped worms, Unsegmented, Coelomate

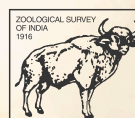
DOI : <https://doi.org/10.26515/Fauna/1/2023/Annelida:Polychaeta:Echiura>

Citation: Raghunathan, C. and Mondal, T. (2024). Fauna of India Checklist: Annelida: Polychaeta: Echiura. Version 1.0. Zoological Survey India. DOI: <https://doi.org/10.26515/Fauna/1/2023/Annelida:Polychaeta:Echiura>

Comments on the checklist:

E-mail your comments
and suggestions to improve
the checklist to

zsifaunachecklists@gmail.com
and raghuksc@rediffmail.com



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

ANNELIDA: POLYCHAETA: ECHIURA

C. Raghunathan^{1,2,*} and Tamal Mondal^{1,3}

¹Zoological Survey of India, M-Block, New Alipore, Kolkata-700053, ²raghuksc@rediffmail.com; <http://orcid.org/0000-0003-1417-5496>, ³t_genetics@yahoo.com; <http://orcid.org/0000-0003-4966-6746>, *Correspondence author email id: raghuksc@rediffmail.com

Introduction: Subclass Echiura belonging to the Class Polychaeta under the Phylum Annelida. They are known as spoon worms, sausage-shaped worms or innkeeper worms. These are unsegmented bilaterally symmetrical coelomate worms with a short, stout trunk. Mostly, echiura is quite large and the trunk range from a few centimetres in length up to 40 cm and the proboscis up to 1 to 2 meters length. Trunks are subcylindrical or sac like in shape and muscular in composition. The animals burrow in sand, mud, soil, detritus, also in rubbles and rocks. They have a hydrostatic skeleton in large coelom and supporting them to move and burrow. Most species are deposit feeders, collecting edible bits from the bottom of the sea.

Global diversity: The subclass comprises of 173 species belonging to the 5 families, 2 suborders belonging to order Echiuroidea.

Diversity in India: In India, 46 species belonging to 8 genera and 3 families are recorded.

Diversity in States: Presented in table 1.

Table 1: Echiura of India, State-wise distribution

Sl. No.	State/Union Territory	No. Species
1.	Gujarat	20
2.	Kerala	1
3.	Maharashtra	1
4.	Odisha	2
5.	Tamil Nadu	2
6.	West Bengal	5
7.	Andaman & Nicobar	7
8.	Lakshadweep	19
	Total number of species	46

Endemism: No endemism has been recorded from India.

Habitat: Echiurans inhabit in benthic, marine or brackish water environments, and are distributed from intertidal to shallow subtidal regions, occupying burrows in the seabed, some live-in holes in coral heads, and in rock crevices. Some are found in deep waters including at abyssal depths.

Ecological Significance: These organisms are known as ecosystem engineers because they directly or indirectly control the availability of resources like food and shelter to other species. Some echiurans may be important food for certain fishes. Some species shows commensalism with shrimp, small crabs, polychaetes, bivalves, and copepods by sharing their burrows.

Human Significance: No major human significance yet reported. Some species may use as bait. Boneelliid species produce bonellin toxin which may have pharmacological significance.

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

Protected Species as per WPA: Echiuran species 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 echiuran species are reported to be invasive in Indian waters.

Gap areas: Echiurans in Indian waters have received insufficient attention. They have potential roles in reef ecosystem management; therefore, it is important to conduct comprehensive studies on these lesser known faunal communities in order to explore more species from shallow coastal areas to greater depths of the ocean.

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

Table 2: Echiurans of India

Sl. No.	Species
1.	<i>Achaetobonellia maculata</i> Fisher, 1953
2.	<i>Acanthobonellia miyajimai</i> (Ikeda, 1904)
3.	<i>Acanthobonellia pirotanensis</i> Jose, 1964
4.	<i>Acanthobonellia rollandoe</i> Menon, DattaGupta & Johnson, 1964
5.	<i>Eubonellia valida</i> Fisher, 1946
6.	<i>Bonellia minor</i> Marion & Rietsh, 1886
7.	<i>Bonellia viridis</i> Rolando, 1822
8.	<i>Ikedella misakiensis</i> (Ikeda, 1904)
9.	<i>Ikeda pirotansis</i> (Menon & DattaGupta, 1962)
10.	<i>Anelassorhynchus inansensis</i> (Ikeda, 1904)
11.	<i>Anelassorhynchus branchiorhynchus</i> (Annandale & Kemp, 1915)
12.	<i>Anelassorhynchus chaetiferus</i> DattaGupta, Menon & Johnson, 1963
13.	<i>Anelassorhynchus dendrorhynchus</i> (Annandale & Kemp, 1915)
14.	<i>Anelassorhynchus microrhynchus</i> (Prashad, 1919)
15.	<i>Anelassorhynchus moebii</i> (Greeff, 1879)
16.	<i>Anelassorhynchus sabinus</i> (Lanchester, 1905)
17.	<i>Anelassorhynchus vegransis</i> (Lampert, 1883)
18.	<i>Listriolobus brevirostris</i> Chen & Yeh, 1958
19.	<i>Listriolobus capensis</i> (Jones & Stephen, 1954)
20.	<i>Ochetostoma arkati</i> (Prashad, 1935)
21.	<i>Ochetostoma australiense</i> Edmonds, 1960
22.	<i>Ochetostoma bombayense</i> (Prashad & Awati, 1929)
23.	<i>Ochetostoma palense</i> (Ikeda, 1924)
24.	<i>Ochetostoma stuhlmanni</i> (Fischer, 1892)
25.	<i>Ochetostoma erythrogrammon</i> Rüppell & Leuckart, 1828
26.	<i>Ochetostoma zanzibarensis</i> Stephen & Robertson, 1952

27.	<i>Ochetostoma senegalense</i> Stephen, 1960
28.	<i>Ochetostoma hornelli</i> (Prashad, 1921)
29.	<i>Ochetostoma decameron</i> (Lanchester, 1905)
30.	<i>Ochetostoma caudex</i> (Lampert, 1883)
31.	<i>Ochetostoma kempi</i> (Prashad, 1919)
32.	<i>Ochetostoma kokotoniense</i> (Fischer, 1892)
33.	<i>Ochetostoma griffini</i> (Wharton, 1913)
34.	<i>Ochetostoma formosulum</i> (Lampert, 1883)
35.	<i>Ochetostoma arkati</i> (Prashad, 1935)
36.	<i>Ochetostoma senegalense</i> Stephen, 1960
37.	<i>Ochetostoma septemyotum</i> DattaGupta, Menon & Johnson, 1963
38.	<i>Ochetostoma mercator</i> Wesenberg-Lund, 1954
39.	<i>Ochetostoma manjuyodense</i> (Ikeda, 1905)
40.	<i>Thalassema diaphanes</i> Sluiter, 1889
41.	<i>Thalassema thalassema</i> (Pallas, 1774)
42.	<i>Thalassema diaphanes</i> Sluiter, 1889
43.	<i>Ochetostoma arkati</i> (Prashad, 1935)
44.	<i>Anelassorhynchus branchiorhynchus</i> (Annandale & Kemp, 1915)
45.	<i>Ochetostoma hornelli</i> (Prashad, 1921)
46.	<i>Ochetostoma formosulum</i> (Lampert, 1883)

References:

- Venkataraman, K., Raghunathan, C., Tamal Mondal and Raghuraman, R., 2015. Lesser Known Marine Animal “Spoonworm Echiura”
- Venkataraman, K., 2005. Coastal and marine biodiversity of India. *Indian Journal of Marine Science*, **34**(1): 57-75.
- Brusca, R. and Brusca, G., 2003. *Invertebrates* (2nd Edition). Sunderland, MA: Sinauer Associates.
- Purschke, G., 2007. *Echiura* (Echiurida), Igelwürmer. Pp. 416-420 in W Westheide, R Rieger, eds. *pezielle Zoologie. Teil: Einzeller und Wirbellose Tiere*, 2nd edition. Stuttgart, Germany: Gustav Fischer Verlag.
- Piper, R., 2007. *Extraordinary Animals: An Encyclopedia of Curious and Unusual Animals*. Westport, CT: Greenwood.
- Goto, R., 2016. A comprehensive molecular phylogeny of spoon worms (Echiura, Annelida): implications for morphological evolution, the origin of dwarf males, and habitat shifts. *Molecular Phylogenetics and Evolution*, **99**: 247–260.
- WoRMS, 2023. Echiura. Accessed at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=1269> on 2023-05-09
- Yogesh Kumar, J.S., 2018. Echiurans. In: Chandra, K. and Raghunathan, C. (Eds), *Faunal Diversity of Biogeographic Zone: Islands of India*: 159-161. (Published by the Director, Zool. Surv. India, Kolkata).
- Yogesh Kumar, J.S., 2020. Echiura. In: Chandra, K., Raghunathan, C. and Mondal, T (Eds.), *Faunal Diversity of Biogeographic Zones: Coasts of India*: 261-264. (Published by the Director, Zool. Surv. India, Kolkata)