

Supplementary material

Phylogeny of Echiura updated, with a revised taxonomy to reflect their placement in Annelida as sister group to Capitellidae

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Table S1. The list of the bonelliin genera with the information of the proboscis tip shape, the records of dwarf males and the references

Genus	Shape of the proboscis tip	Dwarf males	References
<i>Acanthobonellia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Acanthohamlingia</i>	Not bifid	Yes	Stephen and Edmonds 1972
<i>Achaetobonellia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Alomasoma</i>	Not bifid	Yes	Biseswar 1993
<i>Amalosoma</i>	?	Yes	Datta-Gupta 1981; Saiz-Salinas 1996
<i>Archibonellia</i>	Bifid	Unknown	Stephen and Edmonds 1972
<i>Bengalus</i>	?	Unknown	Biseswar 2006
<i>Biporus</i>	Not bifid (tubular)	Unknown	Murina and Popkov 2000
<i>Bonellia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Bonelliopsis</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Bruunellia</i>	?	Unknown	Stephen and Edmonds 1972
<i>Charcotus</i>	Not bifid	Yes	Datta-Gupta 1981
<i>Choanostomellia</i>	Not bifid	Yes	Biseswar 1992
<i>Dattaguptus</i>	Not bifid (tubular)	Yes	Murina and Popkov 2000
<i>Eubonellia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Hamlingia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Ikedella</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Jakobia</i>	Not bifid	Unknown	Stephen and Edmonds 1972
<i>Kurchatovus</i>	?	Unknown	DattaGupta 1977
<i>Maxmuelleria</i>	Not bifid	Unknown	Stephen and Edmonds 1972
<i>Metabonellia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Nellobia</i>	Not bifid?	Unknown	Stephen and Edmonds 1972
<i>Prometor</i>	Not bifid	Unknown	Stephen and Edmonds 1972
<i>Protobonelia</i>	Not bifid	Unknown	Stephen and Edmonds 1972
<i>Pseudobonellia</i>	Bifid	Yes	Stephen and Edmonds 1972
<i>Pseudoikedella</i>	Not bifid	Unknown	Saiz-Salinas <i>et al.</i> 2000
<i>Sluiterina</i>	Not bifid	Unknown	Stephen and Edmonds 1972
<i>Torbenwolffia</i>	Bilobed	Unknown	Stephen and Edmonds 1972
<i>Vitjazema</i>	Not bifid	Unknown	Stephen and Edmonds 1972
<i>Zenkevitchiola</i>	Not bifid	Unknown	Murina 1978; Edmonds 1987
<i>Ikeda</i>	Not bifid	Unknown	Stephen and Edmonds 1972

References

- Biseswar, R. (1992). Some deep-sea echiurans of the North-East Atlantic. *Bulletin du Muséum National d'Histoire naturelle, Paris, 4e sér., sect. A* **14**, 639–654.
- Biseswar, R. (1993). Some deep-sea echiurans of the South-West Pacific. *Bulletin du Muséum National d'Histoire naturelle, Paris, 4e sér., sect. A* **15**, 25–30.
- Biseswar, R. (2006). Additions to the deep-sea echiuran (Echiura) fauna of the North-East Atlantic. *Zoosystema* **8**, 853.
- Datta-Gupta, A. K. (1977). A new genus and a new species of bonelline Echiura from the Caribbean deepsea. *Proceedings of the Zoological Society, Calcutta* **30**, 17–23.
- Datta-Gupta, A. K. (1981). Atlantic echiurans. Part I. Report on twenty-two species of deep sea echiurans of the North and the South Atlantic Ocean. *Bulletin du Muséum National d'Histoire naturelle, Paris, 4e sér., sect. A* **3**, 353–378.
- Edmonds, S. J. (1987). Echiurans from Australia (Echiura). *Records of the South Australian Museum* **32**, 119–138.
- Murina, V. V. (1978). New and rare echiurids of the family Bonelliidae. *Trudy Instituta Okeanologii* **113**, 107–119.
- Murina, V. V., and Popkov, D. V. (2000). Two new genera and new species of deep-water bonelliids: *Biporus mycorhynchus* gen. n. et sp. n. and *Dattaguptus fragilis* gen. n. et sp. n. (Echiura, Bonelliidae) from Norwegian Sea. In 'Benthos of the Russian seas and the Northern Atlantic'. pp. 63–67. (VNIRO Publishing House: Moscow, Russia.)
- Saiz-Salinas, J. I. (1996). Echiura from South Shetland Islands together with a review of its geographic distribution in the Antarctic Ocean. *Polar Biology* **16**, 363–370. [doi:10.1007/BF02342185](https://doi.org/10.1007/BF02342185)
- Saiz-Salinas, J. I., Dean, H. K., and Cutler, E. B. (2000). Echiura from Antarctic and adjacent waters. *Polar Biology* **23**, 661–670. [doi:10.1007/s003000000135](https://doi.org/10.1007/s003000000135)
- Stephen, A. C., and Edmonds, S. J. (1972). 'The Phyla Sipuncula and Echiura.' (Trustees of the British Museum (Natural History): London, UK.)