



The geographic distribution of echiurans in the Atlantic Ocean (Phylum Echiura)

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Abstract

This report provides a checklist of the echiurans from the Atlantic Ocean and maps their distribution. Investigations on the taxonomy of this group since the publication of the monograph by Stephen and Edmonds (1972) on the phyla Sipuncula and Echiura have yielded two new genera, 12 new species and 13 new records. Currently the echiuran fauna of the Atlantic comprises three families, 25 genera and 63 species. The family Bonelliidae contains 35 species in 18 genera; the Echiuridae is represented by six genera and 27 species, and the Urechidae by a single species *Urechis chilensis* (Müller). This study shows that the Atlantic has a relatively high species diversity, comprising about 38% of the known world fauna. Bonelliids alone comprise about 56% of the echiuran fauna of the Atlantic. An analysis of distribution is given in relation to general biogeographic regions and faunistic provinces. Dichotomous keys for the identification of genera and species of echiurans from the Atlantic is provided. The North Temperate component is the richest and most diverse, making up about 68% of the Atlantic echiuran fauna; 25 species have been recorded from within the tropics; and the South Temperate component is poorly represented, with only about 19% of the total fauna. The cosmopolitan component is also poorly represented, with only four species, so far, known. Thirteen species of echiurans are provisionally considered to be endemic to the Atlantic. Members of the Echiuridae are usually shallow-water inhabitants of intertidal and subtidal zones while bonelliids exhibit a higher species richness on deeper bottoms of all oceans, mostly at depths of 1000–6000 m in the Atlantic.

Key words: Geographic distribution, Echiura, Atlantic Ocean

Introduction

This paper is a review of the diversity and distribution of the known echiuran fauna of the Atlantic Ocean. Some of the earlier taxonomic studies on Atlantic Echiura are those of Selenka (1885), Fischer (1895, 1914), Herdman (1897), Wilson (1900), Wesenberg-Lund (1939a, b, 1957, 1959a, b), Stephen (1941, 1956, 1960a, b), Fisher (1947), Amor (1976) and some others. Taxonomic studies undertaken since the publication of the monograph by Stephen and Edmonds (1972) on the phyla Sipuncula and Echiura have yielded two new genera and several new species and new records of Echiura. These findings are largely due to the numerous deep-sea cruises that have been undertaken recently especially in the North-East Atlantic.

The report by DattaGupta (1981) on deep-sea echiurans of the North and South Atlantic Ocean is a significant contribution. The specimens were collected by the Centre Océanologique de Bretagne during the abyssal cruises in the Atlantic Ocean between 1969 and 1976 and the ensuing report contains descriptions of 22 species, including eight new deep-sea species. These species belong to fifteen genera of which one is new to science.

The report by Biseswar (1992) on deep-sea echiurans of the North-East Atlantic was based on specimens collected during 1987 by R.V. Noroît during the SEAMOUNT 1 oceanographic expedition. This report contains descriptions of seven species of echiurans including one new species.