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Zoogeography of the echiuran fauna of the East Pacific Ocean (Phylum: Echiura)

RAMLALL BISESWAR

School of Life Sciences, University of KwaZulu-Natal, Private Bag X54001, Durban 4000, South Africa.

E-mail: Biseswar@ukzn.ac.za

Abstract

This report provides a checklist of the echiuran fauna of the East Pacific Ocean and analyses their distribution. All the species are mapped and keys for their identification are provided. Currently the echiuran fauna of the East Pacific comprises three families, 9 genera and 17 species. The family Bonelliidae contains two genera and three species, the Urechidae has a single genus with two species, and the Echiuridae contains six genera and 12 species. This investigation shows that the East Pacific has a very low species diversity comprising only about 10% of the world fauna. Of the recorded species in the East Pacific, 12 are found in the North Pacific, four are circumtropical and only two species are found in the South Pacific. *Ochetostoma baronii* is the only species considered to be cosmopolitan and eleven species appear to be endemic to the Eastern Pacific.

Key words: Zoogeography, Echiura, East Pacific Ocean, Bonelliidae, Urechidae, Echiuridae

Introduction

This is a first report of the diversity and distribution of the echiuran fauna of the East Pacific Ocean. The echiuran fauna of this region is poorly investigated and at present there is no single comprehensive report on the recorded species and their range of distribution. Some of the significant contributions on the echiurans of the East Pacific are those of Spengel (1912), Fisher (1946, 1948a, 1948b, 1949), Wesenberg-Lund (1955) and Amor (1976). Several others have also contributed by recording and describing new species.

This report provides a checklist of the echiuran fauna of the East Pacific Ocean and maps their distribution. This report concludes the review of the diversity and distribution of the echiuran fauna of the world's major oceans. Two earlier reports by Biseswar (2009, 2010) have dealt with the geographic distribution of the echiurans in the Atlantic and Indo-West Pacific Oceans respectively. The East Pacific Ocean is here considered to extend from 160°W longitude to the western shores of North and South America from Alaska in the north to the southern-most tip of the South American continent.

The nomenclature used here follows that of Nishikawa (1998). According to this author the phylum Echiura consists of two orders; Echiuroinea Bock and Xenopneusta Fisher. The Echiuroinea is made up of two families, the Echiuridae Quatrefages and Bonelliidae Lacaze-Dutiers, while the order Xenopneusta contains a single family, Urechidae Monro. The two subfamilies in the family Echiuridae are Echiurinae Quatrefages and Thalassematinae Forbes and Goodsir.

It is felt that this investigation will be of benefit to future workers on the taxonomy of the Echiura of the East Pacific Ocean.

Methods

A checklist of all the genera and species of Echiura occurring in the East Pacific Ocean was compiled from the