

Review

HOW WELL-KNOWN IS THE CEPHALASPIDEAN FAUNA (MOLLUSCA: OPISTHOBRANCHIA) IN THE INDO-PACIFIC REGION?

Tomas Cedhagen

*Department of Marine Ecology, Institute of Biological Sciences, University of Aarhus,
Finlandsgade 14, DK-8200 Aarhus N, Denmark*

ABSTRACT

The gastropod group Cephalaspidea contains about 700 recent species worldwide. The status of the research on the group, indicated as the number of described species, in the tropical Indo-Pacific region is compared with other areas. The number of species are 118 in the Indo-Pacific, 168 in Japan, and 58 in Europe. The figures reflect the fact that much work remains to be done, and that numerous species still have to be described in this region.

INTRODUCTION

The gastropod group Cephalaspidea (Opisthobranchia) has a worldwide distribution. It contains about 700 recent species. However, the group is little studied compared with many other gastropods. The status of the research on the group, indicated as the number of described species in the Indo-Pacific region, is compared with other areas.

MATERIAL AND METHODS

The accumulated number of species of cephalaspideans described since 1758 were plotted for three areas, Europe (58 spp.), Japan (168 spp.) and the Indo-Pacific (118 spp.), based on data from Goto & Poppe (1996).

RESULTS AND DISCUSSION

Fig. 1. shows that most species from Europe were described between 1758 and 1900. Those described after 1900 are mainly small species seldom collected. Thus, we probably know the cephalaspidean fauna in European waters comparatively well.

The border of Japan was closed until the 1850's, so very little information leaked out from this area until then. This is why no species were described there during the first almost hundred years. However, Japanese

scientists became very active soon after that, and numerous species were described, mainly by a few persons. T. Habe has from 1946 and until now described 49 species, and A. Adams described 46 species in the 1850-60's. The work of those two scientists is reflected as a steeper slope of the graph during these periods.

The graph covering the Indo-Pacific region includes species from the Red Sea, Indian Ocean and all the tropical Pacific Ocean except Japan and the Americas. The tropical Indo-Pacific region has probably the highest biodiversity of marine molluscs in the world (Kilburn 1997). Gosliner & Draheim (1996) reported 3,400 opisthobranch species (including more than 1,000 undescribed species) from the Indo-Pacific. They also report that 52 % of the collected opisthobranch species (646 spp.) from Papua New Guinean waters were undescribed. Most of the species (22 spp.) from the Indo-Pacific region described after the second world war, has been described by a single person, T. Habe. I therefore do not believe that my graph gives a true description of the distribution of species, but reflects the fact that much work remain to be done, and that numerous species still have to be described in this region.

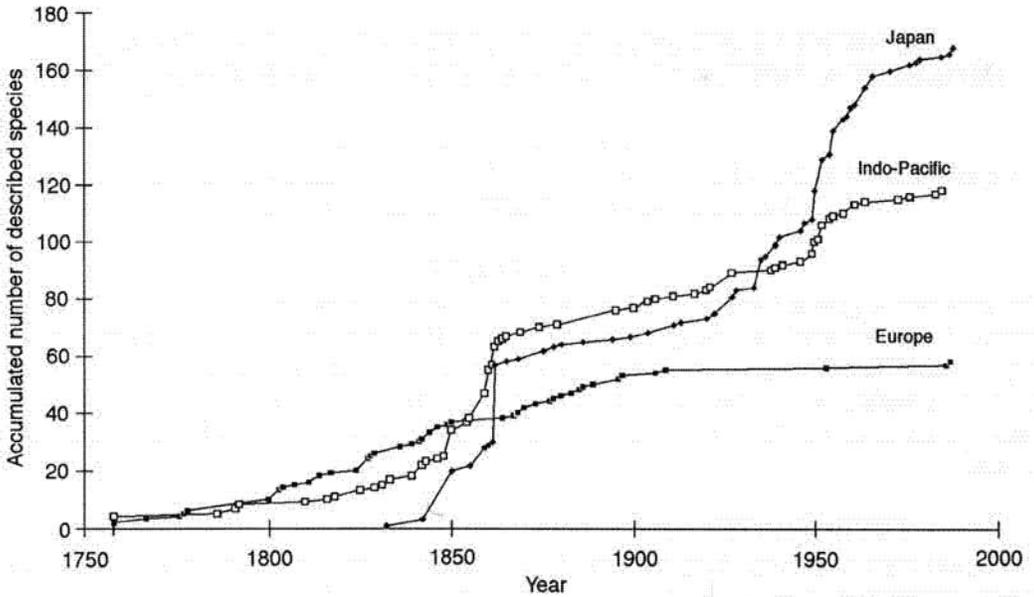


Figure 1. The accumulated numbers of cephalaspideans described from Europe, Japan, and the Indo-Pacific region. Data from Goto & Poppe (1996).

REFERENCES

- Gosliner, T.M. & R. Draheim. 1996. Indo-Pacific opisthobranch gastropod biogeography: how do we know what we don't know? - *American Malacological Bulletin* **12**(1/2): 37-43.
- Goto, Y. & G.T. Poppe. 1996. A listing of living Mollusca. *L'Informatore Piceno, Ancona* **II**(2).
- Kilburn, R.N. 1997. Species-level taxonomy of Malesian marine molluscs and the biodiversity crisis. - *Phuket Marine Biological Center Special Publication* **17**(2): 333-339.