



## Acoela (Acoelomorpha) from Belize

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### Abstract

Eight species of Acoela, including two new species, are reported from Belize. The species include four from the family Haploposthiidae (*Haploposthia vandula*, *Kuma albiventer*, *Parahaploposthia longituba* **sp. nov.**, *Pseudohaplogonaria rodmani* **sp. nov.**), one from Hofsteniidae (*Hofstenia miamia*), one from Isodiametridae (*Avagina* cf. *marci*), one from Proporidae (*Proporus carolinensis*), and one from Sagittiferidae (*Antrosagittifera corallina*).

**Key words:** Meiofauna, turbellarians, Platyhelminthes, interstitial

### Introduction

As part of an ongoing research project on the systematics and biogeography of the Acoela, we spent two weeks in April 2004 at the marine research laboratory of The National Museum of Natural History at Carrie Bow Cay, Belize conducting a survey of acoels from nearby sites. Our collections yielded approximately 20 species of Acoela, most of which could be identified or described. Species of Convolutidae are described in a separate publication (Achatz *et al.* 2007). Here, we report on a further eight species of five other families; two of these species are new to science.

### Material and methods

Sediment, sea grass, and algae samples were collected from various locations in Belize in April 2004. Geographic coordinates for sites were obtained using a Garmin Gecko 110 GPS portable receiver. Samples were taken to the Smithsonian Research Station on Carrie Bow Cay for extraction and observation of living animals. Specimens were extracted from sediment using magnesium-chloride anesthetization (Sterrer 1971). Live animals were viewed by light microscopy in squeeze preparations using an Olympus CX41 microscope and photographed with an Olympus C-5050 digital camera.

Specimens of *Hofstenia* were extracted from *Thalassia* sp. by placing a large quantity (~ 3 L) of roots and underlying sediment in a bucket of sea water. Specimens crawled to the water surface over a period of 3–8 h. Mangrove-dwelling specimens were similarly extracted by placing submerged mangrove leaves and associated detritus in buckets of sea water; these specimens crawled to the water surface over a period of 1–5 h.

For histological study, specimens were fixed in warm Stefanini's fixative (Stefanini *et al.* 1967) and stored in fixative for several weeks. They were then washed in phosphate buffer (Millonig's, 0.1 M), and post-fixed in phosphate-buffered 1% (v/v) osmium tetroxide. Specimens were dehydrated in acetone, and embedded in EMBED/Araldite epoxy resin. Dehydration was quickened by microwave radiation (Samsung oven, two 7-sec