



## Soft-bottom sipunculans in Izmir Bay (Aegean Sea, eastern Mediterranean)

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### Abstract

This paper deals with the sipunculan species distributed in Izmir Bay (Aegean Sea, eastern Mediterranean). Benthic samples were taken at 29 stations between 1998 and 2001 at depths ranging from 8 to 77 m. Six species and 200 individuals belonging to three families were found. *Aspidosiphon* (*A.*) *mexicanus* is newly recorded from Izmir Bay. The majority of specimens were found on a sandy-mud substratum (42%), followed by sand (35%), muddy-sand (19%) and sand (3%), respectively. Among the habitats, *Posidonia oceanica* and muddy-sand were represented by the highest numbers of species (4 species), followed by sandy-mud (3 species), and sand (2 species). The densities of the species at sampling stations were determined and compared seasonally, based on the data collected in 2001. Brief descriptions of the species and their distributional, reproductive and ecological characteristics are given.

**Key words:** Sipuncula, distribution, ecology, Aegean Sea, eastern Mediterranean

### Introduction

Sipuncula are represented by about 150 species worldwide (Cutler 1994), including 34 species in the Mediterranean and 17 species in the Aegean Sea (Açık 2007; 2008b). As they are components of the diet of many fishes, sea anemones, decapod crustaceans, gastropods, sea stars, crabs and cephalopods (Kohn 1975; Taylor 1989), they play a considerable role in the food chain of a given ecosystem. Human consumption of sipunculans is not widespread but there are reports of people in the Indo-West Pacific eating *Sipunculus*, *Siphonosoma* and *Phascolosoma* species (Murina *et al.* 1999).

This phylum has not been studied in detail in Izmir Bay to date. Sipunculans have been reported previously only from some general benthic studies in the area. Kocatas (1978) was the first to record sipunculans in Izmir Bay. He found *Aspidosiphon* (*A.*) *muelleri*, *Phascolosoma* (*Phascolosoma*) *granulatum* Leuckart, 1828 and *Golfingia* (*Golfingia*) *cf. elongata* on the algae *Padina pavonica*, *Cystoseira crinita* and *Corallina mediterranea*. Subsequently, Çınar *et al.* (2002) reported specimens of *P. (P.) granulatum* in association with the sponge *Sarcotragus muscarum*. Dogan *et al.* (2005) determined *Onchnesoma steenstrupii steenstrupii* and *P. (P.) cf. granulatum* in the non-polluted areas of Izmir Bay. Re-examination of the specimens previously identified as *P. (P.) granulatum* in the area by Çınar *et al.* (2002) and Dogan *et al.* (2005), however, revealed that they in fact belong to *Phascolosoma* (*P.*) *stephensoni* (Stephen 1942) and *Lapidoplax digitata* (Montagu, 1815) (Holothuroidea), respectively. Recently, Açık (2008a,b) reported 8 species [*Golfingia* (*G.*) *vulgaris vulgaris*, *Thysanocardia procera*, *Phascolion* (*P.*) *strombus strombus*, *Phascolosoma* (*P.*) *agassizii agassizii*, *P. (P.) stephensoni*, *Aspidosiphon* (*A.*) *elegans*, *A. (A.) misakiensis* and *A. (A.) muelleri*] from Izmir Bay.

The present paper is based on benthic materials collected in Izmir Bay between 1998 and 2001. The aims of this paper are: 1) to determine the distribution of sipunculan species in Izmir Bay; 2) to represent seasonal density fluctuations of the species; and 3) to evaluate their morphological and ecological features.