



## New records of sipunculan worms from Taiwan

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### Abstract

Sipunculan worms occurring in Taiwanese waters were studied, and 11 species are recorded for the first time. They are: Sipunculidae — *Sipunculus* (*Sipunculus*) *robustus* Keferstein, *Siphonosoma funafuti* (Shi-pley), *S. vastum* (Selenka and Bülow); Golfingiidae — *Golfingia* (*Golfingia*) *margaritacea margaritacea* (Sars), *G. muricaudata* (Southern), *Thysanocardia nigra* (Ikeda); Themistidae — *Themiste* (*Lagenopsis*) *minor minor* (Ikeda); Phascolosomatidae — *Phascolosoma arcuatum* (Gray), *P. glabrum glabrum* (Sluiter); Aspidosiphonidae — *Aspidosiphon* (*Aspidosiphon*) *muelleri* Diesing, and *Aspidosiphon* (*Paraspidosiphon*) *coyi* de Quatrefages. This makes a total number of 29 species now known from this geographic region.

**Key words:** Sipuncula, Taiwan

### Introduction

Satô (1939) conducted the first extensive study of the taxonomy of sipunculan worms in Taiwanese waters. He reported 22 species, including six that were new. The latter, however, were later listed as junior synonyms by Cutler and Cutler (1989) and Cutler (1994). In Cutler's (1994) revision, 17 species listed in Satô (1939) were recognized as valid species: Sipunculidae — *Sipunculus indicus* Peters, *S. nudus* Linnaeus, *Siphonosoma australe takatsukii* Satô (= *Siphonosoma pescadolense* Satô), *S. cumanense* (Keferstein) (= *Siphonosoma formosa* Satô); Golfingiidae — *Golfingia vulgaris vulgaris* (de Blainville); Themistidae — *Themiste lageniformis* (Baird) (= *Phascolosoma pyriformis* Lanchester); Phascolosomatidae — *Antillesoma antillarum* (Grübe & Oersted) (= *Physcosoma onomichianum* (Ikeda), *Phascolosoma agassizii agassizii* Keferstein (= *Physcosoma formosense* Satô and *P. japonicum* (Grübe)), *Phascolosoma albolineatus* (Baird), *P. nigrescens* (Keferstein) (= *Physcosoma varians* (Keferstein)), *P. pacificum* Keferstein, *P. scolops* (Selenka & de Man); and Aspidosiphonidae — *Aspidosiphon elegans* (Chamisso & Eysenhardt), *A. laevis* (= *A. grandis* Satô), *A. steenstrupii* Diesing (= *A. makoensis* Satô), *A. tenuis* Sluiter (= *A. formosanus* Satô), *Cloeosiphon aspergillus* (de Quatrefages). Since then, there have been no additional reports on these worms until Hsueh *et al.* (2006) added one species, *Lithacrosiphon cristatus cristatus* (Sluiter), to the list of aspidosiphonids known from Taiwanese waters. In recent years, more previously unrecorded sipunculans have been found as a consequence of increased intertidal and subtidal collecting. The present study reports eleven new records and 26 species in total of sipunculans from Taiwan. The distributional range of all species recorded from Taiwan thus far is shown in Table 1 and Figure 1. All examined specimens in the present study are deposited at the National Museum of Natural Science, Taichung, Taiwan, Republic of China.