



Two new species of *Sternaspis* Otto, 1821 (Polychaeta: Sternaspidae) from China seas

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Abstract

Two species of Sternaspidae, *Sternaspis chinensis* sp. nov. and *S. liui* sp. nov., are described based on historic material and recently collected specimens in the sea areas of China. *Sternaspis chinensis* is abundantly distributed from the Bohai Sea southwards to the East China Sea. It has been frequently misidentified as the nominally cosmopolitan species *S. scutata* (Ranzani, 1817) in China since the 1950s. However, *S. chinensis* differs from the latter by possessing concentric bands on the shield (vs. absent) and crenulated posterior margin reaching or slightly expanded beyond the posterolateral corners (vs. posterior margin smooth and markedly expanded beyond the posterolateral corners). *Sternaspis chinensis* most resembles the NE Pacific species *S. affinis* Stimpson, 1864, but differs distinctly by its markedly concentric bands decorated from margin to center (vs. mainly restricted in the marginal area). *Sternaspis liui* is characterized within the genus by its slightly soft shield with firmly adhered sediment particles, which gives it a superficial resemblance to species of *Caulleryaspis* Sendall & Salazar-Vallejo, 2013. However, the shields of the latter are remarkably soft and poorly developed, without ribs and concentric lines, while in *Sternaspis liui* both the ribs and concentric lines are well defined. Variations of both species with remarks on juvenile shield development are provided.

Key words: Annelida, Sternaspidae, *Sternaspis*, taxonomy, Chinese waters

Introduction

Sternaspid species are characterized by its peanut-like body shape and a remarkable shield that lies ventro-posteriorly. The shields can display different shapes and pigmentation patterns depending on the species. However, shield differences were under-emphasized and even disregarded in the sternaspid taxonomy until the beginning of this century (Fauvel 1953, Pettibone 1954, Day 1967, Fiege & Buetfering 2000). The consequence is that disregarding shield features, most sternaspids look alike and are hard to be distinguished from each other. Sendall (2006) and Sendall & Salazar-Vallejo (2013) studied the variation of the shield morphology and confirmed it as a diagnostic feature, and a revision on the genus *Sternaspis* was made on this basis. Since then, a series of new sternaspid species have been described from the deep sea in the Pacific Ocean and from the tropic and high latitude sea areas (Salazar-Vallejo & Buzhinskaja 2013, Salazar-Vallejo 2014a, b). Up to date, the family Sternaspidae contains three genera and 33 species.

Species of Sternaspidae are very common and frequently dominant in the sea areas of China, especially in the Bohai Sea and Yellow Sea. Wang *et al.* (2006) studied the ecological characteristics of sternaspids in the Jiaozhou Bay of the western Yellow Sea during 1998 to 2004, and found consistently high densities of up to 42 ind/m² at an average depth of 7 m. So far, all the sternaspid specimens collected from the China seas have been identified as the worldwide species *Sternaspis scutata* (Kao *et al.* 1959, Yang & Sun 1988). However, Sendall & Salazar-Vallejo (2013) indicated that *S. scutata* is probably restricted in sea areas from the Mediterranean Sea to the English Channel, and the records from non-Mediterranean or Northeastern Atlantic need to be reevaluated. Our examination on historic material as well as recently collected specimens demonstrates the absence of the species in China seas. Moreover, we recognized two undescribed species of *Sternaspis* and described herein.