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## ***Sabellaria jeramae*, a new species (Annelida: Polychaeta: Sabellariidae) from the shallow waters of Malaysia, with a note on the ecological traits of reefs**

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### **Abstract**

A new species of the genus *Sabellaria* Lamarck, 1818 (Annelida: Polychaeta: Sabellariidae) is described from the intertidal zone of Jeram, Selangor, Malaysia. *Sabellaria jeramae* n. sp. is a gregarious species that constructs large reefs several hundreds of meters long and 50–200 m wide. The new species is distinguished from other congeners by the character combination of the presence of a single kind of middle paleae with conspicuous morphology, and outer paleae with long frayed teeth. Morphological features of the species are described and compared to those of all congeneric species. We also compare the reef structure and geographical distribution of the new species to those of the members of the family Sabellariidae around the world, demonstrating the ecological traits of the reefs.

**Key words:** Biogenic structure, new taxon, honeycomb-worm colony, Jeram Beach

### **Introduction**

Polychaetous annelids of the family Sabellariidae Johnston, 1865 constitute a widespread and locally important component of marine benthic communities (Kirtley 1994). Some of these tube-building worms form massive aggregations on the sandy and rocky substrates, and thus are known under a number of common and vernacular names, such as “*honeycomb worms*” or “*sand-mason worms*” (e.g., Wilson 1971; Sisson 1986; Ekdale & Lewis 1993; Hutchings 2000; Rouse & Pleijel 2001; Miller 2001; Simmons *et al.* 2005; Capa *et al.* 2012; Hutchings *et al.* 2012; Capa & Hutchings 2014). Sabellariid aggregations and reefs have attracted the interest of not only biologists, but also of geologists and palaeontologists (e.g., Gram 1968; Kirtley & Tanner 1968; Burke *et al.* 1992; Caline *et al.* 1992).

Within the family, members of *Sabellaria* Lamarck, 1818 are well-known reef builders. Most *Sabellaria* species are gregarious, capable of forming large reefs along shores, where appropriate hydrodynamic and sedimentological factors exist (Kirtley 1994; Hutchings *et al.* 2012). However, solitary individual tubes have been also found on a wide variety of substrates. Members of other genera, such as *Idanthyrsus* Kinberg, 1876, *Neosabellaria* Kirtley, 1994, and *Phragmatopoma* Mörch, 1863, also build aggregations and reefs in several regions throughout the world (e.g., Multer & Milliman 1967; Pohler 2004; Simmons *et al.* 2005).

The systematics and taxonomy of Sabellariidae were reviewed by Kirtley (1994) in a monograph that so far has been the best reference source for this group. Additional recent revisions of the group include Capa *et al.* (2012), Hutchings *et al.* (2012), Capa & Hutchings (2014), and Dos Santos *et al.* (2014). Over 20 new species have been described since Kirtley’s monograph (e.g., Nishi & Kirtley 1999; Nishi *et al.* 2004, 2010; Dos Santos *et al.* 2011, 2014; Hutchings *et al.* 2012). Currently, Sabellariidae includes 12 genera and the genus *Sabellaria* is the most speciose taxon in the family with 40 valid species.