



## ***Dinonemertes shinkaii* sp. nov., (Nemertea: Hoplonemertea: Polystilifera: Pelagica) a new species of bathypelagic nemertean**

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### **Abstract**

A new species of bathypelagic polystiliferous nemertean *Dinonemertes shinkaii* is described based on the holotype obtained by the manned submersible *Shinkai 6500* from a depth of 2343 m in Japan Trench, Northwest Pacific. *Dinonemertes shinkaii* can be distinguished from its congeners in having a translucent body, 24 proboscis nerves, two pairs of intestinal caecal diverticula, and about 25 pairs of intestinal lateral diverticula. This species represents the first dinonemertid to have pseudostriated muscle fibres in the rhynchocoel circular muscle layers.

**Key words:** Pacific, Japan Trench, plankton, manned submersible *Shinkai 6500*, taxonomy, striated muscle

### **Introduction**

Since the description of *Pelagonemertes rollestoni*—the first pelagic nemertean species discovered during the *Challenger* expedition (Moseley 1875a)—so far about 100 species of pelagic nemerteans have been described/reported from all the oceans in the epipelagic, mesopelagic, and bathypelagic zones, although they seem to be most abundant at 625–2500 m (Roe & Norenburg 1999). All the pelagic forms belong to the Hoplonemertea, of which only two named and two undescribed species represent the Monostilifera (Wheeler 1934; Korotkevich 1961; Crandall & Gibson 1998; Chernyshev 2005; Crandall 2006), while the rest of the 98 species constitute the Pelagica within the Polystilifera (Maslakova & Norenburg 2001). From the Japanese exclusive economic zone, only two species of pelagic nemerteans have hitherto been reported, viz., *Pelagonemertes moseleyi* Bürger, 1895 (Moseley 1875b; Kato & Tanaka 1938) and *Nectonemertes japonica* Foshay, 1912 (*q.v.*).

During a cruise of the *R. V. Yokosuka* (Cruise YK00-04) in June 2000, a series of dives using the crewed submersible *Shinkai 6500*, operated by the Japan Marine Science and Technology Centre [=now Japan Agency for Marine-Earth Science and Technology] (JAMSTEC), was implemented in the Japan Trench off Miyako (Lindsay 2005). One of the specimens obtained during these dives turned out to be an undescribed species of polystiliferous pelagic nemertean. The present paper describes and illustrates this form as *Dinonemertes shinkaii* sp. nov.

### **Material and methods**

The specimen was collected at 15:44 at a depth of 2343 m, 39°12.22'N, 144°30.54'E, using a suction sampler on the *Shinkai 6500* during a dive to 3278 m on 11 June 2000 (Diver 549, observer: James C. Hunt). The specimen was fixed and stored in hexamine-buffered 5% formalin seawater before being dehydrated by 100% EtOH, cleared in xylene, and embedded in paraffin wax (m.p. 56–57°C). Sections were cut to a thickness of 8–9 µm and stained according to Mallory's trichrome method (Gibson 1994).