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New Records of Hairworms (Nematomorpha: Gordiida) from Japan

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We report new records from Japan for four species of freshwater Nematomorpha (Gordiida). Two species closely, but not exactly, resemble known species and were determined as *Gordionus* cf. *lineatus* (Leidy, 1851) and *Parachordodes* cf. *okadai* Inoue, 1955. The other two species are *Chordodes japonensis* Inoue, 1952 and *Gordionus chinensis* (Villot, 1874). All specimens were identified using scanning electron microscopy, with images given for *Gordionus* cf. *lineatus* and *Parachordodes* cf. *okadai*.
Key Words: Nematomorpha, Gordiida, horsehair worms, Japan, taxonomy, SEM.

Introduction

Freshwater Nematomorpha (Gordiida) have a life cycle including a free-living phase in freshwater habitats and a parasitic phase in the body cavity of various insect species (Hanelt *et al*. 2005). There are about 300 species described worldwide. Thirteen species have been reported from Japan (Inoue 1955; Fukui and Inoue 1973; Schmidt-Rhaesa 2004; Ichikawa 2007; Schmidt-Rhaesa and Sato 2009). These are: *Gordius fulgur* Baird, 1861; *G. japonicus* Inoue and Fukui, 1953; *G. cavernarum* Inoue, 1972; *G. luteopunctatus* Inoue, 1979; *G. ogatai* Inoue, 1979; *Chordodes silvestri* Camerano, 1895; *C. fukuii* Inoue, 1951; *C. japonensis* Inoue, 1952; *Parachordodes lestici* Heinze, 1935; *P. okadai* Inoue, 1955; *Paragordionus kawamurai* Yamaguti, 1943; *Gordionus chinensis* (Villot, 1874); and *G. kii* Schmidt-Rhaesa and Sato, 2009.

Scanning electron microscopy (SEM) has become a standard method in nematomorph taxonomy, because it documents the relevant cuticular structures most reliably. Among the 13 Japanese species, SEM data are available for *Chordodes fukuii*, *C. japonensis*, *Paragordionus kawamurai*, *Gordionus chinensis*, and *G. kii* (Schmidt-Rhaesa 2004; Schmidt-Rhaesa and Sato 2009). On the bases of a small