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Description of new species of *Phanodermopsis* (Enoplida, Phanodermatidae) with key to genera of family Phanodermatidae and pictorial key to *Phanodermopsis* species

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Abstract

A new representative of the family Phanodermatidae, *Phanodermopsis nana* **sp. n.**, is described. The new species is found in the Sea of Japan and characterized by its small body size, long anterior sensilla and short tail. The new species differs from *P. ingrami* in body length (~ 7000 µm in *P. ingrami vs* ~ 3000 µm in *P. nana* **sp. n.**). The De Man's ratios (a, b, c) are smaller in *P. nana* **sp. n.** and the outer labial setae are longer (1 corresponding body diameter) than in *P. ingrami* (1/2 corresponding body diameter). The vulva is more posterior in *P. ingrami* (V% = 58–61%) than in *P. nana* **sp. n.** (V% = 51–58%). A dichotomous key to the 9 valid genera of Phanodermatidae and a pictorial key to species of *Phanodermopsis* are provided. The length of the spicules is proposed as the main differentiating feature for distinguishing *Phanodermopsis* and *Crenopharynx* species. *Phanodermopsis longisetae* Chitwood, 1936 which has extremely long spicules (5.2 anal body diameters) is transferred to the genus *Crenopharynx*.

Key words: taxonomy, SEM, DIC, LSM, nematodes, description, new species

Introduction

The Order Enoplida is numerous and includes morphologically diverse families. In some families, it is difficult to identify species; one such family is Phanodermatidae. The current systematics of this taxon is based on the structure of the cephalic region, pharynx and spicules. These features have overlapping ranges and are found in other enoplids. In addition, many species descriptions are insufficient, describing too few characteristics and providing poor illustrations of the important cephalic and spicule structures, and many species are described from females only (Platonova 1984).

Platonova (1984) proposed the integration of enoplid nematodes characterized by having a well-developed pharyngeal capsule and weakly developed buccal cavity into the family Phanodermatidae. According to Platonova (1984), there are two capsules with different levels of development: a cephalic capsule and a pharyngeal capsule. The cephalic capsule is a band of thickened anterior cuticle while the pharyngeal capsule is a circular area where the basal lamina of the anterior pharynx is fused with basal internal somatic cuticle.

Platonova (1984) distinguished six types of the pharyngo-cephalic complexes among Phanodermatidae.

Type I is characterized by the cap-shaped pharyngeal capsule from enhanced cuticle that covers each sector of the protruding pharynx. Where present, the cephalic capsule is weakly-developed, short, and shifted backward from the anterior end (Fig. 1A). *Dayellus* Inglis, 1964, *Micoletzkyia* Ditlevsen, 1926 and *Klugea* Filipjev, 1927 are characterized by having the type I pharyngo-cephalic complex.

Type II is characterized by the small outgrowths at the anterior end of pharyngeal capsule. The cephalic capsule is longer than in type I but is simple with thin walls (Fig. 1B). *Phanodermopsis* Ditlevsen, 1926 and *Phanodermella* Kreis, 1928 are characterized by this type of pharyngo-cephalic complex.

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