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A new species of free-living marine nematode (Nematoda: Chromadoridae) from the East China Sea

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Abstract

A new species of free-living marine nematodes, *Ptycholaimellus longibulbus* sp. nov., is described from the East China Sea. *Ptycholaimellus longibulbus* sp. nov. is characterized by having body length of about 1100–1400 µm, cephalic seta 9 µm long (half a head diameter), a relatively long double posterior pharyngeal bulb occupying 44–49% of pharyngeal length, a voluminous ventral gland with a large ampulla, cuticle with transverse rows of punctations and lateral differentiation with two longitudinal rows of thick dots, relatively long spicules 45–55 µm long, an arcuate gubernaculum 25 µm long, and a conico-cylindrical tail with a distinct long finger-like spinneret. A key to species of *Ptycholaimellus* is given.

Key words: *Ptycholaimellus longibulbus* sp. nov., free-living marine nematode, taxonomy

Introduction

Currently, about 7,000 species of free-living marine nematodes have been described (Appeltans *et al*. 2012), and more than 260 species have been identified from China. Of these, 77 species are endemic to the China Sea (Huang, 2008; Huang & Zhang, 2014). During an investigation of biodiversity of free-living nematodes in the East China Sea in February 2013, we recovered seven species of the Family Chromadoridae (*Chromadorita* sp, *Dichromadora affinis* Gagarin et Thanh, 2011, *Ptycholaimellus* spp. 1 and 2, *Prochromadorella* sp., *Ptycholaimellus* **sp. nov.**, *Trochamus* sp.) from the intertidal region of Ximen Island of Wenzhou, Zhejiang Province. Of these, one was regarded as new to science, and this paper describes *Ptycholaimellus longibulbus* **sp. nov.**

The genus *Ptycholaimellus* was established by Cobb in 1920 with the type species *Ptycholaimellus carinatus*. This genus differs from other related genera in the presence of a collar by which the head is separated from the body, a large S-shaped dorsal tooth and an elongated double posterior pharyngeal bulb. Currently, 20 species of this genus have been described from around the world (Gerlach & Riemann 1973; Eskin & Hopper 1985; Jensen & Nehring 1992; Muthumbi & Vincx 1998; Turpeenniemi *et al.* 2001; Huang &Wang 2011; Thanh *et al.* 2012). The list of known species of *Ptycholaimellus* follows:

Ptycholaimellus adocius Dashchenko & Belogurov 1984
Ptycholaimellus. areniculus Thanh Tu Gagarin Tchesunov & Hien 2012
Ptycholaimellus boucheri Jensen & Nehring 1992
Ptycholaimellus brevisetosus Thanh Tu Gagarin Tchesunov & Hien 2012
Ptycholaimellus carinatus Cobb 1920
Ptycholaimellus hibernus Eskin & Hopper 1985
Ptycholaimellus inaequibulbus Jensen & Nehring 1992
Ptycholaimellus jacobi Jensen & Nehring 1992
Ptycholaimellus jenseni Muthumbi & Vincx 1998
Ptycholaimellus lizardiensis Decraemer & Coomans 1978

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-	Lateral cuticular differentiation begins mid-pharynx, gubernaculum with proximal lateral processes and distal small apophyses	*P. slacksmithi*
6	Double pharyngeal bulb longer than 40% of pharyngeal length	7
-	Double pharyngeal bulb shorter than 35% of pharyngeal length	9
7	Body length shorter than 900 µm, spicules with small oval piece	*P. areniculus*
-	Body length longer than 1000 µm, spicules without oval piece	8
8	Cephalic setae 9 µm, gubernaculum without lateral apophyses	*P. longibulbus*
-	Cephalic setae 15–16µm, gubernaculum with lateral apophyses	*P. brevisetosus*
9	Presence of papilla precloacal supplement	10
-	Absence of papilla precloacal supplement	11
10	Body longer than 500µm, gubernaculum 13µm, not three parts	*P. lizardiensis*
-	Body shorter than 450µm, gubernaculum 15–19 µm with three parts	*P. sindhicus*
11	Length of ventral gland cell equal or longer than pharyngeal length	12
-	Length of ventral gland cell shorter than pharyngeal length	15
12	Spicules 50–72µm, ventral gland cell 150–180 µm long	*P. jacobi*
-	Spicules shorter than 40 µm, ventral gland cell shorter than 130 µm	13
13	Body longer than 900 µm, spicules 37–38µm, gubernaculum 19–22 µm	*P. ponticus*
-	Body shorter than 900 µm, spicules shorter than 30 µm	14
14	Cephalic setae 3 µm, spicules 28 µm, gubernaculum 14–17 µm	*P. jensenii*
-	Cephalic setae 4–5 µm, spicules 25 µm, gubernaculum 19 µm	*P. boucheri*
15	Cephalic setae equal or longer than head diameter	16
-	Cephalic setae shorter than head diameter	17
16	Knob-like swellings at base of tooth, gubernaculum without dorso-caudal apophyses	*P. macrodentatus*
-	No knob-like swellings at base of tooth, gubernaculum with dorso-caudal apophyses	*P. vincxae*
17	Body length short than 680 µm	18
-	Body length longer than 700 µm	19
18	Double pharyngeal bulb very weak or single bulb, gubernaculum slender with tapered tip	*P. monodon*
-	Double pharyngeal bulb obvious, gubernaculum with a serrated posterior tip	*P. pemminae*
19	Gubernaculum tapered distal end, with small apophyses	*P. pandispiculatus*
-	Gubernaculum knobbed distal end, without apophyses	*P. hibernus*

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