

## *Parastomachoglossa japonica* sp. n. from Biwa Lake, Japan (Nematoda, Dorylaimida: Actinolaimidae)

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The new species differs from other species of the genus in the structure of oesophagus and supplementary apparatus. This is the first species of *Parastomachoglossa* recorded from Asia.

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Nematodes were collected in the summer 1996 on the sand littoral of Biwa Lake, Honshu Island, Japan near Kyoto city and near Kita-Kamatsu village by Dr. O.A. Timoshkin. They were fixed in 70% alcohol and 4% formalin.

Diagnosis of the genus *Parastomachoglossa* Coomans & Loof, 1986 by Vinciguerra & Coomans (1988). Actinolaimidae; Actinolaiminae. Cuticle thick, with prominent longitudinal ridges. Lip region wide and low. Vestibular ring double and sclerotized; cheilostoma provided with 4 large onchia; odontostyle robust, hatchet-shaped. Oesophagus tripartite, with an anterior hyaline tube, a median, gradually widening muscular portion (longer or as long as the anterior one), and a posterior part. Didelphic; diorchic. Vagina muscular; vulva longitudinal. Male supplements concentrated into 2 or 3 fascicles. Tail elongate in females, short and rounded in males. The genus *Parastomachoglossa* can be distinguished from *Actinca*, *Stomachoglossa* and *Brasilaimus* by the shorter stomatal tube and the longer median part of the oesophagus, by the more robust, hatchet-shaped odontostyle. From *Actinolaimus* it can be distinguished mainly by the tripartite oesophagus.

Vinciguerra & Coomans (1988) included in the genus *Parastomachoglossa* 3 species: *P. costata* (Schneider, 1935) Coomans & Loof, 1986, *P. perplexa* (Heyns & Argo, 1969) Vinciguerra & Coomans, 1988 and *P. taylori* (Meyl, 1957) Coomans & Loof, 1986, but *P. taylori* was described from one immature female only and its status and position

in the classification of Actinolaimidae are problematic (*species inquirenda*).

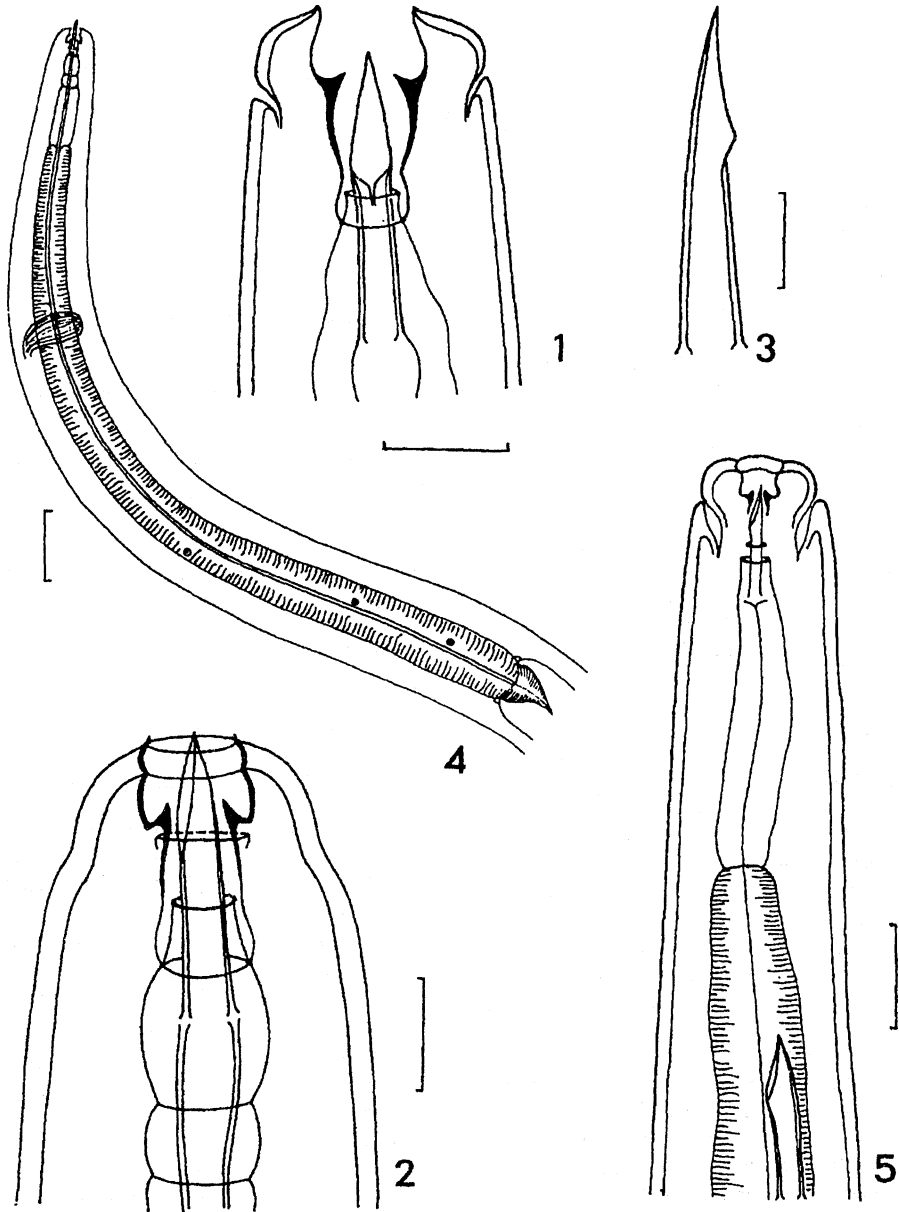
### *Parastomachoglossa japonica* sp. n. (Figs 1-10)

*Holotype*. ♂, Japan, Biwa Lake, near Kita-Kamatsu, littoral, 25.VII.1996 (O.A. Timoshkin), microscope slide No. A-6152, Zoological Institute, St.Petersburg.

*Paratypes*. 6 ♂, 10 ♀, Biwa Lake, 25.VII and 12.VIII.1996 (O.A. Timoshkin), same Institute.

*Description*. ♀ (n = 10): L = 2399-3403 (3116) µm; a = 38-58 (49.6); b = 4.3-5.8 (5.1); c = 11.7-15.2 (13.4); c' = 6-9 (8); V = 37-46 (44)%. Cuticle longitudinally striate, 2-3 µm thick; ridges 25-35 on midbody. Head slightly demarcated by very shallow depression, 18-20 µm wide. Stoma 9-11 µm wide; odontostyle 26-29 µm long, 3-4 µm thick; aperture 10-11 µm (40% of odontostyle length). Guiding ring double. Amphids practically indistinguishable; aperture of amphid fissured, 7-8 µm wide. Oesophagus 505-660 (615) µm long; anterior non-muscular part 10-13% of oesophageal length. Oesophageal glands scarcely distinguishable. Cardia elongate, conoid. NR = 27-31%. Reproductive system didelphic, amphidelphic: Q<sub>1</sub> = 400-700 µm, Q<sub>2</sub> = 400-800 µm; uteri contain 3-7 eggs. Prerectum 150-260 (180) µm long; rectum 40-48 µm long. Tail 190-250 (220) µm long.

♂ holotype: L = 3138 µm; a = 44.8; b = 4.3; c = 11.2; c' = 0.7; spic. 53 µm; suppl. 7 + 8. ♂ paratypes (n = 6): L = 1828-3658 (2800)

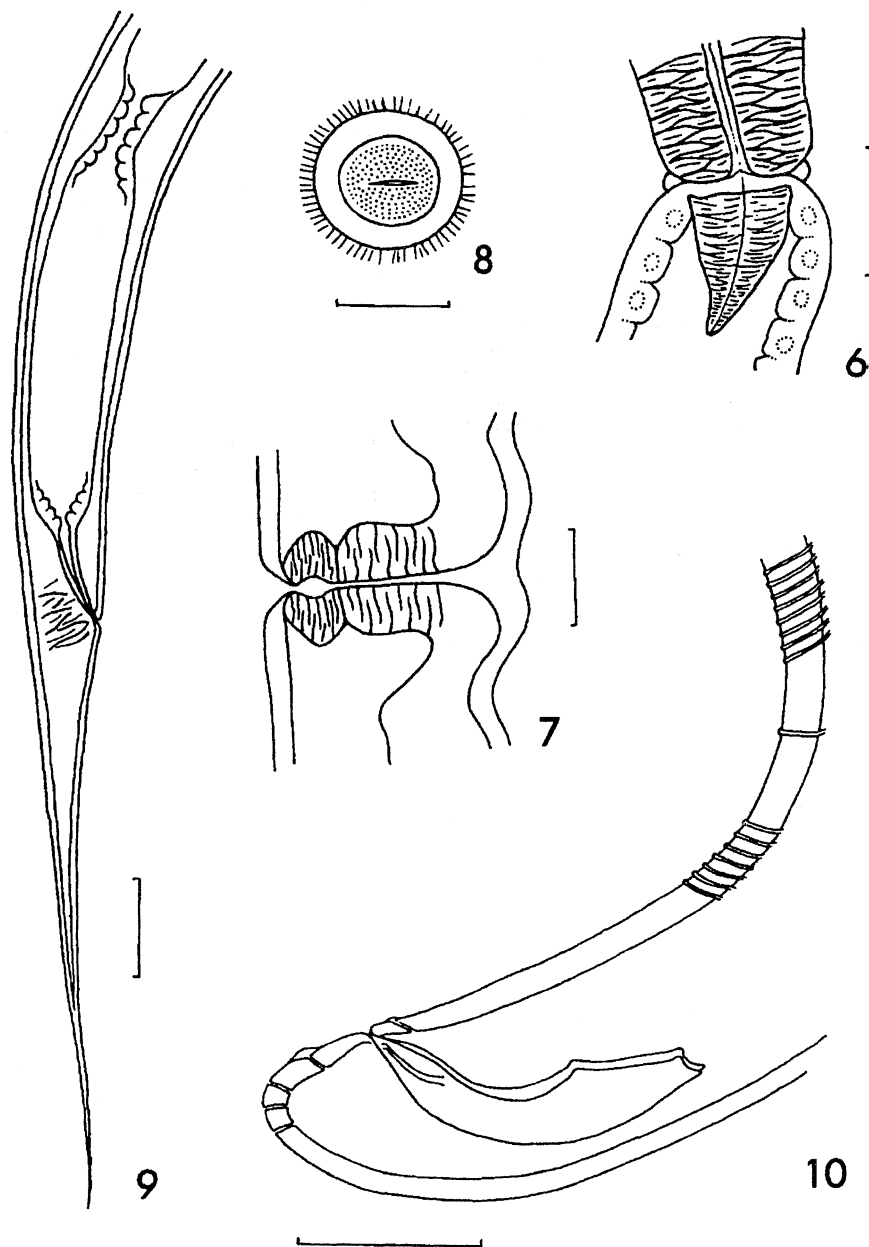


Figs 1-5. *Parastomachoglossa japonica* sp. n.: 1, head, ventral view; 2, head, lateral view; 3, spear; 4, oesophagus; 5, front section of oesophagus of larva before the last moult. Scales: 10  $\mu$ m (1, 2, 3, 5); 40  $\mu$ m (4).

$\mu$ m; a = 30-47; b = 3.6-5.8 (4.7); c = 76-130 (94); c' = 0.75; spic. 48-56 (53)  $\mu$ m. Anterior end and oesophagus similar to those of female. Supplements (separate!) in 2 ventral series formed by 7-9 and 7-9 supplements respectively and 1 or 2 supplements between them. Distance between cloaca and I series

52-71 (60)  $\mu$ m; distance between I and II series 24-40 (30)  $\mu$ m. Spermatozoa oval, 9-10  $\mu$ m long. Spicules massive, with narrow lateral piece.

*Differential diagnosis.* The new species is most similar to *P. perplexa*, but differs from it in the larger head diameter (18-20  $\mu$ m vs.



**Figs 6-10.** *Parastomachoglossa japonica* sp. n.: 6, cardium; 7, vagina; 8, vulva, ventral view; 9, tail of female; 10, caudal-genital section of male. Scales: 10  $\mu$ m (7, 8); 30  $\mu$ m (6, 9, 10).

12  $\mu$ m) and structure of oesophagus: more massive median part and pronounced anterior (non-muscular) part. There are also distinctions in the structure of supplementary apparatus and spicules. Supplements of the new species are separated (non compact

and have other number: 7-9 + 1-2 + 7-9 vs. 5-6 + 4-6 + 9-11; spicules shorter (48-56  $\mu$ m vs. 54-67  $\mu$ m).

*Distribution.* *P. japonica* sp. n. is the first species of the genus *Parastomachoglossa* from Asia. The other two species are known

from Africa: *P. costata* from Ivory Coast (Schneider, 1935; Coomans & Loof, 1986) and *P. perplexa* from South Africa (Heyns & Argo, 1969; Vinciguerra, 1967) and Ethiopia (Zullini, 1988; Vinciguerra & Coomans, 1988).

**Key to species of the genus *Parastomachoglossa* (males)**

- 1(2). Supplements concentrated into 3 fascicles . . . .  
 . . . . . ***P. perplexa***  
 2(1). Supplements concentrated into 2 fascicles.  
 3(4). Spicules 60-80 µm; oesophagus 670-800 µm . . .  
 . . . . . ***P. costata***  
 4(3). Spicules 50-60 µm; oesophagus 520-640 µm . . .  
 . . . . . ***P. japonica***

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