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Description of a marine free–living nematode *Stephanolaimus graciosus* sp. n. and erection of *Setostephanolaimus* gen. n. (Chromadoria: Leptolaimidae)

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Summary. *Stephanolaimus graciosus* sp. n. is described from the benthos in the South Atlantic off Namibia coast. The new species differs from *S. elegans* Ditlevsen, 1918, the only other member of the genus *Stephanolaimus* s. str. by having shorter cervical setae, fewer tubular supplements (9 vs. 36 - 45) and the presence of postanal papilla vs. preanal seta. The genus *Stephanolaimus* Ditlevsen, 1918 is revised and the majority of its species (apart from the type species and one described herein) is separated into a new genus *Setostephanolaimus* gen. n. The new genus differs from *Stephanolaimus* s. str. by the configuration of 6+4 cephalic setae vs. 4, simple labial region without a labial disc, amphid's shape. *S. jayasreei* Platt, 1983 is considered to be conspecific with, and consequently junior synonym of *S. longispiculum* Jayasree, 1981.

Key words: Leptolaimidae, marine nematodes, *Stephanolaimus graciosus* sp. n., *Setostephanolaimus* gen. n., taxonomy.

The genus *Stephanolaimus* contains marine free-living nematodes. It belongs to the family Leptolaimidae of the order Araeolaimida (De Coninck, 1965; Gerlach & Riemann, 1973) or the Chromadorida (suborder Leptolaimina) according to Lorenzen (1981). The *Stephanolaimus* was reviewed by Jensen (1976), Jayasree (1981) and Platt (1983), however, this taxon seems to be heterogeneous. The type species *S. elegans* Ditlevsen, 1918 is different from other congeneric members; the most noticeable character is 4 cephalic setae versus 6+4, but important differences also occur in the labial disc, amphids, renette pore and the tail. The discovery of a new species related to the type species has imposed the necessity to revise the genus. Here we provide diagnoses of *Stephanolaimus* s. str. and *Setostephanolaimus* gen. n. as well as new combinations and a description of *Stephanolaimus graciosus* sp. n.

MATERIAL AND METHODS

Samples of bottom sediments were taken with the «Ocean» grab during the 43rd voyage of the Russian R/V «Academician Kurchatov». The samples were fixed in 6% formalin and decanted through a sieve with 70 μm mesh size. Nematodes were processed by slow evaporation to pure glycerin and mounted on slides.

Emended diagnosis of the genus *Stephanolaimus* Ditlevsen, 1918

Leptolaimidae. Slender and thread-like body. Cuticle conspicuously annulated, without a lateral membrane. Mouth opening with six lips amalgamated in a labial disc. Six external labial papillae on the labial disc around the mouth opening. Four relatively long cephalic setae. Amphid shaped as a comma (single incomplete spiral), or reniform (kidney-like) at the level of the cephalic setae. Several cervical setae. Two

rows of paralateral pores or little setae (papillae) in crater-shaped pits along lateral border of the body. Stoma conical, narrow and short. Oesophagus slender, muscular, widening posteriorly without a true bulb. Cardia short. Excretory pore anterior to nerve ring. Ovaries paired. Testes paired, outstretched anteriorly. One row of preanal tubular supplements. Additional preanal and postanal papilloid supplements sometimes present. Tail conical or cylindro-conical. Tail terminal cuticle smooth and thickened like a cap.

Type species: *S. elegans* Ditlevsen, 1918.

Differences of two marine species are summarized below:

1. Cervical setae long (50% of the cephalic ones). 36 - 45 tubular preanal supplements, a single preanal midventral seta. Tail cylindro-conical..... ..... *S. elegans.*

- Cervical setae short, papilloid. 9 tubular preanal supplements. A single postanal midventral supplementary papilla. Tail conical..... *S. graciosus* sp. n.

Stephanolaimus graciosus sp. n. (Fig. 1)

Holotype male: L = 1885 μm, a = 69, b = 7.12, c = 20, body diameter at: level of cephalic setae = 10.5 μm, nerve ring = 28 μm, cardia = 28 μm, midbody = 27 μm, anus = 28 μm.

Body slender and transparent. Cuticle distinctly annulated with anterior cuticular rings relatively broad becoming thinner towards the supplement's region. Lateral membrane absent. Cuticle of the cephalic end (amphidial region) smooth.

Labial region shaped as a broad disc of amalgamated lips separated from the body by a sharp contraction. Tiny warts, possibly papillae, present around the small mouth opening on the labial disc. Four 12 μm long cephalic setae. Amphidial fovea at the level of the cephalic setae. Amphidial fovea as a single spiral with a distinct cuticular edge; a submerging nerve makes the amphid appearance «comma-like». Amphid 4.5 μm wide (45% of corresponding body diameter). Several small setae in pits along the esophageal region, posteriorly in fewer numbers.

Stoma narrow, slightly elongated (9.5 μm long), with sclerotized walls. Cheilorhabdions (within the labial disc) less pronounced than esopharhabdions. Posterior end of stoma at level of first cuticular ring. Posterior two thirds of stoma surrounded by an oesophageal cuff.

Esophagus thin, muscle cross-striation distinct along its length. Posteriorly the esophagus forms a weak oblong widening 76 μm long and 17 μm wide. Cardia short and indistinct. Gut with a vague internal lumen, apparently oligocytous.

Ventral gland cell not seen.

Two testes; anterior testis straight; posterior testis with a reflexed germinal zone. Spicules 39 μm along the chord, 52 μm along the arc, arcuated and proximally cephalated. Gubernaculum 12 μm long, with a triangular, slightly curved, caudal apophysis. Nine 11 μm long preanal midventral tubular supplements; proximally slightly widened and cephalated. Two short subdorsal and three subventral setae in pits on the tail, laterally. A small midventral supplement present like a sucker on the posterior third of the tail.

Tail conical, 3.1 anal diameters long, with a small spinneret tube. Terminal cuticle of the tail smooth and cap-like thickened 16 μm long.

Type locality. South Atlantic Ocean, off Namibia coast, 1729'2 S, 1124'7 E, 260 m depth, 28 January 1986.

Type material. Holotype male is deposited with inventory number Jc-388 in the Zoological Museum of the Moscow State University, Moscow, Russia.

Differential diagnosis. See above.

Diagnosis of the genus *Setostephanolaimus* gen.n.

Leptolaimidae. Long and slender body. Cuticle coarsely annulated posteriorly from the level of the cephalic setae. No lateral membrane. Six papillae around the mouth (sometimes inconspicuous), further six external labial sensillae are setiform; the four cephalic setae are on a separate cephalic circle. Amphid obscure, asymmetrical, pocket-shaped, horseshoe-like, or not discernible. Usually, one or two cervical setae, more or less long laterally; short somatic papillae further posteriorly in crater-like pits. Stoma narrow and short, with non-sclerotized walls. Oesophagus thin, gradually widening posteriorly, without a true bulb. Excretory pore posterior to the

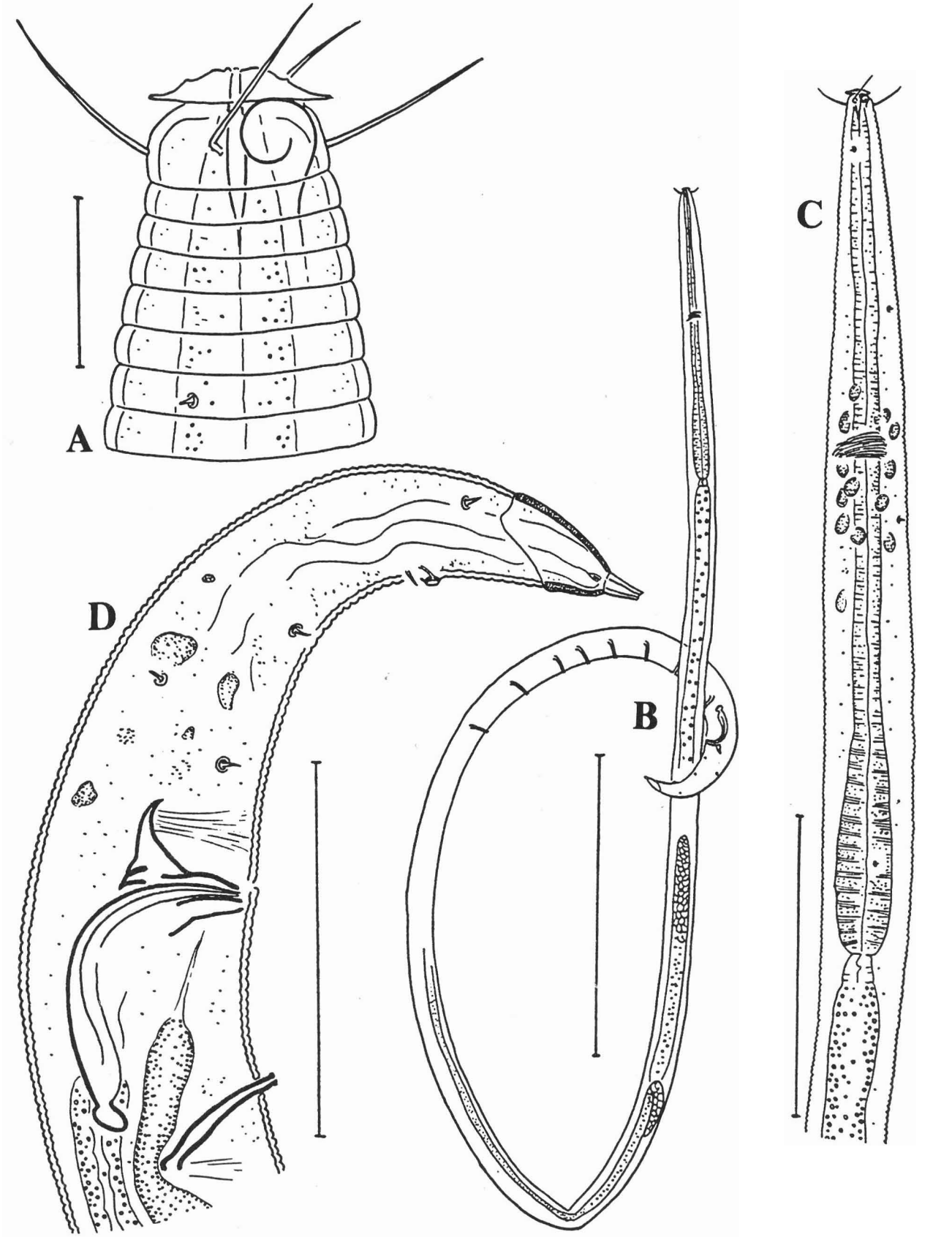

Fig. 1. *Stephanolaimus graciosus* sp. n. Holotype male. A: Cephalic end; B: Total view; C: Anterior body; D: Posterior body. Scale bars: A - 10 μm, B -300μm, C - 100μm, D - 50μm.

nerve ring. Cardia short. Ovaries paired or single opistodelphic. Testes paired (both outstretched anteriorly or hind gonad directed posteriorly) or single anterior testis only. A row of preanal tubular supplements; usually also a papilloid supplement just anterior to the cloaca. Spicules slender, short, arcuate, or very long. Gubernaculum with or without a dorsocaudal apophysis. Tail elongated-conical, sclerotized spinneret present or absent.

Type species: *Stephanolaimus gandavensis* Jensen, 1976.

DISCUSSION

The all known *Stephanolaimus* species except the type *S. elegans* are removed here to the genus *Setostephanolaimus* gen. n. *Stephanolaimus longispiculum* Jayasree, 1981 (Scotland) and *S. jayasreei* Platt, 1983 (Northern Ireland, Scotland) are considered to be conspecific due to complete identity of their descriptions and measurements (Jayasree, 1981; Platt, 1983).

List of valid *Setostephanolaimus* species

Setostephanolaimus bicoronatus (Boucher & Helleouet, 1977) comb. n. (= *Stephanolaimus bicoronatus* Boucher & Helleouet, 1977).

Setostephanolaimus flevensis (Stekhoven, 1935) comb. n. (= *Stephanolaimus flevensis* Stekhoven, 1935).

Setostephanolaimus gandavensis (Jensen, 1976) comb. n. (= *Stephanolaimus gandavensis* Jensen, 1976).

Setostephanolaimus longispiculum (Jayasree, 1981) comb. n. (= *Stephanolaimus longispiculum* Jayasree, 1981; = *Stephanolaimus jayasreei* Platt, 1983 syn. n.).

Setostephanolaimus paraflevensis (Gerlach, 1953) comb. n. (= *Stephanolaimus paraflevensis* Gerlach, 1953).

Setostephanolaimus spartinae (Lorenzen, 1969) comb. n. (= *Stephanolaimus spartinae* Lorenzen, 1969).

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Резюме. Описывается *Stephanolaimus graciosus* sp. n., обнаруженный в пробе мейобентоса у побережья Намибии, Южная Атлантика. Новый вид отличается от *S. elegans* Ditlevsen, 1918, единственного другого вида рода *Stephanolaimus* s. str. более короткими цервикальными щетинками, меньшим числом трубчатых супплементов (9 против 36 - 45), наличием постанальной папиллы вместо преанальной щетинки. Род *Stephanolaimus* Ditlevsen, 1918 ревизирован, а большинство его видов (кроме типового и нового) выделены в самостоятельный род *Setostephanolaimus* gen. n. Новый род отличается от *Stephanolaimus* s. str. паттерном 6+4 головных щетинок (у *Stephanolaimus* s. str. только 4 головные щетинки), отсутствием лабиального диска, конфигурацией амфид. *Stephanolaimus jayasreei* Platt, 1983 признается конспецифичным и младшим синонимом *S. longispiculum* Jayasree, 1981 на основании полной идентичности оригинальных описаний и совпадения в местах сбора.