

Aphelenchoides robustus sp. n., a new freshwater nematode from archipelago Novaya Zemlya (Nematoda: Aphelenchoididae)

V.G. Gagarin

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Aphelenchoides robustus sp. n. from Novaya Zemlya is described and illustrated. It differs from *A. arcticus* Sanwal, 1965 in the longer body, excretory pore located closer to median bulb and smaller posterior uterine sack; from *A. scalacaudatus* Sudakova, 1958 in the form of tail and its terminal mucro, and smaller median bulb.

V.G. Gagarin, Institute of Inland Waters Biology, Russian Academy of Sciences, Borok 152742, Yaroslavl Prov., Russia.

Introduction

There is only one article (Steiner, 1916) on the fauna of free-living nematodes from archipelago Novaya Zemlya. Morphological data on 27 species of nematodes found in mosses on these islands were given in that article. Four of them belong to the order Tylenchida: *Tylenchus davaini* Bastian, 1865; *Filenchus leptosoma* (de Man, 1880) (= *Tylenchus leptosoma*); *F. filiformis* (Bütschli, 1873) (= *Tylenchus filiformis*); *Aphelenchoides parietinus* (Bastian, 1865) (= *Aphelenchus modestus* de Man, 1876). That is why the material collected by V.I. Biserov, of Institute of Inland Waters Biology (Borok) is of great interest. 53 species of freshwater nematodes are found, among them 7 species of the order Tylenchida: *Tylenchus davaini* Bastian, 1865, *Melenchus bryophylus* (Steiner, 1914), *Aglenchus agricola* (de Man, 1884), *Coslenchus costatus* (de Man, 1921), *Aphelenchoides robustus* sp. n., and two species not identified yet.

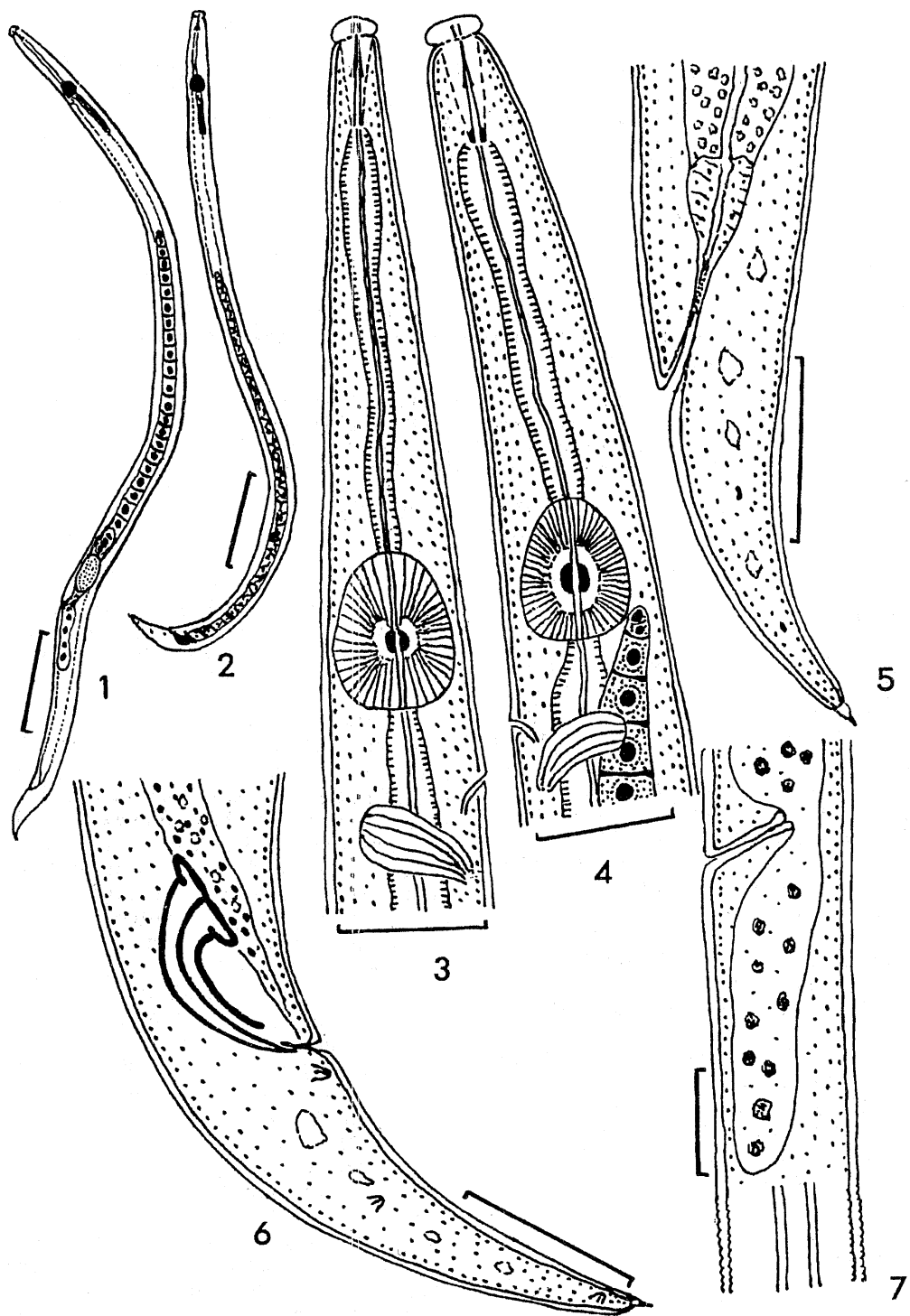
Aphelenchoides robustus sp. n. (Figs 1-7)

Holotype. ♀, Russia, archipelago Novaya Zemlya, South Island, peninsula Panykova Zemlya, lake No. 5, depth 0.3 m, ground detritus, silt, 29.VII.1995, slide No. 71/62, Institute of Parasitology, Russian Academy of Sciences, Moscow.

Paratypes. 5 ♀ collected with the holotype; 6 ♀ and 1 ♂, same locality, lake No. 6, depth 0.2 m, ground silt, sand, 29.VII.1995, slide No. 71/63, Institute of Parasitology, Russian Academy of Sciences, Moscow.

Measurements. See Table.

Description. Female. Body moderately long, slender, almost straight, 24-32 µm wide. Cuticle finely annulated. Lateral field with 4 incisures. Cephalic framework with moderate sclerotization, high. Stylet well developed, with rounded, comparatively weak knobs. Procorpus cylindrical, slightly widened in its anterior part. Posterior part of procorpus narrowed. Median bulb almost spherical, 20-22 µm long, slightly longer than wide, occupying about 3/4 of body diameter. Bulbar plate well developed and situated slightly behind middle of bulb. Oesophageal glands put dorsally on intestine. Nerve ring located at a distance about equal to median bulb length from posterior end of this bulb. Excretory pore situated slightly behind edge of median bulb, at distance less than bulb length. Gemesonid not visible. Vulva lips not protruded; vagina reflexed anteriorly. Ovary outstretched, long, sometimes reaching posterior edge of median bulb. Ovocytes consisting of single row of cells. Spermatheca elongate-oval. Posterior uterine sack 2.0-3.3 times body diameter. Egg size 57-60 × 19-20 µm. Tail 3.3-4.2 times as long as anal diameter, conical,



Figs 1-7. *Aphelenchoides robustus* sp. n. 1, female; 2, male; 3, oesophagus of male; 4, oesophagus of female; 5, tail of female; 6, tail of male; 7, vulva region. Scales: 100 μ m (1, 2), 20 μ m (3-7).

Table. Measurements of *Aphelenchoides robustus* sp. n.

Characteristics	Lake No. 5			Lake No. 6		
	Holotype ♀	Paratypes, 5 ♀		♂	Paratypes	
		Range	Mean		6 ♀	Mean
Body length, µm	857	769-813	780	924	709-1016	867
Cephalic framework, µm	8	7-8	7	7	7-8	8
Stylet length, µm	15	14-15	14	14	14-15	14
Oesophagus length, µm	77	77-87	82	91	70-95	84
Metacarpus length, µm	21	20-21	21	20	20-21	20
Posterior end of metacarpus – excretory pore, µm	14	12-14	13	12	12-14	13
Posterior uterus : corresponding body width	2.3	2.0-2.3	2.1	–	2.0-3.3	2.7
Posterior end of metacarpus – vulva, µm	522	459-609	524	–	413-606	503
Posterior end of metacarpus – anus, µm	–	–	–	784	–	–
Vulva – anus, µm	210	185-248	211	–	168-263	212
Tail length, µm	48	48-71	53	49	42-64	52
Tail : vulva-anus	0.23	0.21-0.28	0.23	–	0.20-0.31	0.26
a	36	28-35	32	33	30-39	34
b	11.1	10.0-11.8	10.5	10.2	9.2-11.7	10.3
c	17.8	14.1-18.3	16.4	18.8	13.6-21.3	16.9
c'	3.4	3.4-3.6	3.5	2.3	3.0-5.3	3.9
v	70	68-71	70	–	62-71	68

straight or slightly bent dorsally. Terminal mucro complicated, basally conoid, apically in form of thorn or needle.

Male. Similar to females in general characteristics. Lateral fields with 4 incisures. Cephalic framework 7 µm wide. Stylet 14 µm long, with spherical knobs. Median bulb 20 µm long, 17 µm wide. Testis straight, not bent. Two equal spicules 22 µm long. Mucro similar in form to that of females. Tail armed with three pairs of papillae.

Comparison. The new species differs from the type species, *Aphelenchoides kuehnii* Fischer, 1894, in the presence of terminal mucro on tail, different form of tail (in *A. kuehnii* tail strongly arched ventrally) and smaller knobs of stylet. *A. robustus* is most close to *A. scalacaudatus* Sudakova, 1958 and *A. arcticus* Sanwal, 1965. From the first species, it differs in the form of terminal mucro (in *A. scalacaudatus* simple, hairform), form of tail (in *A. scalacaudatus* strongly concave ventrally) and smaller median bulb

(in *A. scalacaudatus* 15 µm long, 12 µm wide) (Sudakova, 1958). From the second species, it differs in the longer body (in females of *A. arcticus* L = 0.67-0.81 mm), excretory pore located closer to median bulb, and smaller posterior uterina sack (in ♀ of *A. arcticus* posterior uterina sack 5.0-5.5 body diameter) (Sanwal, 1965).

Etymology. The name of the new species means "strong, powerful".

References

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