Some new and poorly known species of Tylenchidae and Monhysteridae from Siberia (Nematoda)

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Eutylenchus gracilis sp. n. (Tylenchidae), *Eumonhystera sibirica* sp. n. (Monhysteridae) and the hitherto unknown male of *Tridentulus brzeskii* (Gagarin & Gusakov, 2000) (Monhysteridae) from Arachley Lake, situated in Siberia, Chita Prov., Russia, are described and illustrated.

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Mature females of two new species of free-living nematodes, *Eutylenchus gracilis* sp. n. (Tylenchida: Tylenchidae) and *Eumonhystera sibirica* sp. n. (Monhysterida: Monhysteridae), and hitherto unknown males of *Tridentulus brzeskii* Gagarin & Gusakov, 2000 (Monhysterida: Monhysteridae) were found during an investigation of the fauna of nematodes in the Arachley Lake situated in Siberia, Chita Prov. of Russia. Samples were taken at a depth of 1-5 m in muddy sand sediments. Nematodes were fixed in 4% formalin and mounted in glycerin. The descriptions and drawings were made from permanent slides. All the material is deposited at the Institute for Biology of Inland Waters, Russian Academy of Sciences (Borok, Yaroslavl Prov.).

Eutylenchus gracilis sp. n.
(Figs 1-4)

Holotype. ♀, **Russia**, *Chita Prov.*, Arachley Lake, depth 1.05 m, muddy sand, 31.07.2000, slide no. 33/1.

*Paratypes.*4 ♀, collected with holotype, slide no. 36/1.

Measurements. See Table 1.

Description. Female. Body small, slender. Cuticle coarsely annulate, with 12 longitudinal ridges dividing cuticle into separate blocks. Lateral fields absent. Cuticle 1.1-1.3 µm thick, annuli 1.5 µm wide at midbody. Labial region distinctly set off, with four round lips. Four cephalic setae 10.5-11.0 µm long. Stylet 25-26 µm long. Oesophagus slender, its anterior section 0.6-0.8 times as long as posterior section. Metacorpus (median bulb) spherical to oval, 14-16 µm long, with distinctly cuticularised valve. Cardial bulb elongate, cylindrical. Excretory pore at level of anterior section of cardial bulb. Hemizonid slightly anterior to excretory pore. Cardia small, muscular, pierced into intestine. Rectum as long as anal body diameter, with open lumen. Ovary single, outstretched; oocytes in a single row. Vulva posterior to midbody, transverse, slit-shaped, covered by vulvar plates. Vagina narrow, occupying about half of corresponding body diameter. Spermatheca distinct, 40-47 µm long. Postvulvar sac 1.3-1.5 times as long as corresponding body diameter. Tail long, gradually narrowing, its tip pointed.

Comparison. The new species is distinguished from the close species *E. fueguensis* Valenzuela & Raski, 1985 by the thicker body (in *E. fueguensis, a* = 57-76), shorter stylet (in *E. fueguensis,* stylet 28-32 µm), excretory pore situated farther from the anterior body end (in *E. fueguensis*, excretory pore situated at the level of isthmus) and the different shape of tail tip (in *E. fueguensis,* tail tip narrowed, with distinct mucro) (Valenzuela & Raski, 1985).

Etymology. The species name means "graceful", "elegant".

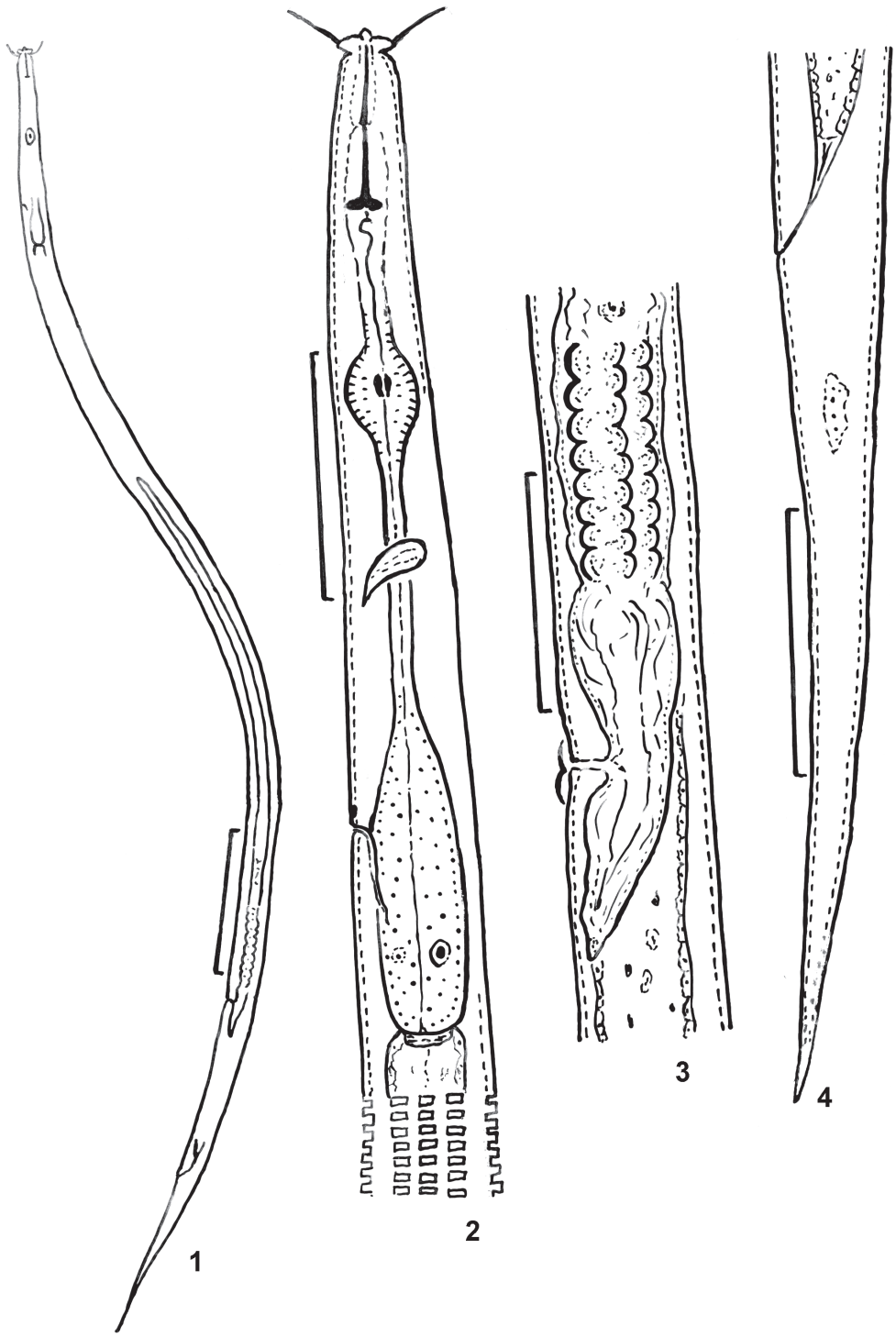
Eumonhystera sibirica sp. n.
(Figs 5-8)

Holotype. ♀, **Russia**, *Chita Prov.*, Arachley Lake, depth 3 m, silted sand, 5.VIII.2000, slide no. 34/1.

Paratypes. 4 ♀, collected with holotype, slide no. 37/1.

Measurements. See Table 2.

Description. Female. Cuticle smooth, transverse striation absent. Thickness of cuticle in vulva region about 1.4 µm. Somatic setae and crystalloid bodies absent. Labial region slightly flattened, about 10-11 µm wide, continuous with the body outline. Mouth opening surrounded by a ring of perioral platelets. Cheilostoma wider than its length, with prominently refractive lin-



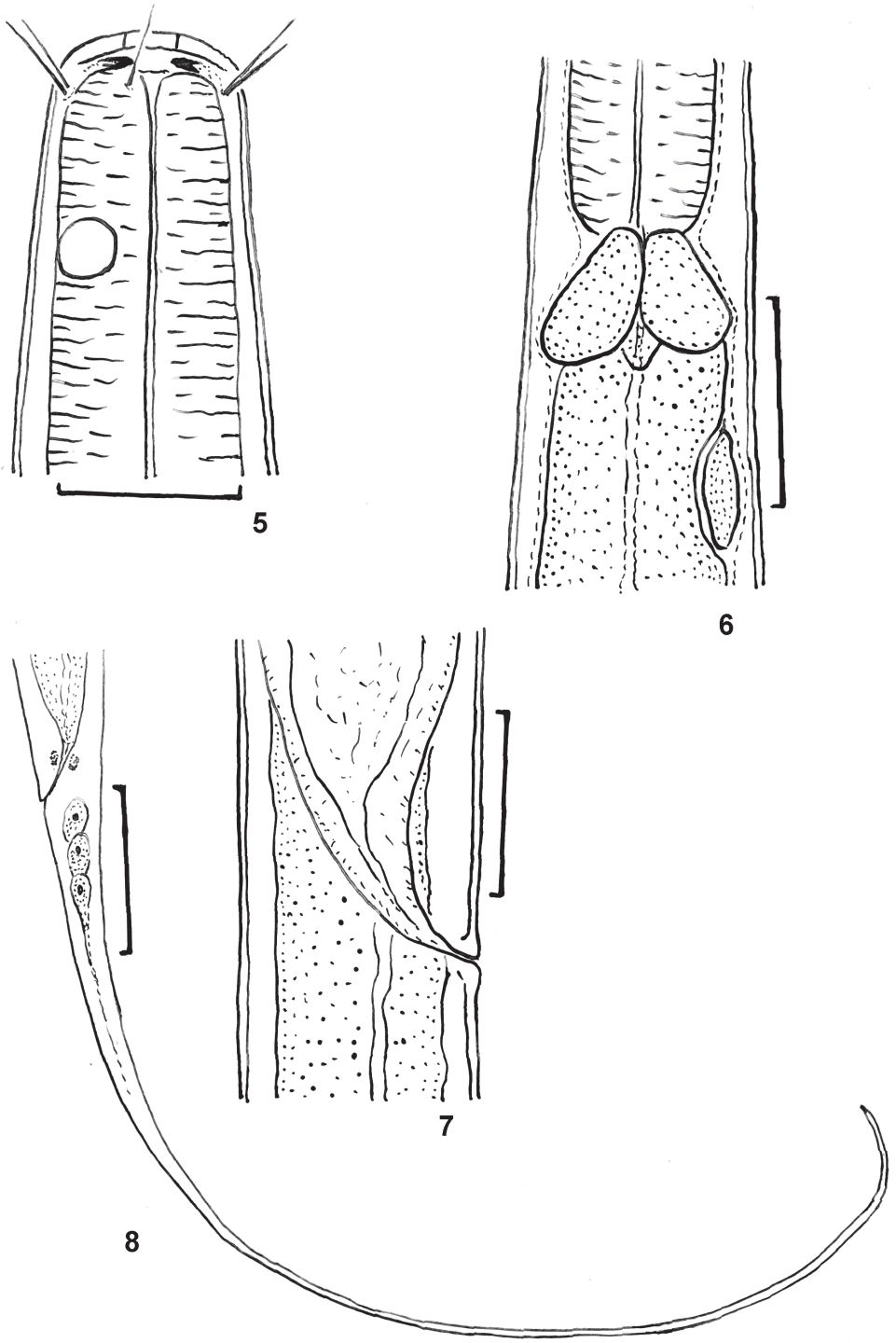
Figs 1-4. *Eutylenchus gracilis* sp. n., female. **1**, general view; **2**, anterior body end; **3**, vulva region; **4**, tail. Scales: 100 μm (1), 40 μm (2-4).

Table 1. Measurements of females of *Eutylenchus gracilis* sp. n.

Characteristics	Holotype	Paratypes (n = 4)	
		range	mean
L, μm	958	886-970	932
a	38	34-40	37
b	6.8	6.2-6.6	6.4
c	7.4	7.2-7.6	7.4
c'	10.2	9.5-11.0	10.5
V	73.1	72.2-74.1	73.2
Labial region width, μm	8.5	8.0-8.5	8.5
Cephalic setae length, μm	11.0	10.5-11.0	11.0
Stylet length, μm	26.0	25.0-26.0	25.5
Oesophagus length, μm	140	143-151	147
Posterior end of oesophagus – vulva, μm	560	497-571	536
Vulva – anus, μm	129	120-126	124
Tail length, μm	129	123-127	125
Anterior body end – excretory pore, μm	115	109-115	112
Postvulvar sac length, μm	30	30-35	33
Postvulvar sac length / body diameter	1.4	1.3-1.5	1.4
Vulva-anus / tail length	1.0	9.1-1.1	1.0

Table 2. Measurements of females of *Eumonhystera sibirica* sp. n.

Characteristics	Holotype	Paratypes (n = 4)	
		range	mean
L, μm	939	837-998	906
a	35	35-40	38
b	5.2	5.0-5.2	5.1
c	3.4	3.2-3.4	3.3
c'	21.8	21.7-26.5	23.9
V	57.4	55.2-60.2	57.2
Labial region width, μm	11	10-11	11
Longer cephalic setae, μm	5.5	5.0-5.5	5.5
Longer cephalic setae / labial region width	0.5	0.45-0.5	0.5
Anterior end to amphid, μm	9	9-10	9
Anterior end-amphid / labial region width	0.8	0.8-0.9	0.9
Oesophagus length, μm	182	168-191	178
Posterior end of oesophagus – vulva, μm	357	294-410	342
Vulva – anus, μm	126	100-126	112
Tail length, μm	274	263-297	274
Tail / vulva-anus	2.2	2.2-3.0	2.5



Figs 5-8. *Eumonhystera sibirica* sp. n., female. **1**, anterior body end; **2**, cardia region; **3**, vulva region; **4**, tail. Scales: 30 μm (4), 20 μm (2, 3), 10 μm (1).

Table 3. Measurements of 4 males of *Tridentulus brzeskii* Gagarin & Gusakov, 2000

Characteristics	Range	Mean
L, μm	990-1070	1024
a	21-27	23
b	4.6-4.9	4.8
c	7.2-7.9	7.5
c'	4.3-5.0	4.7
Labial region width, μm	17-18	18
Longer cephalic setae, μm	5.0-5.5	5.5
Longer cephalic setae / labial region width	29-30	30
Anterior end to amphid, μm	15-17	16
Anterior end-amphid / labial region width	0.9-1.0	0.9
Oesophagus length, μm	203-224	215
Posterior end of oesophagus – cloaca, μm	658-717	672
Tail length, μm	129-141	137
Spicula length, μm	70-73	72
Gubernaculum length, μm	19-20	20

ing. Remainder of stoma funnel-shaped, not cuticularised. Lips rounded. Labial papillae very small, conical. Cephalic setae 10 (6+4), in two circles fused together; longest ones 5.0-5.5 μm (45-50% of labial region width). Amphids circular, about 4.3 μm in diameter (1/3 of corresponding body diameter). Anterior margin of amphids 9-10 μm (0.8-0.9 labial region width) from anterior body end. Oesophagus slender, muscular, slightly swollen proximally. Nerve ring at 36-40% of oesophageal length from anterior end. Cardial gland large, rounded. Ventral gland cell well developed, elongate, oval, situated on ventral side of body, slightly posterior to cardia. Canal, ampulla and pore of ventral gland cell not observed. Rectum as long as anal body width, with open lumen and gland cells. Reproductive system monodelphic, prodelphic; ovary subventral of intestine. Germinal zone of oogonia arranged in one or two rows; growth zone with a single row of gradually enlarging oocytes. Oviduct short and inconspicuous. Vagina oblique, usually shorter than corresponding body diameter, thick and muscular. Vulva posterior to midbody, crescent-shaped, lips slightly protruded, not cuticularised. Postvulvar gland cell absent. Tail slender, filiform, dorsally curved, 2.2-3.0 times as long as the vulva-anus distance and 21.7-26.5 times as long as anal body diameter. Three caudal glands terminating in one chamber that opens through a short beak-like spinneret.

Comparison. The species is close to *E. gracilior* (Johnston, 1938) and *E. longicaudatula* (Gerlach & Riemann, 1973). It is distinguished from *E. gracilior* by the position of the vulva (in *E. gracilior, V* = 50%), less slender body (in *E. gracilior*, *a* = 55), longer cephalic setae (in *E. gracilior*, the length of the longer cephalic setae is equal to 20-25% of the width of labial region) and the position of amphids (in *E. gracilior*, amphids are situated at the distance of one diameter of the labial region from the anterior body end) (Johnston, 1938). The new species differs from *E. longicaudatula* in the longer body (in *E. longicaudatula*, L = 0.4-0.7 mm), longer cephalic setae (in *E. longicaudatula*, the length of the longest cephalic setae equals 33% of the labial region width) and the position of amphids near the anterior body end (in *E. longicaudatula,* amphids are situated at the distance of 1.5-1.7 diameters of the labial region from the anterior body end) (Gerlach & Riemann, 1973).

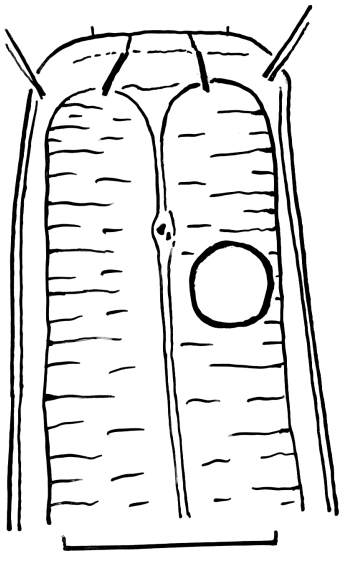
Tridentulus brzeskii Gagarin & Gusakov, 2000 (Figs 9, 10)

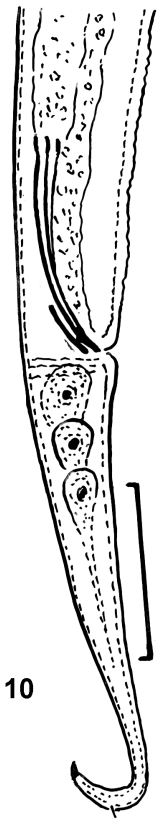
The species was described from the Latka River (Central Russia, Yaroslavl Prov.) from numerous females only. Here is the first description and illustration of the male of this species.

Material. **Russia**: 4 ♂, *Chita Prov.*, Arachley Lake, depth 1.8-3.3 m, silted sand, 24.07.2000 and 25.08.2000, slide No. 35/1.

Measurements. See Table 3.

Description. Male. Cuticle 1.5 μm thick, smooth; transverse striation absent. Somatic setae and crystalloid bodies absent. First circle consisting





Figs 9, 10. *Tridentulus brzeskii* Gagarin & Gusakov, 2000, male. **9**, anterior body end; **10**, posterior body end. Scales: 50 μm (10), 15 μm (9).

of six setiform papillae (1.0 μm long or slightly less); second circle, of six outer labial (5.0-5.5 μm long) ones, and four shorter cephalic setae in lip region. Labial region slightly flattened, continuous with the body outline. Amphids circular, 5.0-5.5 μm in diameter, somewhat wider than 1/4 of body diameter at the same level, located at 15-17 μm (0.9-1.0 times the labial region width) from anterior body end. Mouth opening surrounded by a circle of perioral platelets. Cheilostoma wider than long, with prominently refractive lining. Remainder of stoma not cuticularised, funnel-shaped. Base of stoma with three denticles, one dorsal and two ventrosublateral. One of ventrosublateral denticles present in some specimens only. Oesophagus muscular, more or less cylindrical, with slightly expanded base. Nerve ring situated at 40-45% of oesophagus length. Cardia with three large round glands. Ventral gland cell elongate, oval, situated on ventral side of body, slightly posterior to cardial cells. Canal, ampulla and pore of ventral gland cell not observed. Testes simple, subventral, situated to the right of intestine. Spicules slender, ventrally curved, with elongate-rounded capituli. Gubernaculum in shape of narrow short plate. Cuticle anterior to cloaca strongly wrinkled. Tail slender, gradually narrowing, with a small ventral seta near tip. Tail tip bended dorsally. Three caudal glands and spinneret well developed.

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