Redescription of *Paramononchus alimovi* Tsalolikhin (Nematoda: Mononchidae)

S.J. Tsalolikhin & V.A. Petukhov

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A redescription of *Parsamononchus alimovi* with illustrations is given. The mode of life of *P. alimovi* is discussed.

S.J. Tsalolikhin, V.A. Petukhov, Zoological Institute, Russian Academy of Sciences, Universitetskaya nab. 1, St. Petersburg 199034, Russia. E-mail: nematode@zin.ru

The genus *Paramononchus* comprises 2 species. The type species, *P. arcticus* Mulvey, 1978, was described from Mackenzie River, Canada (68˚N) from 9 females (Mulvey, 1978). The second species, *P. alimovi* Tsalolikhin, 1990, was described from Lake Akulkino, Kola Peninsula (69˚N) from 2 females (Tsalolikhin, 1990). *P. alimovi* (numerous females and larvae) was also found in Lake Krivoye on the seabord of White Sea (60˚30rN) in 2003-2005. This find permit to redescribe *P. alimovi*. Morphometrics of *P. alimovi* is given in Table.

Paramononchus alimovi Tsalolikhin, 1990
(Figs 1-7)

Material. **Russia**, Lake Krivoye (seaboard of White Sea), depths 0.4-32 m, from April to September 2003-2005 (V.A. Petukhov).

Description. *Female*. General structure of body typical of mononchids. Cuticle smooth, about 2 μm thick. Head blunt, continuous with body contour. Lips flat, without papillae. Dorsal tooth strong. There are two denticles situated on longitudinal ribs at level of dorsal tooth. Ribs usually smooth, sometimes crenulate. Stoma reinforced by two thin transverse ribs running from ventral suture to subdorsal sutures (Figs 1-3). Transverse ribs probably prevent contraction of stoma that occurs in other mononchids during ingesting (Grootaert & Wiss, 1979). Amphids situated at level of middle dorsal tooth. Fovea of amphid narrow; diameter of aperture 3-4 μm. Cardium short. Cells of intestine filled by fat drops. Reproductive system didelphic, amphidelphic without spermatheca and sphincter muscle between uterus and oviduct. Mature egg (98 Ч 55μm) was observed only in one female. Egg shell thin and smooth; plasma granular. Vagina surrounded by strong circular muscles. Medium-sized sclerotized pieces present at vagina-valve junction. Rectum 0.8-1.0 times as long as anal body diameter. Rectal sphincter strong. Terminal part of tail ventrally bent. Spinneret terminal.

Discussion. Paramononchus is a Holarctic circumpolar genus with 2 species: the Nearctic *P. arcticus* and the Palaearctic *P. alimovi*. Both species are parthenogenetic, adapted to lower temperatures of water about 4-6 ˚C. Reproduction period of *P. alimovi* coincides with the maximum of seiston accumulation at the bottom of the lake. Probably, seiston is the main (perhaps single) food for these nematodes despite the fact that mononchids are usually predators. The intestine of *P. alimovi* does not contain fragments of invertebrates or other inclusions. Probably, nematodes of the genus *Paramononchus* are not predators.

At the end of summer, the nematodes accumulate at depth with constant lower temperature and reproduce parthenogenetically. Parthenogenesis in the family Mononchidae was examined also by Grootaert & Maertens (1976) and Small & Grootaert (1977).

P. alimovi was found also in Lake Ladoga. Probably, this species inhabits some lakes of Northern and North-Western Europe, but is misidentified as *Mononchus* sp.

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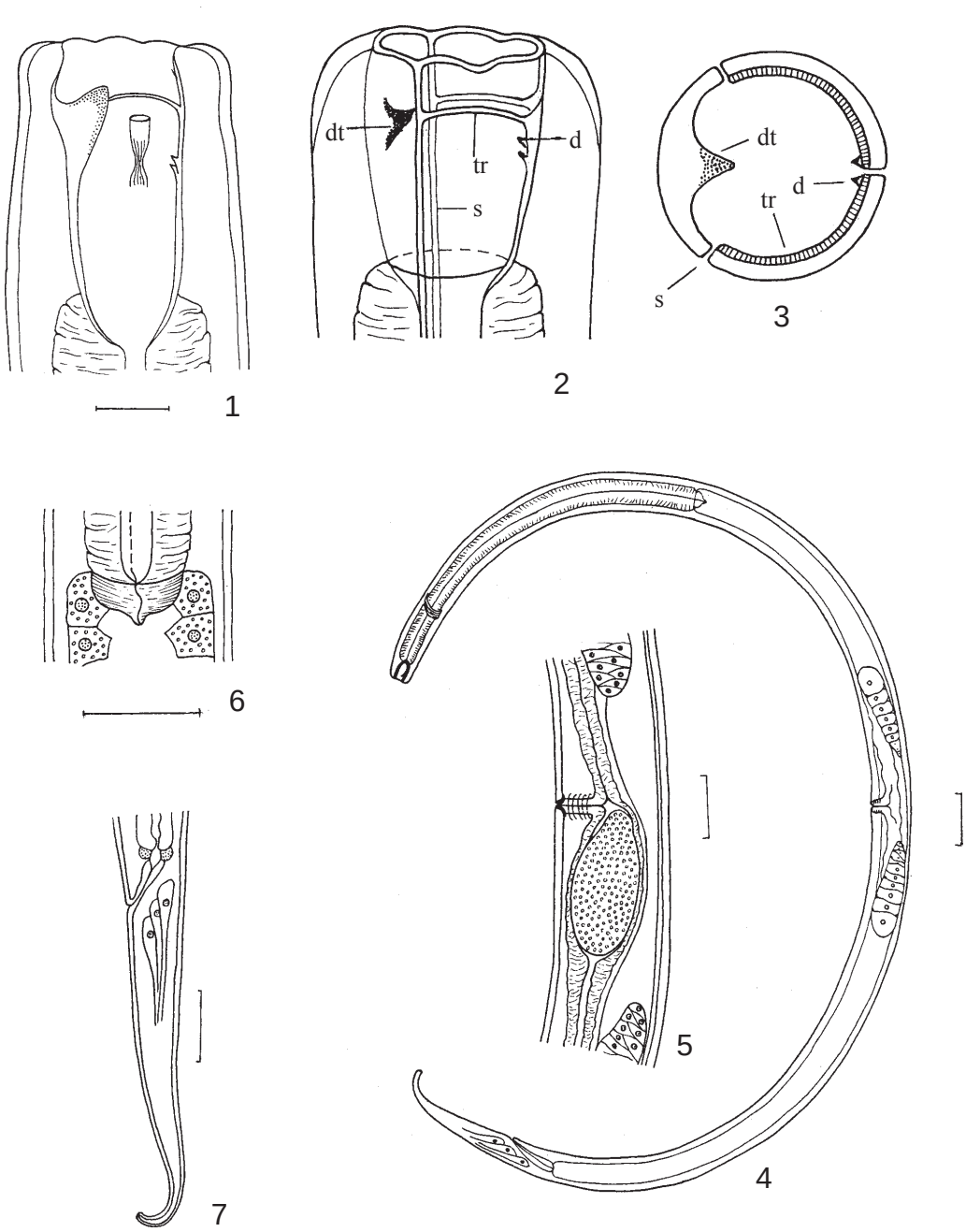

Figs 1-7. *Paramononchus alimovi* Tsalolikhin. **1**, head (lateral view); **2, 3**, scheme of stoma structure (**2**, lateral view; **3**, frontal view); **4**, entire body; **5**, vulvar section and mature egg; **6**, oesophago-intestinal junction: **7**, tail. *tr* – transverse ribs, *s* – suture, *dt* – dorsal tooth, *d* – denticles. Scales: Fig. 1: 10 μm; Fig. 4: 100 μm; Figs 5-7: 50 μm.

Table 1. Morphometrics of *Paramononchus alimovi* and *P. arcticus* (females)

Locality (number of specimens)	Statistical index	Body length, µm	Body width, µm	Oesophagus, µm	Tail, µm	Gonads, µm		NR, %	De Man's formula				Head width, µm	Stoma length, µm	Onchus, %
						Q_1	Q_2		a	b	c	V%			
Paramononchus alimovi															
Krivoye	M±m	3091±4	86.5±3	715±8	270±5	326±17	358±13	23±0.4	36.1±0.8	4.3±0.05	11.4±0.2	55±0.4	28±0.3	39±0.6	91±1
Lake (n = 16)	lim	2666-3453	70-100	646-773	245-285	240-385	300-520	22-25	31.4-41	4.1-4.8	9.5-13	51-58	27-30	36-45	84-95.4
	CV%	7	12	4	7	11	14	4	9	5	9	3	4	6	6
Akulkino Lake (n = 2)		2500, 2900	63, 90	660, 670	260, 290	–	–	24, 25	32.3, 39.5	3.8, 4.3	9.7, 10	56	25, 30	42, 46	88, 90
Ladoga Lake (n =1)		3394	120	729	291	423	436	22	28.3	4.6	11.7	54	30	45	89
Paramononchus arcticus															
Mackenzie	M	3700	88	860	340	?	?	?	42	4.3	10.4	52	~35	46	82
River (n = 9)	lim	3500-4000	?	?	300-400	?	?	?	40-44	3.9-4.7	9-11.3	50-54	?	44-48	80-83

Notes. M±m – mean and mistake of mean; CV% - coefficient of variation; NR – position of nerve ring to oesophagus length; onchus – position of onchus apex to stoma length

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