

MONONCHUS LOOFI SP. NOV. (NEMATODA: MONONCHIDAE) FROM POLAND

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Abstract.— A new species of *Mononchus* Bastian, 1865 is described from Poland. *Mononchus loofi* sp. nov. is distinguished by its small size (L = 1.12–1.35 mm), small buccal cavity (10–11 × 21–23 μm) with walls very thick in the middle part and position of dorsal tooth apex (28–33% of the buccal cavity length).



Key words.— Mononchidae, *Mononchus*, Nematoda, Poland, taxonomy.

INTRODUCTION

In the spring of 1985 and summer of 1988 Prof. M. W. Brzeski found in the central part of Poland 25 specimens belonging to an undescribed species of *Mononchus* Bastian, 1865. He kindly put this material at my disposal. For species identification Andrásy's (1993) key and the original descriptions of similar species were used.

MATERIAL AND METHODS

The specimens were separated from the organic matter by sugar flotation-centrifugation. The nematodes were killed and preserved in 4% formaldehyde. They were processed to glycerine by slow method and mounted on permanent slides. Buccal cavity length is measured from anterior end of vertical plates to the posterior end of oblique plates. Pharynx length is measured from a point where it surrounds the basal part of the buccal cavity.

Mononchus loofi sp. nov.
(Figs 1–9)

Description.

Measurements. See Table 1.

Female. Body tapering slightly anteriorly and more distinctly posteriorly. Relaxed nematodes have almost straight body, with more strongly curved ventrad distal, cylindrical part of tail. Cuticle smooth. Lateral chord occupying 33 ± 5.5 (22–39)% of midbody width. Lip region truncate, offset by depression. Lips amalgamated. Labial and cephalic sensilla small, interfering with the head contour. Amphids caliciform with oval opening. Buccal cavity elongate with funnel-shaped base. Walls of buccal cavity tapering anteriorly and posteriorly, in the middle part very thick. Dorsal tooth large, with rounded

apex, situated in 30 ± 1.5 (28–33)% of the buccal cavity length. Ventrosublateral walls with small horizontal rib situated almost at the level of the dorsal tooth apex. Nerve ring encircling pharynx at 31 ± 1.1 (28–33) % of its length. Excretory pore small, visible only in 7 specimens, situated behind the nerve ring, at 35 ± 1.2 (33–37)% of pharynx length. Genital system didelphic-amphidelphic. Ovaries well developed with numerous oocytes. Oviduct-uterus junction guarded by relatively small sphincter. Vagina about 24 ± 4.4 (18–33)% of the corresponding body diameter. Vulva a transverse slit, vulval lips not sclerotized. Intrauterine egg (n=14) measuring 36 ± 4.1 (32–45) × 68 ± 6.2 (60–84) μm. Rectum wide, bent sharply. Tail elongate-conoid in anterior half then tapering gradually and in distal part almost cylindrical, bent ventrad. Tail tip rounded with two subventral papillae. Three caudal glands arranged in tandem with terminal duct and spinneret.

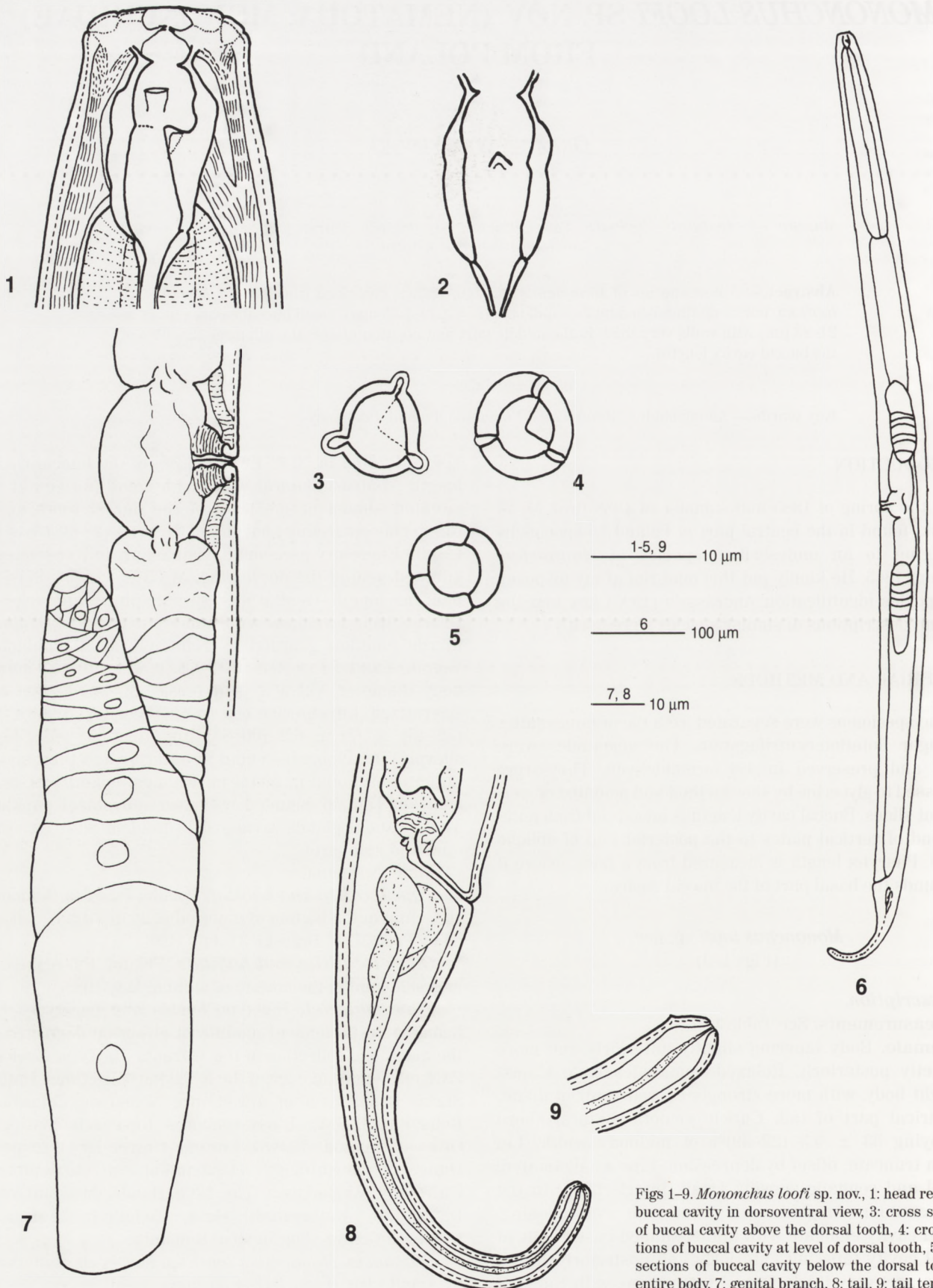
Male. Not found.

Type locality and habitat. Poland, Puszcza Bolimowska, sand in the bottom of a periodically dry ditch, collected by Prof. M. W. Brzeski, 31 July 1988.

Other localities and habitats. Poland, Puszcza Bolimowska, mud in the bottom of a ditch, May 1985.

Type material. Holotype female and paratypes (12 females) on permanent mounts in glycerine deposited at the nematode collection of the Muzeum i Instytut Zoologii PAN; one female at each of the following collections: United States Department of Agriculture Nematode Collection, Beltsville, U.S.A.; Biosystematics Research Institute, Ottawa, Canada; Eötvös Loránd University, Budapest, Hungary; Nematology Department of Agricultural University, Wageningen, The Netherlands; Instituut voor Dierkunde, Universiteit Gent, Belgium; Biological Research Center, Cluj-Napoca, Romania.

Diagnosis. *Mononchus loofi* sp. nov. is characterized by small size (L = 1.12–1.35 mm), small buccal cavity



Figs 1-9. *Mononchus loofi* sp. nov., 1: head region, 2: buccal cavity in dorsoventral view, 3: cross sections of buccal cavity above the dorsal tooth, 4: cross sections of buccal cavity at level of dorsal tooth, 5: cross sections of buccal cavity below the dorsal tooth, 6: entire body, 7: genital branch, 8: tail, 9: tail terminus.

Table 1. Morphometric data of *Mononchus loofi* sp. nov. (mean \pm standard deviation and range; all measurements in μ m except L in mm).

| | Holotype | Paratypes n=18 | Other population n=6 |
|---|----------|-----------------------------|-----------------------------|
| L | 1.30 | 1.22 \pm 0.05 (1.12–1.31) | 1.26 \pm 0.08 (1.12–1.35) |
| a | 29.5 | 27.1 \pm 1.1 (25.8–29.8) | 26.1 \pm 1.8 (24.6–29.5) |
| b | 5.5 | 5.2 \pm 0.17 (5.0–5.6) | 5.1 \pm 0.12 (4.9–5.3) |
| c | 10.4 | 10.0 \pm 0.37 (9.4–10.9) | 10.0 \pm 0.56 (9.0–10.9) |
| c' | 4.6 | 4.3 \pm 0.24 (3.9–4.8) | 4.4 \pm 0.21 (4.1–4.7) |
| V | 50.4 | 51.6 \pm 0.85 (50.0–53.1) | 51.0 \pm 0.73 (50.1–52.1) |
| V' | 55.7 | 57.3 \pm 0.93 (55.4–58.9) | 56.7 \pm 0.67 (55.9–57.8) |
| Max. body width | 44.0 | 44.9 \pm 1.69 (42.4–48.0) | 48.6 \pm 5.02 (40.0–54.4) |
| Lip region: width | 17.5 | 17.0 \pm 0.45 (16.0–17.6) | 17.4 \pm 0.56 (16.8–18.4) |
| height | 5.0 | 5.4 \pm 0.37 (4.8–5.6) | 6.1 \pm 0.39 (5.6–6.4) |
| Amphid apertures – anterior body end | 6.0 | 7.9 \pm 1.18 (6.0–10.0) | 9.5 \pm 0.76 (8.0–10.0) |
| Amphid apert. width | 2.0 | 2.75 \pm 0.35 (2.0–3.0) | 2.9 \pm 0.22 (2.5–3.0) |
| Buccal cavity: width | 11.5 | 11.1 \pm 0.31 (10.4–11.2) | 10.1 \pm 0.4 (9.6–10.4) |
| length | 22.5 | 22.2 \pm 0.77 (20.8–23.2) | 21.8 \pm 0.36 (21.6–22.4) |
| Tooth apex- ant.b.cav. | 7.0 | 6.6 \pm 0.31 (6.4–7.2) | 6.7 \pm 0.39 (6.4–7.2) |
| Pharynx length | 238 | 235 \pm 8.03 (224–260) | 247 \pm 11.5 (229–264) |
| Vagina length | 13.5 | 10.7 \pm 1.86 (8.0–14.4) | 13.3 \pm 1.36 (12.0–15.2) |
| Rectum length | 23.5 | 23.8 \pm 1.18 (21.6–25.6) | 23.6 \pm 2.29 (21.6–27.2) |
| Tail | 125 | 121 \pm 6.89 (112–134) | 126 \pm 6.26 (114–133) |

(10–11 \times 21–23 μ m) with walls very thick in the middle part and position of dorsal tooth apex (28–33% of the buccal cavity length).

Relationships. This species is similar to *M. tunbridgensis* Bastian, 1865, *M. aquaticus* Coetzee, 1968, *M. sinensis* Soni et Nama, 1983 in having small body size, similar tail shape and narrow buccal cavity. It differs from all of these species in having walls very thick in the middle of buccal cavity and much lower position of dorsal tooth apex (28–33% vs 6–15%, 16–24%, 20–23%).

Etymology. This new species is named after Dr. P. A. A. Loof.

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