

MYLONCHULUS POLITUS SP. NOV. (NEMATODA: MYLONCHULIDAE) FROM UKRAINE

ANDRIJ SUSULOVSKY

*State Museum of Natural History, Theatralna str. 18, Lviv 79008, Ukraine,
e-mail: museum@ipm.lviv.ua*

Abstract.— A new species of *Mylonchulus* Cobb, 1916 is described from Ukraine. *Mylonchulus politus* sp. nov. is similar to *M. andrassyi* Loof, 1993 from which it differs by shorter ($L = 0.78\text{--}1.00$ mm vs > 1.00 mm) and relatively wider ($a = 26\text{--}35$ vs $a = 35\text{--}40$) body, smaller buccal cavity ($14\text{--}19$ μm long vs > 20 μm long), shorter tail ($28\text{--}37$ μm vs > 50 μm), shorter spicules in males ($32\text{--}35$ μm vs > 40 μm), vulval lips sclerotization (rectangular vs triangular pieces), longer posterior uterine sac ($75\text{--}122$ μm vs 32 μm).



Key words.— Mylonchulidae, *Mylonchulus*, Nematoda, taxonomy, Ukraine.

INTRODUCTION

While investigating Ukrainian species of mononchs I found specimens of a new monoprodelphic species of *Mylonchulus* Cobb, 1916, described and illustrated below as *M. politus* sp. nov. This paper is the third one of a series on the taxonomy of mononchid nematodes from Ukraine. The previous papers (Susulovsky 1994, 1998) dealt with the descriptions of two new species, one belonging to the genus *Clarkus* Jairajpuri, 1970 and another to *Iotonchus* Cobb, 1916.

MATERIAL AND METHODS

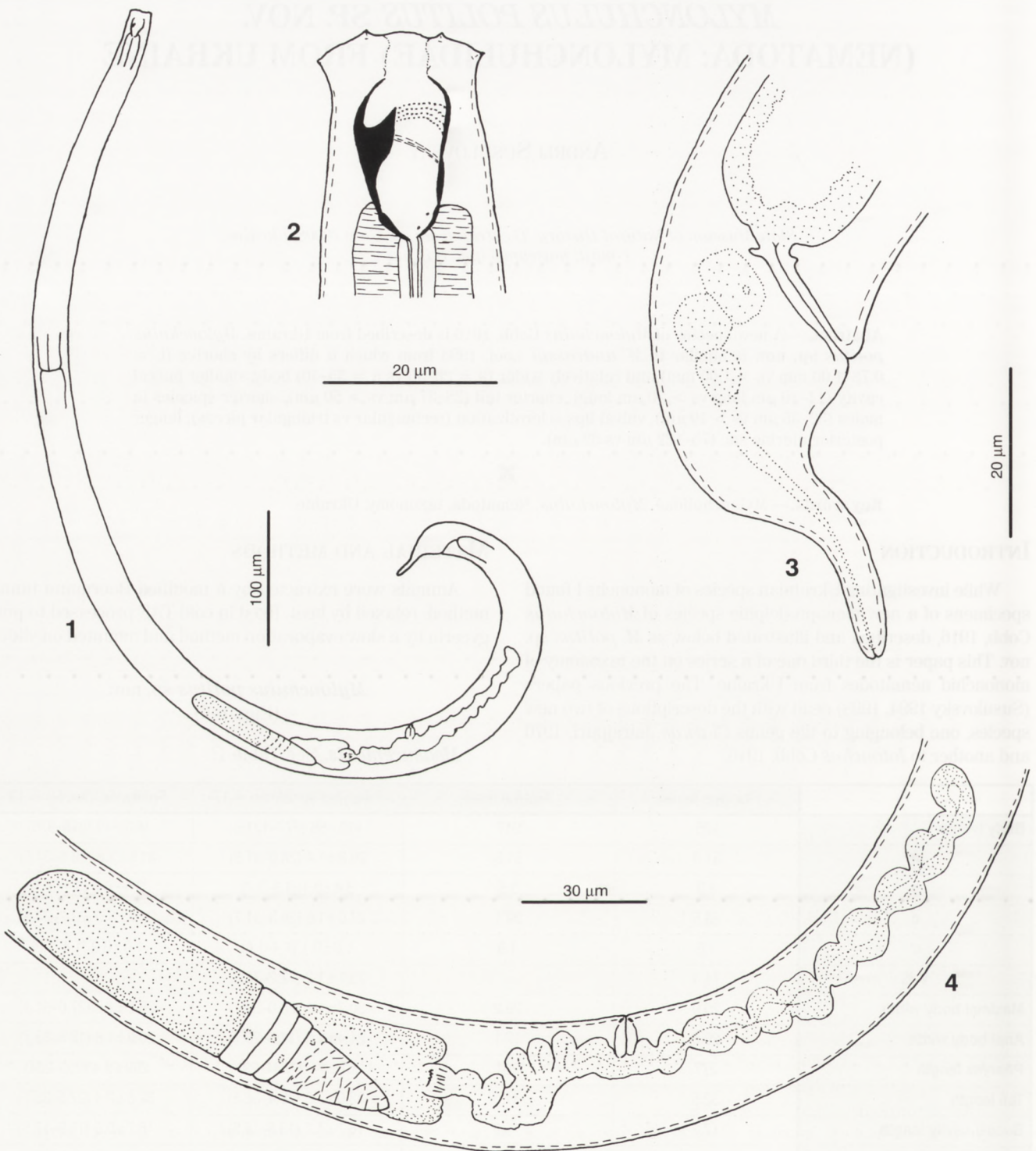
Animals were extracted by a modified Baermann funnel method, relaxed by heat, fixed in cold TAF, processed to pure glycerin by a slow evaporation method and mounted on slides.

Mylonchulus politus sp. nov.
(Figs 1–6)

Measurements. See Table 1.

	Holotype female	Allotype male	Paratypes females n = 17	Paratypes males n = 12
Body length	925	917	913±56 (777–1018)	900±49 (815–976)
a	31.0	31.5	29.8±1.4 (26.0–31.8)	31.5±1.8 (28.6–34.8)
b	3.3	3.5	3.4±0.1 (3.3–3.7)	3.4±0.2 (3.1–3.7)
c	28.5	29.1	27.0±1.6 (25.3–31.7)	28.0±3.0 (23.2–34.3)
c'	1.6	1.9	1.6±0.1 (1.4–1.8)	1.6±0.2 (1.4–1.8)
V %	74.4	–	73.7±1.2 (72.2–75.8)	–
Maximal body width	29.9	29.2	30.7±1.1 (28.0–32.7)	28.7±1.2 (27.0–31.1)
Anal body width	20.6	17.1	21.4±1.9 (17.5–23.7)	20.9±1.8 (18.5–23.7)
Pharynx length	277	261	267±14.9 (234–291)	269±9.4 (255–284)
Tail length	32.5	31.5	33.9±2.3 (28.4–36.5)	32.6±2.4 (27.5–35.1)
Buccal cavity length	17.3	16.8	16.7±1.1 (13.8–18.5)	16.7±0.6 (15.9–17.5)
Buccal cavity width	8.8	8.5	9.0±0.4 (8.3–9.7)	8.7±0.4 (8.1–9.7)
Vulva length	11.1	–	11.4±1.0 (9.7–12.8)	–
Anterior genital branch length	157	–	176±29.5 (142–238)	–
Posterior uterine sac length	96	–	102±14.8 (75–122)	–
Spicules length	–	35.3	–	33.7±1.0 (31.5–35.3)
Gubernaculum length	–	6.2	–	5.0±1.4 (3.1–7.4)

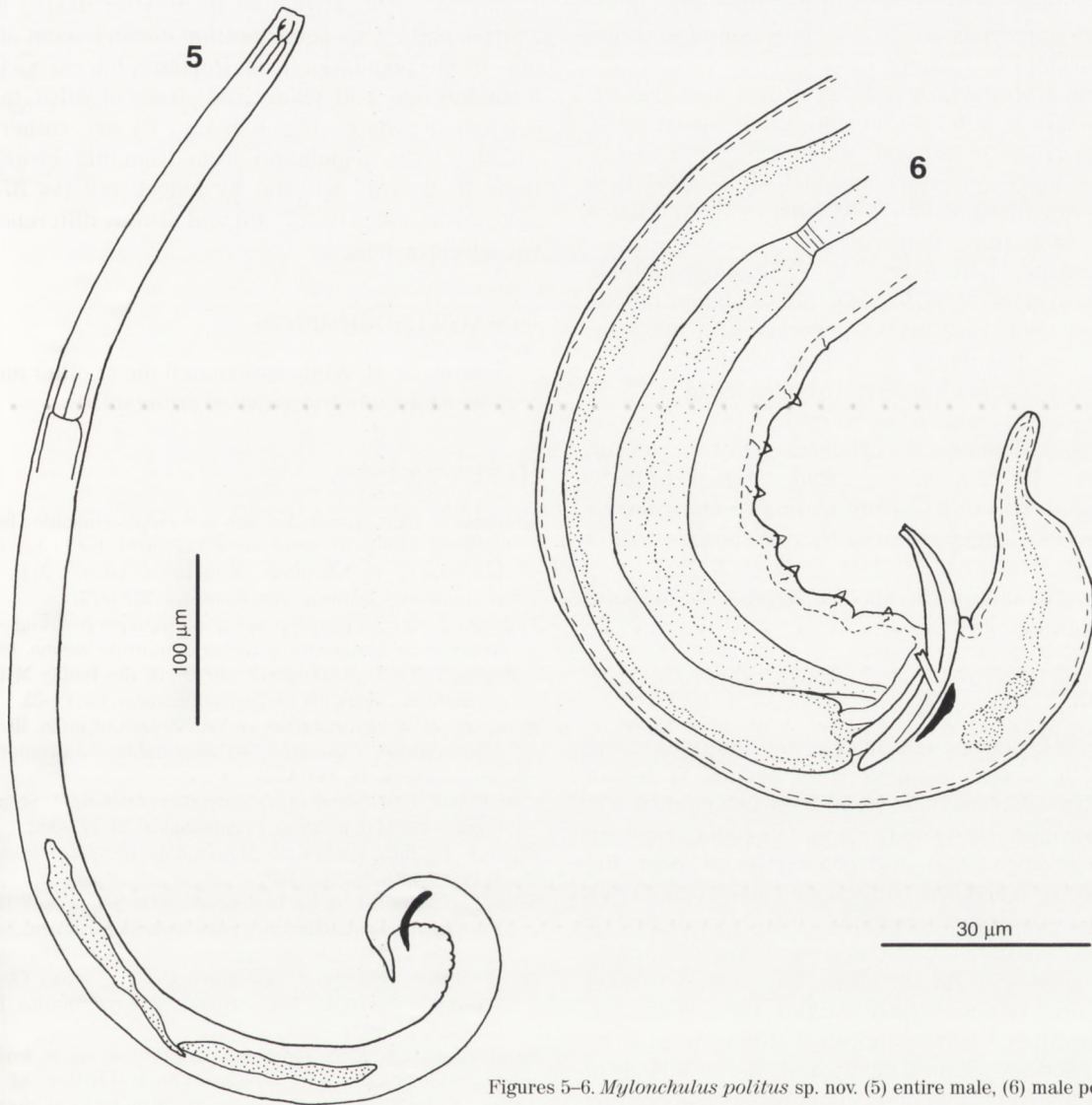
Table 1. Morphometric data of *Mylonchulus politus* sp. nov. (mean ± standard deviation and range; all measurements in μm).



Figures 1–4. *Mylonchulus politus* sp. nov. (1) entire female, (2) female anterior region, (3) female tail, (4) female genital system.

Female. Habitus almost straight anteriorly and more curved behind vulva, J-shaped or forming an open C in specimens killed by heat. Body regularly cylindrical, tapering somewhat towards anterior and posterior end. Cuticle thin and smooth. Lateral chord one-third of body diameter. Lip region continuous with the adjacent body, with a weak

depression. Labial and cephalic papillae conical, protruding. Amphids relatively large ($5.5\ \mu\text{m}$), opening somewhat behind the apex of dorsal tooth. Buccal cavity tapers slightly posteriad, base funnel-shaped. Walls of buccal cavity relatively thin. Dorsal tooth large, with sharp apex and at 82 ± 3.3 (77–83) % of the buccal cavity length (measured



Figures 5–6. *Mylonchulus politus* sp. nov. (5) entire male, (6) male posterior region.

from base). There are 4 transverse rows of denticles; behind them is a refractive band. Submedian tooth absent. Two pair of subventral foramina are present at the base of the cavity. Nerve ring encircling pharynx at a level one-third of its length. Excretory pore inconspicuous, at a level of nerve ring. Genital system monoprodelfic. Anterior genital branch fully developed and functional. Ovaries reflexed, generally not reaching the uterus-oviduct junction. Uterus appears often convoluted. Sphincter present at the oviduct-uterus junction. Posterior uterine sac 3.2 ± 0.5 (2.5–3.9) times the corresponding body width or 11.1 ± 1.3 (8.7–13.1)% of total body length, with numerous contractions. Vagina shallow, occupying about one-third of the corresponding body width. Vulva a transverse slit, vulval lips with sclerotization appearing as two small rectangular pieces. Intra-uterine egg measuring $28.4 \times 66.1 \mu\text{m}$. No papillae near vulva. Rectum almost equal to anal body length. Tail initially conoid, then dorsal surface strongly curved ventrally, terminal part cylindrical, slightly dorsally

curved. Tail terminus rounded. Caudal glands three, arranged in tandem, opening through the terminal pore.

Male. General appearance similar to female with posterior part of the body more curved. Genital system dioorchic. Testes outstretched, each with a region containing germ cells and another with spermatozoa. 7–8 regularly spaced ventromedian supplements present. Spicules moderately slender, ventrally curved and 1.7 ± 0.15 (1.4–1.9) times as long as anal body width measured along the curved median line. Lateral guiding pieces furcate. Tail and caudal glands similar to female.

Type locality and habitat. Ukraine, Lviv, the park “Vysokyi Zamok” (the High Castle), sandy soil, leaf-bearing plantation with *Acer platanoides* L. and *A. pseudo-platanus* L. predominating, collected by author in April 2, 1990.

Type material. Holotype female, allotype male and paratypes (16 females and 11 males) on permanent slides in glycerine deposited in nematode collection of the State

Museum of National History, NAS of Ukraine; one female and one male paratypes are in the collection of Muzeum i Instytut Zoologii PAN, Poland.

Diagnosis. *Mylonchulus politus* sp. nov. is characterized by small size (L = 0.78–1.00 mm), small buccal cavity (8–10 × 14–19 µm) with thin walls, submedian teeth absent, female reproductive system monoprodelphic with relatively long posterior uterine sac (75–122 µm or 2.5–3.9 times vulval body width), tail S-shaped.

Relationships. Among the monoprodelphic *Mylonchulus* species, *M. politus* sp. nov. is similar only to *M. andrassyi* Loof, 1993 by the presence of a posterior uterine sac and tail shape. It differs in shorter (L = 0.77–1.00 mm vs > 1 mm) and relatively wider (a = 26–35 vs a = 35–40) body, smaller buccal cavity (14–19 µm long vs > 20 µm long), thinner walls of buccal cavity, shorter tail (28–37 µm vs > 50 µm), shorter spicules in males (32–35 µm vs > 40 µm), vulval lips sclerotization (rectangular vs triangular pieces), longer posterior uterine sac (72–122 µm vs 32 µm).

Etymology. Name of the species reflects its graceful general appearance.

DISCUSSION

Loof (1993) described one female and one male from the genus *Mylonchulus* collected in ground water in Austria and drew a conclusion about their belonging to the species described previously from Baradla cave in Hungary (Andrássy 1959) and ground water near the Adige river in northern Italy (Andrássy 1962) as *Mylonchulus cavensis* Schneider, 1940. He named it *Mylonchulus andrassyi*. Later on Andrássy (1992) admitted the correctness on this decision. The male described from a cave near Bergamo, Italy (Zullini, 1982) is close to the above mentioned species however differs from it by having a smaller body, buccal cavity and shorter spicules.

A population from Romania, which was considered by Popovici (1990) as *M. californicus* Jairajpuri, 1970, Loof

(1993) was also attributed to *M. andrassyi*, noting its shorter body. This consideration doesn't seem an obvious one. In the population from Romania buccal cavity is also a smaller one, and sclerotized pieces of vulva, taken from original drawings (Fig. 6 B and C) are rather big and rounded. The population from Romania clearly differs from *M. politus* sp. nov. by longer tail (vs 37–52) and spicules in males (vs 37–48) and also by differences in vulval sclerotization.

ACKNOWLEDGEMENTS

I thank Dr. G. Winiszewska and the another anonymous reviewer for their constructive criticism.

REFERENCES

- Andrássy, I. 1959. Nematoden aus der Tropfsteinhöhle „Baradla“ bei Aggtelek (Ungarn), nebst einer Übersicht der bisher aus Höhlen bekannten freilebenden Nematoden-Arten. Acta zoologica Academiae Scientiarum Hungaricae, 4: 253–277.
- Andrássy, I. 1962. Nematoden aus dem Psammon des Adige-Flusses, II. Memoire del Museo Civico di Storia Naturale Verona, 10: 1–35.
- Andrássy, I. 1992. A taxonomic survey of the family Mylonchulidae (Nematoda). Opuscula Zoologica Budapest, 25: 11–35.
- Jairajpuri, M. S. 1970. Studies on Mononchida of India. III. The genus *Mylonchulus* (family Mylonchulidae). Nematologica, 16: 434–456.
- Loof, P. A. A. 1993. Status of *Mylonchulus cavensis* W. Schneider, 1940 (Nematoda: Mononchida). Nematologica, 39: 177–182.
- Popovici, I. 1990. Studies on Mononchida (Nemata) from Romania. Nematologica, 36: 161–180.
- Schneider, W. 1940. Neue freilebende Nematoden aus Höhlen und Brunnen. 1. Nematoden aus jugoslawischen Höhlen. Zoologischer Anzeiger, 132: 84–94.
- Susulovsky, A. S. 1994. A new species of the genus *Clarkus* from Ukraine (Nematoda: Mononchida). Zoosystematica Rossica, 2: 225–228.
- Susulovsky, A. S. 1998. *Iotonchus aequabilis* sp. n. from Ukraine. Scientific notes of State Museum of Natural History, 14: 175–177.
- Zullini, A. 1982. Nematodi (Nematoda). Guide per il riconoscimento delle specie animali dell'acqua interne. Italiane C. N. R., 17: 117.

Received: February 6, 2000

Accepted: April 11, 2000

Corresponding Editor: G. Winiszewska

Issue Editor: D. Iwan