

**Two New Soil Inhabiting Nematode Species
(*Tylenchorhynchus tatrensis* and *Alaimus andrassyi* n. spp.)
from Czechoslovakia**

By

M. S A B O V Á *

During a several years' investigation of the nematode fauna of potato fields in the region of North Slovakia, two new soil inhabiting nematode species were found in soil samples collected in 1966 at the southern feet of the High Tatras and in Orava in the North-West of Slovakia. The samples were taken from the soil around the roots of barley (*Hordeum vulgare* L.) from such cultivated fields in which potatoes had been raised a year ago.

The description of the two new species is as follows.

***Tylenchorhynchus tatrensis* n. sp.**

(Fig. 1 A-C)

♀: L=0,71–0,85 mm; a=31–35; b=4,3–4,4; c=13,2–17,5; V=58–59%.

Body robust. Lip region hemispherical, well set off, bearing 5–6 fine annules. Cephalic framework strongly sclerotized. Cuticle 1,5–1,7 μ thick, with coarse transversal striation but without longitudinal striae. Annules 2 μ thick on average. Lateral field 1/3 of body width, with 6 incisures, reaching to tip of tail.

Stylet 23–24 μ long, 2;2–2,4 times as long as head diameter, strongly developed with well visible rounded knobs. Orifice of dorsal esophageal gland one knob width behind stylet base. Middle bulb of esophagus strong, oval. End bulb dorsally more or less elongated, lobe-like. Anterior part of esophagus (measured from head end till proximal end of middle bulb) just as long as the posterior one (from beginning of isthmus till esophagus end). Excretory pore in 63–66% of length of esophagus, at level of isthmus. Intestine crowded with vacuoles. Rectum shorter than body width.

Vulva behind body center, transversal, not chitinized; vagina half as long

* Mrs. MARTA SABOVÁ, Helminologický Ústav, Slovenskej Akadémie Vied (Helminthological Institute of the Slovak Academy of Sciences), ul. Dukelských hrdinov č. 11, Košice, Czechoslovakia. (As fellow in the Zoosystematical Institute of the University, Budapest.)

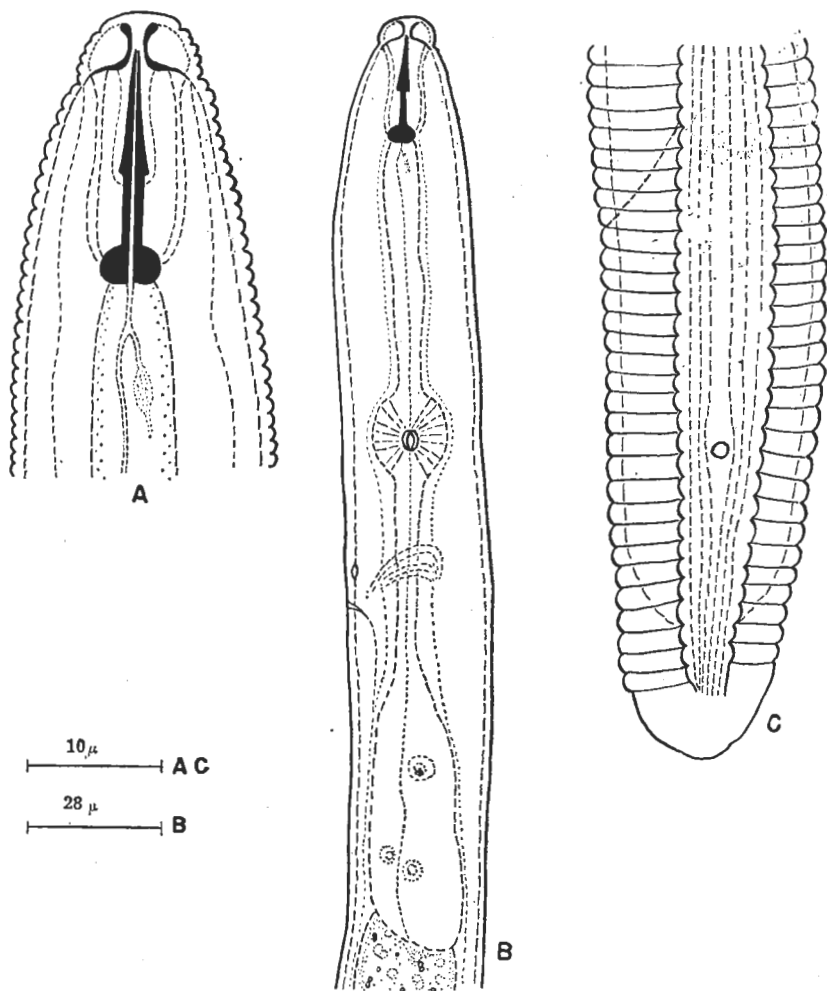


Fig. 1. *Tylenchorhynchus tatrensis* n. sp., female. A: head; B: anterior body; C: tail

as body width. Ovaries well developed, each 8 times longer than body diameter. Spermathecae not visible.

Tail robust, stright, almost cylindrical 2,3—2,6 times as long as anal body diameter. It consists ventrally of 20 to 23 annules. Tip of tail spherical, smooth, with unusually thickened cuticle (10—12 μ) on it. Phasmids small, opening at middle of tail or somewhat further back.

Males were not found.

Diagnosis: A new *Tylenchorhynchus* species of middle body length, coarsely striated cuticle, set-off head, 6 incisures on lateral field, strongly knobbed stylet, dorsally elongated proximal bulb, cylindrical tail and hemispherically rounded smooth terminus. Male unknown.

Because of the set-off head, 6 incisures on the lateral field, relatively short stylet and smooth tail terminus, *Tylenchorhynchus tatrensis* n. sp. is closely

related to *T. grandis* ALLEN, 1955 and *T. lineatus* ALLEN, 1955. It can be distinguished from both by its shorter stylet (stylet 26–30 μ at *grandis*, and 25–28 μ at *lineatus*, respectively) the vulva being further back ($V=50-54\%$ at *grandis*, and 51–53% at *lineatus*, respectively), and the shape of tail which is much more robust, cylindrical with strongly thickened cuticle on its unstriated terminus. The number of tail annules of *Tylenchorhynchus tatrensis* n. sp. is far less than that of *grandis* (36–43) or *lineatus* (42–44).

H o l o t y p e : 1 ♀ on slide Nr 1037/66.

P a r a t y p e : 1 ♀ on slide Nr 1038/66.

The specimens are stored at the museum of the Helminthological Institute of the Slovak Academy of Sciences in Košice.

T y p e h a b i t a t a n d l o c a l i t y : Východná near the High Tatras in Czechoslovakia, soil around barley roots collected on 11th October 1966.

An additional specimen was found from Ťapešovo in Orava (North Slovakia), soil around barley roots collected on 31th August 1966.

Alaimus andrassyi n. sp.

(Fig. 2 A–C)

♀ : $L=1,23$ mm; $a=58$; $b=4,5$; $c=11,2$; $V=55,5\%$.

Body slender, almost cylindrical except posterior part tapering uniformly to the pointed tail tip. Head broadly rounded, hemispherical, not set off in any manner. Cuticle relatively thick, 1,3 to 1,5 μ , smooth. Posterior circlet of cephalic papillae easily visible, about 1/2 head diameter behind anterior body end, anterior circlet small, near mouth opening. Amphids not conspicuous. Esophagus slender, uniform tube in the anterior four-fifths, then — in 82 per cent of esophagus length — somewhat expanded to form an elongate swelling. Intestine packed with vacuoles. Rectum a little longer than anal body diameter.

Vulva transverse, not sclerotized, vagina 1/3 of body width. Ovaries two, also anterior branch normal, producing eggs. O_1 5 times, O_2 4 times as long as width of body. There were no eggs in uteri.

Tail elongate conical, narrowing uniformly, ventrally curved, 8,5 times as long as anal body width. Terminus finely pointed.

No male was found.

D i a g n o s i s : A new species of the genus *Alaimus* with broadly rounded head, relatively thick cuticle, far back expanded esophagus, paired gonads and rather long, ventrally curved, finely pointed tail. Male unknown.

Among the almost twenty representatives of the genus *Alaimus* there is only a single species that bears a paired genital apparatus: *Alaimus macer* ANDRÁSSY, 1958. The recent species is nearly related to it, it can be distinguished, however, from *A. macer* by the following characteristics: head end more robust and more broadly rounded, body less slender ($a=79$ at *macer*), esophagus relatively shorter, ovaries much shorter (each branch of gonads of twelve body widths at *macer*), and tail absolutely and relatively longer and more slender ($c=22,3$, resp. tail 6 times as long as anal body diameter at *macer*).

H o l o t y p e : 1 ♀ on slide Nr 906/66.

The specimen is stored at the museum of the Helminthological Institute of the Slovak Academy of Sciences in Košice.

T y p e h a b i t a t a n d l o c a l i t y : Czechoslovakia, Ťapešovo in Orava (North Slovakia), soil around barley roots collected on 31th August 1966.

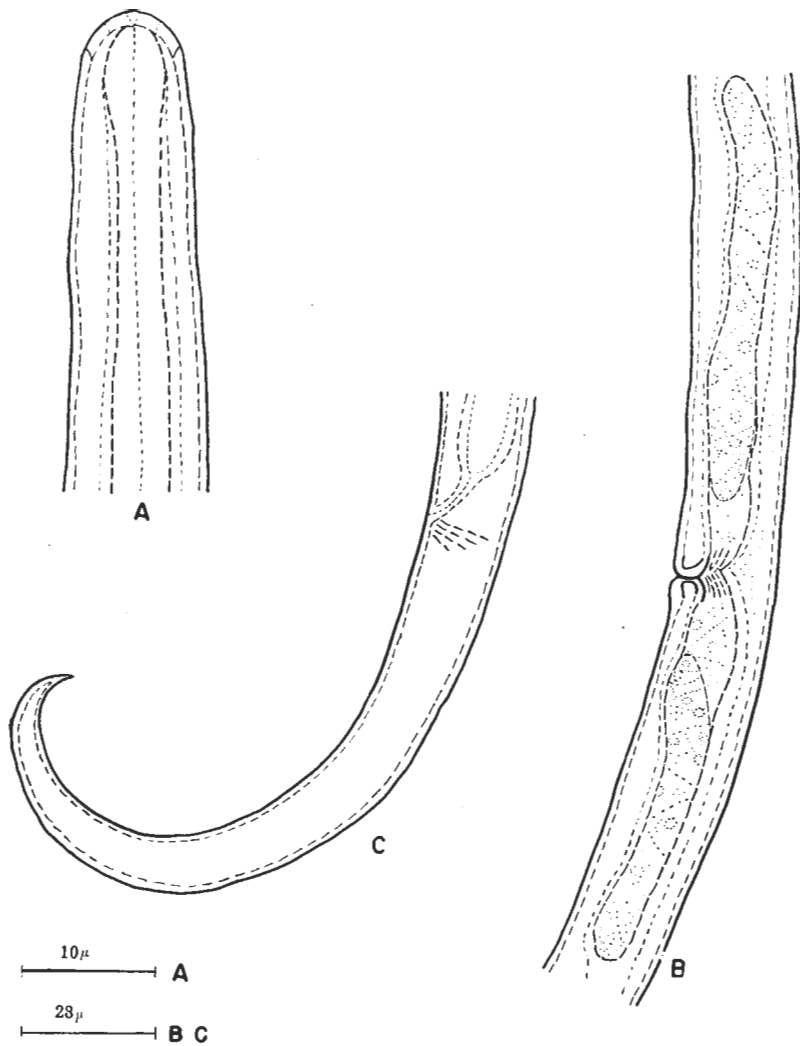


Fig. 2. *Alaimus andrassyi* n. sp., female. A: head end; B: vulvar region; C: tail

I thank Dr. I. ANDRÁSSY, Zoosystematical Institute of the University, Budapest, for helpful suggestions in the writing of this paper.

REFERENCES

1. ALLEN, M. W.: *A review of the nematode genus Tylenchorhynchus*. Publ. Zool. Univ. Calif., 61, 1955, p. 129–165.
2. ANDRÁSSY, I.: *Erd- und Süßwassernematoden aus Bulgarien*. Acta Zool. Hung., 4, 1958, p. 1–88.
3. ANDRÁSSY, I.: *Neue und seltene Arten der Familie Alaimidae (Nematoda)*. Acta Zool. Hung., 7, 1961, p. 1–18.
4. TARJAN, A. C.: *A compendium of the genus Tylenchorhynchus (Tylenchidae: Nematoda)*. Proc. Helminthol. Soc. Washington, 31, 1964, p. 270–280.