

TWO NEW SPECIES OF APHELENCHOIDES  
(NEMATODA, APHELENCHOIDIDAE)

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During the investigation of soybean nematode-fauna of the Amur region in 1969-1970, two new species of nematodes of the genus Aphelenchoides Fischer, 1894 were observed in the root soil and roots. The material was fixed in a 4 - 6% solution of formalin. Descriptions of the nematodes and illustrations were made from permanent preparations in glycerine-gelatin. Type specimens are kept in the collection of the General Helminthology Laboratory of the Biological and Soil Science Institute, Far Eastern Scientific Center, USSR Academy of Sciences.

APHELENCHOIDES SUBMERSUS TRUSKOVA SP. N.  
(See Figure 1-6)

Holotype (female, preparation number 63/1 from 16.VII 1970): L = 0.7257 mm; a = 40.3; b = 6.0; c = 17.2; V = 73.5. Paratypes (6 females): L = 0.4920 - 0.7257 mm; a = 30.8 - 48.5; b = 5.0 - 7.7; c = 15.7 - 17.5; V = 70.1 - 80.4. Allotype (male): L = 0.4797 mm; a = 48.9; b = 5.3; c = 15.9; T = ?

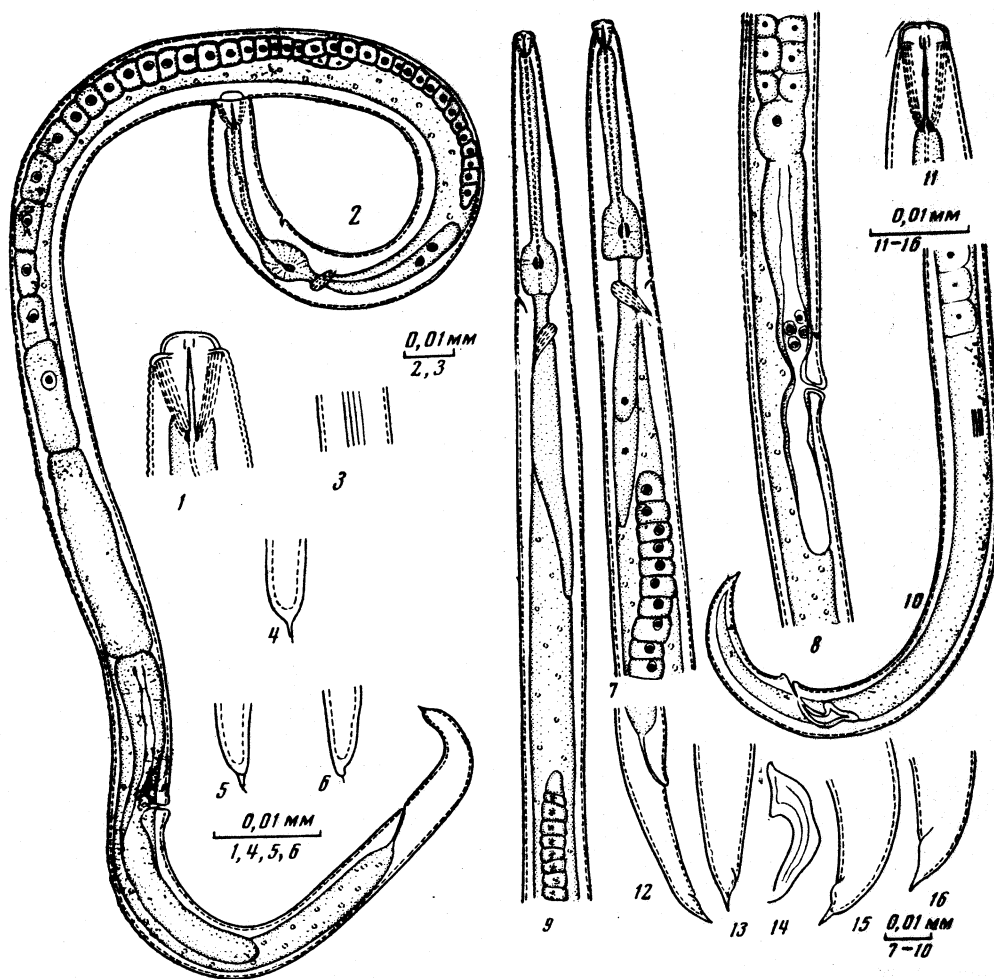
Moderately slender nematodes. Cephalic capsule significantly narrower than body. Width of capsule equal to 5.2  $\mu$ m, while the body diameter at the base [of the lips] is 7.8  $\mu$ m. Stylet slender, 13  $\mu$ m in length, with small basal knobs. Diameters of the body: at the basal part of the stylet - 9.1, at the metacorpul bulb - 13, at the beginning of the ovary - 15.6, at the vulva - 16.9, and at the anus - 10.4  $\mu$ m. Body fusiform. Cuticle with fine annulations. Four longitudinal lines in the lateral field. Opening of dorsal esophageal gland located at level of the anterior end of the median bulb. Procorpus of esophagus cylindroid, slightly tapering before the metacorpul bulb; bulb oval-rectangular with a valve inside. Excretory pore situated in front of metacorpul bulb. Nerve ring at a distance of 5  $\mu$ m from the metacorpul bulb. Esophageal glands long, and situated on dorsal side of the body.

Female. Ovary with few oocytes, and long (400  $\mu$ m). Spermatheca oval. Posterior uterus long (52  $\mu$ m) and amounts to almost 4 anal body diameters. Vulva post-equatorial (V = 80%). Length of posterior intestine [rectum] equal to the body diameter at anus level. Female tail conical, with a cylindrical mucro, pointed at the tip.

Male. Cuticle with fine annulations. There are 4 longitudinal lines in lateral field. Cephalic capsule, esophagus, and location of nerve ring and excretory pore are the same as with the female. Stylet 13  $\mu$ m in length, with small knobs. Testis wide. Spicules typically aphelenchoid.

The extremity of the tail has a thin, cylindrical mucro, pointed at the tip.

Differential diagnosis. By the structure of the cephalic capsule and the location of the excretory pore it is close to A. platycephalus Eroshenko, 1968, but it differs from the latter by the form of the mucro on the tip of the tail, by the much longer posterior uterus (4 diameters of the body, instead of 2 as with A. platycephalus), by the long ovary, by the measurements of the nuclei of the oocytes in the germinal zone, and by the much larger measurements of the body. By the structure of the mucro the new species is close to A. sexlineatus Eroshenko, but differs from it by the form of the head and by the location of the excretory pore.



Aphelenchoides submersus Truskova sp. n. (1-6) and A. tumulicaudatus Truskova sp. n. (7-16).

Female: (1) Head end; (2) General view of nematode; (3) Lateral field; (4) - (6) Variations of tail tips; (7) Trophico-sensory section of the female body; (8) Trophico-genital section of the female body; (9) Trophico-sensory section of the male body; (10) Male tail; (11) Anterior end of the male body; (12) and (13) Variations of the female tail tips; (14) Spicules; (15) and (16) Variations of the male tail tips; originals.

Material. Six females and one male in the soil around the roots of the soybean of the Amur-310 variety in the Tambovsk district of the Amur region (experimental field of the All-Russian Scientific Soybean Research Institute) in 1970.

APHELENCHOIDES TUMULICAUDATUS TRUSKOVA SP. N.  
(See Figure 7-16)

Holotype (female, preparation Number 54/2): L = 0.7256 mm; a = 39.8; b = 3.8; c = 17.4; V = 72.8. Allotype (male): L = 0.7134 mm; a = 42.2; b = 4.9; c = 19.8; T = 69.8. Paratypes (four females): L = 0.5535 - 0.7256 mm; a = 23.5 - 39.8; b = 3.9 - 5.5; c = 13.7 - 17.4; v = 66.6 - 72.8. Paratypes (three males): L = 0.6688 - 0.7250 mm; a = 40.7 - 42.9; b = 4.9 - 6.0; c = 17.2 - 19.8; T = 69.8 - 71.4.

Slender nematodes. Tail bulbous before the tip. Tail tip elongated with a simple needle-shaped mucro. Cephalic capsule well-developed, and projects somewhat beyond the contours of the body. Its height is 2.6, its width, 6.5  $\mu$ m. Body slightly fusiform. The diameters of the body: at the base of the stylet - 9.1, at the metacorpul bulb - 15.6, at the beginning of the ovary - 18.2, at the vulva - 18.2 and at the anus - 10.4  $\mu$ m. Stylet 11.7  $\mu$ m in length, with small basal knobs. Cuticle with fine annulations. There are 4 longitudinal lines in the lateral field. Nerve ring located at a distance of 13  $\mu$ m behind the metacorpul bulb. Excretory pore located at the level of the nerve ring. Corpus of the esophagus cylindrical, somewhat narrowed before the metacorpul bulb. Metacorpul bulb oval-rectangular, with a well-developed valve apparatus. Mid-intestine polycytic.

Female. Ovary long - 923  $\mu$ m, with few oocytes; its germinal zone reaches the esophageal glands. Spermatheca oval, filled with sperm. Vulva post-equatorial. Posterior uterus equal to two body diameters in the area of the vulva.

Male. Cuticle with fine annulations. There are 4 longitudinal lines in the lateral field. Cephalic capsule, esophagus, location of excretory pore and nerve ring, length of stylet, are the same as for the female. Testis wide, with few sperm. Spicules of the aphelenchoid type. On the tail there is a single pair [each] of adanal, of postanal and of terminal papillae. The form of the tail is the same as with the female.

Differential diagnosis. Close to A. spasskii Eroshenko (Eroshenko, 1968a). The structure of the head, the location of the nerve ring and the excretory pore, the measurements and proportions of the body and the number of lines in the lateral field, unite [these two species]. A. tumulicaudatus sp. n. is distinguished by the swollen tip of the tail and by the much shorter posterior uterus.

Material. In the root system of the soybean in the Blagoveshchensk district of the Amur region.

## LITERATURE

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#### Summary

2 new species of the genus *Aphelenchoides* were found in roots of the soybean (*Glycine hispida*) in the Amur District. *A. submercus* sp. n. is closely related to *A. platycephalus* Eroshenko, 1968 by the structure of head capsule (submerged) and the position of excretory pore but differs from the latter by the form of mucro on tail terminus, long ovary, greater size of oocytes in the germinative zone. By the structure of mucro the new species is closely related to *A. sexlineatus* Eroshenko, 1968 but differs from it by the head form and the position of excretory pore. *A. tumulicaudatus* sp. n. is closely related to *A. spasskii* Eroshenko, 1968 by the structure of head capsule, position of nerve ring, body size and proportions, number of lines in the lateral field and differs from the latter by an inflated tail terminus and a shorter posterior uterus.