

A NEW SPECIES OF NEMATODE APHELENCHOIDES CONIMUCRONATUS  
FROM LEGUMES OF THE MOSCOW REGION

L. M. BESSARABOVA

Helminthological Laboratory, USSR Academy of Sciences (Moscow)

Zool. Zh. 45(10): 1569-1570 (1966).

Nematodes belonging to the genus Aphelenchoides Fischer, 1894 were found during the investigation of nematode-fauna in plants and root soil of peas and fodder beans of the Moscow region. The worms which were observed have very small measurements and possess a group of peculiar characteristics (a small, thickened mucro; two lines in the lateral field; and a small, bifurcated stylet) which permit considering them a new species. Measurements of the body, according to deMan's formula:

Holotype (female): L = 422  $\mu$ m; a = 30.1; b = 7.4; c = 12.5; V = 69%.  
Allotype (male): L = 308  $\mu$ m; a = 30.8; b = 6.8; c = 12.3. Paratypes.  
Female (n = 10): L = 280 - 440  $\mu$ m; a = 28 - 33.4; b = 6.7 - 7.4; c = 10.2 - 13.4; V = 61 - 69%. Male (n = 4): L = 304 - 403  $\mu$ m; a = 29 - 30.4; b = 7.2 - 7.9; c = 14 - 28; spicules = 10  $\mu$ m.

APHELENCHOIDES CONIMUCRONATUS BESSARABOVA SP. N.

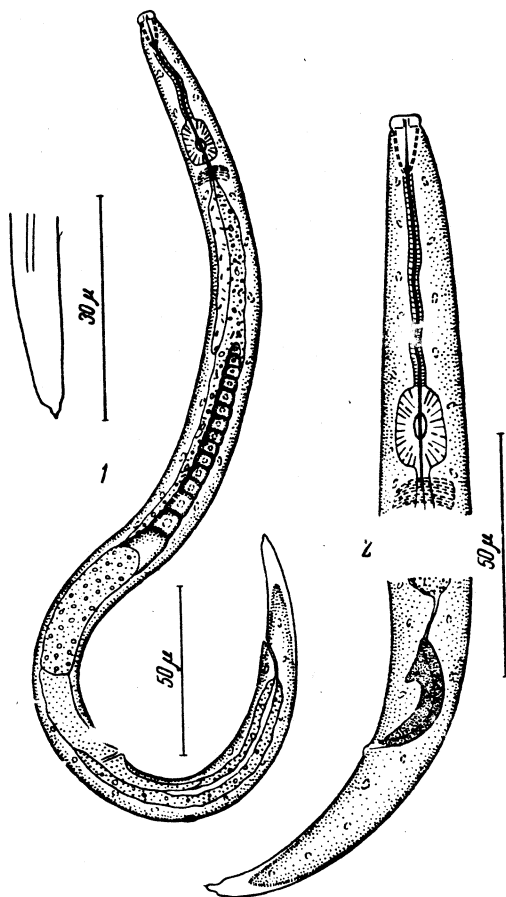
The identification was conducted according to A. A. Paramonov (1964) and K. C. Sanwal (1961).

Female (see Figure 1). Body cylindrical, slightly narrowed toward both ends. Tail conical, somewhat inwardly curved from the ventral side, and ending with a short, simple, separated mucro.

Diameter of the body: at the base of the stoma 7 - 6  $\mu$ m, at the nerve ring 10 - 12  $\mu$ m, at the beginning of the anterior ovary 10 - 12  $\mu$ m, opposite the vulva 10 - 13  $\mu$ m, at the end of the posterior ovary 9 - 10  $\mu$ m, and at the anus 6 - 8  $\mu$ m. Cuticle finely annulated. Lateral field with 2 lines. Cephalic capsule rounded, with distinct septa. Cheilostom cuticularized, with parallel walls. Stylet thin, bifurcated at the base, and 9 - 10  $\mu$ m in length. Basal knobs small, in the shape of a triangle. Protractors weakly developed.

Metacorpul bulb oblong-oval. Its length is almost 2 times greater than its width. Esophageal glands lying against the intestine. The length of the glands is 66  $\mu$ m. Mid-intestine with a clear lumen. Rectum about 15  $\mu$ m in length. Anal protuberance pronounced. The upper lip of the anus hangs slightly over the lower.

Nerve ring situated immediately behind the metacorpul bulb. Excretory pore short, located behind the nerve ring at a distance of 10  $\mu$ m from its rear edge.



Aphelenchoides conimucronatus sp. n.

1 - female; 2 - male.

Ovary straight and quite long. Its anterior end reaches the end of the dorsal gland, or stops short of it by 20 - 18  $\mu\text{m}$ . Ovary oligopropagatory, with oocytes arranged in a single row. Posterior uterus reaches a length of almost 37  $\mu\text{m}$ . Vulva open and inclined toward the body wall in a slightly oblique manner.

Male (see Figure 2). Body cylindrical and tapering toward both ends.

Diameters of the body: at the base of the stoma 6  $\mu\text{m}$ , at the nerve ring 9  $\mu\text{m}$ , at the beginning of the testis 9  $\mu\text{m}$ , at the greatest width of the body 10  $\mu\text{m}$ , at the end of the testis 8  $\mu\text{m}$ , and at the anus 7  $\mu\text{m}$ .

Cuticle finely annulated, with scarcely perceptible annules. Lateral field with 4 lines. Cephalic capsule slightly separated from the body. Cheilostom with parallel, chitinized, thickened walls. Stylet thin, bifurcated at the base and with small knobs. Protractors weakly developed. Metacorporeal bulb oblong-oval as with the female. Intestine filled with granules. Anal protuberance pronounced.

Nerve ring wide and situated right after the bulb. Excretory pore short, and situated at a distance of 5  $\mu$ m from rear edge of nerve ring.

Testis quite long. Its upper end almost reaches the level of the dorsal gland. Spermatogonia in a single row. Papillae situated on the rear third of the tail. Spicules 10  $\mu$ m long.

Aphelenchoides conimucronatus was observed in significant quantity in the root soil, root system and the above ground parts of pea and fodder bean plants in all the farms which were inspected in the Moscow region: in Nemchinovka of the Kuntsevo district, in the Moscow Region Institute of Overhead Irrigation Sprinkler Structures (Kolomna district) and on the "Peace" State Farm of the Shatura district.

Aphelenchoides conimucronatus was encountered during the entire course of the vegetation period. In June larvae were observed in the soil. It is a phytohelminth of unspecified pathogenic effect.

Differential diagnosis. The new species resembles Aphelenchoides saprophilus Franklin, 1957 by the form of the tail mucro. However, it differs from the latter by the measurements of the body, by the value of the indices a, b and c, by the form of the bulb, and by the number of lines in the lateral field. It is similar to A. pusillus in the measurements of the body and the quantity of lines in the lateral field, but differs from it by the peculiar form of the tail mucro. Type specimens of the species being described are located in the Helminthology Laboratory of the USSR Academy of Sciences (Moscow).

#### LITERATURE

- Paramonov, A. A., 1964. [Principles of Phytohelminthology, Vol. II] Moscow, Izdatelstvo "Nauka": 387-416.
- Franklin, M. T., 1957. Aphelenchoides composticola n. sp. and A. saprophilus n. sp. from mushroom compost and rotting plant tissues. Nematologica, 2(4): 306-313.
- Sanwall, K. C., 1961. A key to the species of the nematode genus Aphelenchoides Fischer, 1894. Can. J. Zool. 39(2): 143-148.

**A NEW SPECIES OF APHELENCHOIDES (NEMATODES)  
ON LEGUME CROPS IN THE MOSCOW REGION**

L. M. BESSARABOVA

*Helminthological Laboratory, USSR Academy of Sciences (Moscow)*

**S u m m a r y**

A new species *Aphelenchoides conimucronatus* was found in 1963 on pea and beans plantations in several districts of the Moscow region, in the rhizosphere, roots and supraterranean parts.