

THREE NEW SPECIES OF THE GENUS APHELENCHOIDES FISCHER, 1894
(NEMATODA, APHELENCHOIDIDAE)

G. N. SHAVROV

Biological and Soil Science Institute,
Far Eastern Branch of the Siberian Department,
USSR Academy of Sciences (Vladivostok)

Zool. Zh. 46(5): 762-764 (1967)

During the study of the dynamics of the plant nematode fauna of soybean (Glycine hispida) in the Primorye region in 1964, three new species of the genus Aphelenchoides Fischer, 1894 were observed in the root soil and root system. The description and illustrations of the nematodes were made from permanent preparations, which are being kept in the Biological and Soil Science Institute, Far Eastern Branch of the Siberian Department, USSR Academy of Sciences. Below, we give a description and illustrations of the new species.

APHELENCHOIDES PARABICAUDATUS SP. N.
(See Figure, 1, 1a)

Description. Holotype: L = 0.332 mm; a = 23.7; b = 8; c = 11.7; V = 63.8%. Females (10): L = 0.312 - 0.348 mm; a = 21.4 - 25; b = 7.2 - 8; c = 10.5 - 12.7; V = 61.2 - 64.7%.

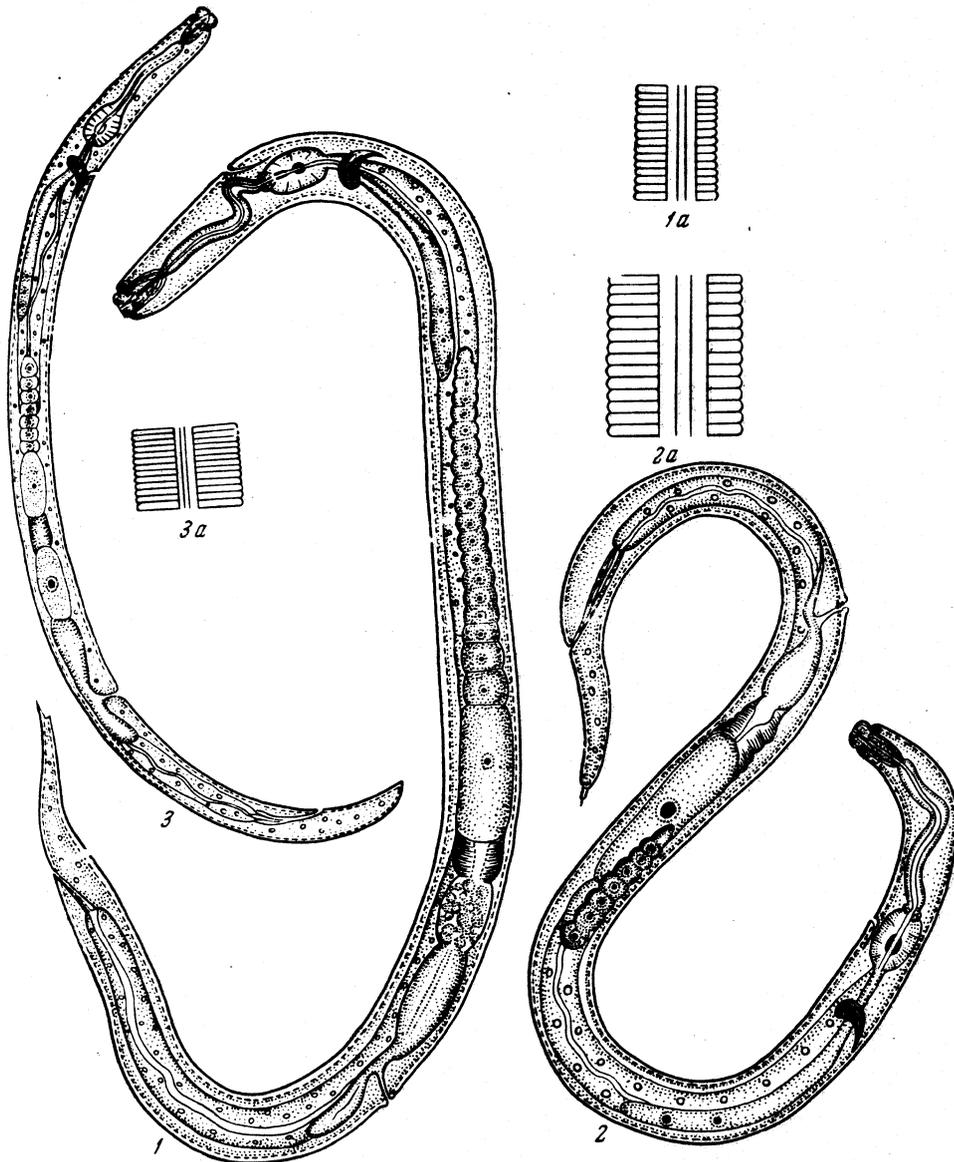
Moderately slender forms, narrowing insignificantly toward the head end, and significantly toward the tail end. Cuticle finely annulated. Four lines in the lateral fields. Cephalic capsule offset and partially drawn into the cavity of the body. Laabiotuberculae rounded. Stylet strong - 8 μ m, with clear, small basal knobs.

Procorpus cylindroid. Bulb oval, with an insignificant narrowing toward the front end. Bulbar valve cavity [= valve] located somewhat posteriorly from the center. Excretory pore situated in front of the bulb, at a distance equal to one transverse diameter of the body. The nerve ring is at the same distance, but posteriorly from the bulb. Esophageal glands more than four body diameters long. Mid intestine with clear lumen; the cells are filled with globules of reserve substances. Posterior intestine short, up to one body diameter in length.

Ovary long, reaching to the beginning of the dorsal esophageal gland, oligoprogatory. Egg long; its long axis up to three egg-diameters long. Spermatheca oval-shaped. Posterior uterus up to one body diameter in length. Tail tip split into two lobes, with the dorsal one very short, and the ventral, long.

Differential diagnosis: The species being described belongs to a group of species with a complex mucro and is similar to Aphelenchoides bicaudatus Imamura, 1931, but differs from the latter by the structure of the cephalic capsule, by the size of the stylet (8:14), and by the location of the excretory pore and the nerve ring.

The species was observed in the root soil and root system of soybeans in the Ussuri, Khanka and Yakovlev districts of the Primorye region.



Aphelenchoides parabicaudatus sp. n. (1 - general view, 1a - lateral field).

A. editocaputis sp. n. (2 - general view, 2a - lateral field.)

A. parasubtenuis sp. n. (3 - general view, 3a - lateral field.)

APHELENCHOIDES EDITOCAPUTIS SP. N.

(See Figure 2, 2a)

Description. Holotype: L = 0.272 mm; a = 27; b = 6.7; c = 10.4; V = 69.9%. Females (10): L = 0.272 - 0.317 mm; a = 24.8 - 28; b = 5 - 7.2; c = 8.7 - 11; V = 68.3 - 72%.

Small forms with cylindroid body, tapering toward the head and tail ends. Four lines in lateral fields. Cuticle very finely annulated (immersion). Cephalic capsule high, well-developed, offset but does not extend beyond the contours of the body. Supporting skeleton weak, with distinct basal septa. Stylet 8 μ m, with small basal knobs.

Procorpus of esophagus cylindroid. Bulb oval. Bulbar cavity [= valve] posterior from bulb center. Esophageal glands up to five body diameters long. Nerve ring at a distance of one body diameter posterior to the bulb. Mid intestine with a distinct lumen. Posterior intestine up to 1.5 body diameters long.

Ovary oligopropagatory and reflexed, with a short reflexed part. Posterior uterus up to one body diameter. Eggs long, with relation of length to width equal to 1:4. Tail conical, with a thick mucro, bearing a spine. Males not observed.

Differential diagnosis. The species belongs to a group of species with a single mucro and with a short posterior uterus. According to these characteristics the species being described is similar to Aphelenchoides spinosus Paesler, 1957, but differs from it by the structure of tail, cephalic capsule, and ovary, and by the location of excretory pore and nerve ring.

The species was found in the root soil, root system and stalks of soybeans in the Chuguyev, Khanka, Yakovlev, Ussuri and Partizansk districts of the Primorye region.

APHELENCHOIDES PARASUBTENUIS SP. N.

(See Figure 3, 3a)

Description. Holotype: L = 206 μ m; a = 25.9; b = 6.3; c = 13; V = 71.3%. Females (10): L = 0.169 - 0.215 mm; a = 21.3 - 25; b = 5.3 - 6.4; c = 13 - 16; V = 69.8 - 73%.

Small, slender forms with a cylindroid body, tapering toward both extremities. Cephalic capsule offset, but does not extend beyond the contours of the body. Labiotuberculae rounded; basal constriction deep. Stylet 8 μ m, thin, and with small, distinct knobs. Procorpus of esophagus cylindroid. Bulb oval, with a bulbar cavity [= valve] located below the center. Nerve ring at a distance of 0.5 body diameters below the bulb. Excretory pore opposite nerve ring. Esophageal glands long, up to 4 - 4.5 body diameters. Mid-intestine with clear lumen. Posterior intestine up to two anal body diameters.

Ovary oligopropagatory and short. The length of the eggs in relation to their width is equal to 1:2. Posterior uterus short, somewhat more than one body diameter. Female tail dorsally convex, with straight ventral side, and with a short thick mucro. Four lines in lateral fields.

Differential diagnosis. The species being described belongs to a group of species with a single mucro and is similar to Aphelenchoides subtenuis (Cobb, 1926) Steiner & Buhner, but it differs from the latter by the size and proportions of the body, by the structure of the cephalic capsule, and by the structure and size of the sexual organs.

The species was observed in the root soil, the root system and the stalks of soybeans in the Pogranichnoye, Ussuri and Yakovlev districts of the Primorye region.

**THREE NEW SPECIES OF THE GENUS APHELENCHOIDES
FISCHER, 1894 (NEMATODA, APHELENCHOIDIDAE)**

G. N. SHAVROV

*Biological-Soil Institute, Far East Branch of the Siberian Division
of USSR Academy of Sciences (Vladivostok)*

Summary

The species under description were found in different regions of the Primorsk district in the radical soil, root system and in stalks of the soya bean (*Glycine hispida*). *Aphelenchoides parabicaudatus* sp. n. is similar to *A. bicaudatus* (Imamura, 1931) Filipjev et Schuurmans Stekhoven, 1941, but differs from it by the structure of head capsule, dimensions of stylet (8:14) and position of the excretory pore and nerve ring. *A. editocaputis* sp. n. is similar to *A. spinisus* Paesler, 1957, but differs from it by the structure of tail. ovary, head capsule and position of the excretory pore and nerve ring. *A. parasubtenuis* sp. n. is similar to *A. subtenuis* (Gobb, 1926) Steiner et Buhner, 1932, but differs from it by the body dimensions and proportions, structure of head capsule. structure and dimensions of the genital system.