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

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The genus *Aphelenchoides* Fischer, 1894 is a member of the family Aphelenchoididae (Fuchs, 1937) Paramonov, 1953. The ecological characteristics of this family are very diverse. The family combines plant nematodes of specific pathogenic effect, plant nematodes of non-specific pathogenic effect, and also ectoparasitic myco-nematodes and ecto- and endoparasites of insects.

In recent time the genus *Aphelenchoides* has been enlarged by new species through the works of Franklin, 1957, Paesler, 1957, Hooper, 1958, Andrassy, 1958, Das, 1960, and Sanwal, 1961. At the moment, the genus *Aphelenchoides* contains 38 species according to the check-list of Baker, 1962.

We report below a description of two new species of the genus *Aphelenchoides*.

Aphelenchoides macronucleatus sp. nov.
(Figure 1)

L = 634.6-748 µm; a = 34-36.3; b = 9.4-10.6; c = 15.5-17; V = 69.6-70.5%.

Description. Female. Taking the diameter of the head as a unit, we obtain the following series of diameters: at the median bulb, 2.8; at the nerve ring, 2.9; at the beginning of the ovary, 3.1; at the vulva, 3.6; and at the anus, 2.1. Tail conical; behind the anus it tapers evenly right up to the tip.

Mucro short and well separated. Cuticle finely annulated; annuli more sharply expressed in the stylet area.

Head rounded, with developed internal fastenings. Rear internal edge of head weakly strengthened which indicates weak development of the protractors.

Cheilostom with parallel walls tapering posteriorly to a cone.

Stylet split in area of knobs; length of stylet 11-12 µm. Precorpus thin, median bulb oval, internal lumen well developed.

Nerve ring located behind the median bulb. Posterior edge of nerve ring located at a distance equal to one bulb length from the posterior edge of the median bulb.

Excretory pore located behind the nerve ring at a distance of more than the length of the median bulb.

The cervical gland reaches to the top of the ovary and its length is 25-26 µm.

Intestine cylindrical, with clear lumen. Proctodeum over 20 µm in length. Anal protuberance not expressed.

Ovary straight and long; oogonia arranged in a single row, starting from the top of the ovary. Nuclei of oocytes arranged in a single row and very large, about 6 µm in diameter.

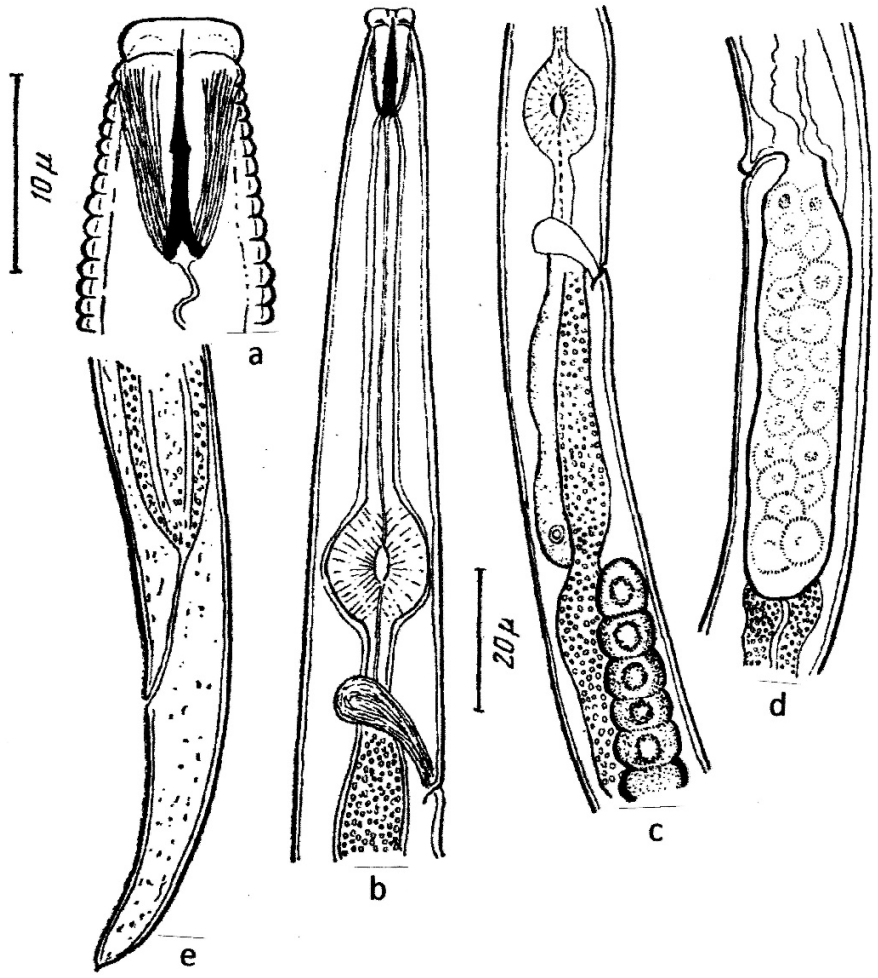

Figure 1. *Aphelenchoides macronucleatus* sp. nova
a – Head end of female; b – Anterior end of female body; c – Area of esophageal glands and top of ovary; d – Posterior uterus, sperm visible inside; e – Tail end of female

Post-vulval uterine sac very long, a little less than half the distance between vulva and anus. Thus, in one of the females this distance was equal to 173 µm, while the length of the post-vulval uterine sac reached 80 µm. Spermatozoids were observed in the cavity of the post-vulval uterine sac.

Taxonomic notes. The species being described belongs to a group of species with a head strengthened by an internal skeleton, but it differs from other species of this group by the stylet split at the basal part, by the arrangement in a single row of large-nucleus cells of the genital tract, and by the very long post-vulval uterine sac and short mucro.

Ecological notes. Females were observed in the root system of winter rye, oats, cat-tail and corn sow-thistle. Larvae were found during May in the root system of the plants investigated. Plant nematodes are of non-specific pathogenic effect.

Aphelenchoides lagenoferrus sp. nov.
(Figure 2)

L = 396-432 µm; a = 24-26.2; b = 8-8.4; c = 12-15; V = 68-69%.
L = 374 µm; a = 33.5; b = 7.5; c = 14.5.

Description. Female. Taking the body diameter at the level of the basal part of stylet (2.5 µm) as a unit, we obtain the following series of body proportions: at the median bulb, 1.4; at the nerve ring, 1.6; at the beginning of the ovary 2; opposite vulva 2; at the anus 1.

Cuticle finely annulated; lateral lines not noticeable in fixed material. Head well set-off, without any sclerotized pieces. Cheilostom with thick walls. Stylet thin with small knobs; length of stylet 10 µm. Median bulb 11.55 µm in length and 7.42 µm in width, oval in shape. Glands reach 42.9 µm in length and abut dorsal side of intestine.

Intestine granulated, with a clear lumen in the rear half. Rectum 16.5 µm in length.

The top of the ovary is slightly broadened; the ovary tapers approximately at mid-length and it widens again in the zone of maturation of the oocytes. A narrow oviduct, that widens into a "seminal receptacle" in which the spermatozoids lie, follows the ovary. Posterior uterus is 59.4 µm in length; it reaches approximately half the distance between vulva and anus.

Male. Taking the body diameter at the level of the basal part of the stylet (3.3 µm) as a unit, we obtain the following series of diameters: at the nerve ring, 1.64; at the median bulb, 1.5; at the beginning of the testis, 1.7; and at the anus, 1.5.

Head well set-off, without any sclerotized parts. Cheilostom with thick sides. Stylet with small knobs; its length is 8.25 µm, and longer than the diameter of the body at the basal part of the stylet. Median bulb oval in shape, 9.9 µm in length and 7.42 µm in width. Nerve ring located at a distance of approximately 10 µm from the rear edge of the median bulb. Esophageal glands lying on the dorsal side of the intestine, 42.9 µm in length. Intestine granulated. The top of testis is at a distance of 108.9 µm from the posterior edge of the median bulb. Testis has characteristic shape: it is very short; the anterior part of the testis is somewhat broadened, then it is followed by a short tapered

part that widens again, and by a series of spermatocytes of the first and second order. The testis is followed by the seminal receptacle then the ejaculatory canal. Spicules of aphelenchoid type, 17.32 µm long and 4 µm wide near the spicule head. Tail with a thin, short mucro. The arrangement of papillae is aphelenchoid.

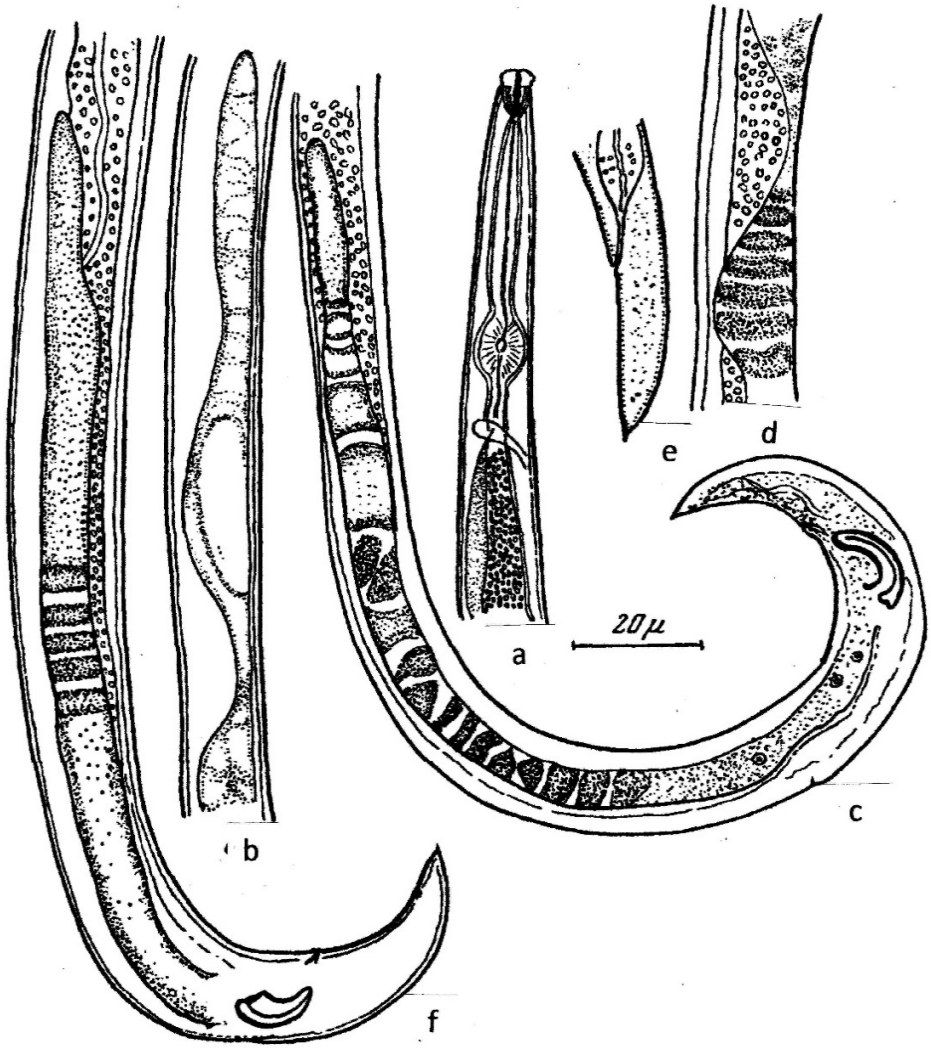

Figure 2. *Aphelenchoides lagenoferrus* sp. nov.
a – Anterior end of body of female; b – Ovary; c – Genital system of male; d – Seminal receptacle; e – Tail end of female; f – Genital system of male

Differential diagnosis. The species being described has very short ovary and testis. The top the ovary is slightly widened, it tapers in mid-length, and it widens again in the zone of maturation of the oocytes. Testis has characteristic shape: it is very short, the anterior part of the testis is somewhat broadened, it is followed by a short tapered part that widens again.

Ecological notes. Females and males were observed by us in the (sandy) rhizosphere of winter rye; and in the root system of oats, cat-tails, clover, dandelion, and corn sowthistle. Larvae were found during May in the soil and in the organs of plants. Plant nematode of non-specific pathogenic effect.

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