

OBSERVATION OF INTERSEX IN A NEMATODE FROM THE  
GENUS APHELENCHOIDES TYLENCHIDA, APHELENCHOIDIDAE

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Examples of observation of the development of a sexual system displaying two vulvae, are noted in nematodes of different ecological groups. Thus, there are reports concerning the finding of bivulvar individuals in representatives of the order Dorylaimida (Cassidy, 1933; Mulvey, 1963; Geraert, 1963; Jairajpuri & Ahmad, 1969; Hirling, 1969) and Enoplida (Andrássy, 1960). Azizova (1969) describes a case of two vulvae in a cyst-forming potato nematode. Often only one vulva is completely developed in such individuals.

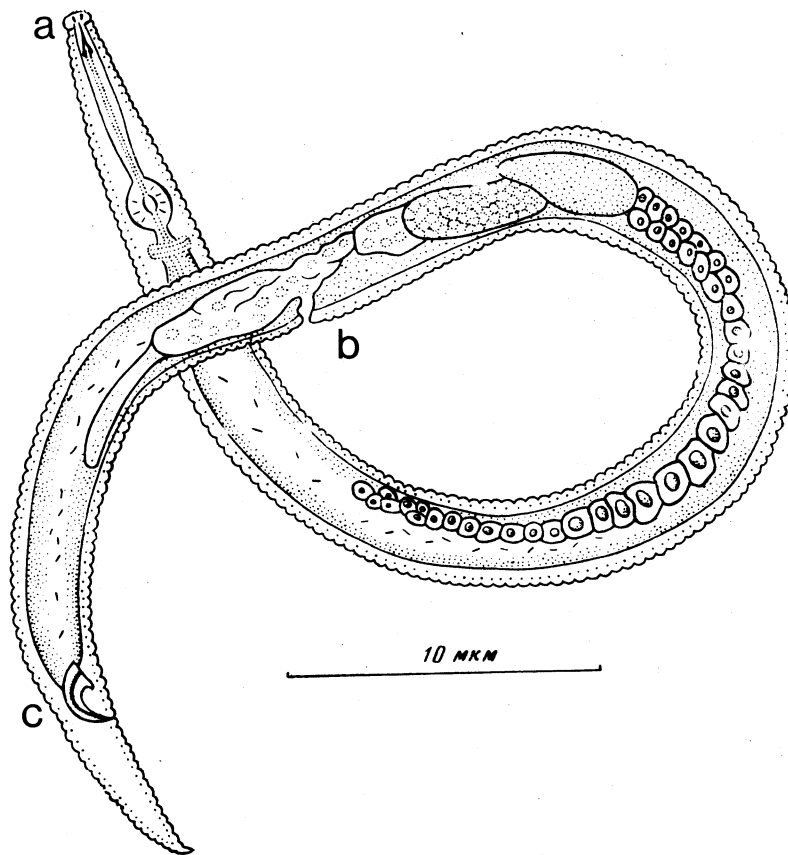
Jairajpuri and a co-author (Jairajpuri & Siddiqi, 1964) found intersex individuals of Tyleptus striatus. They were smaller than normal; their vulva was located lower; the spicules were shorter and thinner; and the copulatory musculature was weak. Kozhokaru (1970) observed in the territory of Moldavia in the rhizosphere of vegetable marrows, the nematode Eudorylaimus sp. with intersex characteristics: well developed female sexual glands and masculine copulatory apparatus. In India an intersex individual of a nematode of the genus Aphelenchoides was found in the root soil of rice (Khera & Chaturvedi, 1971). Aside from the normally developed female sexual system, it had 2 spicules and 2 pairs of postcloacal subventral papillae; the testis was absent. The authors who described it proposed that it was a new species of nematode since it differed by a group of essential characteristics from A. helophilus and A. subparietinus which are similar to it.

In July 1978 in the soil of a dried peat plot at the Korzin hospital (Pryazha district, Karelian Autonomous SSR) we observed a nematode belonging to the genus Aphelenchoides with intersex characteristics. A plot with a high peat content was sown with grasses--timothy and meadow fescue. The nematode (see Figure) was observed in the upper level of the soil, 0 - 6 cm.

Measurements: L = 0.71 mm; a = 27; b = 9.6; c = 10.4; V = 69%.

Cuticle finely annulated; lateral field with four lines. Head separated by a weak constriction. The diameter of the "little head cap" is somewhat greater than the "neck" section. Stylet well developed (15 $\mu$ m); stylet knobs separated. Excretory pore at a distance of 11.7 $\mu$ m behind the metacorpul bulb and 88.5 $\mu$ m from the front end of the body. Nerve ring situated behind the esophageal bulb. Procorpus of esophagus fusiform and bulb oval, 16.7 x 13.4 $\mu$ m. Ovary long (0.33 mm). Anterior gonad with a flexure at the end. The oocytes in the apical part are arranged in a

single row, farther on in two rows, and again in a single row. There is a spermatheca with sperm; it is separated from the vulva by a distance of 60 -100  $\mu\text{m}$ . Anterior uterus powerfully developed, muscular, and empty. Vulva lips unequally developed; the anterior one is broader and projects more above the surface of the body. Vulva in the form of an oblique slit with weakly sclerotized walls. Posterior uterus 83.5  $\mu\text{m}$  long. There are well developed aphelenchoid spicules, 20.04  $\mu\text{m}$  long. Tail pointed and with a sharp mucro.



General view of an intersex individual, Aphelenchoides

a - head region; b - vulva area; c - tail region with spicules.

The nematode which we observed belongs, obviously, to the species Aphelenchoides subparietinus, although it differs somewhat from the typical [form] in measurements: longer tail ( $c = 10.4$  against  $c = 11.9 - 14.5$ ); larger body diameter ( $a = 27$  against  $a = 29.8 - 31$ ).

## LITERATURE

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### THE FINDING OF AN INTERSEX IN A NEMATODE OF THE GENUS APHELENCHOIDES (TYLENCHIDA, APHELENCHOIDIDAE)

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#### Summary

A nematode with the features of intersex (normal development of female genitalia and well developed spicules) was found in the turf soil under the meadow grass in Karelia in July 1978. It is suggested that the nematode belongs to the species Aphelenchoides subparietinus.