

DESCRIPTION OF PRATYLENCHUS CLAVICAUDATUS SP. N.
(NEMATODA, PRATYLENCHINAE THORNE, 1949)

I. A. BARANOVSKAYA AND M. M. KHAK

Helminthological Laboratory, USSR Academy of Science (Moscow)

Zool. Zh. 47(5):759-761 (1968)

Studying the fauna of cereal plants in the Moscow region we found a new species in the genus Pratylenchus Filip'ev, 1934 in the root system of winter rye (Secale cereale L.) and winter wheat (Triticum vulgare Vill.). A description of this species follows below.

Pratylenchus clavicaudatus Baranovskaya et Khak sp. n.

Holotype (♂): L = 0.328 mm, a = 20.2; b = 3.5; c = 23.5; V = 80.1%; stylet = 15.08 μ m.

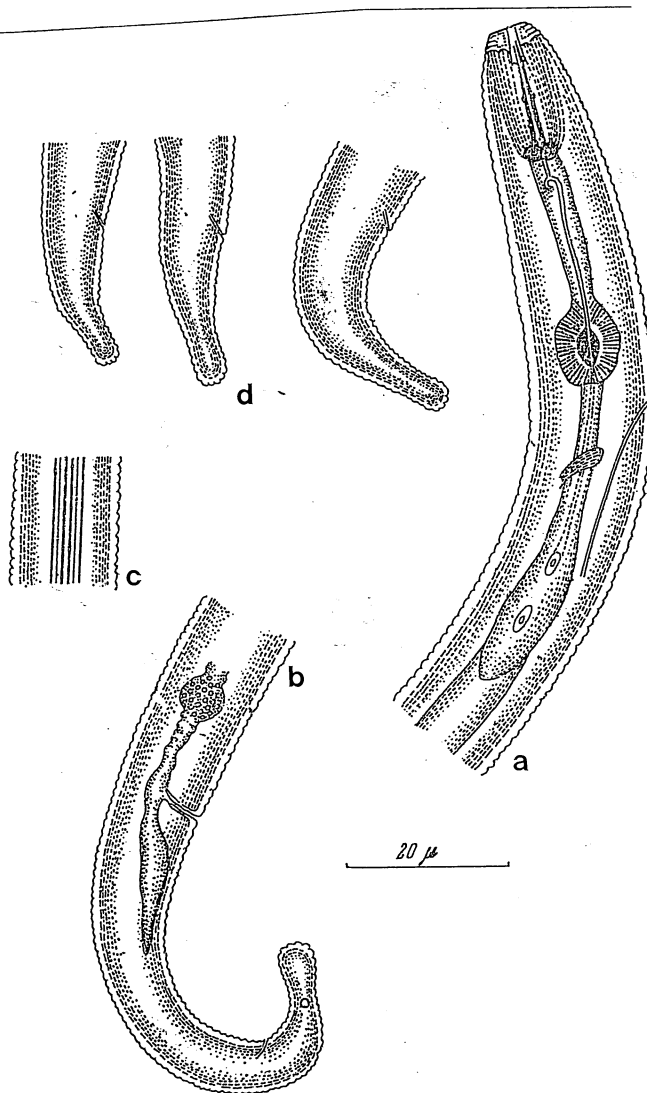
Paratypes: (♂♂): (n = 15) L = 0.376 mm (0.294-0.434 mm); a = 20.36 (17.2-27); b = 4.25 (3-6.9); c = 22.2 (18-25.9) V = 82.2% (79-89%); stylet = 15.6 μ m (14.4-16.8 μ m).

Body cylindroid, evenly constricted behind vulva. Tail short with a rounded and mace-shaped end, strongly annulated (See Fig. d). Body diameter at base of stylet, at metacarpal bulb, at nerve ring, and at excretory pore, 13.92 μ m; at vulva 12.76 μ m, and at anus 8.12 μ m. Head capsule slightly offset from the body and with four distinct annules, (See Fig. a).

Cuticle with fine annules, the annules width varies from 0.50-0.65 μ m. Cephalic framework strongly sclerotized and well-developed. Stylet well-proportioned and powerful, up to 15.08 μ m long. Basal knobs radial with poorly developed protuberances (See Fig. a). Protractors well-developed and arranged parallel to the length of the stylet shaft. Dorsal gland opening located 2.32 μ m behind the basal knobs of the stylet. Procorpus of esophagus tubular, narrowing toward the metacarpal bulb. Metacarpal bulb muscular, oval-shaped, bulb valve strongly sclerotized. Excretory pore located somewhat behind the metacarpal bulb. Excretory duct sclerotized, its lumen clearly visible. Nerve ring located somewhat posteriorly to the excretory pore. Esophageal glands well developed. Ovary short, with ovocytes arranged in one row. Pre-uterine gland long. Spermatheca spherical. Posterior uterine branch long, its length equals about 1.5 body diameter in the vulval region (See Fig. b).

Vulva slightly slanted. Lateral field with six distinct lines. Only 4 lines can be seen at the posterior end of body and behind the phasmids in fixed specimens (see Fig. b). Tail usually ventrally curved, variable in shape (see Fig. d).

We found no males, but judging from the fact that spermatozoa have been found in the spermatheca, one can expect that this species has males.



Pratylenchus clavicaudatus Baranovskaya et Khak sp. n.

a - Anterior end of female body; b - Spermatheca, vulva, posterior uterine branch, and posterior end of female body; c - Lateral field; d - Variations of tail shape.

Differential diagnosis: the described species in its body form, structure of head and number of lateral lines most closely resembles Pratylenchus pratensis (de Man, 1880) Filip'ev, 1936; Pratylenchus vulnus Allen & Jensen, 1951; Pratylenchus goodeyi Sher & Allen, 1953; Pratylenchus montanus Zyubin, 1966; Pratylenchus hexincisus Taylor & Jenkins, 1957; Pratylenchus cerealis Khak, 1966.

The differences between these species are shown in the classification table:

1. (a) Lateral field with 6 lines (2)
(b) Lateral field with 4 lines (4)
2. (a) Head capsule with 4 annules P. clavicaudatus sp. n.
(b) Head capsule with 2 annules (3)
3. (a) Stylet 14.5 - 15.4 μ m.
Tail variable in shape P. hexincisus
(b) Stylet 13 - 15 μ m.
Tail rounded, head cap wide P. montanus
4. (a) Head capsule with 4 annules,
posterior uterine branch as
long as body diameter in
vulval region P. goodeyi
(b) Head capsule with 3 or 4 annules,
posterior uterine branch long (5)
5. (a) Head capsule with 3 or 4 annules.
Posterior uterine branch long, 2
times body diameter in vulval
region P. vulnus
(b) Head capsule with 3 annules.
Posterior uterine branch equal to or
slightly less than 1.5 body diameter
in vulval region. (6)
6. (a) Posterior uterine branch equals 1.5 of
body diameter in vulval region.
The last 2 lateral lines extend to the
tail tail P. pratensis
(b) Posterior uterine branch slightly
less than 1.5 body diameter at
vulval region. All 4 lateral lines
extend to the tail tip. P. cerealis

The holotype and the paratypes are kept in the collection of the Helminthological Laboratory, USSR Academy of Science.

LITERATURE

- Zyubin, B. N., 1966. [A new species Pratylenchus montanus sp. nov. (Nematoda, Pratylenchidae) on a crop of medicinal poppy in Khirgizia.] In: Tokobaev, M. M. (Ed.), [Helminths fauna in Khirgizia and adjacent territories]. Frunze, Izd. ILIM:147-151.
- Khak, M. M., 1966. The genus Pratylenchus Filipjev, 1934 (Nematoda, Pratylenchinae Thorne, 1949) Zool. Zh. 45(3):342-344.
- Allen, M. W. & Jensen, H. J., 1951. Pratylenchus vulnus new species (Nematoda, Pratylenchinae), a parasite of trees and vines in California. Proc. helminth. Soc. Wash. 18(1):47-50.
- Filip'ev, I. N., 1934. The classification of the free living nematodes and their relation to the parasitic nematodes. Smithsonian Misc. Coll.(3216) 89(6), 63 pp.
- Filip'ev, I. N., 1936. On the classification of the Tylenchinae. Proc. helminth. Soc. Wash. 3(2):80-82.
- Sher, S. A. & Allen, M. W., 1953. Revision of the genus Pratylenchus (Nematoda: Tylenchidae). Univ. Calif. Publs. Zool. 57(6):441-470.
- Taylor, D. P. & Jenkins, W. R., 1957. Variation within the nematode genus Pratylenchus, with the descriptions of P. hexincisus, n. sp. and P. subpenetrans, n. sp. Nematologica 2(2):159-174.
- Thorne, G., 1949. On the classification of Tylenchida, new order (Nematoda, Phasmidia). Proc. helminth. Soc. Wash. 16(2):37-73.

DESCRIPTION OF PRATYLENCHUS CLAVICAUDATUS SP. N. (NEMATODA, PRATYLENCHINAE THORNE, 1949)

I. A. BARANOVSKAYA and M. M. HAQUE

Helminthological Laboratory, USSR Academy of Sciences (Moscow)

Summary

Females of Pratylenchus clavicaudatus Baranovskaya et Haque sp. n. were found in the root system of the winter rye and winter wheat. Body cylindroid, equally constricted behind the vulva. Head capsule bears four clearly expressed rings. Stylet well-proportioned powerful, attains 14,4—16,8 μ in length, with well developed basal knobs of the radial type. Posterior uterine branch long, its length equals about 1.5 body diameter in the vulval region. Lateral field with six lines, only four of them are seen at the posterior body end. In fixed specimens tail is usually ventrally curved and varies in form. Tail short with rounded mace-shaped tip. Tail end annulated.