

A NEW SPECIES OF NEMATODE OF THE GENUS *LONGIDORUS*  
MICOLETZKY, 1922 IN SOUTHERN TADZHIKISTAN

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Ectoparasitic nematodes of the genus *Longidorus* are widely distributed in woodland and shrubbery in both the valleys and hills of Central Tadzhikistan (Ivanova, 1959, Ivanova & Kankina, 1972; Kankina, 1976; 1978). *L. elongatus* (de Man, 1876) Thorne & Swanger, 1936, and *L. tardicauda* Merzheevskaya, 1951, are adapted both to irrigated grey soil and to damp light-brown soil and are also recorded at altitude of 800-1500 m above sea level. *L. africanus* Merny, 1966, and *L. martini* Merny, 1966, were recovered from brown carbonate soils at an altitude of 1500-2200 m.

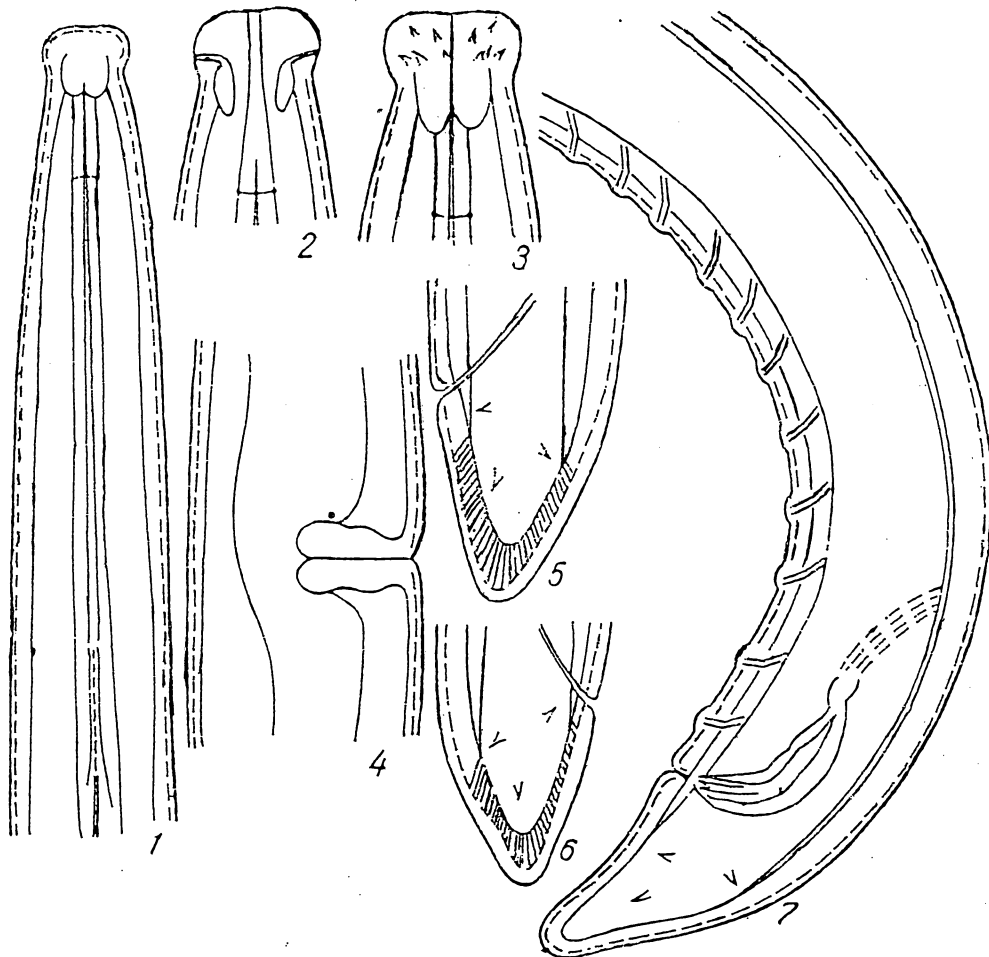
In 1981 in South Tadzhikistan during investigations of dense undisturbed vegetation (*Populus*, *Calligonum*, *Haloxylon*) on very salty soils we discovered for the first time in this area nematodes of the genus *Longidorus*. Identification established that all specimens discovered belong to one species that proved to be new to research. This species is ecologically adapted to undisturbed biotopes since it has not been recorded in other soil-climatic areas.

Details of this new species are as follows:

*Longidorus arenosus* Kankina & Ivanova sp. nov.

Females (n = 17): L = 7.32-9.64 (8.29) mm; a = 189.5-255.0 (212); b = 18.2-24.3 (21.2); c = 215-260 (239); c' = 1.0-1.2 (1.1); V = 48.7-51.9% (49.9%); stylet = 127-146 (137)  $\mu$ m. Males (n = 5): L = 7.30-9.76 (8.69) mm; a = 216-244 (230.7); b = 20.5-23.2 (21.4); c = 194-268 (230); c' = 1.12-1.20 (1.16); T = 24-28% (25.7%); stylet = 130-140 (135)  $\mu$ m; spicules = 36.0-38.4 (36.8)  $\mu$ m.

Holotype female: L = 9.03 mm; a = 210.4; b = 21.3; c = 217; c' = 1.1; V = 50.5%; stylet = 138  $\mu$ m. Body long, well proportioned, evenly tapered anteriorly and posteriorly. Lip area enlarged, rounded, slightly thickened at the front, distinctly separated from the body and occupies 3/4 of the body diameter at the level of the guide ring. Amphidial cavities bilobate, symmetrical, pocket-shaped with small pore-like apertures. Stylet typical, length of the odontostyle 92.4-112.4 (102.9)  $\mu$ m; odontophore 31.2-36.4 (34.3)  $\mu$ m. Guide ring situated at a distance of 22.1-27.3 (24.8)  $\mu$ m from the anterior end of the body. Oesophagus dorylaimid-like, with posterior dilated part 101-133  $\mu$ m long, occupying about 1/3 of the entire length. Oesophageal-intestinal valve convex-conical, 8-12  $\mu$ m long. Reproductive tracts paired, anterior one 1128-1768  $\mu$ m long, posterior one 1014-1690  $\mu$ m long. In immature specimens the ovaries are only half the length of those in sexually mature females. Eggs 275-330 x 36-39  $\mu$ m. Vulva a transverse slit with vagina occupying more than half the width of the body at this level. Length of prerectum 440-600  $\mu$ m, 14-19 times more than the anal body diameter. Tail conical, 31.2-40.8  $\mu$ m in length, with a rounded terminus and 3 pairs of caudal pores. The inner layer of cuticle at the tail terminus is thickened and radially lined.



*Longidorus arenosus* sp. nov. (orig): 1-6: female; 7: male; 1,2,3: anterior end of the body; 4: section of body at the vulva; 5,6,7: posterior end of body.

Allotype male: L = 9.76 mm; a = 244; b = 20.5; c = 268; c' = 1.16; T = 25.2%; stylet = 140  $\mu$ m, spicules = 38.4  $\mu$ m. The males are similar to the females, with the exception of the tail, that is narrower with dorsal and ventral features, dorsally it is broadly rounded. Spicules paired, with lateral supporting appendages (head area of spicules) bifurcated. Tail with 1 pair of anal and 9 pairs of ventromedian supplements.

Differential diagnosis: the new species is closest to *L. attenuatus* Hooper, 1961, *L. cohni* Heyns, 1969, *L. proximus* Sturhan & Argo, 1983 and *L. vineacola* Sturhan & Weischer, 1964. It differs from *L. attenuatus* in the larger dimensions of the body (7.3-9.6 mm compared with 5.2-7.3 mm), longer odontostyle (92-112  $\mu$ m compared with 73-84  $\mu$ m), shorter tail (c = 215-260, c' = 1.0-1.2 compared with c = 82-131, c' = 1.4-1.5) and in the frequent occurrence of males

(ratio of males to females: in the new species, 1:4, in *L. attenuatus* 1:50). Moreover, in *L. arenosus* sp. nov. the length of the prerectum is 14-19 anal body diameters, but 10 in *L. attenuatus*. It differs from *L. cohni* in the shape of the head. In *L. cohni* the lip area is slightly enlarged and barely separated from the body contour), shorter stylet (127-146  $\mu\text{m}$  compared with 158-172  $\mu\text{m}$ ), the tail (in *L. cohni*  $c = 150-195$ ,  $c' = 1.2-1.5$ ) and the prerectum which in the species under comparison is 5-12 anal body diameters. It differs from *L. proximus* and *L. vineacola* in the thin well-proportioned body ( $a = 189.5-255.0$  compared with 104-138 in *L. proximus* and 120-149 in *L. vineacola*), the enlarged and clearly separated labial area (in both species under comparison the labial area is slightly enlarged and barely separated from the body contour) and the conical shape of the tail,  $c' = 1.0-1.2$  (compared with the tail that is bluntly pointed to semi-spherical,  $c' = 0.73-0.95$  and  $0.8-0.9$  respectively). Moreover, the males of the new species differ from the males of *L. vineacola* in the dimensions of the spicules (36-38  $\mu\text{m}$  compared with 54-67  $\mu\text{m}$ ) and the number of supplements (10 compared with 14-17). In *L. proximus* males have not been found.

Plant-hosts and distribution. Type locality: soil from the rhizosphere of *Calligonum microcarpum* Borzcz., in the sands of Karadum, Tiger Gully, Tadzhikistan. At the same time it has also been recovered from the rhizosphere of the white haloxylon (*Haloxylon persicum* Bunge) and *Populus pruinososa* Schrenk.

The holotype (female) No. 749, allotype (male) No. 750 and paratypes Nos. 751-785 (16 females 4 males and 27 juveniles) are preserved at the E.N. Pavlovski Institute of Zoology & Parasitology AN Tadzhikistan SSR in the city of Dushanbe.

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