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# *LONGIDORUS FASCIATUS* SP. N. FROM GREECE AND ITALY

by

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While surveying artichoke fields in the areas of Argos, in Peloponnes, and of Palermo, in Sicily, for the presence of soil-borne virus diseases, an undescribed species belonging to the genus *Longidorus* (Micoletzky) Filipjev was found in the rhizosphere of plants affected by artichoke Italian latent virus (AILV).

Transmission tests carried out in the glasshouse showed that the Greek population of the nematode is capable of transmitting AILV to indicator plants (Roca *et al.*, in press).

The nematode specimens used to describe the species were those used in the transmission tests. Nematodes were killed in hot 5% formalin and mounted in glycerine by the slow method.

## *LONGIDORUS FASCIATUS* sp. n. (Fig. 1)

*Holotype female*: L = 8.1 mm; a = 133; b = 24.6; c = 228; V = 44.5; c' = 0.8; odontostyle = 114 μm; odontophore = 47 μm; oral aperture to guiding ring = 28 μm; tail = 36 μm; J = 13 μm; body diam at lip region = 14 μm; body diam at guiding ring = 28 μm; body diam at base of oesophagus = 49 μm; body diam at vulva = 61 μm; body diam at anus = 43 μm; body diam at beginning of J = 33 μm.

*Paratypes* (14 females): L = 7.7 (6.6-8.5) mm; a = 130 (121-143); b = 18.8 (14.4-25.5); c = 225 (187-283); V = 46 (42-50); c' = 0.8 (0.6-0.9); odontostyle = 112 (102-119) μm; odontophore = 58 (46-70) μm;

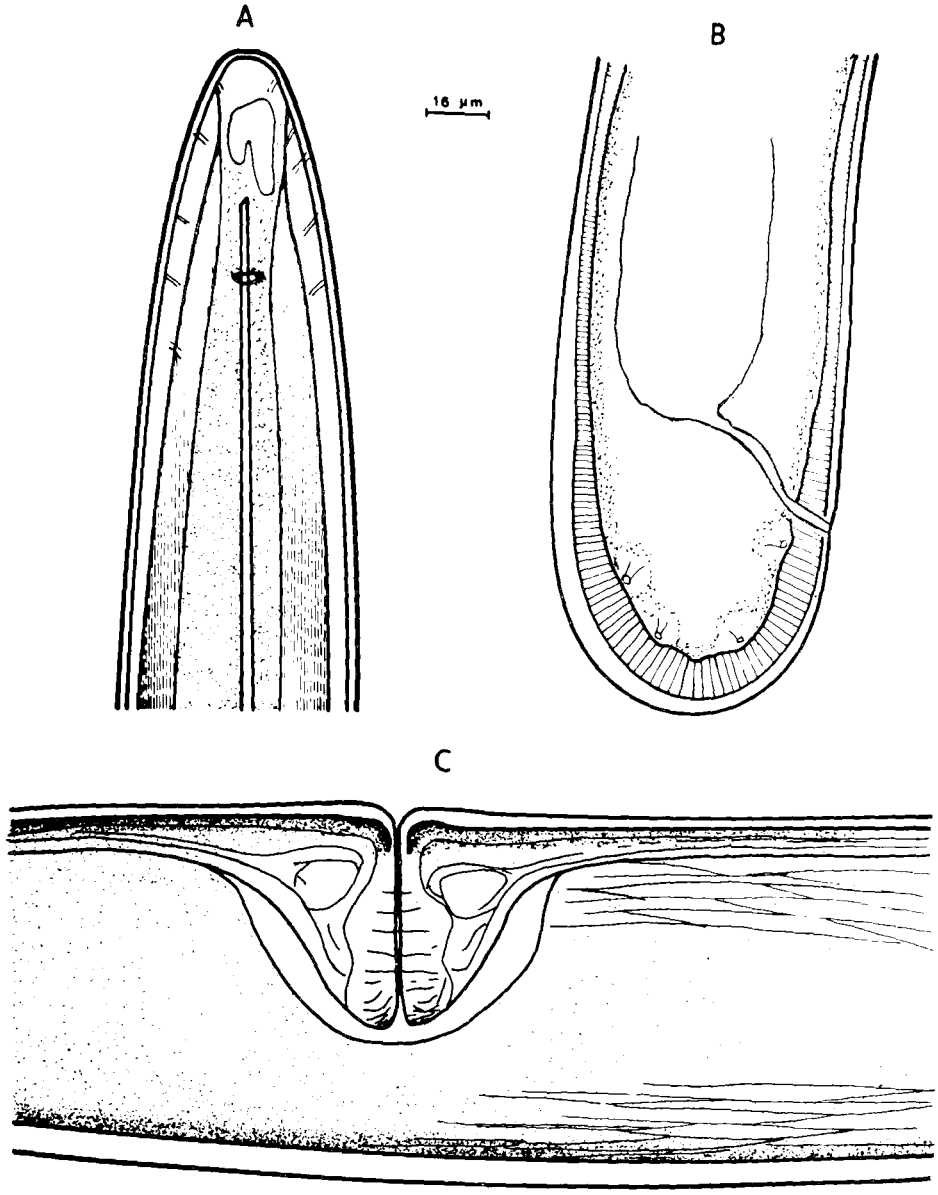


Fig. 1 - *Longidorus fasciatus* sp. n.: female anterior (A) and posterior (B) region; vulval region (C) with subdorsal and subventral fasciations.

oral aperture to guiding ring = 36 (33-39) μm; tail = 34 (26-41) μm; J = 12 (10-14) μm; body diam at lip region = 13 (12-14) μm; body diam at guiding ring = 27 (24-30) μm; body diam at base of oesophagus = 50 (46-55) μm; body diam at vulva = 59 (52-64) μm; body diam at anus = 44 (40-48) μm; body diam at beginning of J = 33 (28-37) μm.

Population from Palermo, Sicily (2 females): L = 6.9-7.8 mm; a = 127; b = 11.8-14.7; c = 191-251; V = 51-52; c' = 0.8-0.9; odontostyle = 116 μm; odontophore = 45-52 μm; oral aperture to guiding ring = 34-36 μm; tail = 31-36 μm; J= 14-16 μm; body diam at lip region = 13 μm; body diam at guiding ring = 26-27 μm; body diam at base of oesophagus = 50-53 μm; body diam at vulva = 54-62 μm; body diam at anus = 41-42 μm; body diam at beginning of J = 31-34 μm.

## *Description*

*Females*: habitus at a more or less open C when killed; body almost cylindrical, tapering very gradually toward the anterior extremity, but more abruptly from the odontostyle region onward; glandular structures are well evident in the lateral cords. Cuticle very finely striated transversely and marked by deep fasciations which are more evident in subdorsal and subventral position; the cuticle is 3-4 μm thick along body except at the extremities where it is 2 μm thick in the anterior region and 7-8 μm thick on either side of the caudal region. Labial region 5-6 μm high, with rounded terminus, continuous with the rest of the body. Amphidial pouches more or less asymmetrically bilobed with a sinus of variable depth between lobes. Odontostyle slender with odontophore and guiding sheath typical of the genus. Oeosophagus dorylaimoid with the basal bulb containing 3 nuclei and occupying 1/3 to 1/4 of the total length of oesophagus. Muscular bulb 120-140 μm long and 20-25 μm wide. Oesophagus-intestinal valve large, heart-shaped. Vulva almost equatorial, slit like; vagina occupying more or less 2/3 of the corresponding body diameter. Gonads amphidelphic reflexed with long (200-220 μm) and well muscularized uteri, separated from the oviduct by a robust sphincter. Prerectum between 300 and 400 μm; rectum equal to 2/3 of the body diameter at anus. Tail bearing 3 or 4 pairs of

caudal pores, bluntly rounded, generally symmetrical but slightly tapering toward the end and dorsally convex on some specimens.

The Sicilian specimens differ from the Greek populations in having a posterior vulva and a slightly longer J.

*Male*: not found.

*Type material*: holotype and 8 paratype females in the collection of the Istituto di Nematologia Agraria del Consiglio Nazionale delle Ricerche, Bari, Italy; 3 paratype females, Nematology Department, Rothamsted Experimental Station, Harpenden, Herts, England, and 3 paratype females, Plant Nematology Collection, United States Department of Agriculture, Beltsville, Maryland, U.S.A.

*Type habitat and locality*: in the rhizosphere of artichoke plants (*Cynara cardunculus* v. *scolymus* L.) around Argos, Greece.

## *Differential Diagnosis*

*Longidorus fasciatus* sp. n. resembles four other species within the genus: *L. goodeyi* Hooper, 1961, *L. caespiticola* Hooper, 1961, *L. macrosoma* Hooper, 1961 and *L. profundorum* Hooper, 1965. However, it differs from all of them in having a much more slender body. Moreover *L. fasciatus* has a 'c' value much higher than that of *L. goodeyi*, *L. caespiticola* and *L. profundorum*, and the odontostyle is longer than that of *L. goodeyi* and *L. profundorum* and shorter than that of *L. macrosoma*. *L. fasciatus* differs from *L. macrosoma* and *L. profundorum* because of its rounded anterior extremity (convex in the other two species), from *L. caespiticola* and *L. macrosoma* because of its bilobed amphidial pouches (not lobed in the other two species) and from *L. goodeyi* in having a narrower lip region (13 μm vs 17 μm at its base).

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## SUMMARY

*Longidorus fasciatus*, a new species found in artichoke fields from Greece and Sicily is described. It most closely resembles *L. goodeyi*, *L. caespiticola*, *L. macrosoma* and *L. profundorum*, but differs from them in being much more slender and in having dissimilarities in the shape of the lip region and of the amphidial pouches and in the length of the odontostyle.


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