

## Notes brèves

### *XIPHINEMA TURCICUM* LUC & DALMASSO, 1964 FIRST STAGE JUVENILE WITH DOUBLE SPEAR, AND FEMALE WITH TWO VULVAE

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During study of a population of *Xiphinema turcicum* Luc & Dalmaso, 1964 from Mount Zlatibor, Yugoslavia among some thousands of specimens two malformed ones were found: one juvenile with doubled odontostyle, odontophore and replacement odontostyle, and one female with two vulvae. Both abnormalities are for the first time reported from the family Longidoridae. Bivulvarity has previously been reported from the orders Tylenchida (Caveness, 1971), Enoplida (Andrássy, 1960), Mononchida (Cassidy, 1933; Hirling, 1969) and Dorylaimida (Geraert, 1963; Loof, 1969).

Both abnormal specimens were active after extraction by the Cobb and Baermann technic. Detailed morphological description of the population will be published later; only relevant measurements are given in this report.

1. A first-stage juvenile was found with two odontostyles, odontophores and replacement odontostyles (Fig. 1, A). Both odontostyles are normally developed except in that they are twisted in the anterior part. It is not clear whether they are fused or just packed tightly together in the stoma; only the bases are clearly separate. Although only a single tip is visible, both odontostyles can be traced for the greater part of their lengths. Both are about 67  $\mu\text{m}$  long, which is near the upper limit observed in this population: 63 (52.5-67.5)  $\mu\text{m}$ .

The odontophores are obviously fused anteriorly and appear also twisted here. Only the one around the longer replacement odontostyle seems completely formed (three basal flanges are visible). This odontophore is 40  $\mu\text{m}$  long, which is shorter than the normal J1 odontophores in this population which measure about 45  $\mu\text{m}$ . Of the other odontophore only the anterior part is present, measuring 20  $\mu\text{m}$ .

The replacement odontostyles are separate and fully developed, with furcate bases. Their position is normal, with the anterior parts enclosed in the odontophores. Both are extremely short, viz. 59  $\mu\text{m}$  and 65  $\mu\text{m}$  (the mean value in normal J1 specimens of this population being 75  $\mu\text{m}$ ), even shorter than the functional odontostyles. The other dimensions of this specimen are normal.

2. A female was found possessing two vulvae and vaginae (Fig. 1, B). Body length is 4.13 mm which is

below the average in the population. Both vulvae are regular transverse slits 30  $\mu\text{m}$  long, the distance between them is 120  $\mu\text{m}$ . The anterior vulva lies at 40.7%, the posterior one at 43.6% (population mean being 42.5%). Apparently two genital branches are present and normally developed, the posterior one bearing an egg in the

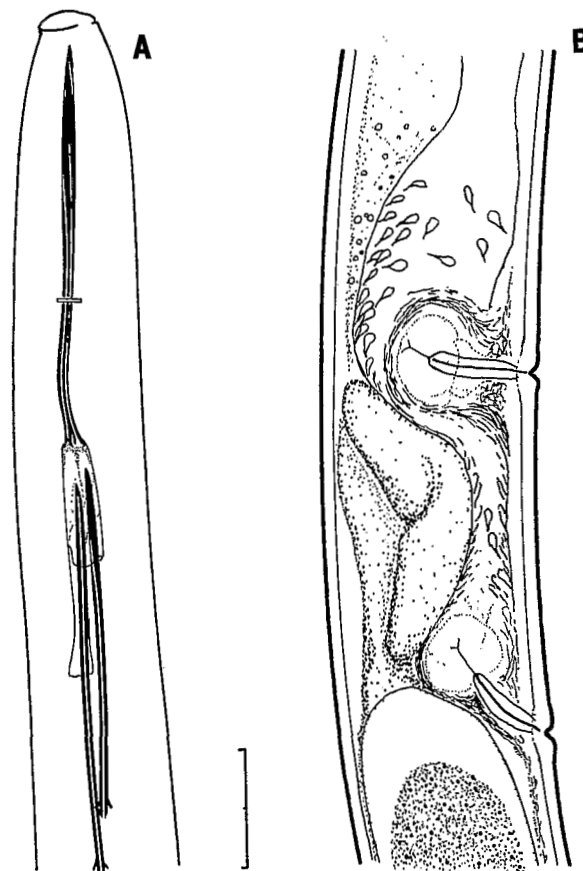


Fig. 1. *Xiphinema turcicum*. A: Anterior part of the first stage juvenile with doubled spear and replacement odontostyle; B: Vulval region of the female with two vulvae and vaginae. (Bar equivalent: A = 20  $\mu\text{m}$ ; B = 40  $\mu\text{m}$ .)

uterus. The part of the uterus anterior to the egg is pushed forward, flexed and folded in the vulvar region. Whether this condition is a result of inability to oviposit can only be speculated : similar disorders are sometimes observed in normal, especially egg-producing females. As a consequence, the posterior ovejector and vagina are severely deformed, whereas the anterior one is only slightly deformed. The position of the specimen on the slide is somewhat ventrolateral. Both circumstances prevent accurate comparison of vaginae and ovejectors and attribution of abnormality status to anatomical details. The following only can be firmly stated : both vaginae are fully developed. The ovejectors are fused and the anterior one seems regular in the non-deformed part, whereas the posterior one seems less developed.

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A NEW AFRICAN ISOLATE OF *MONACROSPORIUM BEMBICODES* ACTING SIMULTANEOUSLY AS PREDATOR AND HATCHING INHIBITOR OF NEMATODES

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A new isolate of a nematophagous fungus similar to *Monacrosporium bembicodes* (Drechsler) Subram was isolated in a moist soil cultivated with tomatoes during a study of the nematofauna, in soils of vegetable crops of the Bobo-Dioulasso region of Burkina Faso (West Africa). Despite the presence of numerous root-knot galls, only few eggs were isolated from roots, indicating a possible predacious activity against *Meloidogyne*. Our objectives were to : *i*) determine the distinctiveness of the new African isolate in comparison to the original isolate of Drechsler ; *ii*) to study the predatory activity of the fungus against different species of nematodes; and *iii*) to observe its ability to inhibit the hatching of *Meloidogyne*.

### Materials and methods

Petri plates filled with selective medium (8.5 g corn meal agar; 8.5 g agar in a liter of distilled water) were

simply sprinkled with soil using the technique of Drechsler (1941). After 7 days at 23 °C the fungus was well developed and produced erect conidiophores. Pure cultures were obtained by picking off individual conidia under the dissecting microscope, and transferring them on corn meal agar medium in Petri dishes. Morphologically, the African isolate closely resembles *M. bembicodes* (Drechsler) Subram, as conidia and conidiophores are the same in shape and sizes (Fig. 1A), but it differs significantly by the organs of capture. In the original description, nematodes were captured by three-celled constricting rings whereas in the new isolate they are captured by adhesive nets (Fig. 1B, C). Also, chlamydospores were not formed in the original Drechsler strain, whereas these resting spores were commonly observed in the new African isolate. When agar cultures are two months old, the fungus produces abundant intercalary or terminal chlamydospores. These are thick-walled, globose in shape, measuring 8 to 20 µm in diam., with dense globuliferous contents and are arrang-