

## RESEARCH NOTES

### A Note on *Xiphinema ensiculiferum*

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Uncertainties about the identity of *Xiphinema ensiculiferum* (Cobb, 1893) Thorne, 1937 (2, 11) have been resolved in a redescription by Southey and Luc (10) based on a topotype population. *X. ensiculiferum* of Loos (6) and *X. ensiculiferum* of Luc (7) were assigned to new species, *X. loosi* and *X. hygrophilum*, respectively; and *X. ensiculiferoides* Cohn and Sher (3) was synonymized with *X. ensiculiferum*. The status of *X. ensiculiferum* of Carvalho (1) remains uncertain.

Yeates (12) also described *X. ensiculiferum* (under the name *ensiculiferoides*) from specimens collected in the New Hebrides. His description included details of the four larval stages. No males of *X. ensiculiferum* sensu stricto have been reported.

We found *X. ensiculiferum* in three soil samples from about the roots of tea (*Thea sinensis* L.) and wild banana (*Musa* sp.) in West Malaysia. Material available for study included 24 females, 23 juveniles, and one male. Specimens were killed and fixed in hot F.A. (4:1, v/v) (9), processed to glycerine by the rapid method of Seinhorst (8), and mounted in anhydrous glycerine.

The solitary male (Fig. 1-A,B) had the following dimensions: L = 1.64 mm; a = 27; b = 3.9; c = 66; fixed ring of spear guide 130  $\mu$ m from anterior end; odontostyle 140  $\mu$ m; spear extension 74  $\mu$ m; spicules (on arc) 65  $\mu$ m; lateral guiding piece 20  $\mu$ m; Body only slightly arcuate, apart from strong curvature of the caudal region. Rounded lip region slightly set off from body. Amphids only partly visible because specimen not perfectly lateral. Lateral chord nearly one-quarter of body width. Details of testes were completely obscured by dense body contents. An adanal pair and three ventromedian supplements were present, the latter spaced rather more

than a body width apart. Five caudal pores were posterior to spicules, and two within range of spicules. Obscure lateral pores were in double row, probably extending from oesophageal region to tail. Prerectum long, extending over 350  $\mu$ m from cloaca, or more than double range of supplements. Male differs from only known male of *X. loosi* (6) by position of supplements, and from males of *X. surinamense* Loof and Maas (5) by number of supplements.

Coomans and De Coninck (4) pointed out that the first-stage larva (L1) of *Xiphinema* can be identified because the anterior end of the replacement odontostyle is located within the spear extension only in this stage. None of the 23 juveniles of *ensiculiferum* from Malaysia was L1. We measured body length (L), length of odontostyle (S), and replacement odontostyle (R), and ratio of tail length to anal body diam (c') on these specimens.

L2 (n=2) : L=0.84, 0.88 mm; S=74, 71  $\mu$ m; R=96, 95  $\mu$ m; c'=2.6-2.5.

L3 (n=5) : L=0.94-1.17 mm; S=90-100  $\mu$ m; R=114-128  $\mu$ m; c'=1.1, 1.3-1.7.

L4 (n=16) : L=1.19-1.60 mm (mean 1.36); S=114-122  $\mu$ m (119); R=129-150  $\mu$ m (146); c'=0.7-1.0 (0.9).

Comparative figures for females from these populations were:

(n=14) : L=1.41-1.82 mm (mean 1.65); S=137-150  $\mu$ m (142); total stylet = 208-233  $\mu$ m (218); V=32-34 (33); c'=0.5-0.7 (0.6).

Juvenile spear lengths and c' ratios correspond well with measurements calculated from figures two and three of Yeates (12). Although Yeates found no lateral pores on the females he examined, some pores were visible on most of the Malaysian females, though we were unable to trace a complete series on any specimen. Typical tails of the Malaysian specimens are illustrated in Fig. 1-(C to G). One of L3 specimen (L=1.06 mm; S=100  $\mu$ m; R=120  $\mu$ m; c'=1.14) has a rounded tail (Fig. 1-E). Apparently, in some cases the prominent tail peg can disappear when the L2 molts.

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Malaysia.

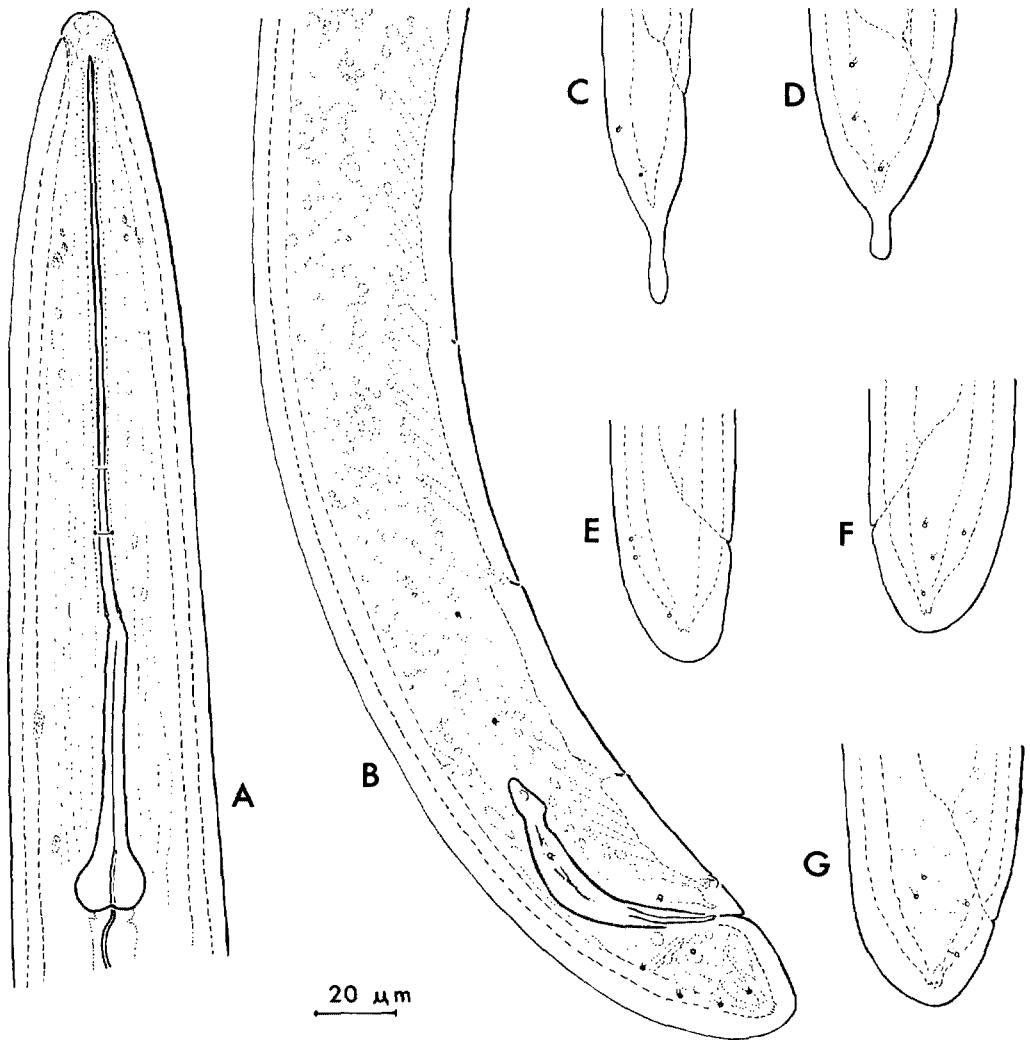


FIG. 1-(A to G). *Xiphinema ensiculiferum* (Cobb) Thorne. A) Male, anterior end; B) Male posterior end; C) Tail of second-stage larva; D, E) Tails of third-stage larvae; F) Tail of fourth-stage larva; G) Female tail.

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