

## OBSERVATIONS ON THE ABSENCE OF A TAIL MUCRO IN THREE POPULATIONS OF *XIPHINEMA INDEX* THORNE ET ALLEN, 1950 (NEMATODA: DORYLAIMIDA)

E.A. Tzortzakakis

Nematology Lab, Plant Protection Institute, National Agricultural Research Foundation, PO BOX 2228, 71003, Heraklion, Crete, Greece

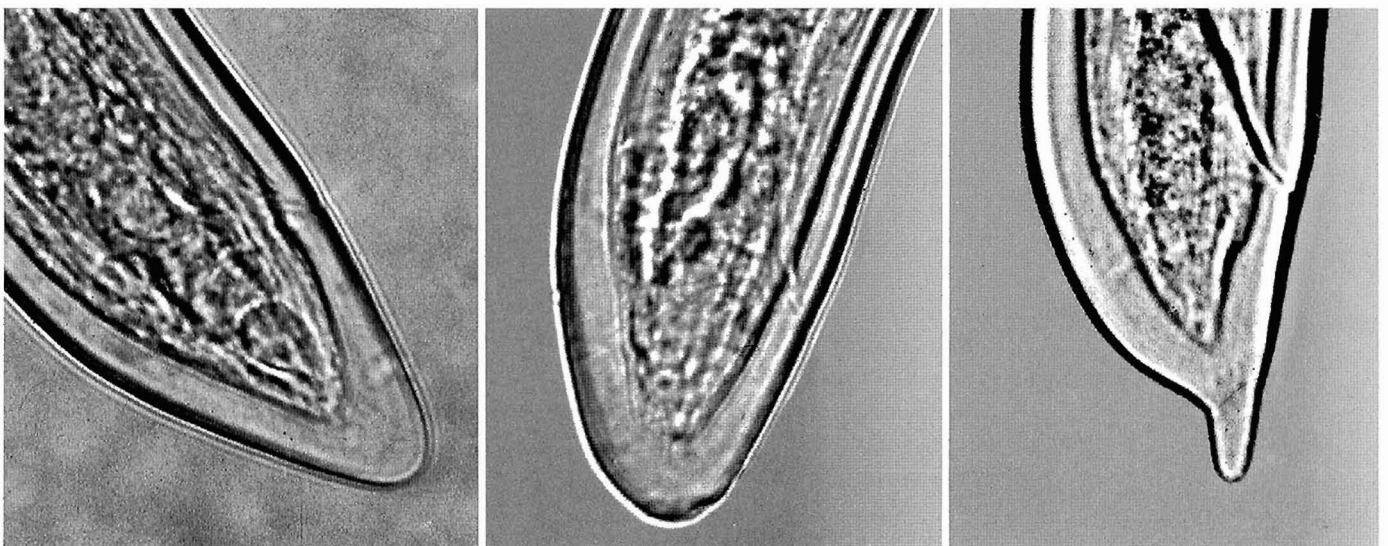
**Summary.** Specimens of *Xiphinema index* with pegless tails were found in three populations collected in Greece. Raising of these females in pot culture confirmed that this is not an inherited characteristic.

Although a terminal digitate mucro (= peg) on the tail is one of the characteristics used in diagnosis of *Xiphinema index*, individuals without tail mucros have been observed (Heyns, 1971; Barsi, 1989; Barsi and Lamberti, 2000). Variation in tail shape of the nematode species has been also reported (Barsi and Lamberti, 2000). In a previous investigation, it appeared that this is probably not an inherited characteristic following the examination of progenies of three females without mucros (originating from the same population), which had been put together on a fig plant (Tzortzakakis and Brown, 1996). A further investigation was conducted with individuals lacking a mucro from populations collected from three different sites and the results are presented herein.

The three populations of *X. index* were collected from grapevines in Heraklion Province, Crete (sites 1 and 2) and on the island of Samos (site 3). The site 1 population was from the same site as the population previously described (Tzortzakakis and Brown, 1996).

Nematodes were extracted by a sieving and decanting method and examined under a stereomicroscope.

The females without the tail mucro (six in total) and five 'normal' females (with tail mucro) from each population were put individually in 1.5 l pots filled with sun dried sand containing a rooted fig cutting. The pots were maintained in a growth room at 20-25 °C with 16 h photoperiod for c. 15 weeks. Nematodes were then extracted from the soil and observed as previously described. All progenies of the normal females had a distinct tail mucro. In populations 1 and 3, a female without mucro, transparent and with low activity was recovered, and probably represented the original female nematode. Only from population 3 was one juvenile (3<sup>rd</sup> or 4<sup>th</sup> stage) and one active female without a tail mucro recovered, and these were put in new pots containing figs. From the progenies of populations 1 and 2, a group of 10 normal females (as pegless specimens were not found) were transferred to new pots. After c. 20 weeks, nematodes were recovered from all pots and



**Fig. 1.** Photomicrographs of *Xiphinema index* posterior regions showing tails without (left and centre) and with (right) mucro.

**Table I.** Progenies without tail mucro from 3 populations of *Xiphinema index*.

| Population                              | Original | Progenies from the 1 <sup>st</sup> inoculation | Progenies from the 2 <sup>nd</sup> inoculation |
|---|----------|--|--|
| 1 Heraklion<br>(50 specimens examined)  | 1 female | 0 out of 30 *                                  | 0 out of 250                                   |
| 2 Heraklion<br>(100 specimens examined) | 1 female | 0 out of 45                                    | 0 out of 250                                   |
|   | 1 female | 0 out of 50                                    | 0 out of 250                                   |
|   | 1 female | 0 out of 38                                    | 0 out of 250                                   |
|   | 1 female | 0 out of 65                                    | 0 out of 250                                   |
| 3 Samos<br>(10 specimens examined)      | 1 female | 1 female *                                     | 0 out of 100                                   |
|   |          | 1 juvenile out of 150                          | 0 out of 100                                   |

\* One female without mucro (excluded from count) recovered, transparent and with low activity which was probably the original; for the two populations from Heraklion, the 2<sup>nd</sup> inoculation was with groups of 10 normal females as pegless progenies were not found.

examined. All stages had a distinct tail mucro. The results are in Table I and the variation in tail shape is represented in Fig. 1. As *X. index* reproduces by mitotic parthenogenesis, our results confirm the previous contention that the absence of a tail peg is not an inherited characteristic.

#### LITERATURE CITED

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