Isolation of an Unusual Entaphelenchid (Tylenchida: Entaphelenchidae) from the Hemocoel of Platysoma punctigerum LeConte (Coleoptera: Histeridae)[1]

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Nematodes in the family Entaphelenchidae are obligate parasites of coleopterous species belonging to the Silphidae, Staphylinidae, and Curculionidae (2,3). Recently, an entaphelenchid was isolated from *Platysoma punctigerum* LeConte, a beetle in the family Histeridae. The addition of another coleopterous family containing a parasitic entaphelenchid is not unexpected. However, this nematode had some unusual characters which we describe herein for future reference.

P. punctigerum is a predator of eggs and adults of the western pine beetle, *Dendroctonus brevicomis* LeConte (Cole-

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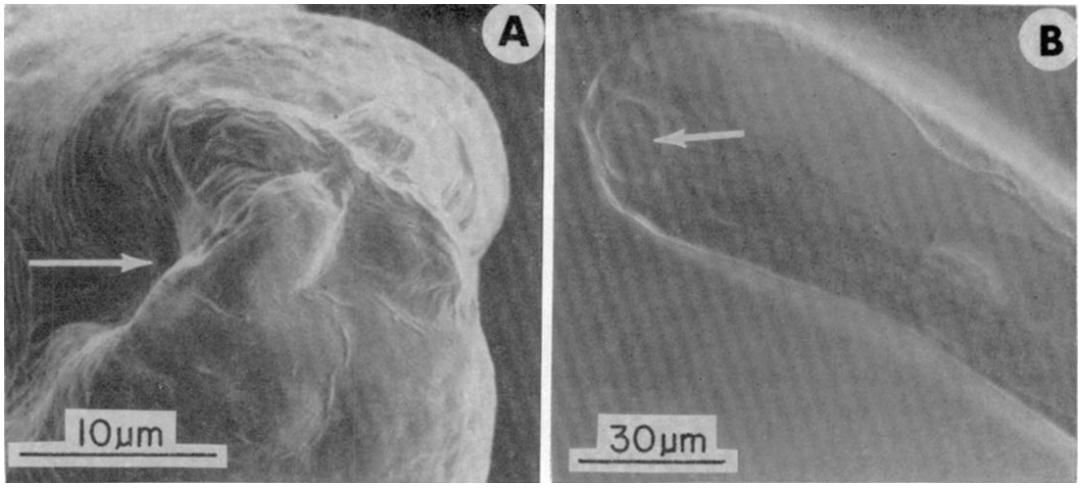

Fig. 1. Unusual spot (arrow) under the cuticle of a female entaphelenchid isolated from the hemocoel of a histerid beetle. A. Scanning electron microscope. B. Photomicrograph with Nomarski optics.

optera: Scolytidae) (1). When *P. punctigerum,* collected from logs from Pollock Pines, Placer County, California, was dissected in invertebrate saline (0.6% Na Cl), eight female entaphelenchid adults were found in the hemocoel of one specimen. The nematodes were coiled in a helix while alive and remained that way after being heat-killed and processed slowly into glycerol. The helical posture was flattened to a S-shape when the nematodes were permanently mounted. Adult males of another entaphelenchid in the genus *Peraphelenchus* also have this coiled (corkscrew) posture (4); however, the females do not coil.

Besides this coiled posture, two unusual spots under the nematode's cuticle in the anterior region were visible with a dissecting microscope. Light and scanning electron microscopic observations of the nematodes confirmed the presence of two large, laterally situated sac-like structures under the cuticle of the head region (Fig. 1A, 1B).

Females possessed four lips (Fig. 1A), stylet without basal knobs, single anteriorly directed ovary, perivaginal glands, and postvulval sac filled with sperm. The anus was not visible. None of the females examined were at the egg-laying stage. The presence of sperm in the postvulval sac suggests that fertilized females are the infective stage as with *Entaphelenchus oxyteli* Wachek which parasitizes the staphylinid, *Oxytelus piceus* De Geer (4). The measurements for three of these females in glycerol were as follows: L = 1.86 mm (1.80–1.91), GBW = 58 μm (53-63 μm), E (length from the head to the base of the metacorpus) = 112 μm (110–113 μm), stylet = 19 μm (17–23 μm), V = 71% (69–73%). The postvulval sac was about 75 μm long.

There are presently four genera in the family Entaphelenchidae (2). The nematode reported herein is similar to *Entaphelenchus* in size, stylet length and morphology, presence of perivaginal glands, and postvulval sac length. It differs from the described genera of the Entaphelenchidae by the presence of two large and laterally positioned sac-like organs under the cuticle of the head and the coiled posture of the female adult. Males, infective females, and mature parasitic females must be examined before a species or generic diagnosis is proposed. Two permanent slides of this entaphelenchid nematode have been deposited in the museum at the Division of Nematology, University of California, Davis.

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