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PARALONGIDORUS BUCHAE HOST FOR CATENARIA ANGUILLULAE

by
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Specimens of *Paralongidorus buchae* Lamberti, Roca *et* Chinappen, collected in Mauritius in April 1987, from the rhizosphere of sugar cane, were observed to be parasitised by a zoosporic fungus. Elliptical zoosporangia were present in the body with discharge tubes emerging through the cuticle (Fig. 1, a-c).

The fungus produced rhizoids on potato sucrose agar and was identified from available descriptions of its life-cycle (Couch, 1945; Esser and Ridings, 1973) as *Catenaria anguillulae* Sorokine, 1876.

Among the zoosporic fungi attacking nematodes, *C. anguillulae* has often been reported as a parasite of several species of plant parasitic or saprophytic nematodes, including species that parasitise insects (Esser and Ridings, 1973; Stirling and Platzer, 1978). It seems to be a world-wide non-specific nematode parasite (Sparrow, 1960), and has also been observed in tapeworms, mites, sterilized eggs of insects and rotifers, eggs of the sheep liver fluke *Fasciola hepatica* and in algae, or living as a saprophyte on sterile plant tissue (Butler and Buckley, 1927; Buckley and Clapham, 1929; Karling, 1934; Couch, 1945; Esser and Ridings, 1973).

The infective stage is a motile, uni-flagellatae zoospore, 6.7-8 μm long and 3.8-5.4 μm wide. Zoospores emerge in clusters through the zoosporangia discharge tube, then attach to the host cuticle, lose their flagellum and encyst before penetrating the host (Couch, 1945; Esser and Ridings, 1973). A thallus is formed in the host tissues, which subsequently gives rise to a series of zoosporangia separated by hyphal isthmuses (Figs 1,c; 2,e).

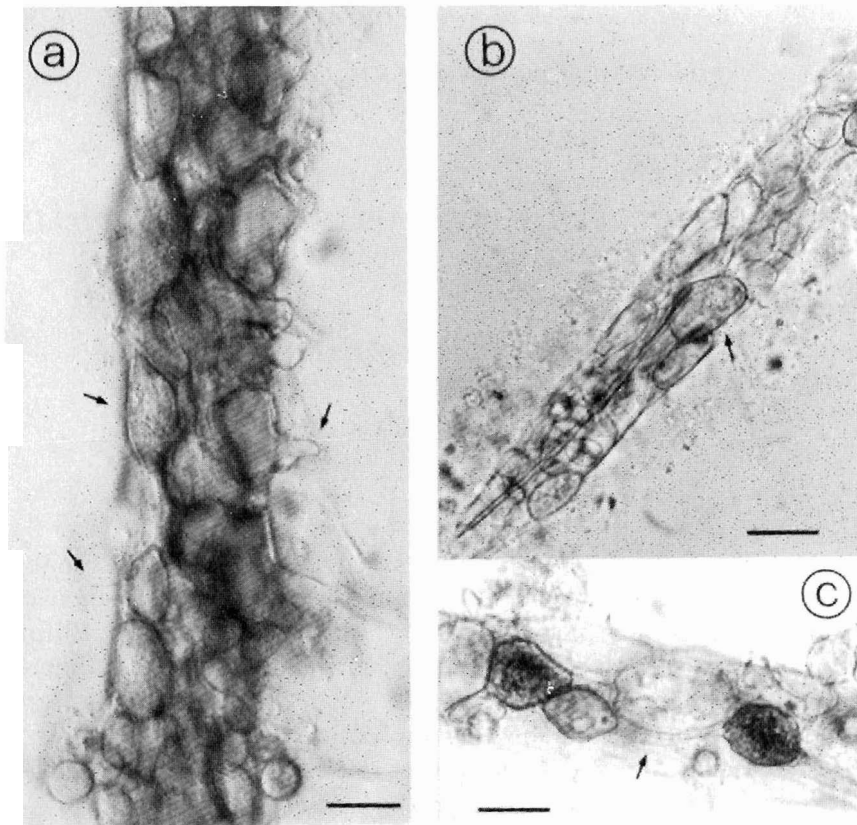


Fig. 1 - Naturally infected specimens of *Paralongidorus buchae* parasitised by *Catenaria anguillulae* showing zoosporangia and discharge tubes (a-b, arrowed); hyphal isthmuses between fuchsin stained zoosporangia (c, arrowed). Scale bar = 20 μ m.

Although *C. anguillulae* has not been considered as a strong antagonist of plant parasitic nematodes of economic importance (Sayre and Keeley, 1969; Roy, 1982), it seems that environmental conditions (i.e. temperature, moisture or pH of soil) could greatly affect the behaviour of the fungus or the severity of infection (Sayre and Keeley, 1969).

Among the longidorids, *C. anguillulae* has been reported in *Xiphinema americanum* Cobb, *X. chambersi* Thorne (Esser and Ridings, 1973), *X. index* Thorne et Allen (Boosalis and Mankau, 1965) and *X. rivesi* Dalmasso (Jaffee, 1986); it has also been commonly observed in *X. index* collected in southern Italy (Fig. 2, a-f). *P. buchae* has not been previously reported as a host for *C. anguillulae*.

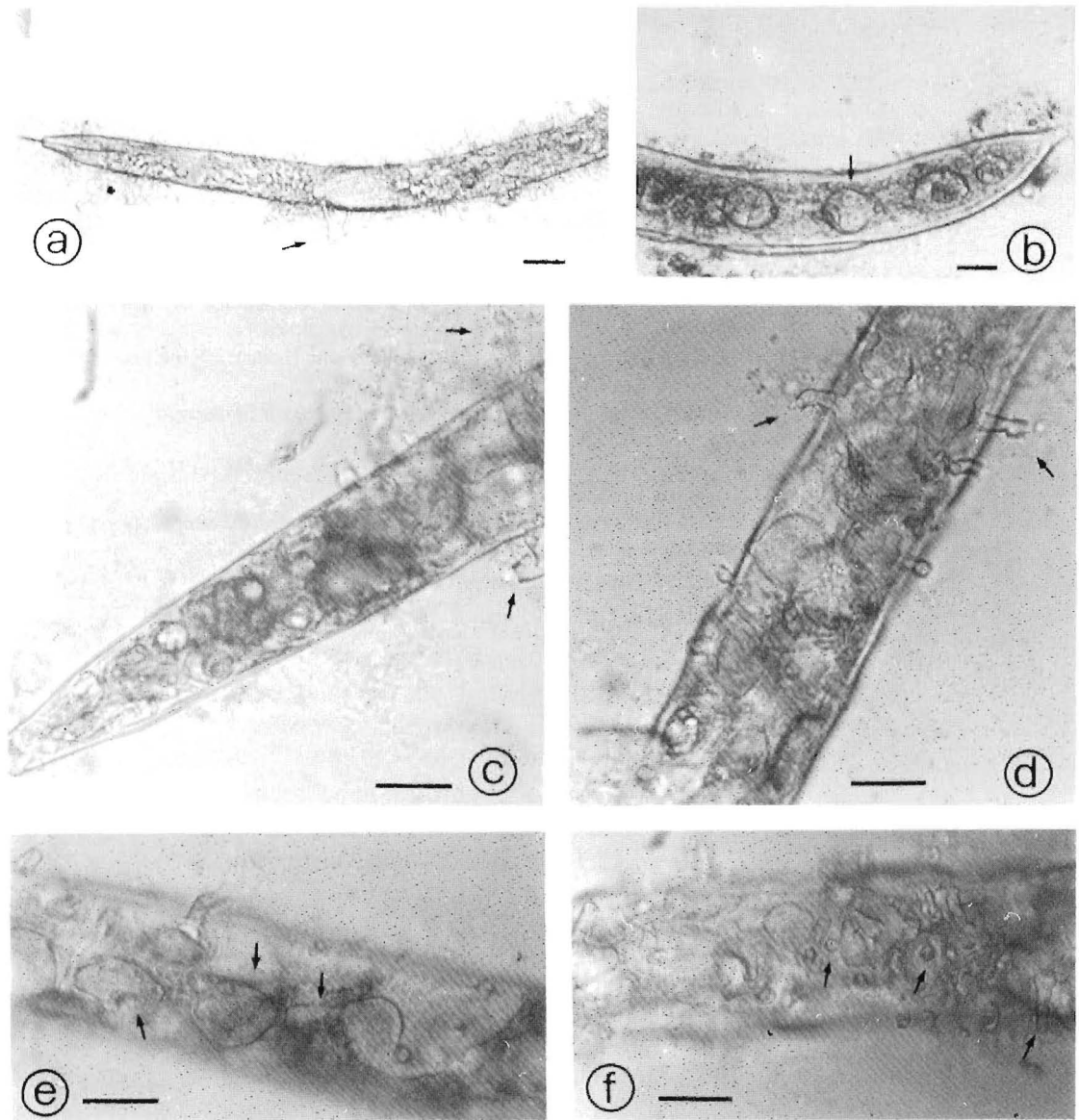


Fig. 2 - Specimens of *Xiphinema index* parasitised by *Catenaria anguillulae* showing discharge tubes in the anterior and median regions of the body (a, c, d, arrowed); zoosporangia of *C. anguillulae* in the caudal region of naturally infected *X. index* (b, arrowed); lateral (d, e, arrowed) and up side view (f, arrowed) of zoosporangia and discharge tubes. Scale bar: a=40 μm ; b-f=20 μm .

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