



MICROBIOLOGICAL IMAGE

**Progression of the predatory activity of an Argentine strain of *Arthrobotrys oligospora* (Helotiales: Orbiliaceae) on *Panagrellus redivivus* (Rhabditidae: Panagrolaimidae)**



**Progresión de la actividad depredadora de una cepa argentina de *Arthrobotrys oligospora* (Helotiales: Orbiliaceae) sobre *Panagrellus redivivus* (Rhabditidae: Panagrolaimidae)**

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Nematode-trapping fungi constitute a guild of species that develop specialized trapping structures with which they capture and digest nematodes. These traps are not constitutively present, but instead develop in the presence of nematodes<sup>3</sup>; they attract them<sup>2</sup>, adhere to their cuticle and eventually pierce it, extending hyphae inside their bodies.

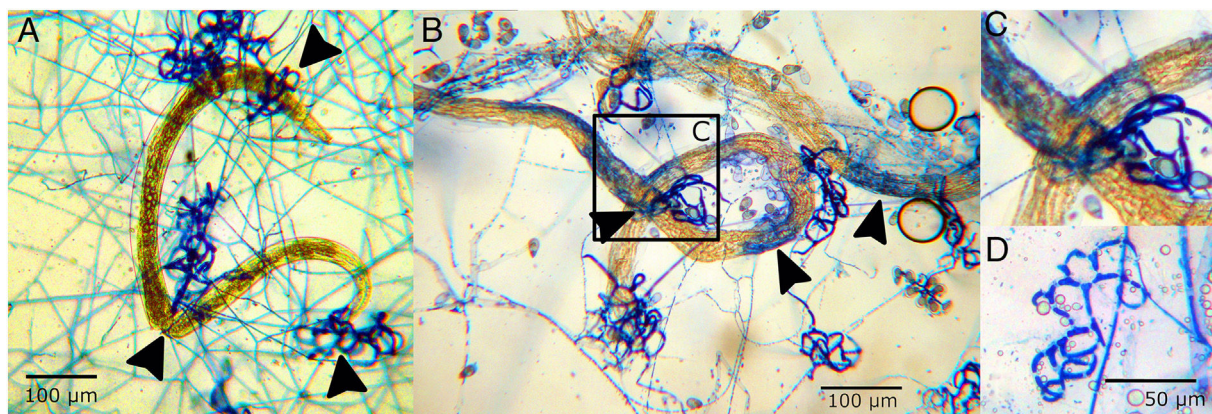
Due to the fact that many nematode species behave as pests and diseases, groups of fungi with nematode-antagonistic effects are interesting due to their potential uses in biocontrol<sup>1,4</sup>. Here we describe the progression of the nematode-trapping process by *Arthrobotrys oligospora* Fres. (Helotiales: Orbiliaceae) (isolate INTA10, obtained from soil of an organic tomato farm in La Plata area, Argentina [S

35°06' W 58°12'] on the free-living nematode *Panagrellus redivivus* Linn. (Rhabditidae: Panagrolaimidae).

INTA10 was grown on 90 × 15 mm oatmeal agar culture plates in the dark at 24 ± 1 °C until the plate was covered (72 h). Twelve plates were prepared. Approximately 5000 nematodes were inoculated on each plate, and dispersed freely across the culture. Every 6 h after nematode inoculation ( $t=6, 12, 18,$  and  $24$ ) three cultures were stained using methylene blue (0.1% w/v) and immediately rinsed with sterile physiological solution, while the remainder of the cultures was allowed to continue its development. Stained cultures were examined using a compound microscope (Leica, DM E) to observe trapping progression (Fig. 1). Developed traps (indicated with arrows, Fig. 1A) with alive, recently caught nematodes were found at  $t=6$ . Fungal colonization inside the nematodes was detected at  $t=24$ , with the presence of blue-dyed hyphae growing inside them (indicated with arrows in Fig. 1B, shown magnified in Fig. 1C).

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**Figure 1** Progression of nematocidal activity of *Arthrobotrys oligospora* INTA10 on *Panagrellus redivivus*. Nematode trapped by adhesive fungal structures ( $t=6$ ) (A) (200 $\times$ ). Hyphal growth inside partially decayed nematodes ( $t=24$ ) (200 $\times$ ) (B) and (300 $\times$ ) (C). Detail of traps (400 $\times$ ) (D).

Figure 1D shows the multicellular, tridimensional adhesive traps stemming from the mycelium in further detail.

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