

## ABSTRACT

### INVESTIGATIONS ON THE NATURAL ENEMIES OF ENTOMOPATHOGENIC NEMATODES (STEINERNEMATIDAE AND HETERORHABDITIDAE)

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This study has been conducted to investigate the natural enemies of entomopathogenic nematodes. These natural enemies can be invertebrate predators that consume the infective juveniles in the soil, or scavengers that feed on infected cadavers.

Experiments showed that different soil arthropods (crickets, cockroaches, ants, dermapterans, mites and collembolans) have different responses to infected cadavers. Results suggested that *Tetramorium chefketi*, *Periplaneta americana*, *Sancassania polyphyllae* and a group of dermapterans are scavengers that feed on *Steinernema*-infected cadavers. However crickets, *Gryllus bimaculatus*, and collembolans, *Sinella curviseta* and *Folsomia candida*, did not consume infected cadavers. In addition, the ant species that used in the studies (*Tetramorium chefketi* and *Pheidole pallidula*) were deterred from *Heterorhabditis bacteriophora*-infected cadavers.

In the second part of the study, experiments were conducted to determine whether mites, *S. polyphyllae*, and collembolans, *F.candida* and *Sinella curviseta*, consume infective juveniles of entomopathogenic nematodes. The results showed that *S. polyphyllae* is not an effective predator of infective juveniles in the soil. However both of the collembolan species significantly consumed the infective juveniles in the experiments. The overall results provide important information for using infective juveniles or nematode-infected cadavers in biological control.

**Key words:** Entomopathogenic nematodes, biological control, natural enemies.