



SESSION VI

INSECTS AND MICROORGANISMS

Comparison of the immune response of *Galleria mellonella* and *Rhynchophorus ferrugineus* after infection with the entomopathogenic nematode *Steinernema carpocapsae*

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The red palm weevil, *Rhynchophorus ferrugineus* (Olivier 1790) (Coleoptera: Curculionidae), a pest of palm trees, and *Galleria mellonella* L. (Lepidoptera: Pyralidae), a pest of beehives, were used as models to deepen our understanding of the host-entomopathogenic nematode relationship.

The effects of the entomopathogenic nematode *Steinernema carpocapsae* (Nematoda: Steinernematidae) on the immune activity of *R. ferrugineus* and *G. mellonella* larvae were compared. The ability to complete the life cycle of *S. carpocapsae* in the two insects was also evaluated.

Although *S. carpocapsae* is effective in the biological control of the red weevil, it is not able to complete its cycle within the host, whereas the same nematode successfully reproduces in *G. mellonella*.

On the basis of previous laboratory data and a systematic literature review, the nematode-induced effects on the immune response of the Coleoptera and the Lepidoptera were compared. In particular, the immunocompetent haemocyte population (number and cell types), the activity of the prophenoloxidase-phenoloxidase system (proPO) and finally the inhibition and proliferation of the Gram-negative symbiont bacterium *Xenorhabdus nematophila* (Enterobacteraceae) were analysed.

KEY WORDS: Red Palm Weevil; Greater Wax Moth, palm; nematode; bacteria, symbionts; immune re-sponse.

ORAL PRESENTATION