

ABSTRACT

DIVERSITY AND DISTRIBUTION OF ENTOMOPATHOGENIC NEMATODES (STEINERNEMATIDAE AND HETERORHABDITIDAE) IN THE SOIL OF TIRE DISTRICT (IZMIR)

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This study was conducted to determine diversity and distribution of biological control agents, entomopathogenic nematodes in the soil of Tire district, İzmir. Totally 620 soil samples were collected and three of them were pozitiv for entomopathogenic nematodes. Based on *in vivo* cross-breeding tests, morphometric and molecular data, the all nematode isolates were identified as *Steinernema feltiae*. The mutualistic bacteri associated with three isolates was identified as *Xenorhabdus bovienii*. As a result of *in vivo* cross-breeding tests, all isolates produced progeny.

In the host range studies, all nematode isolates showed 100% larval mortality against *Spodoptera ciliun* and *Tenebrio molitor*. However, *Curculio elephas* and *Polyphylla fullo* larvae were notably resistant to nematode infections with 20-30% and 10% mortality, respectively.

Key words: Entomopathogenic nematodes, biological control, *Steinernema*, *Heterorhabditis*, *Xenorhabdus*, *Photorhabdus*.