Plant Parasitic Nematodes Associated with *Olea europea* L. Fauna of Turkey

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**ABSTRACT**  The olive (*Olea europea* L.) is characteristic of the culture in the Mediterranean region. Its origins are Anatolian in Turkey and neighboring Syria. Olive trees serve as host to a fairly high number of plant parasitic nematodes in the Mediterranean countries. Several of these nematodes are sedentary endoparasitic forms, which are recognized as pathogens to olives. In this study, records of plant parasitic nematodes associated with olive in Turkey were examined faunistically and taxonomically. The records were compiled to create a current record of these fauna of plant parasitic nematodes of olive in Turkey. Their biology, distribution and associated host plants were described. This fauna consists of 19 Tylenchida plant parasitic nematode species. Since Turkish records are scant and poorly documented, this study documents the most current list of these important species.

**KEY WORDS** *Olea europea* L., plant parasitic nematodes, fauna, Turkey

Olive (*Olea europaea* sp. *europaea* L.) is grown extensively in the Mediterranean Basin, the subtropical regions of Australia, southern Africa, and North and South America. About 90% of 8 million hectares of olives grown worldwide in 2001 are located in the Mediterranean countries. At present, olives constitute a combination of uncultivated forms and cultivated varieties (Castillo et al. 2003). Its homeland origins are Eastern Mediterranean and it is an important asset to Turkey. Approximate 90 million olive trees are grown in Turkey. Turkey ranks fourth for countries producing olives according to tree numbers, and ranks sixth according to area (in hectares) worldwide. Turkey contributes almost eight percent of the world olive production and is second only to Spain according to food olive production (Bartolini et al. 2005). Olives are grown extensively in arid and rugged areas which encompass the Aegean, Marmara and Mediterranean regions of Turkey.

Plant parasitic nematodes cause yield losses for many crops, but the economic significance of the damage caused by these parasites is generally not well understood or recognized by growers. Olive roots can be infected by a range of plant-parasitic nematodes. Nematode species associated with olive trees include *Mesocriconema xenoplax* (Raski) Loof & De Grisse (=Cricoinemella xenoplax (Raski) Luc & Raski), *Helicotylenchus* spp., *Heterodera mediterranea* Vovlas, Inserra & Stone, *Meloidogyne* spp., *Pratylenchus* spp., *Xiphinema* spp., and *Rotylenchulus* spp. Also, several authors have reported impairment of cultivated

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