

Plant Parasitic Nematodes of Tylenchida (Nematoda) Associated with Groundnut (*Arachis hypogaea*) Fields in the Mediterranean Region of Turkey

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In a nematode survey of Tylenchida carried out in groundnut (*Arachis hypogaea* L.) growing areas in the Mediterranean region of Turkey, 15 species were determined as belonging to ten genera of eight families within the superfamilies Tylenchoidea, Dolichodoroidea, Hoplolaimoidea and Anguinoidea. Each of them constitutes a new record on groundnut in Turkey, and *Scutylenchus tumensis* Skwiercz and *Pratylenchus brachyurus* (Godfrey) are reported for the first time in the nematofauna of Turkey.

KEY WORDS: Plant parasitic nematodes; Tylenchida; groundnut; Turkey.

Groundnut (*Arachis hypogaea* L.) is cultivated over large areas in many places in the world, including more than 32,000 ha sown in Turkey (1). The most important groundnut areas in the Mediterranean region of Turkey are Adana, Antalya and İçel. In this research Antalya and İçel provinces, which have a total of 7,490 ha sown to groundnuts were examined. These provinces encompass 42.5% of the groundnut sown area in the Mediterranean region of Turkey, and 55% of the total groundnut sown area of Turkey.

The order Tylenchida is the most important plant parasitic nematode group, including within it the majority of harmful and economically important species. There is little information on the occurrence of plant parasitic nematodes in Turkey, particularly with regard to groundnut cultivars. Elekcioglu *et al.* (4) detected *Aphelenchoides avenae*, *Tylenchorhynchus gofarti*, *Pratylenchus thornei*, *Ditylenchus myceliophagus* and *D. valveus* on groundnut in the East Mediterranean region of Turkey. The present study was undertaken to determine the Tylenchida species associated with groundnut

fields in the Mediterranean region of Turkey.

The main materials of the study were soil and groundnut roots collected from 24 groundnut fields in Antalya and İçel in the summer months of 1998. The selected fields represented 3.63% of the groundnut growing areas in the region. Groundnut is grown monoculture in the surveyed areas.

In laboratory studies, sieve and funnel methods were used to obtain active nematodes from soil (2). The incubation method was used to extract the nematodes from plant tissue (7). For identification, nematodes were fixed according to De Grisse (3). Slides were prepared employing the ring method of Hooper (5). Taxonomic status was assigned according to Siddiqi (6).

Fifteen species within the superfamilies Tylenchoidea, Dolichodoroidea, Hoplolaimoidea and Anguinoidea were identified (Table 1), all of them new records for groundnut in Turkey. Two species of root-lesion nematodes (*Pratylenchus brachyurus*, *P. neglectus*) and a stem-bulb nematode (*Ditylenchus dipsaci*) were determined in the soil and root samples. Other plant parasitic nematodes (*Filenchus ditissimus*, *F. thornei*,

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Coslenchus multigyrus, *Bitylenchus dubius*, *Merlinius nanus*, *Scutylenchus quadrifer*, *S. tumensis*, *Rotylenchus agnetis*, *Helicotylenchus digonicus*, *H. exallus*, *Pratylenchoides alkani* and *D. clarus*) were found in the soil samples. *S. tumensis* and *P. brachyurus* are reported for the first time in Turkey.

TABLE 1. Occurrence of Tylenchida species in 24 soil and root samples examined

Species	Number of samples in which species was found	
	soil	root
<i>Filenchus ditissimus</i> (Brzeski)	2	–
<i>F. thornei</i> (Andrassy)	16	–
<i>Coslenchus multigyrus</i> Siddiqi	1	–
<i>Bitylenchus dubius</i> (Bütschli)	12	–
<i>Merlinius nanus</i> (Allen)	4	–
<i>Scutylenchus quadrifer</i> (Andrassy)	2	–
* <i>S. tumensis</i> Skwiercz	6	–
<i>Rotylenchus agnetis</i> Szczygiel	1	–
<i>Helicotylenchus digonicus</i> Perry	10	–
<i>H. exallus</i> Sher	1	–
* <i>Pratylenchus brachyurus</i> (Godfrey)	2	3
<i>P. neglectus</i> (Rensch)	16	12
<i>Pratylenchoides alkani</i> Yüksel	2	–
<i>Ditylenchus clarus</i> Thorne & Malek	1	–
<i>D. dipsaci</i> (Kühn)	2	4

*First record for Turkey.

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