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PRELIMINARY LIST OF TYLENCHIDA (NEMATODA) ASSOCIATED WITH OLIVE IN THE BLACK SEA AND THE MEDITERRANEAN REGIONS OF TURKEY

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Summary. In a nematode survey of Tylenchida carried out in olive orchards in northern (The Black Sea Region) and southern (The Mediterranean Region) of Turkey 32 species were determined belonging to 23 genera of eight families within the superfamilies Tylenchoidea, Dolichodoroidea, Hoplolaimoidea, Tylenchuloidea, Criconematoidea, Hemicycliophoroidea and Anguinoidea. Each of them constitute new records on olive in Turkey and *Tylenchorhynchus penniseti* and *Paratylenchus arculatus* are reported for the first time in the nematofauna of Turkey.

There is little information on the occurrence of plant parasitic nematodes in Turkey and particularly with regard to olive orchards. This study was undertaken to determine the Tylenchida species associated with olive (*Olea europaea* L.) trees in the northern (The Black Sea) and southern (The Mediterranean) regions of Turkey.

Materials and methods

Soil samples and olive roots were collected from olive orchards in nine provinces: Adana, Icel, Antalya, Isparta, Burdur, in the Mediterranean Region and Zonguldak, Samsun, Giresun, Trabzon, in the Black Sea Region, in the summer months during the year 1998 (Fig. 1).

Nematodes were extracted from the samples by three methods: a) Baermann funnel, b) Cobb-decanting and sieving, c) centrifugal flotation, as described by Hooper (1986a). In addition, root and stem samples were taken from diseased plants and treated according to the method of Stemerding (Hooper 1986b), for mobile nematodes or submitted to centrifugal flotation, for sedentary nematodes. Nematodes were killed at 60 °C and fixed in TAF. Specimens were mounted in glycerol as described by Seinhorst (1959).

Results and discussion

Thirty two species within the superfamilies Tylenchoidea, Dolichodoroidea, Hoplolaimoidea, Tylenchuloidea, Criconematoidea, Hemicycliophoroidea and Anguinoidea were identified (Table I), all of which are new records for olive in Turkey. Among them, *Tylenchorhynchus penniseti* Grupta *et* Uma and *Paratylenchus arculatus* Luc *et* Guiran are reported for the first time in Turkey.

TABLE I - *Plant parasitic nematodes species of* Tylenchida *associated with olive in Turkey.*

Species	Locality
Tylenchida; Tylenchina; Tylenchoidea; Tylenchidae; Tylenchinae	
Irantylenchus clavidorus (Kheiri) Sumenkova, 1984	Zonguldak
Coslenchus diversus Lal *et* Khan, 1987	İçel
Boleodorinae	
Boleodorus thylactus Thorne, 1941	Samsun, İçel
Basiria duplexa (Hagemeyer *et* Allen, 1952) Geraert, 1968	Isparta, Burdur
Neopsilenchus peshawarensis Shahina *et* Maqbool, 1994	Burdur
Dolichodoroidea; Dolichodoridae; Tylenchorhynchinae	
Tylenchorhynchus claytoni Steiner, 1937	Zonguldak, Trabzon, Burdur, Antalya, İçel
T. cylindricus Cobb, 1913	Antalya
T. penniseti Grupta *et* Uma, 1980*	Trabzon
T. tritici Golden, Maqbool *et* Handoo, 1987	Adana
Bitylenchus goffarti (Sturhan, 1966) Siddiqi, 1986	Antalya, Adana
Quinisulcius acutus (Allen, 1955) Siddiqi, 1971	İçel
Merliniinae	
Amplimerlinius dubius (Steiner, 1914) Siddiqi *et* Klinger, 1980	Giresun
Scutylenchus lenorus (Brown, 1956) Siddiqi, 1979	Giresun
Hoplolaimoidea; Hoplolaimidae; Hoplolaiminae;	
Hoplolaimus galeatus (Cobb, 1953) Thorne, 1935	Trabzon, Isparta
Rotylenchinae	
Rotylenchus buxophilus Golden, 1956	Giresun, Trabzon
R. cypriensis Antoniou, 1981	İçel, Antalya, Adana
Rotylenchoidinae	
Helicotylenchus digonicus Perry in Perry, Darling and Thorne, 1959	Samsun, Giresun, Isparta, Antalya, İçel
H. tunisiensis Siddiqi, 1964	İçel
H. vulgaris Yuen, 1964	Zonguldak, Adana
Plesiorotylenchus striaticeps Volvas, Castillo *et* Lamberti, 1993	Antalya, Adana, İçel
Rotylenchulidae; Rotylenchulinae	
Rotylenchulus macrosoma Dasgupta, Raski *et* Sher, 1968	Isparta, Burdur
Pratylenchidae; Pratylenchinae	
Pratylenchus mediterraneus Corbett, 1983	Antalya
P. vulnus Allen *et* Jensen, 1951	Samsun
P. zeae Graham, 1951	Trabzon, İçel
Zygotylenchus guevarai (Jimenez, 1963) Braun *et* Loof, 1966	Zonguldak, Giresun, Burdur, İçel
Radopholinae;	
Pratylenchoides erzurumensis Yüksel, 1977	Trabzon
P. ritteri Sher, 1970	Isparta, Antalya, İçel
Tylenchuloidea; Paratylenchidae; Paratylenchinae	
Paratylenchus arculatus Luc *et* Guiran, 1962*	Zonguldak
Criconematina; Criconematoidea; Criconematidae; Hemicriconemoidinae	
Hemicriconemoides gaddi (Loos, 1949) Chitwood *et* Birchfield, 1957	Zonguldak
Hemicycliophoroidea; Hemicycliophoridae; Hemicycliophorinae;	
Hemicycliophora sturhani Loof, 1984	İçel, Antalya
Hexatylina; Anguinoidea; Anguinidae; Anguininae	
Ditylenchus destructor Thorne, 1945	Samsun, Trabzon
Safianema anchilisposoma (Tarjan, 1958) Siddiqi, 1980	Isparta, İçel, Samsun, Trabzon

* Species reported for the first time in Turkey.

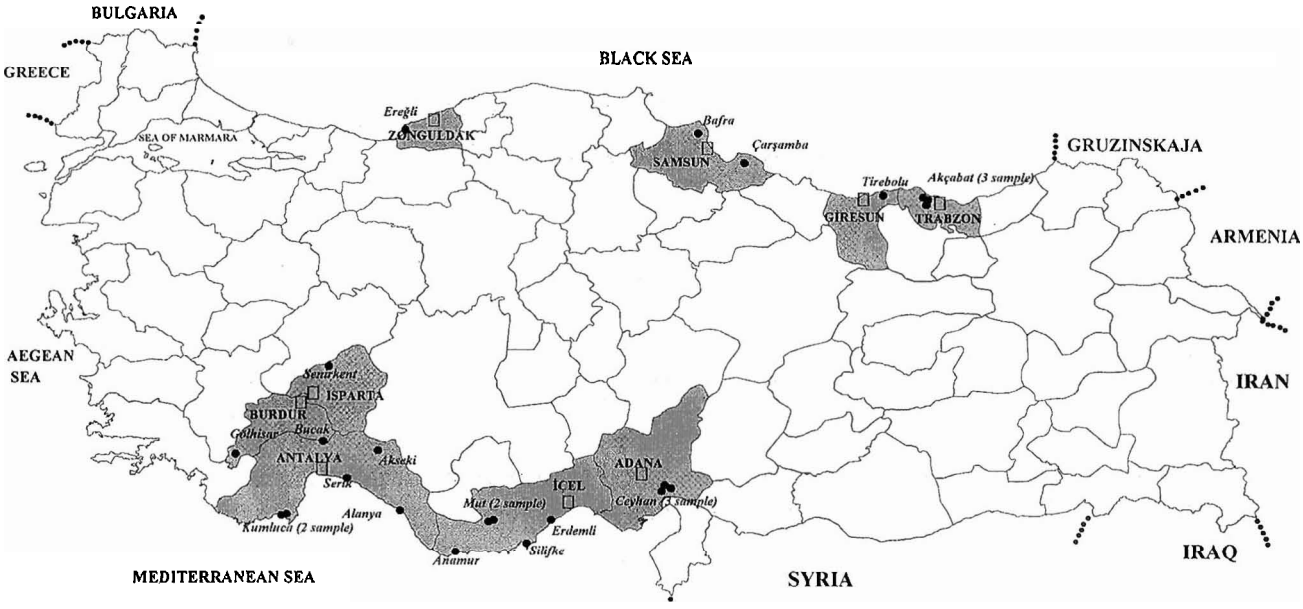

Fig. 1 - Map of Turkey showing sampling sites in the northern (The Black Sea) and southern (The Mediterranean) regions.

Plant parasitic nematodes, such as *Meloidogyne*, *Heterodera*, *Rotylenchulus reniformis* and *Tylenchulus semipenetrans* which often occur in olive orchards in Egypt, Portugal, Greece, Italy and Spain (Lamberti and Volvas, 1993) were not found in the present survey.

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