

Plant parasitic nematodes (Tylenchida: Nematoda) in Turkey

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Abstract

Plant parasitic nematodes, host association and distribution in different localities of Turkey have been surveyed. A total number of 240 nematode species of plant parasitic nematodes belonging to 56 genera of Tylenchida detected in Turkey. These nematode species found associated with 66 plants from 48 different localities of the country.

When considering world-wide, the territory of Turkey is intersection for Asian, European and African countries. In this respect, Turkey is a junction between continents and a transition country. African impressions of southern Anatolia and South-Eastern Anatolia regions, Asian impressions of Eastern Anatolia and Central Anatolia Regions and European impressions of Marmara and Western Anatolia regions come together in the center of the country where three continents meet each other.

Turkey lies between latitudes 36° and 42° N, and longitudes 26° and 45° E, with a roughly rectangular shape 1.660 km long and 800 km wide. There is a time shift of 75 minutes from its eastern to western point. Turkey occupies 783.562 square kilometers and is 37th largest country in terms of area in the world. The country is encircled by seas on three sides: the Aegean Sea to the West, the Black Sea to the North, the Mediterranean to the South and the Sea of Marmara in the Northwest. Turkish land (36%) is available for agriculture. Moreover, favorable climate and soil conditions give rise to high variety of agricultural products. Turkey shelters a large variety of plants and animals.

In Turkey, nematodes are one of the most important factor damaging crops in agricultural production. Plants damage caused by nematodes are serious and complex. Sandy and arid soils as found in the arid zone are favourable for nematode development and infestation. In irrigated areas and humid zone perennial crops and crops grown in the same field year after year is often heavily attacked by nematodes.

A list of the plant-parasitic nematodes with their hosts association and distribution in Turkey is being presented in this paper (Table 1). It includes 240 different tylenchid species collected from different sites of Turkey. Taxonomic status of these species was given according to Siddiqi (2000). Nematode and host names are generally used by the author who published the original record. Where the nematode name has been superseded, the name given in the reference cited has been updated where enough information has been provided to make a clear identification. Readers are advised to consult the original reference to ensure the nematode-host relationship that is sufficiently established for their purposes.

Table 1. Distribution and host association of plant parasitic nematodes in Turkey.

Nematode species	Synonyms (syn.)	HA*	L#	Reference
Tylenchina, Tylenchoidea				
<i>Tylenchus davainei</i> Bastian	<i>Anguillulina davainei</i> (Bastian) Goodey	(15), (30)	(27)	Saltukoğlu, 1974
<i>T. ritae</i> Siddiqi		(13)	(3), (5)	Kepenekci <i>et al.</i> , 1998
<i>Aglenchus agricola</i> (deMan) Meyl	<i>Tylenchus agricola</i> deMan; <i>Anguillulina agricola</i> (deMan) Goodey; <i>Tylenchus filiformis</i> deMan; <i>Tylenchus filiformis</i> deMan, Goodey, nec <i>T. filiformis</i> Bütschli; <i>Tylenchus paragricola</i> Paetzold; <i>Aglenchus paragricola</i> (Paetzold) Meyl	(61)	(42), (43)	Kepenekci & Ökten, 1999
<i>A. costatus</i> (deMan)		(6)	(27)	Ökten, 1988
<i>A. mardanensis</i> Maqbool, Shahina & Zarina		(33)	(46)	Akgül <i>et al.</i> , 2000
<i>A. muktii</i> Phukan & Sanwal		(61)	(42), (43)	Kepenekci & Ökten, 1999
<i>Coslenchus alacinatus</i> Siddiqi	<i>C. brevis</i> Siddiqui & Khan; <i>C. lycus</i> Siddiqui & Khan; <i>C. tausifi</i> Siddiqui & Khan	(45), (42)	(47), (3), (38), (30)	Kepenekci, 1999a
<i>C. costatus</i> (deMan) Siddiqi	<i>Tylenchus costatus</i> deMan; <i>Tylenchus (Aglenchus) costatus</i> deMan (Andrássy); <i>Aglenchus costatus</i> (deMan) Meyl; <i>Anguillulina costata</i> (deMan) Goodey; <i>Tylenchus buffalorae</i> Altherr; <i>Anguillulina buffalorae</i> (Altherr) Altherr; <i>Coslenchus buffalorae</i> (Altherr) Siddiqi; <i>Tylenchus (Aglenchus) neozelandicus</i> Egunjobi; <i>Coslenchus neozelandicus</i> (Egunjobi) Siddiqi	(20), (49), (27) (15), (6), (43), (40)	(27)	Saltukoğlu, 1974
<i>C. diversus</i> Lal & Khan		(13)	(3), (5)	Kepenekci <i>et al.</i> , 1998
<i>C. franklinae</i> Siddiqi		(3)	(3)	Evlice, 2005
<i>C. multityrus</i> Siddiqi		(13)	(3), (5)	Kepenekci <i>et al.</i> , 1998
<i>C. turkeyensis</i> Siddiqi		(22)	(27)	Siddiqi, 1980
<i>Discotylenchus attenuatus</i> Siddiqi	<i>Filenchus attenuatus</i> (Siddiqi) Raski & Geraert	(16)	(3)	Kepenekci, 1994
<i>D. discretus</i> Siddiqi	<i>Filenchus discretus</i> (Siddiqi) Raski & Geraert	(53)	(34), (30)	Öztürk, 1990
<i>D. longicauda</i> (Maqbool & Shahina) Siddiqi & Lal	<i>Ottolenchus longicauda</i> Maqbool & Shahina	(6)	(32)	Kepenekci, 2001d
<i>Filenchus afghanicus</i> (Khan & Khan) Siddiqi	<i>Tylenchus afghanicus</i> Khan & Khan; <i>F. afghanicus</i> (Khan & Khan) Sultan; <i>F. afghanicus</i> (Khan & Khan) Raski & Geraert	(21)	(6)	Kepenekci, 2002a
<i>F. andrassyi</i> (Szczygieł) Andrassy	<i>Tylenchus andrassyi</i> Szczygieł	(6)	(3)	Evlice, 2005
<i>F. aquilonius</i> (Wu) Lownsbery & Lownsbery	<i>Tylenchus aquilonius</i> Wu; <i>F. aquilonius</i> (Wu) Siddiqi	(16)	(3)	Kepenekci, 1994

<i>F. butteus</i> (Thorne & Malek) Raski & Geraert	<i>Tylenchus butteus</i> Thorne & Malek; (23) <i>Tylenchus cylindricollis</i> Thorne & Malek; <i>F. cylindricollis</i> (Thorne & Malek) Siddiqi; <i>Tylenchus plattensis</i> Thorne & Malek; <i>F. plattensis</i> (Thorne & Malek) Siddiqi	(24)	Akgül, 1996
<i>F. cylindricauda</i> (Wu) Siddiqi	<i>Tylenchus cylindricaudus</i> Wu (16)	(3)	Kepenekci, 1994
<i>F. cylindricus</i> (Thorne & Malek) Niblack & Bernard	<i>Tylenchus cylindricus</i> Thorne & Malek; (47) <i>Ottolenchus cylindricus</i> (Thorne & Malek) Siddiqi & Hawksworth; <i>Tylenchus hageneri</i> Elmiligy; <i>F. hageneri</i> (Elmiligy) Siddiqi	(35)	Erdoğan, 2009
<i>F. elegantulus</i> Raski & Geraert, 1987		(20)	Kepenekci, 1999a
<i>F. filiformis</i> (Bütschli) Meyl	<i>Tylenchus filiformis</i> Bütschli; <i>Anguillulina filiformis</i> (Bütschli) Goodey; <i>Filenchus filiformis</i> (Bütschli) Ebsary; <i>Tylenchus vulgaris</i> Brzeski; <i>F. vulgaris</i> (Brzeski) Lownsbery & Lownsbery; <i>F. vulgaris</i> (Brzeski) Mizukubo & Minagawa; <i>Tylenchus (Lelenchus) mirus</i> Husain & Khan; <i>F. mirus</i> (Husain & Khan) Siddiqi; <i>F. mirus</i> (Husain & Khan) Raski & Geraert; <i>Tylenchus (Lelenchus) cynodontus</i> Husain & Khan; <i>F. cynodontus</i> (Husain & Khan) Siddiqi; <i>F. cynodontus</i> (Husain & Khan) Raski & Geraert; <i>Tylenchus (Filenchus) ruatus</i> Egunjobi; <i>F. ruatus</i> (Egunjobi) Siddiqi; <i>Malenchus ruatus</i> (Egunjobi) Sultan, Singh & Sakhija; <i>F. coniceps</i> Siddiqi & Khan	(53) (30)	(37), (30) Öztürk, 1990
<i>F. misellus</i> (Andrássy) Raski & Geraert	<i>Ditylenchus misellus</i> Andrássy; <i>Tylenchus ditissimus</i> Brzeski; <i>F. ditissimus</i> (Brzeski) Siddiqi; <i>Tylenchus parvissimus</i> Thorne & Malek; <i>F. parvissimus</i> (Thorne & Malek) Siddiqi; <i>Tylenchus neominimus</i> Savkina; <i>F. amaritus</i> Zell	(23)	(24) Akgül, 1996
<i>F. sandneri</i> (Wasilewska) Raski & Geraert	<i>Tylenchus sandneri</i> Wasilewska; <i>Tylenchus cerealis</i> Kheiri; <i>F. cerealis</i> (Kheiri) Raski & Geraert	(47)	(35) Erdoğan, 2009
<i>F. sheri</i> (Khan & Khan) Siddiqi	<i>Tylenchus sheri</i> Khan & Khan; <i>F. sheri</i> (Khan & Khan) Sultan	(3)	(3) Evlice, 2005
<i>F. thornei</i> (Andrássy) Andrássy	<i>Tylenchus (Aglenchus) thornei</i> Andrássy; <i>Aglenchus thornei</i> (Andrássy) Meyl	(29), (49), (27), (41), (53), (16), (47), (48), (20)	(27) Saltukoğlu, 1974
<i>Fraglenchus fragariae</i> (Szczygieł) Siddiqi	<i>Aglenchus fragariae</i> Szczygieł; <i>Filenchus fragariae</i> (Szczygieł) Geraert & Raski	(6)	(16), (44) Kepenekci, 2001d
<i>Irantylenchus vicinus</i> (Szczygieł) Sumenkova	<i>Tylenchus vicinus</i> Szczygieł; <i>Tylenchus (Irantylenchus) clavidorus</i> Kheiri; <i>Irantylenchus clavidorus</i> Kheiri	(48)	(27) Saltukoğlu, 1974
<i>Sakia alii</i> Suryawanshi		(6)	(16), (44) Kepenekci, 2001d
<i>S. propora</i> (Husain & Khan) Suryawanshi	<i>Basiliophora propora</i> Husain & Khan	(2)	(8) Kepenekci, 2003

<i>Boleodorus acutus</i> Thorne & Malek	(12)	(31)	Kepenekci, 2001c	
<i>B. mirus</i> Khan	(2)	(8)	Kepenekci, 2003	
<i>B. thylactus</i> Thorne	(47), (15), (6), (53), (16), (48), (10)	(27)	Saltukoğlu, 1974	
<i>Basiria berylla</i> (Khan & Khan Bajaj & Bhatti)	(20)	(3), (47)	Kepenekci, 1999a	
<i>B. duplexa</i> (Hagemeyer & Allen) Geraert	<i>Psilenchus duplexus</i> Hagemeyer & Allen; <i>Tylenchus (Filenchus) duplexus</i> (Hagemeyer & Allen) Andrassy; <i>Filenchus duplexus</i> (Hagemeyer & Allen) Meyl; <i>Basiroides duplexus</i> (Hagemeyer & Allen) Khan; <i>Basiroides conurus</i> Thorne & Malek; <i>Basiria conurus</i> (Thorne & Malek) Fotedar & Mahajan; <i>Basiroides obliquus</i> Thorne & Malek; <i>Basiria obliqua</i> (Thorne & Malek) Fotedar & Mahajan	(20)	(24)	Kepenekci, 1999a
<i>B. gracilis</i> (Thorne) Siddiqi	<i>Psilenchus gracilis</i> Thorne; <i>Tylenchus (Filenchus) neogracilis</i> Goodey; <i>Acusilenchus bilineatus</i> Shahina & Maqbool; <i>Basiria bilineata</i> (Shahina & Maqbool) Karegar & Geraert; <i>Neopsilenchus (Acusilenchus) bilineatus</i> Shahina & Maqbool	(56)	(28)	Borazancı, 1977
<i>B. graminophila</i> Siddiqi	<i>Tylenchus (Filenchus) graminophilus</i> (Siddiqi) Goodey; <i>B. asaraensis</i> Khan; <i>B. bajorensis</i> Khan & Bilqeess; <i>B. incita</i> Szczygiel; <i>B. nasikensis</i> Darekar & Khan	(51), (29)	(27)	Saltukoğlu, 1974
<i>B. hiberna</i> Bernard		(3)	(3)	Evlice, 2005
<i>B. shahidi</i> Khan		(3)	(3)	Evlice, 2005
<i>Neopsilenchus magnidens</i> (Thorne) Thorne & Malek	<i>Psilenchus magnidens</i> Thorne; <i>Tylenchus (Filenchus) magnidens</i> (Thorne) Goodey; <i>Basiria magnidens</i> (Thorne) Geraert; <i>N. (Acusilenchus) curvistylus</i> Shahina & Maqbool; <i>N. peshawarensis</i> Shahina & Maqbool	(56)	(28)	Borazancı, 1977
<i>Malenchus (Malenchus) bryophilus</i> (Steiner, 1914) Andrassy, 1980	<i>Tylenchus bryophilus</i> Steiner; <i>Tylenchus (Aglenchus) bryophilus</i> Steiner (Andrassy); <i>Anguillulina bryophila</i> (Steiner) Goodey; <i>Aglenchus bryophilus</i> (Steiner) Meyl	(1)	(27)	Saltukoğlu, 1974
<i>M. (M.) fusiformis</i> (Thorne & Malek) Siddiqi	<i>Tylenchus fusiformis</i> Thorne & Malek; <i>Ottolenchus fusiformis</i> (Thorne & Malek) Wu	(37)	(7)	Kepenekci et al., 2006
<i>M. (M.) macrodorus</i> Geraert & Raski, 1986		(16), (10), (24)	(19)	Kepenekci et al., 2004
<i>Zanenchus neonanus</i> (Raski & Geraert) Siddiqi	<i>Filenchus neonanus</i> Raski & Geraert	(20)	(3), (37)	Kepenekci, 1999a
<i>Lelenchus leptosoma</i> (de Man) Andrassy	<i>Tylenchus leptosoma</i> de Man; <i>Tylenchus filiformis</i> var. <i>leptosoma</i> de Man (Micoletzky); <i>Anguillulina leptosoma</i> (de Man) Goodey; <i>Lelenchus leptosoma</i> (de Man) Meyl; <i>Filenchus</i>	(52)	(19)	Ediz & Enneli, 1978

leptosoma (deMan) Andrassy; *Deontolaimus tetricus* Daday (Andrassy)

Anguinoidea

<i>Anguina tritici</i> (Steinbuch) Filipjev	<i>Vibrio tritici</i> Steinbuch; <i>Rhabditis tritici</i> (Steinbuch) Dujardin; <i>Anguillula tritici</i> (Steinbuch) Grube; <i>Anguillulina tritici</i> (Steinbuch) Gervais & Van Beneden; <i>Tylenchus tritici</i> (Steinbuch) Bastian; <i>Anguillula scandens</i> Schneider; <i>Tylenchus scandens</i> (Schneider) Cobb; <i>Anguillulina scandens</i> (Schneider) Goodey	(26)		Alkan, 1962
<i>Ditylenchus clarus</i> Thorne & Malek		(23)	(24)	Akgül, 1996
<i>D. destructor</i> Thorne		(47), (32)	(27)	Saltukoğlu, 1974
<i>D. dipsaci</i> (Kühn) Filipjev	<i>Anguillula dipsaci</i> Kühn; <i>Anguillulina dipsaci</i> (Kühn) Gervais & Van Beneden; <i>Tylenchus dipsaci</i> (Kühn) Bastian; <i>Anguillulina dipsaci</i> var. <i>allocotus</i> Steiner; <i>Ditylenchus allocotus</i> (Steiner) Filipjev & Schuurmans Stekhoven; <i>Anguillulina dipsaci</i> var. <i>communis</i> Steiner & Scott; <i>Ditylenchus dipsaci</i> var. <i>narcissi</i> de Bruyn Ouboter; <i>Anguillula devastatrix</i> Kühn; <i>Tylenchus devastatrix</i> (Kühn) Örley; <i>Anguillulina devastatrix</i> (Kühn) Neveu-Lemaire; <i>Ditylenchus devastatrix</i> (Kühn) Tarjan; <i>Anguillula secalis</i> Nitschke; <i>Anguillulina secalis</i> (Nitschke) Goodey; <i>Ditylenchus secalis</i> (Nitschke) Siddiqi; <i>Tylenchus allii</i> Beijerinck; <i>Ditylenchus allii</i> (Beijerinck) Tarjan; <i>Tylenchus havensteinii</i> Kühn; <i>Anguillulina havensteinii</i> (Kühn) Goodey; <i>Ditylenchus havensteinii</i> (Kühn) Siddiqi; <i>Tylenchus hyacinthi</i> Prillieux; <i>Anguillulina hyacinthi</i> (Prillieux) Goodey; <i>Ditylenchus hyacinthi</i> (Prillieux) Filipjev & Schuurmans Stekhoven; <i>Tylenchus putrefaciens</i> Kühn; <i>Anguillulina putrefaciens</i> (Kühn) Braun; <i>Ditylenchus putrefaciens</i> (Kühn) Tarjan; <i>Ditylenchus dipsaci falcariae</i> Poghossian; <i>Ditylenchus fragariae</i> Kirjanova; <i>Tylenchus dipsaci</i> var. <i>tobaensis</i> Schneider; <i>Ditylenchus dipsaci</i> var. <i>tobaensis</i> (Schneider) Kirjanova; <i>Ditylenchus tobaensis</i> (Schneider) Kirjanova; <i>Ditylenchus phloxidis</i> Kirjanova; <i>Ditylenchus sonchophila</i> Kirjanova in Paramonov; <i>Ditylenchus galeopsisidis</i> Teploukhova in Paramonov	(47)	(35)	Akgül <i>et al.</i> , 2010
<i>D. equalis</i> Heyns		(47)		
<i>D. geraerti</i> (Paramonov) Bello & Geraert in Bello	<i>Tylenchus geraerti</i> Paramonov; <i>Ditylenchus procerus apud</i> Geraert	(6)	(16)	Kepenekci, 2001d
<i>D. longimaterialis</i> (Kazachenko) Brzeski	<i>Basiroides longimaterialis</i> Kazachenko; <i>Basiria longimaterialis</i> (Kazachenko) Bajaj & Bhatti in Fortuner; <i>Basiria leptolongimaterialis</i> Bajaj & Bhatti	(33)	(46)	Akgül <i>et al.</i> , 2000
<i>D. microdens</i> Thorne & Malek		(15)	(3)	Akgül, 1991

<i>D. myceliophagus</i> Goodey		(39)	(46)	Ağdacı <i>et al.</i> , 1990
<i>D. obesus</i> Thorne & Malek		(53)	(30), (34)	Öztürk, 1990
<i>D. parvus</i> Zell		(16)	(26)	Elekçioğlu, 1992
<i>D. triformis</i> Thorne	<i>D. triformis</i> Hirschmann & Sasser	(23)	(24)	Akgül, 1996
<i>D. valveus</i> Thorne & Malek		(63), (46), (60)	(26), (1)	Elekçioğlu, 1992
<i>Nothotylenchus cylindricus</i> Khan & Siddiqi	<i>Ditylenchus cylindricus</i> (Khan & Siddiqi) Fortuner & Maggenti; <i>Nothotylenchus elongatus</i> Husain & Khan; <i>Ditylenchus elongatus</i> (Husain & Khan) Siddiqi; <i>Ditylenchus elongatus</i> (Husain & Khan) Fortuner & Maggenti	(16)	(26)	Elekçioğlu, 1996
<i>Safianema anchilisposoma</i> (Tarjan) Siddiqi	<i>Pseudhalenchus anchilisposoma</i> Tarjan; <i>Ditylenchus anchilisposoma</i> (Tarjan) Fortuner	(32)	(27)	Saltukoğlu, 1974
<i>S. lutonense</i> Siddiqi	<i>Pseudhalenchus lutonensis</i> (Siddiqi) Ryss & Krall; <i>Ditylenchus lutonensis</i> (Siddiqi) Fortuner	(16)	(3)	Kepenekci, 1994

Hoplolaimina, Hoplolaimoidea

<i>Hoplolaimus</i> (<i>Hoplolaimus</i>) <i>californicus</i> Sher	<i>Hoplolaimoides californicus</i> (Sher) Shakil	(20)	(37)	Kepenekci, 1999a
<i>H. (H.) galeatus</i> (Cobb) Thorne	<i>Nemonchus galeatus</i> Cobb; <i>Hoplolaimus coronatus</i> Cobb	(52)	(19)	Ediz & Enneli, 1978
<i>Aorolaimus leiomerus</i> (de Guiran) de Guiran & Sher	<i>Hoplolaimus leiomerus</i> de Guiran; <i>Aorolaimus israeli</i> Sher	(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>Scutellonema brachyurus</i> (Steiner) Andrassy	<i>Rotylenchus brachyurus</i> Steiner; <i>Rotylenchus coheni</i> Goodey; <i>Scutellonema coheni</i> (Goodey) Andrassy; <i>Rotylenchus boocki</i> Lordello; <i>Scutellonema boocki</i> (Lordello) Andrassy; <i>Scutellonema orientale</i> Rashid & Khan; <i>Scutellonema ramai</i> Verma; <i>Scutellonema sheri</i> Edward & Rai	(56)	(28)	Borazancı, 1977
<i>S. cavenessi</i> Sher		(18)	(24), (8)	Kepenekci & Zeki, 2002
<i>Helicotylenchus abunaamai</i> Siddiqi		(55)	(26)	Kepenekci, 2002b
<i>H. aquili</i> Khan & Nanjappa	<i>Helicotylenchus arachisi</i> Mulk & Jairajpuri; <i>Helicotylenchus bihari</i> Mulk & Jairajpuri; <i>Helicotylenchus wajhi</i> Sultan	(49)	(4)	Kepenekci & Evlice, 2011
<i>H. australis</i> Siddiqi		(15)	(3)	Akgül, 1996
<i>H. californicus</i> Sher		(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>H. canadensis</i> Waseem	<i>Helicotylenchus cairnsi</i> Waseem	(42)	(37), (47)	Kepenekci, 1999a
<i>H. crenacauda</i> Sher	<i>Helicotylenchus pteracerca</i> Singh; <i>Helicotylenchus indenticaudatus</i> Mulk & Jairajpuri; <i>Helicotylenchus paracrenacauda</i> Phukan & Sanwal; <i>Helicotylenchus pteracercaoides</i> Fotedar & Kaul; <i>Helicotylenchus indentatus</i> Chaturvedi & Khera	(61)	(42), (43)	Kepenekci & Ökten, 1999
<i>H. digonicus</i> Perry, in Perry, Darling & Thorne	<i>Helicotylenchus broadbalkiensis</i> Yuen	(49), (15)	(27)	Saltukoğlu, 1974

<i>H. dihystera</i> (Cobb) Sher	<i>Tylenchus dihystera</i> Cobb; <i>Tylenchus oliaeae</i> Cobb; <i>Tylenchorhynchus oliaeae</i> (Cobb) Micoletzky; <i>Helicotylenchus oliaeae</i> (Cobb) Siddiqi; <i>Aphelenchus dubius</i> var. <i>peruensis</i> Steiner; <i>Tylenchus spiralis</i> Cassidy; <i>Helicotylenchus spiralis</i> (Cassidy) Sher; <i>Helicotylenchus spiralis</i> (Cassidy) Siddiqi; <i>Helicotylenchus nannus</i> Steiner; <i>Helicotylenchus crenatus</i> Das; <i>Helicotylenchus flatus</i> Román; <i>Helicotylenchus punicae</i> Swarup & Sethi; <i>Helicotylenchus paraconcavus</i> Rashid & Khan; <i>Helicotylenchus reversus</i> Sultan; <i>Helicotylenchus membranatus</i> Xie & Feng	(56)	(28)	Borazancı, 1977
<i>H. exallus</i> Sher	<i>Helicotylenchus regularis</i> Phillips	(56)	(27), (46)	Ercan, 1976
<i>H. indicus</i> Siddiqi	<i>Helicotylenchus plumariae</i> Khan & Basir; <i>Helicotylenchus persici</i> Saxena, Chhabra & Joshi	(57)	(24)	Kepenekci, 2001b
<i>H. multicinctus</i> (Cobb) Golden	<i>Tylenchus multicinctus</i> Cobb; <i>Tylenchorhynchus multicinctus</i> (Cobb) Micoletzky; <i>Anguillulina multicincta</i> (Cobb) Goodey; <i>Rotylenchus multicinctus</i> (Cobb) Filipjev; <i>Rotylenchus iperoiguensis</i> Carvalho; <i>Helicotylenchus iperoiguensis</i> (Carvalho) Andrássy; <i>Orientylus karachiensis</i> Maqbool & Ghazala; <i>Rotylenchus karachiensis</i> (Maqbool & Ghazala) Fortuner; <i>Helicotylenchus karachiensis</i> (Maqbool & Ghazala) Siddiqi	(44)	(21)	Gündemir, 1979
<i>H. oscephalus</i> Anderson, 1979		(27)	(45)	Kepenekci & Evlice, 2011
<i>H. pseudodigonicus</i> Szczygiel, 1970		(41), (6), (59), (31)	(27)	Saltukoğlu, 1974
<i>H. pseudorobustus</i> (Steiner, 1914) Golden, 1956	<i>Tylenchus robustus</i> var. <i>pseudorobustus</i> Steiner, 1914; <i>Helicotylenchus phalerus</i> Anderson, 1974	(56)	(27)	Ercan, 1976
<i>H. seshadrii</i> Singh & Khera, 1980		(48)	(26)	Kepenekci & Evlice, 2011
<i>H. striatus</i> Firoza & Maqbool, 1994		(61)	(42), (43)	Kepenekci & Ökten, 1999
<i>H. tunisiensis</i> Siddiqi, 1964		(16)	(3)	Kepenekci 1994
<i>H. variabilis</i> Phillips		(12)	(11)	Evlice <i>et al.</i> , 2005
<i>H. varicaudatus</i> Yuen, 1964		(56)	(28)	Borazancı 1977
<i>H. vulgaris</i> Yuen, 1964		(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>Orientylus orientalis</i> (Siddiqi & Husain) Jairajpuri & Siddiqi	<i>Rotylenchus orientalis</i> Siddiqi & Husain; <i>Helicotylenchus orientalis</i> (Siddiqi & Husain) Geraert	(61)	(42), (43)	Kepenekci & Ökten, 1999
<i>Rotylenchus</i> (<i>Rotylenchus</i>) <i>agnetus</i> Szczygiel	<i>Interrotylenchus agnetis</i> (Szczygiel) Eroshenko	(61)	(42), (43)	Kepenekci & Ökten, 1999
<i>R. (R.) buxophilus</i> Golden	<i>Gottholdsteineria buxophila</i> (Golden) Andrássy; <i>Helicotylenchus buxophilus</i> (Golden) Perry in Perry, Darling & Thorne; <i>Rotylenchus sheri</i> Jairajpuri	(50)	(27)	Saltukoğlu, 1974
<i>R. (R.) colbrani</i> Brzeski & Choi	<i>Rotylenchus brevicaudatus</i> Colbran; nec Hopper; Micoletzky	(37)	(7)	Kepenekci <i>et al.</i> , 2006
<i>R. (R.) cypriensis</i> Antoniou		(7)	(26)	Elekçioğlu, 1992

<i>R. (R.) dalhousiensis</i> Sultan & Jairajpuri	(66)	(26)	Kepenekci, 2001b	
<i>R. (R.) gracilidens</i> (Sauer) Sauer	(52)	(19)	Kepenekci <i>et al.</i> , 2004	
<i>R. (R.) goodeyi</i> Loof & Oostenbrink	<i>Gottholdsteineria goodeyi</i> (Loof & Oostenbrink) Andrassy; <i>Helicotylenchus goodeyi</i> (Loof & Oostenbrink) Perry in Perry, Darling & Thorne	(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>R. (R.) incultus</i> Sher		(18)	(24), (8)	Kepenekci & Zeki, 2002
<i>R. (R.) robustus</i> (deMan) Filipjev	<i>Tylenchus robustus</i> deMan; <i>Tylenchorhynchus robustus</i> (deMan) Micoletzky; <i>Rotylenchus robustus</i> (deMan) Filipjev; <i>Anguillulina robusta</i> (deMan) Goodey; <i>Hoplolaimus uniformis</i> Thorne; <i>Rotylenchus uniformis</i> (Thorne) Loof & Oostenbrink; <i>Rotylenchus fallorobustus</i> Sher; <i>Scutellonema picea</i> Gubina; <i>Rotylenchus picea</i> (Gubina) Siddiqi	(34), (12)	(39), (43)	Kepenekci, 2001c
<i>Plesiorotylenchus striaticeps</i> Vovlas, Castillo & Lamberti		(7)	(41)	Volvas Castillo & Lamberti, 1993
<i>Varotylus basiri</i> (Khan & Khan) Siddiqi	<i>Orientylus basiri</i> Khan & Khan; <i>Rotylenchus basiri</i> (Khan & Khan) Fortuner	(45)	(3)	Kepenekci, 1999b
<i>Rotylenchulus borealis</i> Loof & Oostenbrink		(32), (31)	(12)	Osmanoğlu (Tan), 2005
<i>R. macrodoratus</i> Dasgupta, Raski & Sher		(35)	(33)	Arseven & Ercan, 1976
<i>R. macrosoma</i> Dasgupta, Raski & Sher		(46), (7), (54), (11)	(1), (26)	Elekçioğlu, 1992
<i>R. parvus</i> (Williams) Sher	<i>Helicotylenchus parvus</i> Williams	(48), (7), (11)	(26), (4)	Elekçioğlu, 1992
<i>R. reniformis</i> Linford et Oliveira		(46)	(23)	Elekçioğlu, 2000
<i>R. variabilis</i> Dasgupta, Raski & Sher		(56)	(27), (46)	Ercan, 1976
<i>Pratylenchus brachyurus</i> (Godfrey) Filipjev & Schuurmans Stekhoven	<i>Tylenchus brachyurus</i> Godfrey; <i>Anguillulina brachyurus</i> (Godfrey) Goodey; <i>Pratylenchus leiocephalus</i> Steiner; <i>Pratylenchus steineri</i> Lordello, Zamith & Boock			Temiz, 1968
<i>P. coffeae</i> (Zimmermann) Filipjev & Schuurmans Stekhoven	<i>Tylenchus coffeae</i> Zimmermann; <i>Anguillulina coffeae</i> (Zimmermann) Goodey; <i>Tylenchus musicola</i> Cobb; <i>Anguillulina musicola</i> (Cobb) Goodey; <i>Pratylenchus musicola</i> (Cobb) Filipjev; <i>Tylenchus mahogani</i> Cobb; <i>Anguillulina mahogani</i> (Cobb) Goodey; <i>Pratylenchus mahogani</i> (Cobb) Filipjev	(24)	(2)	Akgül & Ökten, 2001
<i>P. crenatus</i> Loof	<i>P. pratensis</i> Thorne	(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>P. fallax</i> Seinhorst		(32), (31)	(12)	Osmanoğlu (Tan), 2005
<i>P. mediterraneus</i> Corbett		(7)	(26)	Elekçioğlu, 1992
<i>P. neglectus</i> (Rensch) Filipjev & Schuurmans Stekhoven	<i>Aphelenchus neglectus</i> Rensch; <i>Tylenchus neglectus</i> (Rensch) Steiner; <i>Anguillulina (Pratylenchus) neglecta</i> (Rensch) W. Schneider; <i>Pratylenchus minyus</i> Sher & Allen;	(26), (43), (15)	(13), (14)	Yüksel, 1974

<i>P. penetrans</i> (Cobb) Filipjev & Schuurmans Stekhoven	<i>Pratylenchus capitatus</i> Ivanova; <i>Pratylenchus neocapitatus</i> Khan & Singh; <i>Pratylenchus similis</i> Khan & Singh <i>Tylenchus penetrans</i> Cobb; <i>Anguillulina (Pratylenchus) penetrans</i> (Cobb) Goodey; <i>Tylenchus gulosus</i> Kühn; <i>Pratylenchus gulosus</i> (Kühn) Filipjev & Schuurmans Stekhoven	(14), (43), (39) (38)	Yüksel, 1974
<i>P. pratensis</i> (deMan) Filipjev	<i>Tylenchus pratensis</i> deMan; <i>Anguillulina pratensis</i> (deMan) Goffart; <i>Pratylenchus helophilus</i> Seinhorst; <i>Pratylenchus irregularis</i> Loof	(64)	(25) Öztürk & Enneli, 1994
<i>P. pratensisobrinus</i> Bernard		(21)	(6), (15) Kepenekci, 2002a
<i>P. pseudopratensis</i> Seinhorst	<i>P. sefaensis</i> Fortuner	(56)	(28) Borazancı, 1977
<i>P. scribneri</i> Steiner in Sherbakoff & Stanley	<i>Tylenchus penetrans</i> Cobb	(56)	(28) Borazancı, 1977
<i>P. thornei</i> Sher & Allen		(11)	(13), (21) Yüksel, 1974
<i>P. vulnus</i> Allen & Jensen		(10)	(27) Saltukoğlu, 1974
<i>P. zae</i> Graham	<i>Pratylenchus cubensis</i> Razjivin & O'Reilly; <i>Pratylenchus impar</i> Khan & Singh	(53)	(34), (37) Öztürk, 1990
<i>Zygotylenchus guevarai</i> (Tobar Jiménez) Braun & Loof	<i>Pratylenchoides guevarai</i> Tobar Jiménez; <i>Zygotylenchus browni</i> Siddiqi; <i>Mesotyulus gallicus</i> de Guiran; <i>Zygotylenchus gallicus</i> (de Guiran) Braun & Loof	(8), (41), (32), (16), (15)	(27) Saltukoğlu, 1974
<i>Pratylenchoides alkani</i> Yüksel		(20)	(18) Yüksel, 1977
<i>P. bacilisemenus</i> Sher		(36)	(39) Kepenekci & Öztürk, 1999
<i>P. camachoii</i> Gomez Barcina, Castillo & Gonzalez Pais		(36)	(20) Kepenekci & Öztürk, 1999
<i>P. erzurumensis</i> Yüksel		(17)	(18) Yüksel, 1977
<i>P. hispaniensis</i> Troccoli, Vovlas & Castillo		(21)	(48) Kepenekci, 2002a
<i>P. leiocauda</i> Sher		(16)	(3) Kepenekci, 1994
<i>P. laticauda</i> Braun & Loof		(11), (43)	(1) Elekçioğlu, 1996
<i>P. ritteri</i> Sher	<i>Radopholus ritteri</i> (Sher) Vovlas & Inserra	(20)	(47), (3), (30) Kepenekci, 1999a
<i>P. utahensis</i> Baldwin, Luc & Bell		(13)	(3), (5) Kepenekci <i>et al.</i> , 1998
<i>P. variabilis</i> Sher		(13)	(3), (5) Kepenekci <i>et al.</i> , 1998
<i>Meloidogyne arenaria</i> (Neal) Chitwood	<i>Anguillula arenaria</i> Neal; <i>Tylenchus arenarius</i> (Neal) Cobb; <i>Heterodera arenaria</i> (Neal) Marcinowski; <i>Meloidogyne arenaria arenaria</i> (Neal) Chitwood	(7)	(17) Ertürk & Özku, 1974
<i>M. chitwoodi</i> Golden, O'Bannon, Santo & Finley		(47)	(38) Özarslandan <i>et al.</i> , 2007
<i>Meloidogyne exigua</i> Goeldi	<i>Heterodera exigua</i> (Goeldi) Marcinowski	(10)	(4) Kepenekci <i>et al.</i> , 2002
<i>M. hapla</i> Chitwood			(29) Diker, 1952
<i>M. incognita</i> (Kofoid & White) Chitwood	<i>Oxyuris incognita</i> Kofoid & White; <i>Heterodera incognita</i> (Kofoid & White) Sandground; <i>Meloidogyne incognita incognita</i>	(16)	(28) Yüksel, 1966

	(Kofoid & White) Chitwood <i>Meloidogyne acrita</i> Chitwood; <i>Meloidogyne incognita acrita</i> Chitwood; <i>Meloidogyne elegans</i> da Ponte; <i>Meloidogyne grahami</i> Golden & Slana; <i>Meloidogyne incognita grahami</i> Golden & Salana (Jepson); <i>Meloidogyne incognita inornata</i> Lordello; <i>Meloidogyne inornata</i> Lordello; <i>Meloidogyne kirjanovae</i> Terenteva; <i>Meloidogyne wartellei</i> Golden & Birchfield; <i>Meloidogyne incognita wartellei</i> Golden & Birchfield	
<i>M. javanica</i> (Treub) Chitwood	<i>Heterodera javanica</i> Treub; <i>Tylenchus (Heterodera) javanicus</i> (Treub) Cobb; <i>Anguillula javanica</i> (Treub) Lavergne; <i>Meloidogyne javanica javanica</i> (Treub) Chitwood; <i>Meloidogyne javanica bauruensis</i> Lordello; <i>Meloidogyne bauruensis</i> Lordello (Esser, Perry & Taylor); <i>Meloidogyne lordelloi</i> da Ponte; <i>Meloidogyne lucknowica</i> Singh	(24) Yüksel, 1967
<i>M. thamesi</i> Chitwood in Chitwood, Specht & Havis (Goodey)	<i>Meloidogyne arenaria thamesi</i> Chitwood in Chitwood, Specht & Havis	(7) (17) Ertürk & Özku, 1974
<i>Heterodera avenae</i> Wollenweber	<i>Heterodera schachtii</i> var. <i>avenae</i> Wollenweber; <i>Bidera avenae</i> (Wollenweber) Krall & Krall; <i>Heterodera schachtii major</i> O. Schmidt; <i>Heterodera maior</i> O. Schmidt; <i>Heterodera ustionovi</i> Kirjanova; <i>Bidera ustionovi</i> (Kirjanova) Krall & Krall	(21) Yüksel, 1973
<i>H. ciceri</i> Vovlas, Greco & Di Vito		Di Vito <i>et al.</i> , 1994
<i>H. cruciferae</i> Franklin		(38) (18) Yüksel, 1966
<i>H. fici</i> Kirjanova	<i>Heterodera humuli fici</i> Kirjanova (Merny)	(28) (17) Yüksel, 1981
<i>H. filipjevi</i> (Madzhidov) Stelter	<i>Bidera filipjevi</i> Madzhidov; <i>Heterodera filipjevi</i> (Madzhidov) Stone; <i>Heterodera filipjevi</i> (Madzhidov) Siddiqi	(11) (25) Rumpenhorst <i>et al.</i> , 1996
<i>H. goettingiana</i> Liebscher		(47) (40) Enneli & Öztürk, 1996
<i>H. latipons</i> Franklin	<i>Bidera latipons</i> (Franklin) Krall & Krall; <i>Ephippiodera latipons</i> (Franklin) Shagalina & Krall	(11) (25) Rumpenhorst <i>et al.</i> , 1996
<i>H. mani</i> Mathews	<i>Bidera mani</i> (Mathews) Krall & Krall	(25) Enneli <i>et al.</i> , 1994
<i>H. schachtii</i> A. Schmidt	<i>Tylenchus schachtii</i> (Schmidt) Örley; <i>Heterodera schachtii minor</i> O. Schmidt	(58) (25) Diker, 1952
<i>Cactodera estonica</i> (Kirjanova & Krall) Krall & Krall	<i>Heterodera estonica</i> Kirjanova & Krall	Mulvey, 1972
<i>Globodera pallida</i> (Stone) Behrens	<i>Heterodera pallida</i> Stone; <i>Globodera pallida</i> (Stone) Mulvey & Stone	(47) (7) Enneli & Öztürk, 1996
<i>G. rostochiensis</i> (Wollenweber) Skarbilovich	<i>Heterodera schachtii rostochiensis</i> Wollenweber; <i>Globodera rostochiensis</i> (Wollenweber) Behrens; <i>Globodera rostochiensis</i> (Wollenweber) Mulvey & Stone; <i>Heterodera schachtii solani</i> Zimmermann	(47) (40) Enneli & Öztürk, 1996
Dolichodoroidea		
<i>Belonolaimus longicaudatus</i> Rau		(6) (44) Kepenekci, 2001d

<i>Bitylenchus canalis</i> (Thorne & Malek) Jairajpuri	<i>Tylenchorhynchus canalis</i> Thorne & Malek; <i>Bitylenchus canalis</i> (Thorne & Malek) Siddiqi	(35)	(1), (26), (8), (43), (42)	Kepenekci, 2001e
<i>B. clavicaudatus</i> (Seinhorst) Siddiqi	<i>Tylenchorhynchus clavicaudatus</i> Seinhorst; <i>Tylenchorhynchus clavicauda</i> Seinhorst	(24)	(2)	Kepenekci & Evlice, 2003a
<i>B. dubius</i> (Bütschli) Filipjev	<i>Tylenchus dubius</i> Bütschli; <i>Tylenchus (Bitylenchus) dubius</i> (Bütschli) Filipjev; <i>Anguillulina dubia</i> (Bütschli) Goodey; <i>Tylenchorhynchus dubius</i> (Bütschli) Filipjev; <i>Bitylenchus dubius</i> (Bütschli) Siddiqi	(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>B. goffarti</i> (Sturhan) Jairajpuri	<i>Tylenchorhynchus goffarti</i> Sturhan; <i>Bitylenchus goffarti</i> (Sturhan) Siddiqi	(47)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>B. parvus</i> (Allen) Jairajpuri	<i>Tylenchorhynchus parvus</i> Allen; <i>Bitylenchus parvus</i> (Allen) Siddiqi	(29), (49), (41)	(27)	Saltukoğlu, 1974
<i>B. ventrosignatus</i> (Tobar Jiménez) Jairajpuri	<i>Tylenchorhynchus ventrosignatus</i> Tobar Jiménez; <i>Bitylenchus ventrosignatus</i> (Tobar Jiménez) Siddiqi	(56)	(28)	Borazancı, 1977
<i>B. vulgaris</i> (Upadhyay, Swarup & Sethi) Siddiqi		(45), (42)	(38), (47)	Kepenekci, 1999a
<i>Neodolichorhynchus (Mulkorhynchus) phaseoli</i> (Sethi & Swarup) Talavera & Tobar	<i>Tylenchorhynchus phaseoli</i> Sethi & Swarup; <i>Dolichorhynchus phaseoli</i> (Sethi & Swarup) Mulk & Jairajpuri	(6)	(32), (44)	Kepenekci, 2001d
<i>Paratrophurus acristylus</i> Siddiqi & Siddiqi		(11), (54)	(1)	Elekçioğlu, 1996
<i>P. loofi</i> Arias		(53)	(34), (30)	Öztürk, 1990
<i>Quinisulcius acutoides</i> (Thorne & Malek) Siddiqi	<i>Tylenchorhynchus acutoides</i> Thorne & Malek	(35)	(4), (26), (24), (39)	Kepenekci, 2001e
<i>Q. acutus</i> (Allen) Siddiqi	<i>Tylenchorhynchus acutus</i> Allen; <i>Tetylenchus hanumanthi</i> Edward, Uma & Sharma; <i>Quinisulcius hanumanthi</i> (Edward, Uma & Sharma) Siddiqi	(16)	(3)	Kepenekci, 1994
<i>Q. capitatus</i> (Allen) Siddiqi	<i>Tylenchorhynchus capitatus</i> Allen; <i>Tylenchorhynchus acti</i> Hopper; <i>Q. acti</i> (Hopper) Siddiqi; <i>Tylenchorhynchus nilgiriensis</i> Seshadri, Muthukrishnan & Shunmugam; <i>Q. nilgiriensis</i> (Seshadri <i>et al.</i>) Siddiqi; <i>Quinisulcius himalayaee</i> Mahajan; <i>T. himalayaee</i> (Mahajan) Fortuner & Luc; <i>Quinisulcius solani</i> Maqbool; <i>T. solani</i> (Maqbool) Fortuner & Luc; <i>Tylenchorhynchus maqbooli</i> Mizukubo, Toida & Keereevan; <i>Quinisulcius paracti</i> Ray & Das; <i>T. paracti</i> (Ray & Das) Fortuner & Luc	(27)	Saltukoğlu, 1974	
<i>Q. curvus</i> (Williams) Siddiqi	<i>Tylenchorhynchus curvus</i> Williams	(19)	(26)	Kepenekci <i>et al.</i> , 2001
<i>Sauertylenchus maximus</i> (Allen) Siddiqi	<i>Tylenchorhynchus maximus</i> Allen; <i>Bitylenchus maximus</i> (Allen) Siddiqi; <i>Tylenchorhynchus wilskii</i> (Kornobis) Jairajpuri; <i>Bitylenchus wilskii</i> (Kornobis) Siddiqi	(59), (6), (48), (31)	(27)	Saltukoğlu, 1974
<i>Trophurus impar</i> Ganguly & Khan		(11), (7)	(1), (36)	Elekçioğlu, 1996

<i>T. imperialis</i> Loof		(32), (31), (27)	Saltukoğlu, 1974
		(6)	
<i>T. roigi</i> Razjivin, O'Reilly & Pérez Milian		(33)	(46) Ökten, 1988
<i>T. sculptus</i> Loof		(13)	Kepenekci <i>et al.</i> , 1998
		(5)	
<i>Tylenchorhynchus amgi</i> Kumar	<i>Tylopharynx annulatus</i> Cassidy; <i>Anguillulina annulata</i> (Cassidy) Goodey; <i>Chitnotinotylenchus annulatus</i> (Cassidy) Filipjev; <i>Ditylenchus annulatus</i> (Cassidy) Sher; <i>Tylenchorhynchus martini</i> Fielding	(9)	Kepenekci & Evlice, 2011
<i>T. annulatus</i> (Cassidy) Golden		(19)	Kepenekci <i>et al.</i> , 2001
<i>T. badliensis</i> Saha & Khan		(6)	Kepenekci, 2001d
<i>T. brassicae</i> Siddiqi		(56)	(27), Ercan, 1976 (46)
<i>T. clarus</i> Allen	<i>Macrorhynchus clarus</i> (Allen) Sultan, Singh & Sakhija; <i>Tylenchorhynchus tener</i> Erzhanova	(43)	(1) Elekçioğlu, 1992
<i>T. claytoni</i> Steiner	<i>Tessellus claytoni</i> (Steiner) Jairajpuri & Hunt; <i>Dolichorhynchus claytoni</i> (Steiner) Sultan, Singh & Sakhija; <i>Billineellus claytoni</i> (Steiner) Volkova	(20)	(3), Kepenekci, 1999a (37)
<i>T. cylindricus</i> Cobb	<i>Tylenchus (Tylenchorhynchus) cylindricus</i> (Cobb) Filipjev; <i>Anguillulina cylindrica</i> (Cobb) Thorne	(52)	(19) Ediz & Enneli, 1978
<i>T. divittatus</i> Siddiqi	<i>Trilineellus divittatus</i> (Siddiqi) Lewis & Golden; <i>Divittus divittatus</i> (Siddiqi) Jairajpuri; <i>Morasinema divittatum</i> (Siddiqi) Javed; <i>Uliginotylenchus divittatus</i> (Siddiqi) Sultan, Singh & Sakhija; <i>Tylenchorhynchus swatiensis</i> Nasira, Shahina & Maqbool	(66)	(8) Kepenekci, 2001b
<i>T. elegans</i> Siddiqi	<i>Macrorhynchus elegans</i> (Siddiqi) Sultan, Singh & Sakhija; <i>Tylenchorhynchus goldeni</i> Rashid & Singh; <i>Tylenchorhynchus penniseti</i> Gupta & Uma; <i>Bitylenchus penniseti</i> (Gupta & Uma) Sultan, Singh & Sakhija; <i>Tylenchorhynchus punensis</i> Khan & Darekar; <i>Macrorhynchus punensis</i> (Khan & Darekar) Sultan, Singh & Sakhija; <i>Tylenchorhynchus sacchari</i> Sivakumar & Muthukrishnan; <i>Macrorhynchus sacchari</i> (Sivakumar & Muthukrishnan) Sultan, Singh & Sakhija	(65)	(45) Kepenekci, 2001a
<i>T. latus</i> Allen		(23)	Akgül, 1996
<i>T. mashhoodi</i> Siddiqi & Basir	<i>Macrorhynchus mashhoodi</i> (Siddiqi & Basir) Sultan, Singh & Sakhija	(56)	(28) Borazancı, 1977
<i>T. striatus</i> Allen	<i>Macrorhynchus striatus</i> (Allen) Sultan, Singh & Sakhija	(24)	(2) Akgül & Ökten, 2001
<i>T. trilineatus</i> Timm	<i>Uliginotylenchus trilineatus</i> (Timm) Sultan, Singh & Sakhija	(57)	(1) Kepenekci, 2001b
<i>T. tritici</i> Golden, Maqbool & Handoo		(4), (11)	Erentuğ, 1997
<i>Merlinius bavaricus</i> (Sturhan) Siddiqi	<i>Tylenchorhynchus bavaricus</i> Sturhan; <i>Geocenamus bavaricus</i> (Sturhan) Brzeski	(29), (41)	(27) Saltukoğlu, 1974
<i>M. brevidens</i> (Allen) Siddiqi	<i>Tylenchorhynchus brevidens</i> Allen; <i>Geocenamus brevidens</i> (Allen) Brzeski	(41), (29)	(27) Saltukoğlu, 1974
<i>M. graminicola</i> (Kirjanova) Siddiqi	<i>Tylenchorhynchus graminicola</i> Kirjanova; <i>Allentylenchus graminicola</i> (Kirjanova) Khan & Saeed	(16)	(3) Kepenekci, 1994

<i>M. microdorus</i> (Geraert) Siddiqi	<i>Tylenchorhynchus microdorus</i> Geraert; <i>Geocenamus microdorus</i> (Geraert) Brzeski	(56) (46)	(27), (46)	Ercan, 1976
<i>M. nanus</i> (Allen) Siddiqi	<i>Tylenchorhynchus nanus</i> Allen; <i>Geocenamus nanus</i> (Allen) Brzeski	(47) (28)	(9), (28)	Ertürk <i>et al.</i> , 1973
<i>M. niazae</i> Maqbool, Fatima & Hashmi	<i>Geocenamus niazae</i> (Maqbool <i>et al.</i>) Brzeski	(19)	(8)	Kepenekci <i>et al.</i> , 2001
<i>M. nothus</i> (Allen) Siddiqi	<i>Tylenchorhynchus nothus</i> Allen; <i>Geocenamus nothus</i> (Allen) Brzeski; <i>Tylenchorhynchus undyferrus</i> Haque; <i>Merlinius undyferrus</i> (Haque) Siddiqi; <i>Merlinius paramonovi</i> Volkova; <i>Merlinius nizamii</i> Luqman & Khan; <i>Merlinius bulgaricus</i> Budurova; <i>Merlinius semicircularis</i> Lüth; <i>Geocenamus semicircularis</i> (Lüth) Brzeski	(16)	(3)	Ökten, 1982
<i>M. pseudobavaricus</i> Saltukoglu, Geraert & Coomans	<i>Geocenamus pseudobavaricus</i> (Saltukoglu <i>et al.</i>) Brzeski	(40), (29)	(27)	Saltukoğlu, 1974
<i>M. tortilis</i> Kazachenko	<i>Geocenamus tortilis</i> (Kazachenko) Brzeski, 1991	(56)	(27)	Ercan, 1976
<i>Amplimerlinius macrurus</i> (Goodey) Siddiqi	<i>Anguillulina macrura</i> Goodey; <i>Tylenchorhynchus macrurus</i> (Goodey) Filipjev; <i>Merlinius macrurus</i> (Goodey) Siddiqi; <i>Merlinius caroli</i> Fortuner; <i>Amplimerlinius caroli</i> (Fortuner) Siddiqi; <i>Aphelenchus dubius</i> Steiner; <i>Merlinius dubius</i> (Steiner) Siddiqi; <i>Amplimerlinius dubius</i> (Steiner) Siddiqi & Klingler	(31)	(27)	Saltukoğlu, 1973
<i>A. viciae</i> (Saltukoglu) Siddiqi <i>Geocenamus uralensis</i> Baydulova	<i>Merlinius viciae</i> Saltukoglu	(8), (41) (47)	(27) (35)	Saltukoğlu, 1973 Erdoğan, 2009
<i>Nagelus affinis</i> (Allen) Siddiqi	<i>Tylenchorhynchus affinis</i> Allen; <i>Merlinius affinis</i> (Allen) Siddiqi; <i>Geocenamus affinis</i> (Allen) Brzeski	(35)	(26), (4), (24), (8), (42), (20)	Kepenekci, 2001e
<i>N. camelliae</i> (Kheiri) Siddiqi	<i>Merlinius camelliae</i> Kheiri	(51), (15), (6), (43), (59), (16)	(27)	Saltukoğlu, 1974
<i>N. hexagrammus</i> (Sturhan) Siddiqi	<i>Tylenchorhynchus hexagrammus</i> Sturhan; <i>Merlinius hexagrammus</i> (Sturhan) Siddiqi; <i>Geocenamus hexagrammus</i> (Sturhan) Brzeski; <i>Tylenchorhynchus berberidis</i> Sethi & Swarup; <i>Merlinius berberidis</i> (Sethi & Swarup) Siddiqi; <i>Nagelus berberidis</i> (Sethi & Swarup) Siddiqi; <i>Nagelus ivanova</i> Baydulova	(11)	(34)	Elekçioğlu, 1996
<i>N. leptus</i> (Allen) Siddiqi	<i>Tylenchorhynchus leptus</i> Allen; <i>Merlinius leptus</i> (Allen) Siddiqi; <i>Nagelus aberrans</i> Thorne & Malek; <i>Merlinius abalosi</i> Doucet; <i>Nagelus abalosi</i> (Doucet) Doucet; <i>Merlinius virginalis</i> Doucet; <i>Nagelus virginalis</i> (Doucet) Doucet; <i>Nagelus saifulumukensis</i> Maqbool & Shahina	(56)	(27), (46)	Ercan, 1976
<i>N. lineatus</i> (Allen) Siddiqi	<i>Tylenchorhynchus lineatus</i> Allen; <i>Merlinius lineatus</i> (Allen) Siddiqi; <i>Geocenamus lineatus</i> (Allen) Brzeski	(56) (46)	(27), (46)	Ercan, 1976

<i>N. obscurus</i> (Allen) Powers, Baldwin & Bell	<i>Tylenchorhynchus obscurus</i> Allen; <i>Merlinius obscurus</i> (Allen) Siddiqi; <i>Tylenchorhynchus goodeyi</i> Marinari; <i>Quinisulcius goodeyi</i> (Marinari) Siddiqi; <i>Nagelus goodeyi</i> (Marinari) Siddiqi	(33)	(46)	Akgül <i>et al.</i> , 2000
<i>Scutylechus koreanus</i> (Choi & Geraert) Siddiqi	<i>Merlinius koreanus</i> Choi & Geraert; <i>Geocenamus koreanus</i> (Choi & Geraert) Brzeski	(45), (42)	(47), (8)	Kepenekci, 1999a
<i>S. lenorus</i> (Brown) Siddiqi	<i>Tylenchorhynchus lenorus</i> Brown; <i>Merlinius lenorus</i> (Brown) Siddiqi; <i>Geocenamus lenorus</i> (Brown) Brzeski	(36)	(20)	Kepenekci & Öztürk, 1999
<i>S. quadrifer</i> (Andrássy) Siddiqi	<i>Tylenchorhynchus quadrifer</i> Andrássy; <i>Merlinius quadrifer</i> (Andrássy) Siddiqi; <i>Geocenamus quadrifer</i> (Andrássy) Brzeski; <i>Tylenchorhynchus ornatus</i> Allen; <i>Merlinius ornatus</i> (Allen) Siddiqi; <i>Scutylechus ornatus</i> (Allen) Siddiqi	(56)	(27)	Ercan, 1976
<i>S. rugosus</i> (Siddiqi) Siddiqi	<i>Tylenchorhynchus rugosus</i> Siddiqi; <i>Merlinius rugosus</i> (Siddiqi) Siddiqi; <i>Geocenamus rugosus</i> (Andrássy) Brzeski; <i>Tylenchorhynchus cylindricaudatus</i> Ivanova; <i>Scutylechus cylindricaudatus</i> (Ivanova) Siddiqi; <i>Merlinius cylindricaudatus</i> (Ivanova) Siddiqi; <i>Scutylechus apricus</i> Andrássy; <i>Merlinius apricus</i> (Andrássy) Fortuner & Luc; <i>Scutylechus quettensis</i> Maqbool, Ghazala & Fatima; <i>Merlinius quettensis</i> (Maqbool <i>et al.</i>) Fortuner & Luc; <i>Geocenamus quettensis</i> (Maqbool <i>et al.</i>) Brzeski; <i>Scutylechus fici</i> Farooq & Fatema Brzeski	(15)	(3)	Akgül, 1991
<i>S. stegus</i> (Thorne & Malek) Siddiqi	<i>Tylenchorhynchus stegus</i> Thorne & Malek; <i>Merlinius stegus</i> (Thorne & Malek) Siddiqi; <i>Geocenamus stegus</i> (Thorne & Malek) Brzeski	(16)	(3)	Kepenekci, 1994
<i>S. tartuensis</i> (Krall) Siddiqi	<i>Tylenchorhynchus tartuensis</i> Krall; <i>Merlinius tartuensis</i> (Krall) Siddiqi; <i>Geocenamus tartuensis</i> (Krall) Brzeski	(56)	(27)	Ercan, 1976
<i>S. tessellatus</i> (Goodey) Siddiqi	<i>Tylenchorhynchus tessellatus</i> Goodey; <i>Merlinius tessellatus</i> (Goodey) Siddiqi; <i>Geocenamus tessellatus</i> (Goodey) Brzeski	(52)	(19)	Ediz & Enneli, 1978
<i>S. tumensis</i> Skwiercz	<i>Merlinius tumensis</i> (Skwiercz) Fortuner & Luc; <i>Geocenamus tumensis</i> (Skwiercz) Brzeski	(63)	(4), (36)	Kepenekci & Öztürk, 2002
<i>Psilenchus aestuarius</i> Andrássy		(20)	(3)	Kepenekci, 1999a
<i>P. clavicaudatus</i> (Micoletzky) Thorne	<i>Tylenchus clavicaudatus</i> Micoletzky; <i>Anguillulina clavicaudata</i> (Micoletzky) Goodey; <i>Tylenchorhynchus clavicaudatus</i> (Micoletzky) Filipjev; <i>Tetylenchus clavicaudatus</i> (Micoletzky) Filipjev	(53)	(30)	Öztürk, 1990
<i>P. hilarulus</i> deMan, 1921		(51), (41), (15), (6), (32)	(27)	Saltukoğlu, 1974
<i>P. iranicus</i> Kheiri, 1970		(23)	(24)	Akgül, 1996

Criconematina, Criconematoidea

<i>Criconema</i>	<i>Criconemooides mutabilis</i> Taylor;	(56)	(28)	Borazancı, 1977
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<i>(Nothocriconemella) mutabile</i> (Taylor) Raski & Luc	<i>Nothocriconema mutable</i> (Taylor) De Grisse & Loof; <i>Nothocriconemella mutabilis</i> (Taylor) Ebsary; <i>Criconemooides raskii</i> Goodey; <i>Criconema raskii</i> (Goodey) Siddiqi; <i>Nothocriconemella raskii</i> (Goodey) Siddiqi; <i>Criconemooides siddiqii</i> Khan; <i>Criconema siddiqii</i> (Khan) Siddiqi; <i>Nothocriconemella siddiqii</i> (Khan) Siddiqi; <i>Criconemooides magnoliae</i> Edward & Misra; <i>Criconema magnoliae</i> (Edward & Misra) Siddiqi; <i>Criconemooides californicus</i> Diab & Jenkins; <i>Criconema californicum</i> (Diab & Jenkins) Siddiqi; <i>Nothocriconemella californica</i> (Diab & Jenkins) Siddiqi; <i>Criconemooides kashmirensis</i> Mahajan & Bijral; <i>Criconema kashmirensis</i> (Mahajan & Bijral) Siddiqi; <i>Nothocriconemella kashmirensis</i> (Mahajan & Bijral) Siddiqi	(56)	(27)	Ercan, 1976
<i>Macroposthonia antipolitana</i> (de Guiran) De Grisse & Loof	<i>Criconemooides antipolitanus</i> de Guiran; <i>Criconemella antipolitana</i> (de Guiran) Luc & Raski; <i>Mesocriconema antipolitanum</i> (de Guiran) Loof & De Grisse; <i>Criconemooides macrolobatus</i> Jairajpuri & A.H. Siddiqi; <i>Macroposthonia macrolobata</i> (Jairajpuri & A.H. Siddiqi) De Grisse & Loof	(56)	(27)	Ercan, 1976
<i>M. curvata</i> (Raski) De Grisse & Loof	<i>Criconemooides curvatus</i> Raski; <i>Criconemella curvata</i> (Raski) Luc & Raski; <i>Mesocriconema curvatum</i> (Raski) Loof & De Grisse; <i>Criconemooides tescora</i> de Guiran; <i>Macroposthonia tescora</i> (de Guiran) De Grisse & Loof; <i>Mesocriconema tescorum</i> (de Guiran) Loof & De Grisse; <i>Criconemooides nainitalensis</i> Edward & Misra; <i>Macroposthonia nainitalensis</i> (Edward & Misra) De Grisse & Loof; <i>Criconemooides dorsoflexus</i> Boonduang & Ratanaprappa; <i>Macroposthonia dorsoflexa</i> (Boonduang & Ratanaprappa) Siddiqi; <i>Macroposthonia ritteri</i> Doucet; <i>Criconemella ritteri</i> (Doucet) Chavez; <i>Criconemella ritteri</i> (Doucet) Raski & Luc; <i>Mesocriconema ritteri</i> (Doucet) Loof & De Grisse	(56)	(27)	Ercan, 1976
<i>M. ferniae</i> (Luc) De Grisse & Loof	<i>Criconemooides ferniae</i> Luc; <i>Criconemella ferniae</i> (Luc) Luc & Raski; <i>Mesocriconema ferniae</i> (Luc) Loof & De Grisse	(56)	(27)	Ercan, 1976
<i>M. xenoplax</i> (Raski) De Grisse & Loof	<i>Criconemooides xenoplax</i> Raski; <i>Criconemella xenoplax</i> (Raski) Luc & Raski; <i>Mesocriconema xenoplax</i> (Raski) Loof & De Grisse	(56)	(27)	Ercan, 1976
<i>Hemicriconemooides gaddi</i> (Loos) Chitwood & Birchfield	<i>Criconemooides gaddi</i> Loos; <i>Hemicyclophora gaddi</i> (Loos) Goodey	(42)	(47)	Kepenekci, 1999b
<i>H. strictathecatus</i> Esser	<i>Hemicyclophora strictathecata</i> (Esser) Goodey	(6)	(16)	Kepenekci, 2001d
<i>Criconemooides (Criconemooides) informis</i> (Micoletzky) Taylor	<i>Hoplolaimus informis</i> Micoletzky; <i>Criconema informe</i> (Micoletzky) Micoletzky; <i>Macroposthonia informis</i> (Micoletzky) De Grisse & Loof; <i>Criconemella informis</i>	(15)	(27)	Saltukoglu, 1974

(Micoletzky) Ebsary; *Criconemoides complexus* Jairajpuri; *Macroposthonia complexa* (Jairajpuri) De Grisse & Loof; *Criconemoides flandriensis* De Grisse; *Criconemoides fimbriatus* Thorne & Malek

Hemicycliophoroidea

<i>Hemicycliophora corbetti</i>	(6)	(44)	Kepenekci, 2001d	
Siddiqi				
<i>H. iranica</i> Loof	(17)	(39)	Kepenekci & Evlice, 2003b	
<i>H. punensis</i> Darekar & Khan	(21)	(15)	Kepenekci, 2002a	
<i>H. sturhani</i> Loof	(62)	(26)	Kepenekci, 1999b	
<i>H. subaolica</i> Jairajpuri & Baqri	(17)	(39)	Kepenekci & Evlice, 2003b	
<i>Loofia thienemannii</i> (Schneider) Siddiqi	<i>Hoplolaimus thienemannii</i> Schneider; <i>Hemicycliophora thienemannii</i> (Schneider) Loos; <i>Procriconema thienemannii</i> (Schneider) Micoletzky; <i>Hemicycliophora salicis</i> Sofrygina; <i>Loofia salicis</i> (Sofrygina) Siddiqi	(5)	(26)	Kepenekci, 1999b

Tylenchuloidea

<i>Tylenchulus semipenetrans</i>	(60)		Kıray, 1963	
Cobb				
<i>Paratylenchus</i>	(33)	(46)	Akgül <i>et al.</i> , 2000	
<i>(Paratylenchus) arculatus</i>				
Luc & de Guiran				
<i>P. (P.) curvitatus</i> Van der Linde	(56)	(28)	Borazancı, 1977	
<i>P. (P.) dianthus</i> Jenkins & Taylor	(56)	(27)	Ercan, 1976	
<i>P. (P.) holdemani</i> Raski	(57)	(26)	Kepenekci, 2001b	
<i>P. (P.) israelensis</i> (Raski, 1973) Siddiqi	<i>Paratylenchoides israelensis</i> Raski	(48), (11)	(26)	Elekçioğlu, 1992
<i>P. (P.) lepidus</i> Raski				
<i>P. (P.) nainianus</i> Edward & Misra	(37)	(3)	Erkol, 2002	
<i>P. (P.) nawadus</i> Khan, Prasad & Mathur	(7)	(1), (26)	Elekçioğlu, 1992	
<i>P. (P.) projectus</i> Jenkins	(3)	(3)	Evlice, 2005	
<i>P. (P.) rotundicephalus</i> Bajaj	(56)	(27)	Ercan, 1976	
<i>P. (P.) variabilis</i> Raski	(6)	(44)	Kepenekci, 2001d	
<i>Cacopaurus pestis</i> Thorne	<i>Paratylenchus pestis</i> (Thorne) Goodey	(7)	(1), (26)	Elekçioğlu, 1992
		(35)	(33)	Arseven & Ercan, 1976

*Host association (HA): *Saintpaulia ionantha* (1); *Pimpinella anisum* L. (2); *Pyrus communis* L. (3); *Hordeum vulgare* L. (4); *Persea gratissima* Gaertn. (5); *Helianthus annuus* L. (6); *Vitis vinifera* L. (7); *Vicia faba* L. (8); *Abelmoschus esculentus* Moench (9); *Capsicum annuum* L. (10); *Triticum aestivum* L. (11); *Juglans regia* L. (12);

Oryza sativa L. (13); *Fragaria* sp. (14); grass (15); *Solanum lycopersicum* L. (16); *Morus* (17); *Pyrus malus* L. (18); *Prunus domestica* L. (19); *Phaseolus vulgaris* L. (20); *Corylus* sp. (21); *Gladiolus* (22); *Rosa damascena* Mill. (23); *Papaver somniferum* L. (24); *Cucumis sativus* L. (24); cereals (26); *Spinacia oleracea* L. (27); *Ficus carica* (28); *Cucurbita* L. (29); *Brassica oleracea* var. *botrytis* L. (30); *Citrullus vulgaris* Schrad. (31); *Cucumis melo* L. (32); cut flowers (33); *Castanea sativa* Miller (34); *Prunus avium* L. (35); *Actinidia deliciosa* cv. Hayward (36); *Onobrychis sativa* Lam. (37); *Brassica oleracea* var. *capitata* L. (38); mushrooms (39); *Lactuca sativa* L. (40); *Petroselinum sativum* L. (41); *Lens esculenta* Moench (42); *Zea mays* L. (43); *Musa* L. (44); *Cicer arietinum* L. (45); *Gossypium* L. (46); *Solanum tuberosum* L. (47); *Solanum melongena* L. (48); *Allium porrum* L. (49); *Rothea japonica* (50); *Allium sativum* L. (51); vegetable (52); *Allium cepa* L. (53); *Glycine max* (L.) Merrill (54); *Sesamum indicum* L. (55); ornamental plants (56); *Prunus persica* (L.) Batch. (57); *Beta vulgaris* var. *rapa* (58); *Raphanus sativus* L. (59); *Citrus* sp. (60); *Nicotiana* Trn. (61); *Eriobotrya* (62); *Arachis hypogaea* L. (63); *Medicago sativa* L. (64); *Olea europaea* L. (65); *Prunus armeniaca* L. (66).

*Localities (L): Adana (1); Afyon (2); Ankara (3); Antalya (4); Balıkesir (5); Bartın (6); Bolu (7); Burdur (8); Çanakkale (9); Çankırı (10); Çorum (11); Diyarbakır (12); Eastern Anatolia Region (13); Eastern Black Sea Region (14); Düzce (15); Edirne (16); Aegean Region (17); Erzurum (18); Eskişehir (19); Giresun (20); Southern Anatolia Region (21); Southeastern Anatolia Region (22); Hatay (23); İğdır (24); Isparta (24); Central Anatolia Region (25); İçel (26); İstanbul (27); İzmir (28); Black Sea Region (29); Karaman (30); Kastamonu (31); Kırklareli (32); Kocaeli (33); Konya (34); Marmara Region (35); Mersin (36); Nevşehir (37); Niğde (38); Ordu (39); Medium Anatolia Region (40); Osmaniye (41); Samsun (42); Sinop (43); Tekirdağ (44); Trabzon (45); Yalova (46); Yozgat (47); Zonguldak (48).

Discussion

The studies on plant parasitic nematodes was initiated by İyriboz (1934). Diker (1952) reported root-knot nematode (*Meleoidogyne hapla*) from Black Sea region and cyst nematode (*Heterodera schachtii*) from sugarbeet (*Beta vulgaris* L.). However, the first report of plant parasitic nematodes from Samsun district, Turkey was published by İrtel *et al.*, (1952). Alkan (1962) compiled the list of plant parasitic nematodes reported from Turkey with their systematic and morphological description. In the coarse of nematode faunal investigations many researchers reported plant parasitic nematodes and their host associations from time to time in Turkey. Ökten *et al.*, (2000) have published a list containing 172 plant parasitic nematode species belonging to order Tylenchida. Systematical list of 240 species belonging to 56 genera of order Tylenchida detected in Turkey. It can be configured that 68 species have been added to Turkey nematode fauna in 12 yeas since the last list published (Ökten *et al.*, 2000). Additionally, species reported as new but later synonamized with previously described species (i.e., *Neopsilenchus peshawarensis* has been accepted as synonym of *N. magnidens* and *Pratylenchus sefaensis* as synonym of *P. pseudopratensis*).

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