

Some species of Tylenchidae (Tylenchida: Nematoda) from the Istanbul province

M. Emel ÖKTEN*

Summary

The present study deals with nematodes of Tylenchidae associated with cultivated crops and waste land in Istanbul province. 10 species belonging to the genera of Tylenchus, Aglenchus, Psilenchus, Basiria, Ditylenchus, Pseudhalenchus in Family Tylenchidae were detected. Tylenchus thornei, T. davainei, Aglenchus bryophilus, Psilenchus hilarulus, Basiria graminophila, Pseudhalenchus anchilisposomus were added as new record to the Turkish fauna. Host plants and locations were given separately for each specimens studied in manuscript.

Introduction

This work is based on the study of the taxonomy and morphology of the Tylenchidae found in İstanbul. As a result of this work, 10 species have been studied, 6 species which representing as new records of to the Turkish fauna.

Tylenchus (Filenchus) thornei Andrasey, 1954

Measurements:

Females (n=6): L=0.68-0.75 mm; a=33-41; b=6.1-6.7; c=4.2-5.7; spear= 9.5-10 um; V=57-61; tail=147-174 um.

Males (n=3): L=0.62-0.74 mm; a=39-48; b=6.2-6.8; c=3.7-5.3; spear= 9.5-10 um; T=38-53; gubernaculum=5-8 um; spicules=16-17 um; tail=174-194 um.

* University of Ankara, Faculty of Agriculture, Department of Plant Protection, 06110 Ankara, Turkey

Alınış (Received): 22.8.1988

Discussion: No differences were noticed with the original description.

Habitat: Soil around roots of cabbage (Brassica oleracea var. capitata L.), leek (Allium porrum), spinach (Spinacia oleracea L.) at Firuzköy; parsley (Petroselinum), onion (Allium cepa) at Küçükçekmece; tomato (Lycopersicum esculentum), potato (Solanum tuberosum), eggplant (Solanum melongena) at Tuzla; eggplant, pepper (Capsicum frutescens) at Çayirova; bean (Stizolobium sp.), tomato at Bostancı.

Tylenchus (Tylenchus) davainiei Bastian, 1865

Measurements:

Females (n=13): L=0.71-0.81 mm; a=26-34; b=5.7-6.4; c=5.9-6.2; V=61-64; spear=14-16 um; tail=117-135 um.

Male: Not found.

Discussion: No differences were noticed with original description.

Habitat: Soil around roots of uncultivated grassland at Yenimahalle; cauliflower (Brassica oleracea var. botrytis L.) at Çayirova.

Tylenchus (Irantylenchus) clavidorus Kheiri, 1972

Measurements:

Females (n=3): L=0.86-0.91 mm; a=33-38; b=5.7-6.3; c=5.1-5.6; c'=10.5-11; V=57-62; Spear=11-12 um; tail=163-172 um.

Male: Not found.

Discussion: No differences were noticed with the original description.

Habitat: Soil around roots of eggplant (Solanum melongena) at Tuzla.

Aglenthus bryophilus (Steiner, 1914) Meyl, 1961

Measurements:

Females (n=3): L=0.36-0.41 mm; a=21-24; b=4.4-4.8; c=4.5-4.9; V=59-65.5; Spear=9 um; tail=74-92 um.

Male: Not found.

Discussion: No differences were noticed with the original description.

Habitat: African violet (Saintpaulia ionantha) at Küçükyalı.

Aglenchus costatus (de Man, 1921) Meyl, 1961

Measurements:

Females (n=5): L=0.45-0.55 mm; a=25-32; b=5.3-5.7; c=4.7-4.9; c'=8.4-12; V=55-68; spear=10-13 um; tail=93-109 um.

Male: Not found.

Discussion: No differences were noticed with the original description.

Habitat: Soil around roots of broadbean (Vicia faba); leek (Allium porrum) at Firuzköy; uncultivated grassland at Bahçelievler; sunflower (Helianthus annuus); corn (Zea mays) at Büyükçekmece; lettuce (Lactuca sativa) at Bakırköy.

Psilenchus hilarulus de Man, 1921

Measurements:

Females (n=3): L=1.44-1.48 mm; a=38-40; b=6.8-7.5; c=9.7-11.1; c'=5.6-6.3; V=46-48; spear=18-19 um; width=37-38 um; oesophagus (neck)=192-218 um; tail=133-149 um; % MB=51-55.

Male: Not found.

Discussion: These specimens correspond with the original description in Thorne, G. 1961. The stylet is some what longer than what is usually found.

Habitat: Soil around roots of garlic (Allium sativum L.) at Firuzköy; parsley (Petroselinum), melon (Cucumis melo), sunflower (Helianthus annuus) at Büyükçekmece; uncultivated grassland at Göztepe.

Basiria graminophila Siddiqi, 1959

Measurements:

Females (n=2): L=0.62-0.79 mm; a=36-39; b=5.6-6.9; c=6.7-7.0; V=64-66; spear=12 um; tail=93-112 um; body width=22-26 um; oesophagus=112-114 um; % MB=56-58.

Male (n=1): L=0.69 mm; a=53; b=5.9; c=35; T=57; spear=12 um; gubernaculum=5 um; spicule=18 um; tail=113 um.

Discussion: Similar to the original description and Golden, 1971 and Siddiqi, 1971.

Habitat: Soil around roots of garlic (Allium sativum L.); cabbage (Brassica oleracea var. capitata L.) at Firuzköy.

Ditylenchus dipsaci (Kühn, 1987) Filipjev, 1936

Measurements:

Females (n=5): L=0.91-1.13 mm; a=40-54; b=5.1-7.0; c=12-14; c'=4.2-6.2; V=76.5-80; spear=9-10 um; tail=62-81 um.

Male (n=1): L=0.99 mm; a=47; b=5.4; c=14; c'=5; T=50.5; spear=8 um; tail=71 um.

Discussion: General appearance, description and measurements of these specimens correspond rather well with those given for D. dipsaci in the literature (Thorne, 1961) except that the tail is somewhat longer.

Habitat: Soil around roots of eggplant (Solanum melongena) at Tuzla and Bostanci; Spinach (Spinacia oleracea L.) at Firuzköy; onion (Allium cepa) at Küçükçekmece; corn (Zea mays) at Büyükçekmece.

Ditylenchus destructor Thorne, 1945
(Fig. 1: C, D)

Measurements:

Females (n=2): L=0.53-0.59 mm; a=35-44; b=5.2-5.7; b'=5-5.1; c=10.5-13; c'=3.7-5.1; V=79.5-82; Spear=7 um; tail=44-51 um.

Male (n=1): L=0.53 mm; a=31; b=4.7; b'=5.1; c=12; c'=3.6; T=52; spear=7 um; gubernaculum=6 um; spicule=17 um; tail=44 um.

Measurements of Thorne (1961):

Females: L=0.80-1.40 mm; a=33-35; b=8-10; c=15-20; V=78-83.

Males: L=0.80-1.30 mm; a=34-40; b=7-8; c=12-16; T=73-80.

Discussion: The general description of the specimens correspond to the original description (Thorne, 1961) except that the body length and spear are shorter and that the vulva-anus distance equals the tail length. Tail terminus shows variation and terminal bulb overlaps the intestine. Because of the extension of the basalbulb it is sometimes difficult to separate the specimens of this species from Pseudhalenchus anchilisposomus Tarjan, 1958; also because the gonads in these two species have the same structure.

Habitat: Soil around roots of potato (Solanum tuberosum) at Tuzla; melon (Cucumis melo) at Büyükçekmece.

Pseudhalenchus anchilisposomus Tarjan, 1958
(Fig. 1: A, B)

Measurements:

Female (n=1): L=0.69 mm; a=43; b=6.2; b'=5; c=14; c'=4.5; V=86; spear=8 um; tail=50 um.

Male. Not found.

Discussion: The general description of the specimen corresponds to the original description.

This species closely resembles Ditylenchus. The structure of the female gonad is exactly the same. Lip region, stylet and procorpus show no differences from Ditylenchus. The only differences is the long overlapping oesophageal lobe.

P. anchilisposomus and D. destructor are very similar; despite the large variability in length of both oesophageal lobe and post-vulval uterine sac, it is noticeable that P. anchilisposomus with a longer oesophageal lobe has comparatively a smaller post-vulval uterine sac. According to Thorne (1961, p. 141), however, the position of the oesophageal lobe and the development of the gonads depend on the host-plant on which D. destructor has been feeding. So it seems highly probable that the relation between the two species can only be clarified by studying host-plant relationships.

The differences between P. anchilisposomus and D. destructor are apparently only quantitative (variable length of oesophageal lobe and of post-vulval uterine sac); this species could probably be transferred to the genus Ditylenchus.

Habitat: The specimen has been found in soil around roots of melon (Cucumis melo) at Büyükçekmece.

Özet

İstanbul'da saptanan Tylenchidae (Tylenchida:Nematoda) familyasına bağlı bazı türler

Çalışmada İstanbul ve çevresindeki Tylenchidae familyasına bağlı nematodlar saptanmıştır. Adı geçen familyadan ve cinslerine bağlı 10 tür tespit edilerek, bunlardan Türkiye için ilk kayıt olduğu belirlenmiştir.

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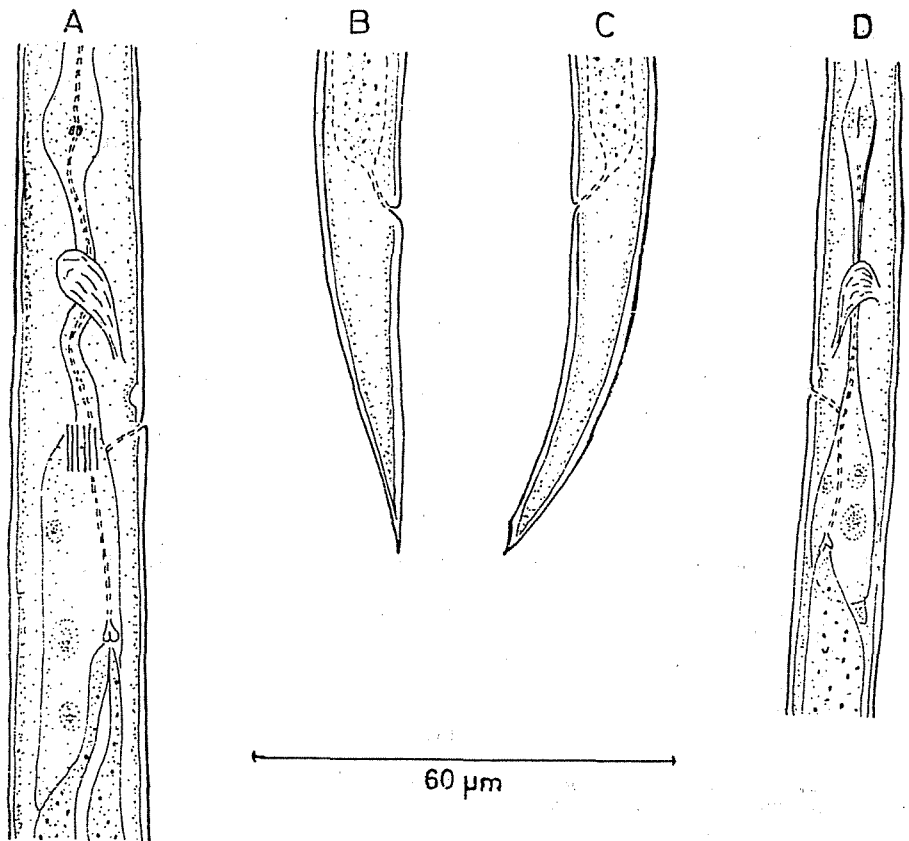


Fig. 1: A, B: Pseudahalenchus anchilisposomus; A: overlapping oesophageal lobe; B: Female tail; C, D: Ditylenchus destructor; C: Female tail; D: overlapping oesophageal lobe