

**TWO NEW RECORDS OF TURKISH NEMATODE FAUNA:
DITYLENCHUS EQUALIS AND *PRATYLENCHUS*
*PSEUDOPRATENSIS***

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Abstract

Species of plant parasitic nematodes were examined in potatoes from Istanbul region by considering faunistic and taxonomic aspects. Soil, plant and tuber samples were taken during the autumn and summer months of 2006-08, when adult nematode species are more abundant. From these samples, nematodes were extracted, slides were prepared from these extracts and plant parasitic nematodes were identified. The survey of potato fields yielded 14 species belonging to 1 suborder, 4 superfamilies, 5 families, 5 subfamilies and 6 genera under Tylenchida. These species are: *Filenchus cylindricus*, *F. sheri*, *F. filiformis*, *F. butteus*, *Boleodorus thylactus*, *Ditylenchus equalis*, *D. parvus*, *Bitylenchus dubius*, *Helicotylenchus digonicus*, *Pratylenchus thornei*, *P. vulnus*, *P. loosi*, *P. pseudopratensis* and *Meloidogyne arenaria*. From these species, *Ditylenchus equalis* and *Pratylenchus pseudopratensis* are new records of Turkish nematode fauna.

For most people, a potato is food on a dinner plate. But there are many ways of looking at *Solanum tuberosum*. For millions of farmers, it is a vital source of income. For plant breeders, taxonomists, nutritionists - even sociologists and historians - it is a fascinating subject of research. For many of those who work daily with the potato, it has become an often passionate way of life. Here we present viewpoints gathered from "potato people" around the globe.

The potato (*Solanum tuberosum* L.) is a herbaceous annual that grows up to 100 cm (40 inches) tall and produces a tuber - also called potato - so rich in starch that it ranks as the world's fourth most important food crop, after maize, wheat and rice. The potato belongs to the Solanaceae - or "nightshade"- family of flowering plants, and shares the genus *Solanum* with at least 1,000 other species, including tomato and eggplant. *S. tuberosum* is divided into two, only slightly different, subspecies: *andigena*, which is adapted to short day conditions and is mainly grown in the Andes, and *tuberosum*, the potato now cultivated around the world, which is believed to be descended from a small introduction to Europe of *andigena* potatoes that later adapted to longer day lengths. Asia and Europe are the world's major potato producing regions, accounting for more than 80 percent of world production in 2007. While harvests in Africa and Latin America were far smaller, production was at or near record levels. North America was the clear leader in yields, at more than 40 tones per hectare (Table 1).

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Table 1. Potato production by region, 2007 (Source: FAOSTAT).

Locations	Harvested area hectares	Quantity tones	Yield tones/hectare
Africa	1 541 498	16 706 573	10.8
Asia/Oceania	8 732 961	137 343 664	15.7
Europe	7 473 628	130 223 960	17.4
Latin America	963 766	15 682 943	16.3
North America	615 878	25 345 305	41.2
WORLD	19 327 731	325 302 445	16.8

Potato is a good source of food in Turkey as well as in the world. Potato is grown in a field of 1,542,05 hectare and its production is 4,089,145 tons in Turkey. Potato is cultivated in Marmara region within a field of 53.23 hectare and its production in the region is 115.450 tons, and also a field of 100 da in Istanbul area (Anon., 2007).

The potato cyst nematodes, *Globodera rostochiensis* and *G. pallida* are by far the the most important nematode pathogen of potatoes. Other major nematode include species of *Ditylenchus*, *Meloidogyne*, *Pratylenchus* and *Trichodorus*, and minor pathogens include species of *Longidorus*, *Hexatylus* and *Neotylenchus* (Winslow & Willis, 1972). Two distinct types of damage to potatoes were reported from Europe in 1888, namely tuber rot associated with distorted top growth, and tuber rot without above-ground symptoms. Both types of damage were attributed to the stem nematode, *Ditylenchus dipsaci*, until Thorne (1945) described nematodes causing tuber rot in Idaho, U.S.A., as a new species, *Ditylenchus destructor*, the potato rot or potato tuber nematode.

Ditylenchus destructor soon became recognized as a troublesome pest of potatoes in North America, especially in the northwestern U.S.A and Prince Edward Island, Canada. Its importance in Canada soon waned, owing to the removal of infested land from potato cultivation (Baker, 1952). *D. equalis* was first found in potato fields, and later also found in barley fields at Tomsk (Russian federation).

Recent changes in nomenclature (Seinhorst, 1968) on the identity of many species in publications, but undoubtedly *Pratylenchus penetrans* is the dominant species on the potatoes in Europe and North America. Others recorded are *P. crenatus*, *P. neglectus*, *P. thornei* and *P. scribneri* in Europe; *P. crenatus*, *P. brachyurus* and *P. scribneri* in North America; *P. andinus* and *P. scribneri* in

