

Preliminary Survey of Nematodes Associated with Vegetables Crops in Western Libya

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ABSTRACT

The coastal region from Khoms to Zawia was surveyed for nematodes. Samples from different fields were collected and processed using the sieving and gravity techniques. Recovered nematodes were killed in hot water and fixed in F.A.A. Besides root-knot nematodes (*Meloidogyne incognita* and *M. javanica*), the most common plant-parasitic nematodes found were: *Tylenchorhynchus* spp., *Pratylenchus* spp., *Zygotylenchus* spp., *Merlinus* spp., *Tylenchus* spp.. Additionally, *Dorylaimus* spp., *Eudorylaimus* spp. and *Xiphinemella* spp. were recorded but their impact on potato and tomatoes is not known. Several free living nematodes such as *Acrobeloides* spp., *Acrobeles* spp., *Diplogaster* spp., and *Rhabditis* spp. were also found.

The coastal region from Khoms to Zawia is an area known for vegetable production, namely tomato (*Lycopersicon esculentum*) and potato (*Solanum tuberosum*). Many nematodes known to cause economic losses were found associated with crops in Libya (4). This paper is designed to establish the identity of other nematodes associated with the rhizosphere of these crops.

Soil samples were collected at random from the root zone of tomato and potato from Ameriya, Azizia, Garabulli, Hadba Khadra, Swani, Zawia, and Tajora. These soil samples were processed using sieving and gravity techniques. Recovered nematodes were killed in hot water and fixed in F.A.A. (1, 5). The extracted nematodes were identified to genus based on their morpho-anatomical features (3).

Most of the nematodes genera were found to be ectoparasitic root feeders. Previous work (4) indicates that stunt nematode (*Tylenchorhynchus* spp.) and (*Merlinus* spp.) were pathogenic to some crops. Edongali and Lounsberry (2) found that *Tylenchorhynchus clarus* could reach a high population level on tomato without noticing any apparent symptoms or damage.

The following listings (Table 1) could be of importance for future crop management suggested speciation of these nematodes as well as their host parasitic relationships will be an important area for future research.

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Table 1. Nematodes associated with tomato (*Lycopersicon esculentum*) and potato (*Solanum tuberosum*) at different localities.

Location	Nematode spp.	Host	Frequency*
Ameriya	<i>Aphelenchoides</i> spp.	Tomato	4
	<i>Pratylenchus</i> spp.		2
	<i>Tylenchorhynchus</i> spp.		2
	<i>Notothylenchus</i> spp.		1
	<i>Merlinus</i> spp.		1
	<i>Aphelenchus</i> spp.		2
	<i>Tylenchus</i> spp.		1
	<i>Dorylaimus</i> spp.		2
	<i>Acrobeles</i> spp.		5
	<i>Diplogaster</i> spp.		2
	<i>Acrobiloides</i> spp.		2
	<i>Tylenchorhynchus</i> spp.		3
	<i>Tylenchus</i> spp.		1
	<i>Aphelenchus</i> spp.		1
Azizia	<i>Dorylaimus</i> spp.	Tomato	4
	<i>Endorylaimus</i> spp.		1
	<i>Acroboles</i> spp.		5
	<i>Acroboloides</i> spp.		3
	<i>Diplogaster</i> spp.		3
	<i>Xiphinemella</i> spp.		1
	<i>Panagrolaimus</i> spp.		
	<i>Tylenchorhynchus</i> spp.		2
	<i>Pratylenchus</i> spp.		1
	<i>Dorylaimus</i> spp.		2
	<i>Acrobeles</i> spp.		2
Garabulli	<i>Diplogaster</i> spp.	Tomato	1
	<i>Acrobeles</i> spp.		3
	<i>Dorylaimus</i> spp.		1
	<i>Pratylenchus</i> spp.		2
Hadba Khadra	<i>Zygotylenchus</i> spp.	Tomato	1
	<i>Cricanemoides</i> spp.		1
	<i>Acroboloides</i> spp.		1
	<i>Acroboles</i> spp.		2
	<i>Dorylaimus</i> spp.		3
	<i>Tylenchorhynchus</i> spp.		1
	<i>Isolaimus</i> spp.		1
	<i>Acroboles</i> spp.	Potato	2
	<i>Dorylaimus</i> spp.		3
	<i>Tylenchorhynchus</i> spp.		1
	<i>Isolaimus</i> spp.		1
	<i>Aphelenchoides</i> spp.	Pepper	1
	<i>Diplogaster</i> spp.		1
	<i>Acrobeles</i> spp.		1
	<i>Acrobelindes</i> spp.		3
Swani	<i>Dorylaimus</i> spp.	Tomato	5
	<i>Aphelenchus</i> avenue		1
	<i>Pratylenchus</i> sp.		1
	<i>Tylenchorhynchus</i> spp.		1
	<i>Xiphinemella</i> spp.		1
	<i>Acroboles</i> spp.	Potato	2
	<i>Acrobolindes</i> spp.		1
	<i>Dorylaimus</i>		2

Location	Nematode spp.	Host	Frequency*
Zawia	<i>Acrobeles</i> spp.	Pepper	1
	<i>Paraphelenchus</i> spp.		1
	<i>Aphelenchoides</i> spp.		1
	<i>Tylenchorhynchus</i> spp.		1
	<i>Acrobeles</i> spp.	Tomato	2
Tajora	<i>Diplogaster</i> spp.		2
	<i>Aphelenchus</i> spp.		1
	<i>Acrobeles</i> spp.	Tomato	5
	<i>Acroboloides</i> spp.		2
	<i>Diplogaster</i> spp.		2
	<i>Rhabditis</i> spp.		1
	<i>Aphelenchus</i> spp.		1
	<i>Dorylaimus</i> spp.		2
		Potato	
	<i>Eudorylaimus</i> spp.		1
	<i>Diphtherophora</i> sp.		1
	<i>Acrobeles</i> spp.		1
	<i>Acroboloides</i> spp.		1

*No. of detections per sample.

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حصر أولي للديدان الثعبانية على محاصيل الخضروات في المناطق الغربية بالجمهورية

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المستخلص

لقد تم حصر الديدان الثعبانية بالشريط الساحلي في المنطقة الممتدة من الزاوية غرباً إلى الخمس شرقاً ، حيث جمعت عينات من التربة والنباتات من مختلف الحقول المزروعة بالخضروات ، وتم فصل الديدان الثعبانية في المعمل بطريقة الغرايل والأقماع ، ثم حفظت العينات في محلول الحفظ (FAA) (فورمالين ، كحول ، وحامض الخليك) ، وذلك بعد قتلها بالحرارة .

وقد تبين من الفحص التعرف على الديدان الثعبانية المتطفلة على النباتات مثل :

Meloidogyne incognita, *M. javanica*, *Pratylenchus* spp., *Tylenchorhynchus* spp., *Zygotylenchus* spp., *Merlinus* spp. *Tylenchus* spp.

Eudoryloimus spp., *Dorylaimus* spp., *Xiphinemella* spp.

بالإضافة إلى

والتي لا يعرف ضررها على النباتات . هذا بالإضافة إلى وجود ديدان ثعبانية حرة المعيشة مثل :

Acrobeloides spp., *Acrobeles* spp., *Diplogaster* spp., and *Rhabditis* spp.