

Predatory and plant parasitic nematodes from Hormozgan province

R. NOWRUZI and S. BAROOTI

Plant Pests and Diseases Research Institute

ABSTRACT

Having an effective role in biological control of plant parasitic nematodes, the predatory species of suborder Mononchina have been collected from Hormozgan soils and studied. To perform an study of species complex, 61 soil samples were collected from rhizosphere of orchard trees and vegetables in 19 agricultural localities. Nematodes have been extracted by Jenkins (1964) and Killed and fixed by De. Gresse (1965), then counted by counting slide to determine their generic status. This study showed 3 out of 19 species encountered, belonging to a predatory genus which are as follow:

- 1- *Mylonchillus minor* (Cobb 1893), Cobb 1916 with a population of 10-50 in 500g. of soil.
- 2- *M. signaturus* (Cobb 1917) Altherr, 1953 with a population of 10-20 in 500g. of soil.
- 3- *M. signaturellus* (Mulvey, 1961) being a new species to nematode fauna of southern Iran.

This study revealed *M. minor* as the dominant species of the region. This species basically is found in tropical regions such as Brasil. In addition the population density per 500g of soil was shown low, while the density was higher in rhizosphere of orange and tangerin trees which reached 450-500 per 500g. of soil. Related to species diversity and population density *Helicotylenchus* an first and *Psilenchus* was the last.

References

- AZMI, M. I. 1991. Predatory behaviour of nematodes II. Interact of *Meloidogyne javanica* and *Mylonchulus minor* on su-babool seedling. Current Nematology (1991) 2(1)87.
- BRAIN, S. de; HEYNS, Jo and De BRAIN, S. 1992. "Mononchida" Nematode of southern Africa. Phrrophrlactica 24 (1) 61-73.
- CHOVES, E. (1990). Mononchida from Argentina. Nematologica, 36(2)181-193.
- CHOI, Y. S. and CHOI, Y. E. 1987. A taxonomical and morphological study of predatory nematodes (*Mononchus*) in Korean Journal of Plant Protection. 26(4) 209-211.
- COHN, E. 1975. Biological control of citrus nematode. Agricultural Research Organization. 127 [En].
- COBB, N. A. 1913. Citrus root nematode. J. Wash. Acad. Sci. 2: 217-230.
- COBB, N. A. 1916. Notes on new genera and species of nematodes. Subdivisions of "Mononchus". J. Parasitorl. 2: 195-196.
- COBB, N. A. 1917. The Monochus (*Mononchus* Bastian 1866), A genus of free-living predatory nematodes. Soil Sci. 3, 431-496.
- DE GRISSE, A. 1965. A labor-saving method for fixing and transferring eelworms to anhydrous glycerin. offset, University of Gent, 3pp.
- JAIRAJPURI, M. S.; AZMI, M. I. and BAJAJ, H. K. (1975). Studies on nematode behaviour. I. Effect of pH and salt concentration on the survival of *Hoplolaimus indicus*, *Helicotylenchus indicus*, *Xiphinema basiri*, *Mylonchulus minor*. Indian Journal of Nematology. 4(2)171-181.
- JENKINS, W. R. 1964. A rapid centrifugal-floatation technique for separating nematodes from soil. pl. Dis Repr 42: 692.
- KHAN, H. A. & SAEED, M. 1987. *Pokmrionchulus*, New genus (Mononchidae: Mylonchulidae) with notes on *Mylonchulus nainitalensis* Jairajpuri, 1970 and *M. sigmaturus* (Cobb, 1917) Altherr 1953 from Pakistan. Pakistan Journal of zoology. 19 (4) 313-320.
- LOOF, P. A. A. 1987. On the systemic position of *Mononchus bathybius* Micoletaky, 1913 (Mononchina: Nematoda). Rev.Nematol.10: 491-493.
- LOOF, P. A. A.; BAROOTI, S.; KHEYRI, A.; 1990. Predatory nematodes (Mononchina) from Iran. Appl. Ent. & Phytopath. Vol.57: 99-114.

- MULVEY, R. H. 1961. The Monochidae: A family of predaceous nematodes I. Genus *Mylonchulus* (Enoplida: Mononchidae). Can. J. zoology 39: 665-696.
- SMALL, R. W. & GROOTAERT, P. 1983. Observation on the predation abilities of some soil dwelling predatory nematodes. Nematologica 89: 109-118.
- STEINER, G. & HEINLY, H. 1922. The possibility of control of *Heterodera radicicola* and other plant infesting nemas by means of predatory nemas, especially by *Mononchus papillatus* Bastian, J. Wash. Acad. Sci. 12: 367-386.
- VOLCY, C. 1988. Study of the monochidae nematodes in Antioquia, Colombia, II, superfamily monochoidea 12(1-2) 29-33.
- YEATES, G. W. 1987. Distribution of Mononchoidea (Nematoda: Enoplea) in pasture soils, with description of *Iotonchus stockdillia* n. sp. New Zealand Journal of Zoology. 14(3) 351-358.

Address of the authors: R. NOWRUZI and S. BAROOTI, Plant Pests and Diseases Research Institute, P. O. Box 19395-1454, Teharn, IRAN.