

THE PREDATORY BEHAVIOUR OF *MONONCHUS AQUATICUS* : Irfan Ahmad, Section of Nematology, Department of Zoology, Aligarh Muslim University, Aligarh-202001.

The predatory behaviour of *Mononchus aquaticus* Coetzee, 1968 was studied in agar plates. Observations were made on the prey catching mechanism, attraction towards prey, predation rate, prey selection and the effect of isolation of predator on predation.

The results indicated that *M. aquaticus* was not attracted towards prey species and contact with prey was necessary to initiate an attack. Once caught, the prey was pulled backwards as a result of a sharp withdrawal of the predator. Small prey were usually swallowed whole but only the internal parts were sucked of the larger ones. The rate of predation varied with the type of prey available and of the five species used, *Cephalobus* sp. was preyed on most and *Prismatolaimus* sp. the least. *Aglenchus parvus*, *Chiloplacus symmetricus* and *Mesorhabditis* sp. represented prey of intermediate grouping. Predation of these nematodes seemed to be related to their activity suggesting that the less active species were more vulnerable to attack than the more active ones. The pattern of predation in a mixed population indicated some degree of selection. Prey numbers and the isolation of predators did not significantly influence the rate of predation.

COMMUNITY ANALYSIS OF SOIL AND PLANT PARASITIC NEMATODES OF HILLY AREAS OF SOUTHERN DISTRICTS OF TAMIL NADU : G. J. Samathanam and M. L. Chawla, Division of Nematology, Indian Agricultural Research Institute New Delhi-12.

For the past few years Government organizations and other private bodies like Coffee Board, UPASI, and Cardamom Board are paying much attention in the hilly areas of South India to bring more area under cultivation of foreign exchange earning potential crops of various beverages, spices and condiments. In this target, southern districts of Tamil Nadu share considerable area of about 4,72,000 ha. In view of the meagre information available about nematode fauna, a study on the Community analysis of soil and plant parasitic nematodes of hilly areas of southern districts of Tamil Nadu was carried out by analysing 131 soil/root samples collected from the rhizosphere of 65 different crop plants, with a view to provide information about the absolute and relative frequency, density, biomass, prominence and importance values of 43* different nematode species which are identified under 26 genera, 16 families, 7 super families, 4 sub-orders and 2 orders of Tylenchida and Dorylaimida. Such a presentation is an improvement over the

conventional way of presenting survey results by mere listing species. This is so because the importance value incorporates the energetics of the ecosystem rather than the ever-fluctuating rupee value of the crop.

RNA AND RNase ACTIVITY FROM TOMATO PLANTS IN RELATION TO RESISTANT RESPONSES AGAINST THE ROOT-KNOT NEMATODE, *MELOIDOGYNE INCOGNITA* : D. Premachandran, Division of Nematology, Indian Agricultural Research Institute New Delhi-12.

Investigations aimed at exploring the basic molecular mechanism in the plant-nematode interaction in relation to the resistance of tomato plants to *Meloidogyne incognita* were carried out. The total RNA content increased in roots of both the varieties, the increase being remarkable in the resistant var. SL-120. A general increase in RNA nucleotides was noticed in the inoculated plants; the increase was in the adenylic and guanylic acids in Pusa Ruby (susceptible var.) while in SL-120 cytidylic and guanylic acids had increased. In parallel, the soluble proteins were also observed to increase. A bimodal increase in RNase activity in galled tissues, one early and the other quite late during infection was noticed. Contrary to this, only a unimodal increase was seen in the resistant reacting variety. The possible contribution of the nematode as contaminants to the increase in plant RNase was judged to be insignificant. Purification and characterization of the RNase activity from the inoculated and healthy plants of both the varieties gave clear indications for *do novo* synthesis of RNase isozyme in the inoculated SL-120. The results are hence suggestive of preferential synthesis of RNA in the inoculation tomato, especially in the resistant reacting plants. Indications are there to suggest an acceleration of the protein biosynthetic machinery of the cell quite early during infection. On the basis of the studies conducted in this laboratory and elsewhere, a hypothesis on the molecular events taking place in plant-nematode interaction has been suggested.

POPULATION ESTIMATION OF CITRUS NEMATODE, *TYLENCHULUS SEMIPENETRANS* COBB, 1913 : S. B. Sharma and M. L. Chawla, Division of Nematology, Indian Agricultural Research Institute, New Delhi-12.

For developing diagnostic and advisory services as guides to effective control of nematode diseases, accurate estimation of population is the foremost necessity