

EVALUATION OF ENTAMOPATHOGENIC NEMATODES AGAINST *AETHERASTIS CIRCULATA*

S. Thankamony and V.T. Jose

Rubber Research Institute of India, Kottayam- 686009, Kerala, India

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A total of 345 soil samples from rubber growing areas were collected from ten districts of Kerala to find out the natural occurrence of entomopathogenic nematodes (EPN). Bioassay of samples was conducted by soil baiting technique using fifth instar larvae of greater wax moth, *Galleria mellonella*, under the laboratory condition. Seventy three samples (21%) yielded EPN, among these 61 samples (18%) collected from Thiruvananthapuram, Kottayam, Thrissur, Palakkad, Kozhikode and Malappuram regions yielded both *Heterorhabditis* and *Steinernema* spp. Twelve soil samples (3%) collected from Kollam, Pathanamthitta, Ernakulam and Idukki regions showed the presence of *Heterorhabditis* sp. alone. Laboratory and field evaluation of EPN against bark feeding caterpillar, *Aetherastis circulata* infesting rubber plants was conducted. The results of the laboratory study showed 84 per cent mortality of second instar larvae of *A. circulata* within 24 h followed by 88 and 92 per cent mortality of third and fourth instar larvae, respectively when they were inoculated with EPN @ 320 ijl/5 larvae. Hundred per cent mortality was recorded at 48 h of exposure. The multiplication rate was found to be reduced at lower as well as higher inoculum levels. No significant effect was noticed upon the field application of EPN against *A. circulata*.

Keywords : *Aetherastis circulata*, Biocontrol, Entomopathogenic nematodes

Entomopathogenic nematodes (EPN) belonging to the genera, *Steinernema* and *Heterorhabditis* are recognized as potential biocontrol agents for a range of insect pests of agricultural importance (Poinar, 1979). The important attributes making these nematodes ideal for biocontrol are their broad host range, high virulence, safety to non-target organisms, ability to search for hosts, high efficiency in favourable habitats, high reproductive potential, ease of mass production and compatibility with control strategies (Kaya and Gaugler, 1993). Hence, numerous surveys were conducted world wide and these nematodes were recovered

from many habitats. The objectives of the present study were to investigate the occurrence of EPN in rubber growing soils, collect locally adopted isolates and evaluate their bio-control efficiency against the bark feeding caterpillar, *Aetherastis circulata*, under laboratory and field conditions.

A total of 345 soil samples were collected from ten districts of Kerala, viz. Thiruvananthapuram, Kollam, Pathanamthitta, Kottayam, Ernakulam, Thrissur, Palakkad, Kozhikode, Malappuram and Idukki to find out the natural occurrence of EPN in rubber growing soils. The samples were collected