

Natural occurrence of mermithid nematode in larval population of groundnut bud borer, *Anarsia ephippias* (Meyrick)

Y Peeru Saheb¹, K V Hariprasad^{1*}, T Murali Krishna² and N C Venkateswarlu¹

¹S. V. Agricultural College, ANGRAU, Tirupati, Andhra Pradesh, India

²Regional Agricultural Research Station, ANGRAU, Tirupati, Andhra Pradesh, India

*E-mail:kvhp@hotmail.com

Nematodes belonging to the family Mermithidae, have been reported as generalist parasites of insects, spiders, crustaceans, leeches and other invertebrates. Insects belonging to Diptera, Orthoptera, Lepidoptera are mainly attacked by these nematodes (Prabhakar *et al.*, 2010). Mermithid species have been extensively studied as potential bio-control agents for mosquitoes (Platzer, 1981) and these not only cause epizootics in general insects and other invertebrates (Nickle, 1972; Alireza, 2014), but also recorded on insect pests of crops which are economically important such as *Helicoverpa armigera* Hub. (Bhatnagar *et al.*, 1985).

An experiment was conducted at S.V. Agricultural college farm, Tirupati, during *rabi* 2014, to identify the mechanism of plant resistance involved in groundnut genotypes to leaf and bud borer, *Anarsia ephippias* (Meyrick). During the period of study, it was observed, that the field collected larvae of bud borer had significant mortality from nematode infection (Table 1). These nematodes were identified from National Bureau of Agricultural Insect Resources (NBAIR), Bangalore as belonging to the family Mermithidae. The per cent parasitization during October-November, 2014 varied from 13 to 40%.

Incidence of nematode coincided with rainfall (30-58mm) during the period of research work at Tirupati, Chittoor district, A.P., which receives rains, mostly during October and November, under the influence of North East Monsoon.

The infestation noticed mostly from 3rd instar larvae of bud borer. The larvae, infected by the nematode, became sluggish and after 3-4 days, the larvae died with cadaver anchored to the surface of the foliage (Plate 2). The nematode emerged from the abdominal segment of the larvae and was seen along with the larval cadaver. Soon after emergence, the nematode became coiled in position (Plate 1). The nematode uncoiled and became active, when provided with a drop of water. Generally only one nematode was seen emerging from the infested larvae.

We assume that groundnut bud borer, *A. ephippias* though being reported as pest of sporadic occurrence on groundnut in Rayalaseema region of Andhra Pradesh, it has rarely reached the status of economic importance probably due to natural parasitization by mermithid nematodes. This forms preliminary report of occurrence of mermithids as natural mortality factor of bud worm from Rayalaseema region of Andhra Pradesh, India.

An unidentified mermithid nematode recorded in natural population of groundnut bud borer, *Anarsia ephippias* resulted in 13-40 % parasitization.

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Table 1: Parasitization of groundnut bud borer larvae by Mermithid nematode

Date of collection	Number of larvae observed	Number of mermithid affected larvae	Parasitization %	Rainfall (mm)
9-10-2014	20	8	40	41.5
20-10-2014	100	35	35	54.0
1-11-2014	85	13	16	30.0
15-11-2014	45	6	13	58.0



Plate 1: Mermithid in coiled position



Plate 2 : Mermithid along with the insect cadaver

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