

PARASITES AND PREDATORS OF THE COWPEA POD BORER, *MARUCA TESTULALIS* (LEPIDOPTERA; PYRALIDAE).

ABSTRACT

Two tachinid parasites *Thelairosoma palposum*, *Pseudoperichaeta laevis* and a larva of a mermithid nematode were found as new parasites attacking *Maruca* larvae. Predators such as ants, spiders, mantids, hylid frogs and skinks, equally attacked the borer larvae.

INTRODUCTION

The pod borer, *Maruca testulalis* Gey; is a major pest of the cowpea, *Vigna unguiculata* (L) Walp. (Taylor, 1964, 1967; Booker, 1964). This pest is known to attack different legume varieties. Wolcott (1933) reported that it was one of three pod borers attacking lima beans in Puerto Rico. Lever (1944, 1967) recorded it as an important pest of *Cajanus cajan*, *Crotolaria* sp and cowpeas in Fiji. It has also been reported as a pest of *C. cajan* in Sri Lanka, cowpeas in South Africa (Phelps and Oosthuizen, 1958), groundnuts in Uganda (Jepson, 1948) and Nigeria (Misari, 1975), *Poinciana* sp and *Phaseolus vulgaris* in Sierra Leone (Hargreaves, 1937).

Despite the wide distribution of *M. testulalis* in legumes throughout the tropical and subtropical world, very few parasites or natural enemies of this insect have been recorded. Risbec (1950) reported a braconid *Parachemylus* sp as a parasite of the larva in West Africa; Moutia (1957) recorded *Bracon hebetor* in Mauritius while Taylor (1967) obtained four parasites, *Braunsia* sp, *Phanerotoma* sp, *Musca domestica* form *calleva* and *Typosilopa* sp from *Maruca* larvae in Nigeria.

The pest status of *M. testulalis* is well known and it is not surprising that a lot of work is being undertaken in research institutions throughout the tropics to control it.

This paper is a contribution to the world-wide effort to control *M. testulalis* and it gives information on the parasites and predators of the pest.

MATERIALS AND METHODS

Parasites and Predators:

Maruca larvae and pupae were collected from the field and reared in the laboratory for parasite emergence. Sometimes larvae were also dissected. The predators were observed in the field. Some of the predators such as hylid frogs and skinks were dissected and the presence of bits of *Maruca* larvae in the gut confirmed predator status.

RESULTS

Parasites and predators:

The parasites and predators recorded during the period of investigation are given below. All the parasites were obtained from the borer larvae. A few vertebrate predators mainly hylid frogs and skinks are yet to be identified.

Parasites

DIPTERA:

TACHINIDAE.

*Thelairosoma palpsoum**Pseudoperichaeta laevis*

HYMENOPTERA:

EULOPHIDAE.

Tetrastichus sp —

BRACHONIDAE.

Phanerotoma sp —*Braunsia* sp.

NEMATODA:

MERMITHIDAE.

? genus and species, larva.

Predators

ARANEAE:

SELENOPIDAE.

Selenops radiatus - attacks larva and adult.

HYMENOPTERA:

FORMICIDEE.

Campanotus sericeus - attacks larva

DICTYOPTERA:

MANTIDAE.

Polyspilota aeruginosa -attacks adult moth.*Spodromantis lineola* - attacks adults moth.

DISCUSSION

Very little has so far been reported on the parasite - predator complex of *Maruca*. Taylor (1967) found only four parasites of which *M. domestica* form *calleva* was one. This parasite, incidentally, was not encountered during this study. New parasites *T. palpsoum* and *P. laevis* as well as *Tetrastichus* sp. were recorded. A parasitization level of between 10 and 15 percent was recorded in the main cowpea growing season (September plants) at I.I.T.A., Ibadan between October and December, 1974 (unpublished data).

An undetermined larva of a mermithid nematode parasite was dissected out of *Maruca* larvae. Nematodes of the superfamily Mermithoidea are obligate parasites which always sterilize and kill their host (Gordon and Webster, 1974). This is the first record of this parasite on *Maruca* and it is hoped that it would be utilized in association with other insect parasitoids in the integrated control of *Maruca*.

In addition to the parasites, there were a few predators of which mantids, ants, spiders, hylid frogs and skinks were common. The hylid frogs were particularly important in the control of *Maruca*. In a cowpea plot 10 × 15m, six frogs were picked up one morning and on dissection as many as 2 to 3 larvae were extracted from the gut of each frog.

ACKNOWLEDGEMENT

We thank the Director, International Institute of Tropical Agriculture, Ibadan for the facilities and for permission to publish the results. We are also grateful to the Director, Commonwealth Institute of Entomology, London and Professor Robert van den Bosch, University of California, Berkeley, for identifying the parasites and predators. One of us (Dr. E. J. Usua) is grateful to the University of Lagos for sabbatical leave to undertake this research.

Received for Publication Dec. 30, 1977

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