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INCIDENCE OF PARASITISM IN *EPINOTIA APOREMA* (WALSINGHAM, 1914) (LEPIDOPTERA-TORTRICIDAE), IN SOYBEANS

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ABSTRACT

Larvae of the budworm, *Epinotia aporema* (Walsingham, 1914) (Lepidoptera, Tortricidae) were collected weekly in soybean fields in Ponta Grossa, Paraná State, Brazil, from January 25 until March 15, 1977. The specimens collected were reared in laboratory, and daily observations were made to determine the occurrence of parasitism. One species of microhymenopterous, of the braconid family, *Agathis* sp. was reared from larvae of *E. aporema*. Highest percentages of parasitism were recorded at the end of the vegetative stage of soybeans, at the peak of larval population in the field.

INTRODUCTION

The budworm, *Epinotia aporema* (Walsingham, 1914) (Lepidoptra, Tortricidae) has rapidly become one of the most serious pests attacking soybeans in certain areas in Brazil. During the 1973-74 season, it was the second most abundant lepidopterous pest in Ponta Grossa (Corrêa & Smith, 1976), and in 1977 - 78 the first author observed severe damage to soybean pods due to the attack of *E. aporema* in Lapa, Paraná.

Little work has been carried out on this species; Morey (1972) studied the biology of *E. aporema* on broad beans and described the last instar larvae, and Corrêa & Smith (1976) studied the occurrence of larvae and adults of *E. aporema* through the 1973 - 74 soybean season. Neither of these authors however refers to the occurrence of parasitism in *E. aporema*, and Panizzi *et alii* (1977) mention the tachinid *Nemorilla ruficornis* parasitising larvae of *E. aporema*.

During the 1976 - 77 season, field and laboratory studies were conducted to investigate the occurrence of parasitism on *E. aporema*, its incidence levels and seasonal occurrence.

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MATERIALS AND METHODS

According to the availability, larvae of *E. aporema* were randomly collected in insecticide-free soybean fields from January 25 until March 15,1977 in Ponta Grossa and brought to the laboratory. The specimens were maintained individually in 9.1 cm plastic Petri dishes containing young soybean leaves and kept in a constant temperature room at 25ºC ± 2ºC and relative humidity of 70±5%. The date of capture and the number of specimens collected were registered , and daily observations were made until the emergence of either the adult moth or the parasite.

RESULTS AND DISCUSSION

One species of microhymenopterous, *Agathis* sp. (Hymenoptera:Braconidae) was obtained from the larvae of *E. aporema* collected in Ponta Grossa. Figure 1 shows the number of larvae collected each week and the rate of parasitism obtained in the laboratory. Parasitised larvae began to appear at the end of January at the V4 stage according to the growth stages of Fehr *et alii* (1971). The incidence of parasitised larvae increased gradually, and reached its peak in February 8 at V6, with 50% of the larvae containing parasites. As the plants in the field were reaching the end of the vegetative period and beginning to bloom, the larval population began to fall (Calderón, 1977) and the rate of parasitism decreased steadily. By the time the larvae started the attack to the stems and pods, in the blooming and pod-filling stages, no parasitised larvae was found.

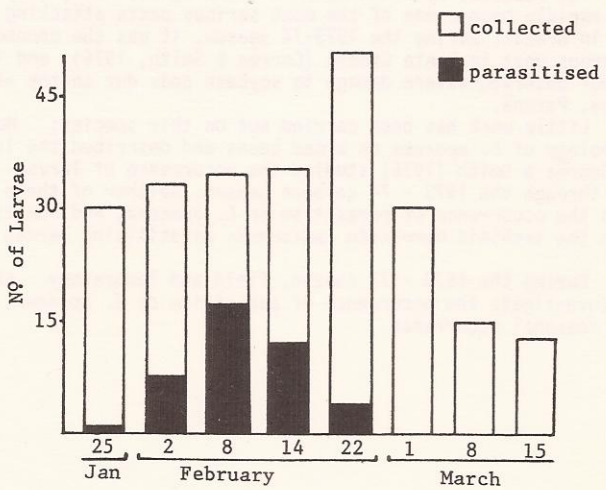

Fig. 1. Levels of incidence of *Agathis* sp. in larvae of *E. aporema* in Ponta Grossa, 1977.

Larvae of *E. aporema* parasitised by *Agathis* sp. did not differ from healthy ones until they pupate. Parasitised larvae did not form the pupae, but formed a whitish web from where emerged a single parasite.

The time between the capture of the larvae and the emergence of the parasite lasted from 13 to 27 days, with an average of 18,9 days for 41 parasitised larvae observed.

This is the first citation of *Agathis* sp. parasitising larvae of *E. aporema* in Brazil. Corrêa (1975) mentioned the occurrence of *Agathis* sp. in soybean fields in Ponta Grossa, without however identifying its host. The tachinid, *N. ruficornis* quoted by Panizzi *et alii* (1977) was not observed in our experiments.

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