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SHORT COMMUNICATION

Oviposition Site of *Megalurothrips sjostedti* (Tryb.) (Thysanoptera: Thripidae) on cowpea flowers.

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ABSTRACT

To establish the oviposition sites of Megalurothrips sjostedti (Tryb.), five different parts of cowpea flowers were sampled for eggs. Before examinatgion, the flower parts were boiled in lactophenol to make them transparent. The investigation revealed a very high percentage (94.2%) of the total number of eggs in the calyx tube of the cowpea flower indicating that *M. sjostedti* oviposits mainly on the calyx tube. The remaining eggs (5.8%) were found in flower petals.

INTRODUCTION

Lewis (1973) stated that the eggs of Terebrantia are cylindrical, slightly kidney-shaped with smooth delicate pale white and yellow shell and are also usually embdded in plant tissues. Ecological studies on *Megalurothrips sjostedti* (Tryb.) have shown that this species of thrips commonly and mainly lives and breeds in flowers of legumes. Thus large numbers of *M. sjostedi* have been reported in flowers of runner beans (Faure, 1960) and cowpea (Phelps and Oethuizen, 1958; Okwakpam, 1967; Whitney, 1972; Salifu and Singh, 1987; Salifu and Hodgson, 1987). The latter two authors also found these thrips on racemes of cowpea. The feeding damage to flower parts results in their necrosis and/or abscission giving yield losses estimated at between 20 and 100% (Singh and Allen, 1980).

Presence of all the larval stages of *M. sjostedti* in the flowers of cowpea has been established by Okwakpam (1978). It was therefore suspected by the present author that the eggs of this species would be laid somewhere within the tissues of any part or specific parts of the flower. It is also important, in formulating IPM strategies, to estab-

lish the exact oviposition sites of the target pest species. Hence, the present study was carried out to establish the exact part of the flower where *M. sjostedti* mainly lays its eggs.

MATERIALS AND METHODS

The flowers used in this study were collected from cowpeas planted in the Research and Teaching farm of the University of Ibadan in 1977. Only unopened and freshly opened flowers were used. In the Laboratory, the various flower parts were separated and then boiled in lactophenol until each part become transparent. Each part was then separately placed in a counting dish and examined for eggs under a binocular microscope. The various flower parts examined included the peduncle, the calyx tube (cut to flaten), the flower petals ('standard', 2 'wings and 2 'keels' and the stigma tube) including young developing pods. A total of 50 flowers was examined. Numbers of eggs found in each floral part were recorded. The chi-squared test was performed on the data.

RESULTS AND DISCUSSIONS

Eggs of *M. sjostedti* were found embedded only in some parts of the flower. Table 1,

Table 1: Percentage number of eggs on M. sjostedti counted in different parts of cowpea flowers (N = 50)

Flower part	Number of eggs	Percentage occurrence
Young pod	0	0.00
Peduncle	0	0.00
Calyx tube	424	94.20
Petal 1 (Standard)	17	3.80
Petal 2 (Wing)	5	1.10
Petal 3 (Wing)	4	0.90
Petal 4 (Keel	0	0.00
Petal 5 (Keel)	0	0.00
Stigma tube	0	0.00

$X^2 = 58.05$
P = 0.001
N = Total number of cowpea flowers examined

gives the distribution of the eggs counted in the various parts of the flowers examined. No eggs were found in young developing pods withins the flower and also in any flower peduncle. Of the flower petals, no eggs were found in the'keels' probably because the 'keel' petals are too thin to accommodate the eggs. Two per cent of the total number of eggs counted were in the 'wings' petals, and another 3.8% were in the 'standard' petal thus making a total of only 5.8 in the flower petals. The greatest number of eggs (94.2%) was found in the calyx tube which had significantly higher ($x^2 = 58.05$, $P = 0.001$) number of eggs than the petals. It is, therefore, evident that the calyx tube is the preferred oviposition site of *M. sjostedti*. The calyx tube is thick and fleshy and consequently had enough room for insertion and concealment of the eggs. Such concealment also offered protection to the emerging larvae. Since it is not shed off as the petals, it follows that eggs laid later could still hatch after the petals have fallen off thereby enhancing survival of the species under such circumstances.

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