

THE HOST PREFERENCE OF *MYLLOCERUS CURVICORNIS* (F.) —A PEST OF COCONUT PALM

Myllocerus curvicornis (F.) has been recorded as a pest of coconut palm in Kerala. (Kurian *et al.*, 1978). It is a polyphagous insect infesting *Acacia* sp., tea (*Camellia thea*) Cocoa (*Theobroma cacao*) (Marshall 1916) and *Erythrina lithosperma* (Light 1927).

Results of observations made on hosts of the insect and its relative preference to some of them are presented in this paper. To identify the alternate hosts of the insect nearly all the plants cultivated or naturally growing in the coconut gardens at CPCRI, Regional Station, Kayamkulam and neighbourhood, were examined, screened periodically during 1977-'78 and those plants on which it fed were recorded as its alternate hosts. The present study was confined to six species of plants namely *Cocos nucifera* L., *Theobroma cacao* L., *Mangifera indica* L., *Glyricidia indica*, *Stylosanthes gracilis* Sw. and Hybrid Napier which were most preferred by the weevil in the field.

The relative feeding preference of the weevil was ascertained by the leaf disc feeding test method of Bornes and Ratcliffe (1967). Leaf discs of 1 cm in diameter were cut out from healthy leaves of the host plants using a cork borer and placed in petridishes (15 cm in diameter) lined with moistened filter paper at the rate of five discs per dish of each plant.

Middle aged, normal looking and active weevils collected from the field were sexed and starved for 24 hours. After recording the initial weight of the leaf discs ten male weevils were released in two dishes and ten females in another pair of dishes. One dish was kept without releasing the weevils to evaluate the loss of weight due to evaporation. The trial was carried out in the laboratory under a temperature range of 28 to 30°C and RH range of 75 to 79%. After 24 hours of feeding the weight of the leaf discs was taken. This method of estimation was replicated 12 times at the rate of one in each month of the year (Table 1). The quantity of leaf consumed by the weevil from each plant was worked out as follows:

$$\frac{\text{Initial weight in treatment} - \text{weight in control after 24 hrs.}}{\text{Initial weight in control}} \quad | \quad \text{— weight after 24 hrs. in treatment}$$

Statistical analysis of the data showed that significant difference between the different plants existed with regard to the quantity of leaves consumed by the weevils (Table 2). Sex of the insect and different months have no significant effect on feeding. Interactions also were not significant. The feeding on *S.gracilis*, *G. indica*, *T. cacao* and *M. indica* was significantly greater than on

Table 1

Average consumption of various plant leaves during different months, g/weevil

| Host | January | February | March | April | May | June | July | August | September | October | November | December |
|------------------------------|---------|----------|--------|--------|--------|--------|--------|--------|-----------|---------|----------|----------|
| <i>Cocos nucifera</i> | .00026 | .00102 | 0 | .00039 | .00069 | .00003 | .00039 | 0 | .00051 | .00006 | .00305 | .00074 |
| <i>Theobroma cacao</i> | .03219 | .01173 | .00390 | .00437 | .00708 | .01665 | .01846 | .00559 | .01362 | .00369 | .01230 | .01050 |
| <i>Mangifera indica</i> | .01408 | .00856 | .01776 | .01512 | .00680 | .00623 | .04420 | .01854 | .00895 | .01822 | .00798 | .00830 |
| <i>Glyricidia indica</i> | .03520 | .01423 | .00384 | .00222 | .00591 | .03352 | .04420 | .01773 | .02260 | .02260 | .01635 | .01736 |
| <i>Stylosanthes gracilis</i> | .00884 | .00584 | .14551 | .02292 | .01183 | .03121 | .03104 | .03321 | .03392 | .0148.1 | .01441 | .01790 |
| <i>Hybrid Napier</i> | .00193 | .02293 | .00409 | .01005 | .00093 | .01311 | .00076 | .00110 | .00088 | .01298 | .00179 | .00155 |

apparently healthy leaves of coconut. The most preferred plant for feeding was *S. gracilis* followed by *G. indica* and *M. indica*, the feeding rate being 0.0309, 0.0186 and 0.0140 g/weevil respectively. The rates of feeding of the weevil during different months are given in Table 1. During March, *S. gracilis* was preferred very much over other leaves. During June, July and September *S. gracilis* and *G. indica* were preferred over other plants. It may thus be observed that *S. gracilis* and *G. indica* which are now encouraged as intercrops in coconut gardens [are the preferred hosts of *M. curviconis* and may serve as spring boards for infestation on coconut palms.

Table 2
Mean consumption of various plant leaves within 24 hrs, g/weevil

| Hosts | Male | Female | Mean |
|----------------------------------|----------------|----------------|----------------|
| <i>Cocos nucifera</i> L. | 0.00077 | 0.00042 | 0.00060 |
| <i>Theobroma cacao</i> L. | 0.01362 | 0.00972 | 0.01167 |
| <i>Mangifera indica</i> L. | 0.01356 | 0.01450 | 0.01403 |
| <i>Glyricidia indica</i> | 0.01903 | 0.01812 | 0.01857 |
| <i>Stylosanthes gracilis</i> Sw. | 0.04220 | 0.01971 | 0.03096 |
| Hybrid Napier | 0.00432 | 0.00402 | 0.00417 |

Plant means are significant at 1% level; CD= 0.01275 and SED =0.006506

സംഗ്രഹം

തെങ്ങും, കൊക്കോ, *ffitnco/lej* എന്നീ വിളകളെ ബാധിക്കുന്ന 'മില്ലോസറസ' കർവി കോണിസ' കീടത്തിന്റെ ആതിഥേയ പ്രതിപത്തി സസ്യങ്ങളുടെ വകഭേദമനുസരിച്ചു മാറുന്നതായി കാണപ്പെട്ടു.

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