

Influence of *Dolichoderus thoracicus* (Hymenoptera: Formicidae) on cocoa pod damage by *Conopomorpha cramerella* (Lepidoptera: Gracillariidae) in Malaysia

ABSTRACT

The relationship between abundance of *Dolichoderus thoracicus* (Smith) and damage to cocoa pods caused by *Conopomorpha cramerella* Snellen was examined in a series of experiments. Pods were harvested from ant-abundant and ant-scarce plots and categorized into fully extractable, partially extractable and unextractable, the last category reflecting the most severe degree of *C. cramerella* infestation. An abundance of *D. thoracicus* was associated with significant reductions in the percentage unextractable pods but had little or no influence on the other two categories. Mean percentage pods infested was generally kept below 50% in ant-abundant plots and mostly exceeded the 50% level in ant-scarce plots. Other studies were: a survey of individual pods relating rate of infestation by *C. cramerella* to *D. thoracicus* abundance, an experiment which examined the effect of *D. thoracicus* exclusion on the rate of *C. cramerella* infestation, and a count of exit holes made by emerging prepupae of *C. cramerella* in relation to varying degrees of *D. thoracicus* abundance. The results showed a clear negative effect of *D. thoracicus* abundance on *C. cramerella* infestation rate. The results also indicated that the protection conferred by *D. thoracicus* was largely confined to the particular pod on which it was present. Rat damage, monitored as a subsidiary study, was higher in ant-scarce plots throughout the study period.

Keyword: *Dolichoderus thoracicus*; Cocoa pod damage; *Conopomorpha cramerella*