Title : The relationship between weight loss and defecation in the bamboo borer (*Omphisa fuscidentalis* Hampson, Lepidoptera: Pyralidae)

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ABSTRACT

The bamboo borer (*Omphisa fuscidentalis* Hampson) is a moth species with a life cycle lasting up to one year, with its larval stage taking approximately nine months to develop. The first to fourth instars molt and mature within one month, while the fifth instar, the final larval stage, ceases feeding and remains inside the bamboo tube. However, despite not consuming food, fifth-instar larvae continue to excrete waste and experience gradual weight loss. This study aimed to investigate the relationship between body weight loss and excrement weight, as well as changes in body fat before pupation. A total of 100 larvae were randomly selected and divided into five groups of 20 individuals each. Body weight and fecal weight were recorded every three days over one month. Results showed a continuous decline in larval body weight, with an average loss of 0.127 ± 0.083 grams (Mean ± SD) every three days. Similarly, fecal weight decreased over time, averaging 0.0003 ± 0.0002 grams (Mean ± SD). However, fecal weight did not significantly affect larval weight loss ($p > 0.05$). Lipolysis analysis revealed an average fat breakdown score of 2.35 ± 0.07 (Mean ± SD), indicating increased fat metabolism in fifth-instar larvae before pupation. The relationship between defecation and weight loss in *O. fuscidentalis* remains unclear and requires further investigation.

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