

## **Evaluation of artificial diet on growth development of *Elaeidobius kamerunicus* faust (Coleoptera : Curculionidae)**

### **ABSTRACT**

The rearing of *Elaeidobius kamerunicus* is difficult as it required the anthesis male inflorescence of oil palm as the breeding and feeding ground for the weevils. To date, utilisation artificial diets for rearing of *E. kamerunicus* has not been extensively studied. Thus, the objectives of this study were to compare growth development of the larvae using adopted artificial diet formulations and the natural rearing of *E. kamerunicus* besides determining the nutritional component of the natural food (male inflorescence of oil palm at anthesis). Three artificial diet types adopted from the diet of *Anthonomus tenebrosus* (Coleoptera: Curculionidae) and *Anthonomus grandis* (Coleoptera: Curculionidae) were compared with the natural food source towards the growth development of *E. kamerunicus*. The proximate composition of the natural food source obtained from the field was determined. The findings showed that overall mortality was significantly different for diet types evaluated ( $P < 0.01$ ). The natural feed caused shorter life cycle of the larvae ( $10.85 \pm 0.34$  days). Sex ratio of 0.54 with higher number of female adult was also recorded on natural feed while the artificial diet caused total mortality on the larvae. Nutritional study of the male spikelet at anthesis shown it has 75% moisture content, 20% carbohydrate, 4% protein and less than 1% fat. The formulated artificial diets were found to have lesser essential nutrients to support the growth of larvae. This study provided new knowledge in the formulation of artificial diets and the importance of macronutrient composition on the growth of *E. kamerunicus*.

**Keyword:** *Elaeidobius kamerunicus*; Artificial diet; Proximate composition; Growth development; Sex ratio