

## Supplementary Materials

### **Nutritional quality during development alters insulin-like peptides expression and physiology of the adult yellow fever mosquito, *Aedes aegypti***

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#### **Methods:**

**Life span and body size:** For life span, 40 adult males and females were kept together in small cages (16 oz deli cups). Mosquitoes were provided with water and 10% sugar solution. Mortality was recorded daily throughout the experiment. Dead / morbid adults were checked under the microscope and the morbid adults were returned to the cages and scored dead that did not respond to CO<sub>2</sub> and the legs were curled together. Experiment was replicated thrice with 40 mosquitoes from a different biological cohort during each replicate (n=120).

For body size, wings from 15 males and females of each treatment were detached and mounted on a slide with mineral oil. A photograph was taken of each wing at 1.25x magnification using a camera mounted on a Leica M125 microscope. Microscope was calibrated to standardize size measurements. Data were analyzed by unpaired t-test where male and female samples were analyzed separately.

## **Results:**

Adults eclosed from the protein-rich diet fed larvae had longer lifespan. Females eclosed from a carbohydrate-rich diet were more susceptible to dying earlier than males. 30% males on a protein-rich diet survived longer than those on a carbohydrate-rich diet, whereas this difference was 50% in females) (Fig. S1).

There was no difference in body size in males whereas females of protein-rich diet were significantly bigger than carbohydrate-rich diet (Fig. S2).

## **Figure legends:**

**Fig. S1:** Effect of larval diets on adult mosquito survival. Forty males and females each were kept together in a gallon container cage. Cotton pads saturated with water and 10% sucrose were kept on the top of the cage. Pads were changed daily for continuous access to water and food to avoid desiccation. Mosquitoes were checked daily for 40 days for mortality and dead ones were removed from the cages. Number of mosquitoes dead in each group were plotted. Mortality analysis was done using Log-rank (Mantel-Cox) test. Experiments were replicated thrice with different cohorts of mosquitoes. n=120. Protein rich diet; Carbohydrate-rich diet, M= male; F= female.

**Fig. S2: Effect of larval diets on adult mosquito body size.** Wings from 15 males and females of each treatment were detached and mounted on a slide with mineral oil. Photographs were taken of each wing at 1.25x magnification using a camera mounted on a Leica M125 microscope. Data were analyzed by unpaired t-test where male and female samples were analyzed separately. A representative image of wings of females is shown. Males were of same size in both treatments.

Fig. S1

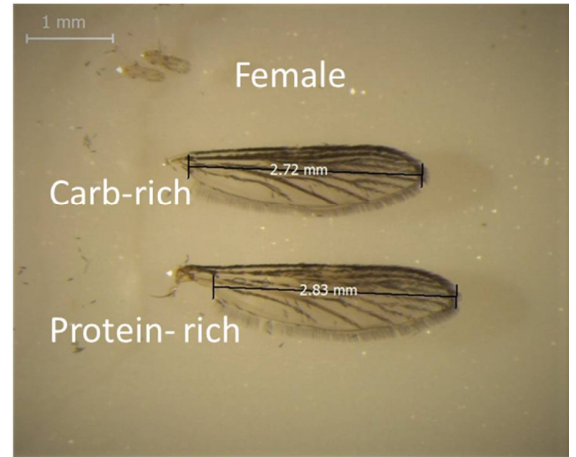
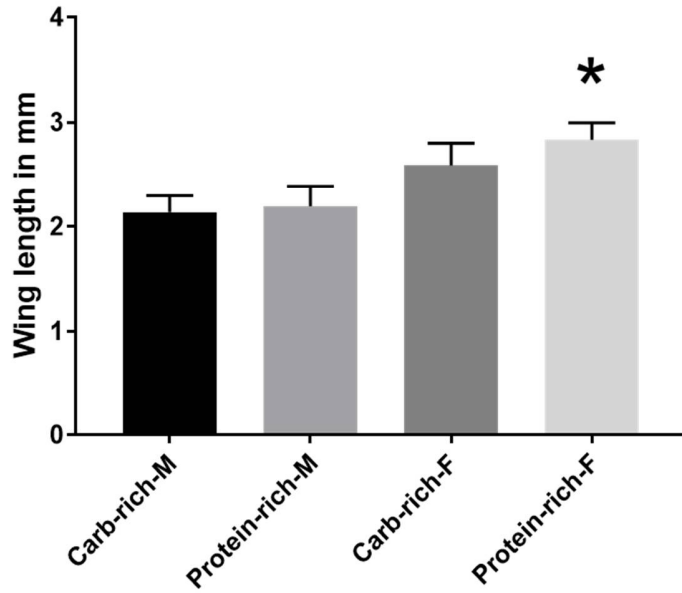


Fig. S2

