

## **Diversity And Abundance of Canopy Beetles in A Forest Restoration Site in Luasong, Tawau, Sabah, Malaysia**

### **ABSTRACT**

A study on the canopy beetle's diversity was conducted at Species Demo Plot in Luasong, Tawau, Sabah, Malaysia. This is a part of a forest restoration project under the Innoprise-IKEA (INIKEA) Forest Rehabilitation Program managed by Yayasan Sabah. This study focused on the beetle diversity on the canopy of 11-year-old trees. The objectives of this study were to compare the diversity of canopy beetles between the Dipterocarps and non-Dipterocarp trees and to compare the abundance of canopy beetles between the two group of trees. Fogging method using handheld pyrethrum insecticide was performed to sample the canopy arthropods. The trees that were sampled were *Dipterocarpus conformis*, *Dryobalanops lanceolata* and *Hopea ferruginea* from the Dipterocarp group, and *Diospyros* sp., *Pentace laxiflora* and *Mangifera odorata* from the non-Dipterocarp group. Results showed that the Shannon-Wiener Diversity Index,  $H'$  for the canopy beetles for Dipterocarp tree was 3.5827 while for nonDipterocarp was 3.2986 which indicates a high diversity of canopy beetles of both tree groups. Study showed that there is no significant difference between the Shannon-Wiener Diversity Index between two groups (T-test,  $t=1.237$ ,  $df=22$ ,  $P>0.05$ ). In addition, there is no significant difference in the abundance of beetles between the Dipterocarp and non-Dipterocarp group (Ttest,  $t=0.958$ ,  $df=18$ ,  $P>0.05$ ) and between the tree species (ANOVA,  $F=1.098$ ,  $df=22$ ,  $P>0.05$ ). The outcome of this study can be used as appropriate guidelines to manage restoration projects, by using canopy beetle diversity and abundance on various tree species as indicator of biodiversity recovery. In the future, studies should be conducted by comparing the beetle composition across multiple stages of restoration projects which varies in forest condition and structures.