

Assessing The Diversity and Abundance of Hemiptera Using Malaise Trap at Oil Palm Plantation, Banting, Selangor

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Structured Abstract

Background: Hemiptera are widely acknowledged as invasive pests in agricultural areas and are easily found in both terrestrial and aquatic environments. Some are used as biological control in the ecosystem. There has not yet been any study on the diversity and abundance of Hemiptera at oil palm plantation in Banting, Selangor. The objectives are to determine the diversity and abundance of Hemiptera in an oil palm plantation in Banting, Selangor and to compare the diversity and abundance of order Hemiptera between three (3) different plot locations around the oil palm plantation in Banting, Selangor.

Methods: Malaise traps were used as a sampling technique in this study to determine the diversity and abundance of Hemiptera among three traps in the oil palm plantation and are placed in three different areas in the oil palm plantation. Trap 1 was placed at the outermost area in the plantation while Trap 2 is placed in the most inner area and Trap 3 is in the middle area. All three traps were placed around 100 meters from each other.

Results: The traps were left for one month and a total of 52 individuals were collected with 10 families and 8 morphospecies. Trap 2 recorded the highest number of Hemiptera abundant with 48 individuals with 6 families and 5 morphospecies, while Trap 1 and Trap 3 both have the same number of individuals which are 2. With 33 individuals, family Cicadellidae was the most abundant family that was successfully collected. This was followed by the family Derbidae which has 11 individuals. The other families all have only one individual collected.

Conclusion: According to the results of this study, the factors that may contribute to the difference in number of Hemiptera distribution between traps are human disturbance and vegetation of the oil palm plantation. For future research, it is recommended that the distance between plots be expanded and extend the sampling period so that a more diverse result of Hemipterans diversity and abundance can be obtained. This study will help in raising awareness about the distribution of Hemipterans, which are day by day declining due to rapid development in the area.

Keywords: Diversity, Abundance, Hemiptera, Family, Oil Palm Plantation

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