

**IDENTIFYING DECEIT SYSTEM OF ORCHIDACEAE
RESEMBLING INSECTS' STRUCTURES AND
PREFERENCES**

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**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

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Perpustakaan
Universiti Teknologi MARA
Sabah

DECEMBER 2013

ACKNOWLEDGEMENTS

First and foremost, I thank God for the continues strengths and patients I had along completing this thesis.

My biggest appreciations and respects also goes to Mr Ajis Lepit, the most amazing and coolest supervisor who had provided me with a continues advices, helps and supports in all stages of this thesis.

I also like to extend my greatness gratitude to Sabah Park's Research and Education Department's Assistant Director, Dr Maklarin and Puan Rimi as the Research and Education's Coordinator who had given me the biggest opportunity to do my field work at Botanical Garden and Orchid Nursery at the area of Kinabalu, also at Orchid Garden, Poring. In addition, I like to extend my thanks to Sabah Parks' staff who had being very committed to help me with my thesis, especially to Mr Handry Mujih from Herbarium of Taman Kinabalu, to Mr Benedict Gangku from Orchid Nursery of Taman Kinabalu and also to Mr Ramlan Miadin from Orchid Garden of Poring.

Special appreciation also goes to Mr Ajimi for his guidance in preparing proporsal and writing thesis. Special thanks to Agro Technology and Science Laboratories Complex (KOMSAT) UiTM Sabah branch team including Miss Rosfayanti Haji Rasmidi (Coordinator of KOMSAT), Miss Ezawaniee Moulton (Assistant Science Officer) and all laboratory assistants especially Madam Atifah Remat for giving me the opportunity to borrow apparatus from laboratory for my field work. At the same time, I like to thank all panels during presentation for their time, concern and valuable advice to improve this project. My greatest appreciation also to my friends and seniors who had given ideas and supports until this thesis was done.

Last but not least, I would like to express my greatest thanks to my beloved family, especially to my parents, Stanis Joseph Boli and Morin Bte Maling for their continues loves and supports, also to Davien Jones who had always become the greatest supports and encouragements in all my struggles along completing this project.

(Sheelah Stanis Joseph)

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ABSTRACT

IDENTIFYING DECEIT SYSTEM OF ORCHIDACEAE RESEMBLING INSECTS' STRUCTURES AND PREFERENCES

Orchidaceae family is known as the most species rich plant. According to Nilsson (1992), there are more or less than 25 000 species of orchids around the world. Infact, most species in this plant family are animal-pollinated. However, past studies has proved that this family also used other ways to attract its pollinators. Most previous studies were done on insects used deceit system by resembling plants for their survival. But different with this study, which was conducted as the purpose to identify deceit system of plant, specifically orchid that resembling insects for their survival. Many studies had proven that most orchid displayed many types of deceit which helps this *Orchidaceae* family to attract more pollinators when pollinators had visited the orchid by mistakenly think that the orchid flower is one of their own species. This study was not only concern on the characteristics of orchid flower, but also the way insects see things through the compound eye. Thus, macro lens had been used while conducting this study which involved observations in field. Previous study had proved that macro lens had the abilities of allowing people to see things in short distance but wide angle as seen through compound eye. This study involved image collections of species under *Orchidaceae* family at several locations which involved Orchid Nursery and Orchid Garden at Taman Kinabalu, Orchid Garden at area of Poring Botanical Garden and also Hybrid Orchid Garden at Agricultural Park, Tenom. Collected images were then proceeded with technique of redrawing, species identification and analysis of deceit identified in *Orchidaceae* family. The result of this study found that certain features displayed by orchids showed a high potential of deceit. Features displayed by orchids such as the spots on petals had manipulated insects' preferences when resembling insects' eggs, food and also insects' oviposition site. Since compound eye is very sensitive to UV light, orchids under UV spectrum showed resembling the shape of insects' body and compound eye as observed in both native and hybrid orchids. To conclude, orchids displayed deceit system by resembling insects' structures and preferences for the purpose to increase rate of successful cross pollinations among species as well as to increase their population diversity.