



A Malaysian research-based MSc studentship is available to work on

## **Incorporating weaver ants (*Oecophylla smaragdina*) into oil palm plantation integrated pest management to improve ongoing plantation sustainability**

A highly motivated postgraduate student is sought to join a project exploring how arboreal weaver ants (*Oecophylla smaragdina*; Malaysian common name “Kerengga”) can be used as a tool to control insect herbivore pests in oil palm plantations. Previous surveys have demonstrated that palms inhabited by these ants have less herbivore damage (Pierre & Idris, 2013 *Asian Myrmecology* 5: 163–176). The student will conduct experiments to explore whether the presence of ants drives reduction in herbivores (as opposed to the correlation not be causal). They will also conduct surveys to explore which factors can increase abundance and persistence of weaver ants, and how variation in weaver ant abundance affects abundance of herbivorous insects, herbivory rates, and consequently palm oil yields. They will then explore the feasibility and economic viability of strategies to introduce and maintain weaver ant colonies in oil palm plantations. Finally, they will explore methods for mitigating negative impacts of weaver ants in plantations, such as symbioses with sap sucking insects, and aggressiveness of colonies towards workers in plantations. We envisage that the results of our study will allow reduction in use of pesticides, improved yields for plantations, and conservation of biodiversity in oil palm landscapes. This work also has potential to inform Malaysian government policy through incorporation into guidelines for growth of sustainable palm oil (Malaysia Sustainable Palm Oil (MSPO) standard), and also to inform the international palm oil sustainability guidelines, laid out by the Roundtable on Sustainable Palm Oil (RSPO). The position will provide the opportunity to work in collaboration with the Sabah research and development unit of the oil palm company FGV Sdn Bhd.

The student will be registered at Universiti Malaysia Sabah and will be jointly supervised by Dr Kalsum Mohd Yusah ([www.kalsumyusah.com](http://www.kalsumyusah.com)) at the Institute for Tropical Biology and Conservation (ITBC), Universiti Malaysia Sabah, and Dr Hasber Salim (School of Biological Sciences, Universiti Sains Malaysia). This research is jointly carried out by two other collaborators, Dr. Tom Fayle ([www.tomfayle.com](http://www.tomfayle.com); ITBC and Institute of Entomology, Biology Centre of Czech Academy of Sciences, Czech Republic) and Assoc. Prof. Dr Homathevi Rahman (ITBC, UMS). A monthly stipend of RM 1500 will be provided for the full two-year period, which is sufficient for paying university fees (RM 1925 per semester) and living costs. All field related expenses, including travel and accommodation, will be provided.

### Required

- An undergraduate degree in a related topic.
- Interest in the ecology of insects.
- An A- or above in Ecology or a related subject and an overall CGPA of 3.0 or above.
- Enthusiasm for working in the field for extended periods in oil palm plantations.
- Ability to work independently.
- Some experience in the use of ecological statistical analyses.

### Desirable

- Previous experience of field work.
- Research experience with insect ecology.

To apply please send a CV, contact details for two references (we will contact referees directly for shortlisted applicants), and cover letter stating qualifications, previous work and motivation to Dr Kalsum Mohd Yusah ([kalsum@ums.edu.my](mailto:kalsum@ums.edu.my)). Note that this position is available for Malaysian students only.