

## STUDENTS' RESEARCH PROJECTS

### *Microchiroptera* community in oil palm plantation

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Palm oil palm is largest vegetable oil commodity in the World and the most lucrative. The rapid expansion of oil palm plantations in Indonesia have had an adverse effect on fauna and flora, particularly *Microchiroptera* that are dependent on intact understorey habitat. To date there are very few studies on *Microchiroptera* in oil palm plantation. This study focused on species richness and diversity, distribution, abundance and demographic structure of *Microchiroptera* in three habitat types of the oil palm plantation PT Kencana Sawit Indonesia (KSI) along with community composition, food available, potential habitat for *Microchiroptera* and source-sink dynamic between the three types of habitat. The field study took place from October 2010 until October 2011 in KSI, West Sumatra. A total of 180 trapping nights were conducted, using harp traps at 20 locations in three habitat types (forest block, riparian forest and oil palm plantation). Trapping took place from 18.00 until 06.00 and the traps were checked twice a day - evening and morning. TA light trap was deployed adjacent to the harp traps to attract insects. *Microchiroptera* were identified using Payne (2000), Struebig & Sujarno (2006) and Kunz & Parsons, eds. (2009). A total of 1085 individuals from 21 species and five families were captured. Of this 17 species were caught in forest block, 10 species in riparian forest and only three species in oil palm plantation. An analysis using EstimateS (Win 8.20) returned a total species richness in oil palm as 27 species. *Hipposideros cervinus* was the most common species in PT KSI area followed by *H. bicolor* but was only found in forest blocks and riparian forests and absent in oil palm habitat. In contrast *H. bicolor* was common in oil palm habitat. Similarity was moderate between forest block and riparian forests, and low between forest block and oil palm habitat as well as between riparian and oil palm. The age composition of the *Microchiroptera* community in the study area was dominated by adults (83.60%), followed by young (16.13 %) and only 0.27 infants. Adults individual were caught in all habitat types, whereas young/infant individuals were caught in forest block and riparian

forests only. A total of 66.40% of adult females were lactating, with 30.78% non-reproductive and pregnant, recent post lactating and post lactating 0,80%, 1,61% and 0,40% respectively. Based on the study results it can be concluded that forest blocks within an oil palm plantation can act as an important source habitat for *Microchiroptera*.

### The effect of ungulates on forest floor vegetation

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The ecological function of large ungulates in a tropical rainforest is poorly understood. For my Master-programme, I intend to study the browsing pressure of Malayan tapirs, *Tapirus indicus*, in a tropical rainforests. The study site is Krau Wildlife Reserve, a 67.000ha undisturbed tropical rainforests habitat in the state of Pahang, Peninsular Malaysia. Malayan tapirs are abundant in Krau Wildlife Reserve. I will chose 10 sites, and setup 10 "double plots" i.e. one fenced area of 5x5 meters, and one "open" area of 5x5m adjacent to the fenced area. Measuring the ungulate browsing pressure will be undertaken by recording the species composition, growth rate and regrowth of plants in the fenced and unfenced plot. Each plant within each plot will be recorded, measured and marked every two months for comparison over time. Two video camera-traps will be deployed at each plot to determine what species frequent the area and if they forage. It is well-known that some ungulates such as elephants are considered to be good seed-disperser, whereas Malayan tapirs are not. With this study, I hope to cast more light on the ecological function of large ungulates in a tropical rainforest.

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*The Editors*