

JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

Expedition/Project/Conference Title: *Ecological-Monitoring to Strengthen Conservation in the Bawan Forest, Central Kalimantan, Indonesia*

Travel Dates: 26th June-14th August

Location: Bawan Forest, Central Kalimantan, Indonesia

Group Member(s): Chariklia Kapsali, students and researchers from several UK Universities

Aims:

- a) To conduct the first ever detailed survey of flora and fauna biodiversity surveys in the area in order to confirm its importance for conservation.
 - b) To improve knowledge of the biodiversity of kerangas forest in order to increase national and international awareness and support for conservation of this habitat.
 - c) To compare the biodiversity of Bawan forest to that documented in other habitat types in the region, in order to elucidate differences and similarities between kerangas and other habitat types.
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OUTROP



The Orang-utan Tropical Peatland Project is an organisation established in 1999, aiming at studying the ecology, biodiversity and regeneration of the tropical peat-swamp forest of the Sabangau River Catchment, with particular focus on orang-utan research, and providing scientific data to support conservation. OUTROP collaborates with the Centre for the International Cooperation in Management of Tropical Peatlands (CIMTROP), which is based at the University of Palangkaraya, to inform policy decisions and implement conservation solutions. The OUTROP-CIMTROP research programme is wide-ranging, including many different aspects of peatland ecology and biodiversity, and includes crucial monitoring aspects to assess changes in forest structure, hydrology, microclimate and animal density and diversity.

BAWAN forest

This year OUTROP decided to extend its research programme to Bawan, an area located along the River Kahayan ca.65km north of Palangkaraya in Central Kalimantan. This satellite project was drawn up after OUTROP was contacted by local officials asking for an assessment of the importance of the area for biodiversity conservation.

Already, as is the case for most of lowland Kalimantan, the forest closest to Bawan village and the River Kahayan has been heavily logged and furthermore devastated by fire during the El Nino dry season of 2009. The remaining high-quality kerangas forest, found 6.5 km from the village, is still listed as "Production Forest" and under threat of encroachment by palm oil, coal mining and other industries. A description of the biodiversity of Bawan forest will therefore provide

the vital evidence presented to government officials and stakeholders when lobbying for protection of the area.

Our research camp was set up on the border of an area of burnt forest and intact primary forest, providing a daily reminder of the importance of our work but also a symbolism of our presence there as conservation scientists: standing somewhere in the middle between human-caused destruction and pristine wilderness. I was part of a group of volunteers, researchers, field assistants and staff participating in this new and exciting survey of Bawan forest. I was involved in various different surveys, which allowed me to learn a lot of field techniques and pick up new skills, including the identification of some of the Bornean fauna and flora.

1. Mapping

We conducted ground surveys using GPS to mark the extent of different habitat types and deforested areas. Five distinct forest types were identified, all of which support different types of trees and potentially varying abundances of fauna.

2. Orang-utan nest surveys

I helped an undergraduate student collect data as part of her dissertation project. We walked along line transects in different areas of the forest counting nests and recording a number of different variables, such as perpendicular distance from transect to nest, nest type, nest age and height of nest from ground. All these variables are going to be used to estimate nest-density using specially developed computer software. Nest-density will then be converted to animal-density using certain formulae, and this will give an estimate of the distribution and density of the orang-utans in the kerangas forest. These orang-utan surveys made me appreciate the skills required by the field surveyors, as spotting and correctly identifying orang-utan nests in a dense and mottled canopy is very difficult. It made me realise that one may possess the theory, but still needs ample patience and practice to gain the field experience.

3. Gibbon surveys

Similarly, gibbon density was estimated indirectly, using the gibbon triangulation method. This involved three pairs of researchers/volunteers situated in three different listening posts in an area. Each pair recorded how many groups they could hear singing from 04:30 am to 08:00 am, the start and stop time of the songs, the type of song, the compass bearing of the gibbon group from the listening post and an estimate of how far the group was. The data from the three listening posts was collated and compared everyday to see how many groups of gibbons were singing and where they were.

A gibbon project was being carried out simultaneously by an undergraduate student, who was studying male gibbon song individuality as part of her thesis. Again, this involved waking up very early in the morning to arrive at a specific area in the forest and record the gibbons singing. The data collected will be entered in sound analysis software to generate sonograms and statistically compare components of the song in different males. I was very lucky to catch a fleeting glimpse of a gibbon in one of these surveys before it shot through the canopy. Though gibbons in the Sabangau forest are habituated and followed by researchers collecting behavioural data, the gibbons in Bawan are still wary of people and hard to see.

4. Fauna surveys

There were two more projects I participated in, which were about estimating species richness and abundance of amphibians and butterflies in different habitats and at different levels of disturbance. For the amphibians, we set up different types of traps (pitfall, funnel, tree traps) and carried out day and night visual encounter surveys along line transects, to sample both nocturnal and diurnal species. To collect and record butterflies, we set up several canopy traps baited with fermenting bananas.



Above: A common tree frog in Bawan forest, the beautiful *Polypedates colletti*.



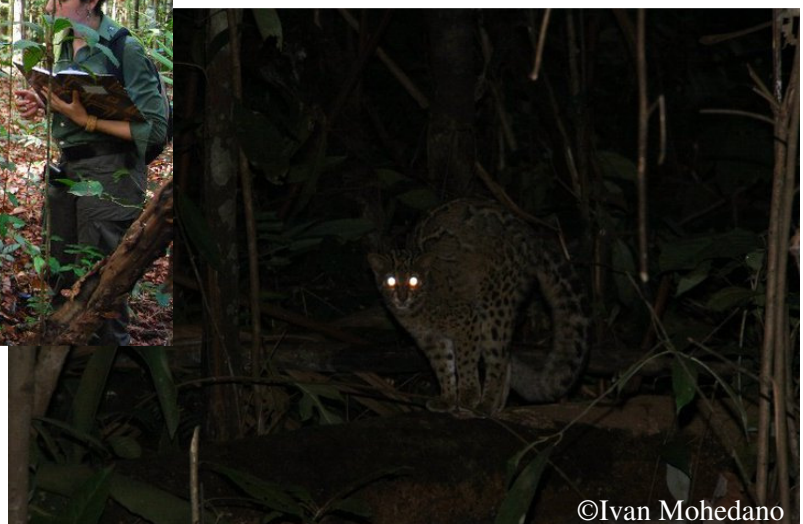
Right: Taking a break from an orang-utan nest survey

A bird survey was also carried out over one of the seven weeks, which gave me the wonderful opportunity to learn more about Bornean avian fauna and how to identify species using both visual and aural cues. I was extremely happy to see the endemic Bornean bristlehead, *Pityriasis gymnocephala*, a rare and elusive bird species. Other exciting sightings for me include the loud Rhinoceros Hornbill, *Buceros rhinoceros*, the beautiful Asian Fairy-bluebird, *Irena puella*, and the spectacular Asian Paradise-flycatcher, *Terpsiphone paradise*, whose nest we found close to one of our transects.

Lastly, we set up camera traps at several points in the forest, to capture the most elusive of animals, such as the cats, sun bears, civets, monkeys and orang-utans. The application of camera traps has been very successful in Sabangau where more and more exciting species are being caught on film, such as flat-headed and marbled cats, clouded leopards and pangolins, providing evidence for their existence in that area.



Above: Carrying out a butterfly survey.



Right: Two lucky field assistants met this marbled cat during a gibbon survey and managed to get this impressive shot.

During a break from work, we were lucky enough to visit the Nyaru Menteng Rehabilitation Centre, which hosts more than 600 orphaned orang-utans. Here, we learnt about how the baby orang-utans are taught how to survive in the wild by a team of caretakers, which take up the demanding role of the orang-utan mothers. A boat trip took us around one of the islands where the orang-utans are released when they graduate their “Forest school”. This is their first step towards going back to the wild, where human contact is kept at a minimum but monitoring and feeding still go on. Seeing the dedication and hard work the people working at the Centre put towards rescuing orang-utans and releasing them back into the wild was truly inspirational, and gave me the hope which was missing from my textbook figures and population trends.

While in Kalimantan, I also had the chance to visit Tanjung Puting National Park, where I got to see the amazing endemic proboscis monkeys, meet rehabilitated orang-utans and hear my first orang-utan long call. There, I also visited Camp Leakey, a research facility established in 1971 by leading orang-utan authority Dr. Biruté Galdikas, and spoke with the local rangers about their work, their experiences protecting the park and caring for the orang-utans and the ongoing destruction of the surrounding forest areas to mining, logging and palm oil plantations. While it was exciting to be so close to orang-utans, it was also quite sad to see them so used to humans and walking around on the ground. I tried to form a mental image of them swinging away from us high up in the canopy, smacking their lips in apprehension, and told myself to always remember that this is how we should be encountering them, if at all.

During my stay in Indonesia, I have learnt a plethora of field techniques, saw some of the most amazing animals and insects, became acquainted with the beautiful local culture and even picked up some Bahasa Indonesia- the Indonesian language. I also found out more about the problems of the local people, which are inextricably linked to the destruction of their rainforests by the palm oil and mining industries. Most importantly, I met some beautiful people along the way who have all taught me valuable lessons.



Above: The Nyaru Menteng Rehabilitation Centre.

Right: Meeting the orang-utans at Tanjung Puting National Park

Overall, this has been a lifetime experience, which has made me realise how relevant and important my studies are and how I can apply my skills after my degree to help safeguard this fascinating biodiversity and aid the people which depend on it. This trip would not have been possible without the support of the James Rennie Bequest- I sincerely thank the trustees for their consideration and generosity.