Jungle Times

ISSUE 161: JULY – AUGUST 2025
Edited by Katie Mizuro and Amy Little

IN THIS ISSUE

Rufous-backed dwarf kingfisher (*Ceyx rufidorsa*) by Amy Little

The Secret Lives of Pangolins

By Katie Mizuro, PTY

Last April, the field centre was visited by an ABC (Australian Broadcasting Company) camera crew, who were working on a 6-part series of documentaries starring orangutans, dugongs, sea snakes, bull sharks, sea turtles and pangolins. We enjoyed hosting the film crew: Ann, Rainer, Summer, Edmund and Franco, who worked long days in the field to get the right footage for the programme. They adapted to filming in the forest by using a drone, GoPro and Infrared camera, as well as the usual film cameras, to film in the dark and on the go. The series focuses on animals that are hard to study and aims to communicate how these species are researched and to share some of that research. The pangolin episode was filmed at DGFC with Jerry, a PhD student from Hong Kong University (HKU) and a member of the HKU team, one of DGFC's research collaborators. It has been fantastic to watch the finished documentary and to see the communication of Jerry's research with the world! You can stream Dr Ann's Secret Lives – Pangolins on @abciview.

ISSUE 161: JULY – AUGUST 2025


Green paddy frog

Edge Effect on Frog Communities

By Clarissa, Intern (UMS)

Hi, I'm Clarissa, and I'm a Universiti Malaysia Sabah student currently undertaking my industrial training here at DGFC. During my placement here, I've had the opportunity not only to assist with ongoing projects but also to conduct my own mini project under the supervision of Maz (Research Officer and PhD student at Cardiff University). My project looks at edge effects on amphibian abundance across oil palm plantations and secondary forest. In simple terms, I wanted to understand how the distance from the edge influences the number of frogs we can find.

My research sites were at Kg. Monyet and Hillco Plantation, just across from the field centre. My data collection effort includes setting up data loggers to measure microclimate variables like temperature and humidity, establishing 5x5 m vegetation plots, and carrying out night frog surveys. Each site had a 100 m main transect, and every 20 m interval, I set up a 50 m frog transect parallel to the edge.


Rough guardian frog


Fringed tree frog


Lesser Bornean narrow-mouthed frog

The preliminary findings were interesting. Plantations turned out to be much hotter than secondary forests, most likely because forests have denser and more complex vegetation that helps buffer temperature. Soil temperature and moisture didn't differ much between the two habitats, but surprisingly, I saw more frogs in plantations than in the secondary forest. One explanation could be visibility level, as in plantations, frogs are easier to spot in the open, while in forests, dense vegetation makes them much harder to detect.

Even though this was just a short project, it gave me so much exposure to real fieldwork and data collection. From the frog surveys to handling equipment in unpredictable conditions, I learned how challenging it can be to collect reliable data. Most importantly, it showed me how interconnected everything is with vegetation, microclimate, and wildlife, all shaping each other in subtle ways.

ISSUE 161: JULY – AUGUST 2025

Regrow Borneo: Butterfly Monitoring

By Katie Mizuro, PTY

This year's butterfly monitoring has been wrapped up! We are beginning to develop a great data set for the butterfly communities in our Regrow Borneo restoration sites, and I will tell you about some of our key findings this year:

- Our oldest Restored Forest (at Kaboi Stumping) has similar butterfly communities to some of our Natural Forests! This is exciting news and has been the case not just this year, but in previous years of sampling as well. It suggests that the vegetation at this restoration site is beginning to recover to the state of natural forest.

- High butterfly biodiversity in Pendirosa Plantation. Based on Alpha Biodiversity Indices, the sampling has shown a surprisingly high biodiversity of butterflies in Pendirosa plantation this year. It is possible that this is because sampling in the plantation is much easier than in the forest: the transect is along a road, so there are fewer obstacles to catching butterflies than in the forest which enables more accurate species identification, so the sampling is more representative of rare species. It will be interesting to see whether this finding continues in subsequent years of sampling. Perhaps the plantation does support a biodiverse butterfly community!

- There was a correlation between canopy cover and community composition. Butterflies are sensitive to luminosity, so it can be inferred that this correlation is because the density of the canopy affects the amount of light that is able to penetrate.

Kingfisher (*Alcedinidae*) Project

By Amy Little, PTY

When I first arrived at DG, I wouldn't have called myself a "bird person." That changed the moment I took part in my first mist-netting session. Seeing the birds up close really spiked my interest. Borneo also has some of the most amazing avian species, there is such incredible variety and colours.

Over the course of my placement year, I've been sampling at various sites, often working alongside Ray and Maz as part of the *Regrow Borneo* biodiversity surveys. All "bycatch" birds from these surveys contribute to the wider *Regrow Borneo* data collection, helping to build a bigger picture of how forest restoration impacts wildlife.

My dissertation focuses on kingfishers — comparing the species composition and morphometric measurements of individuals across degraded, restored, and natural forest habitats. The sites I have sampled include Kaboi Lake, Kaboi Stumping, Laab swamp and around the field centre.

The sampling process starts bright and early, around 5:30am. The birds wake up early, so the aim is to get the mist-net open for 6am. The net is then checked every 30 minutes until 12pm. If a bird is captured, it is carefully removed from the net, then measured, aged, sexed, and checked for feather condition, wear, and signs of moulting.

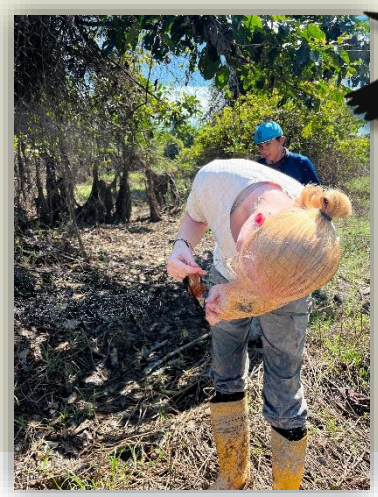
Rufous-backed dwarf kingfisher

Collared kingfisher

Blue-eared kingfisher

Morphometrics include:

- Bill length and depth
- Wing and tail length
- Tarsus length
- Weight



While the full analysis is still to come, some early patterns are already emerging. For example, in blue-eared kingfishers, females tend to have shorter tails compared to males. I am very happy that I chose to do my project focused on the avian community and I hope to use the data collected for my dissertation at University of Cumbria.

July-August Field Courses

By Ben Cunningham, PTY

DGFC had the pleasure of hosting both Cardiff University Biosciences and Miami University for field courses recently!

In June we were delighted to welcome back Cardiff University's School of Biosciences for their 18th annual field course at DGFC. The field course began with a five-day training period that provided the students with essential knowledge of the surrounding area and a jungle first aid course. During this induction they were also given tastes of a wide array of activities including bird mist netting, tracking pangolins and leopard cats and assessing carbon stores in the surrounding forests. They also went on early morning and late-night river cruises to experience the wildlife of the Kinabatangan!

After exploring the various options, the undergraduate students formed pairs and used what they had learned to design their own research projects. Topics this year included primates, birds, spiders and butterflies, and these ideas were presented to staff to plan the projects before starting their data collection.

The master's students designed a collaborative project to complete a comprehensive biodiversity assessment on the fringe between a plantation and high value conservation area. They identified 5 taxa they deemed key indicators for the ecosystem's health and were able to produce incredible results in a very short time!

After the week of data collection concluded, each group presented their findings. The DGFC staff were treated to an entertaining afternoon filled with engaging presentations and interesting results. On the final evening, the students celebrated with a traditional Malaysian feast, followed by a lively karaoke session featuring classic Malay songs.

We look forward to welcoming Cardiff back for their 19th visit next year!

MIAMI

In mid-July we were lucky enough to welcome Miami University to the centre again. This field course arrived excited to learn and were particularly keen to immerse themselves in both the scientific and cultural aspects of conservation.

One of the groups most valuable experiences was a visit to a nearby oil palm plantation (Sawit Kinabalu), where they had the opportunity to speak with plantation owners and the staff who worked there. There they discussed the potential challenges of balancing conservation goals with economic benefits. These conversations sparked new ideas and understanding, giving everyone involved a more holistic and nuanced view of rainforest conservation.

A highlight of the field course was getting to see a wild orangutan near the field centre which for some, underscored the importance of protecting this fragile ecosystem and just how much work there was to be done.

The Miami University field course also received presentations from local and international staff regarding the research they were conducting in the Kinabatangan. Thanks to the field course's keen attitude and engagement, both presenters and viewers were truly able to get the most out of these talks.

We hope that both recent field courses enjoyed their stay as much as we did! We look forward to the next visit!

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