

# THE JUNGLE TIMES

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MARCH - APRIL 2024

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## THE RETURN OF THE ELEPHANTS!

All throughout March and April different elephant herds have been coming and going, making their way up the main path to the Centre and enjoying spending time outside the staff quarters! With our field assistants being amazing and making sure the elephants weren't causing any destruction from night until morning, the staff and students had a unique wake up call with the elephants coming by in the early hours of the morning. It has been an amazing experience watching them swimming and crossing the river over the past few weeks.







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## HARI RAYA AIDILFITRI

This festival marks the end of Ramadan, the Islamic holy month of fasting and is renowned for its emphasis on faith, family, generosity, and community.

In April, Hari Raya Aidilfitri was celebrated with the same enthusiasm and devotion in Batu Puteh, DGFC's nearest village, where our kind and generous neighbours once again invited our staff, students and visitors to join them in celebration.



## A SURPRISE RECAPTURE

Around 2am, everyone was called to the main building of the field center because a field assistant had successfully captured a pangolin. This pangolin had been scurrying along the main path. Once the pangolin was transferred to the laboratory, we put on our personal protective equipment and prepared to collect samples from it. The first step was to measure its body weight. After that, we proceeded to gather various samples, including hair, fecal matter, blood, and ectoparasites. We noticed that the pangolin had a few ticks under its scales, so we plucked a couple for sampling.



Once we had collected the necessary samples, we moved on to tagging the pangolin. Initially, we scanned it to check if it had a microchip from a previous capture. To our surprise, it did, and it turned out to be our previous pangolin, Galak! We retagged Galak and released him outside the center so he could return to one of the nearby sleeping sites.

One advantage of retagging pangolins is the ability to compare their body scores from previous captures. When we capture a pangolin, we assess its condition on a scale of 1 to 5, with 1 indicating the worst and 5 indicating the best. By comparing these scores across captures, we can evaluate how well a pangolin is adapting to its environment and whether this has any impact on its behaviour.





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## DGFC VISITORS

### BEN NEWPORT

My name is Ben Newport and I have recently completed my PhD looking at using drones for forest conservation. I am interested in forests, both tropical and temperate, as well as the role that technology plays in the way we can understand the environment. Outside of that, I am very interested in mountain biking and rock climbing. I based one of the chapters of my PhD on the work that we do here at DGFC with Regrow Borneo, specifically at the Kaboi Lake site. Unfortunately during my PhD, the pandemic prevented me from visiting, so I have come here now to see what it is like! I came here primarily to see the Regrow Borneo site but also to get a taste of how some of the practical fieldwork is done, not just with Regrow Borneo but with the field centre as a whole as some of the writing I have done for my PhD involved the tough, difficult bits and problems with fieldwork that we have to overcome, so I came here to see what life is like in the field. Before I came here, I was told the food would be excellent and it has lived up to that, I do really enjoy the fish! In terms of highlights so far, I know we are surrounded by amazing forest and animals here, but I have loved getting to know the staff and PTYs at DGFC as well as learning about the projects going on in the field centre!



### LALE

My name is Lale and I am a Geography and Meteorology student from the University of Hamburg and I am now doing one year abroad in Malaysia, consisting of one semester at UMS and then a four month internship here at DGFC. I am really interested in climate change because it combines a lot of different scientific fields together which is why I came here, to include some biology and forestry science into my studies that has so far focused on geography. I want to implement it as forests play a major part in combatting climate change. I found out about DGFC through a website from my home university as other students came here before. I really liked the Regrow Borneo project and thought it would be a good idea to come here and see how reforestation can

be done, what the effects of reforestation are, as well as getting an image of oil palm plantations and their impacts on the environment and biodiversity. I like how DGFC is in the middle of it all, how we can look at both oil palm plantations and reforestation. It also made me really interested in getting an insight on how research is done as I could imagine going into research one day! I also came here because I want to grow as a person, getting out of the funk of reading and studying and having that opportunity to do hands on work, even when it's not exactly in my field. I really love the boat rides here, going out in the morning and diving into the forest, into nature, is something I love, as well as being a part of multiple research projects.





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## UNIVERSITY OF FREIBURG : 4TH-16TH MARCH

University of Freiburg came to DGFC for two weeks and took part in our current projects as well as conducting some of their own. The field course split up into teams, undertaking a short project each. One team used drift fences and funnel to capture frogs and measure their diversity, group two used camera traps to record mammal diversity in different habitat types. Group three did point count surveys with Harry, one of the PTY students from Cardiff University, they did this in both the oil palm plantations and the natural forest and got lots of cool photos!



Lastly, group four set baited traps to capture ant species in natural forest and oil palm plantations to measure their diversity within the different habitats. Alongside all these exciting activities, the field course was also able to sign up to the current projects that are running here at DG, these included tracking cats in the plantations with Amanda, pangolin tracking with Jerry and Maca, nocturnal mammal surveys with Alyssa, bird survey boats, primate boats and much more. We also had an unexpected pangolin capture which enabled the group to see a pangolin up close and experience its release back into the wild! Overall, they had lots of fun and left with some great memories and some new friends. Thank you University of Freiburg and we look forward to seeing you next year!





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## CORNWALL FIELD COURSE: 30TH MARCH-7TH APRIL



Another year of students from Cornwall College spent a week with us in the jungle. Although they didn't have much time, they definitely made the most of it with bird and primate surveys along the river daily, fish surveys using cast nets, bat surveys using audio devices and moth surveys using a light trap! They enjoyed placing cameras around the DGFC trails

and captured the local wildlife, including a lot of civets and macaques! All of this data is added to many years of ongoing data from their previous field courses.

They also took part in pangolin tracking with our collaborating researchers from University of Hong Kong and going on night surveys with one of our placement year students, Alyssa. The students enjoyed talking and going out in the field with the volunteers and researchers based at the centre and both learned a lot from the other. After their visit they are off to Kota Kinabalu to experience the beautiful marine life living in Borneo's coral reefs.



*Students from Cornwall Field course Pangolin tracking*





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## TOM'S PROJECT FEATURE: (CARDIFF UNIVERSITY, EARTH SCIENCES, PROFESSIONAL TRAINING YEAR STUDENT)



*Tom collecting samples in the forest*

Hi everyone! For my project at DGFC, I am looking into how vegetation and soil varies in different environments. I would like to ultimately find out how soil composition affects the vegetation that is found and how they have adapted to survive. The environment around DGFC is unique for many reasons. One due to frequent flooding from the Kinabatangan River, which means vegetation has to be flood tolerant, and at times deal with the anoxic clay conditions in soil. In other places, rocky outcrops of sandstone and limestone in high elevations means vegetation is exposed to harsh weathering conditions. To investigate this interesting dynamic, I have selected sites that have varying soil conditions and elevations. Some include the limestone forests of Supu, the sandstone ridges of Laab hills, and the peat swamps of Kaboi Lake.

At each site, I set up a random plot of 20m x 20m. After that, there are three methods that are then conducted within the plot:

1. 10 (1m x 1m) quadrats to survey understory vegetation diversity. I measure species richness, abundance, and diversity.
2. Soil sampling (depth of 0-10cm) at each corner of the plot and then one in the middle. These samples are then taken back to the lab for analysis on pH, texture, moisture content, and colour.
3. Tree density using the point centre quarter method. Along each 20m transect, this method is conducted every 4m with the distance to the nearest tree in each quadrant recorded, along with DBH and tree height.

I have made good progress so far and every site has had at least one or two of the above methods completed which is good! The tricky part is trying to identify the plants I have seen in the quadrats. Right now, iNaturalist is my saviour and doing most of the work for me :) I also have too many photos of vegetation and canopy cover on my camera roll to count. However, an interesting discovery has been that soil pH tends to decrease with elevation but moisture increases, and this has affected vegetation diversity. So, I look forward to seeing what else I find!





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## NEW SPECIES OF SNAKE?



*Dr Johannes Penner*

During the recent Freiburg field course, Dr. Johannes Penner (Senior Researcher & Scientific Coordinator at the University of Freiburg, and Course Instructor) encountered a small reed snake of the genus *Calamaria*. With a white belly, dark brown dorsum and red spots it is thought it might represent a new species. His initial findings were supported by his colleagues and were reaffirmed when it was discovered that neither the colouration nor pholidosis (scale patterns) matched any existing descriptions.

Whilst DGFC applies for the necessary permits and permissions to extract DNA for analysis, Dr. Johannes seeks further expert opinion. We will keep you posted!

## PUBLICATIONS

EMILIA JOHNSON, REUBEN SUNIL KUMAR SHARMA, PABLO RUIZ CUENCA, ISABEL BYRNE, MILENA SALGADO-LYNN, ZARITH SURAYA SHAHAR, LEE COL LIN, NORHADILA ZULKIFLI, NOR DILAILA MOHD SAIDI, CHRIS DRAKELEY, JASON MATTHIOPOULOS, LUCA NELLI, KIMBERLY FORNACE, 2024. Landscape drives zoonotic malaria prevalence in non-human primates. *eLife* 2023;12:RP88616. DOI: <https://doi.org/10.7554/eLife.88616>





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## UNIVERSITY OF FREIBURG FIELD COURSE PHOTOS

Here are just some of the amazing pictures taken by the University of Freiburg Field Course students.



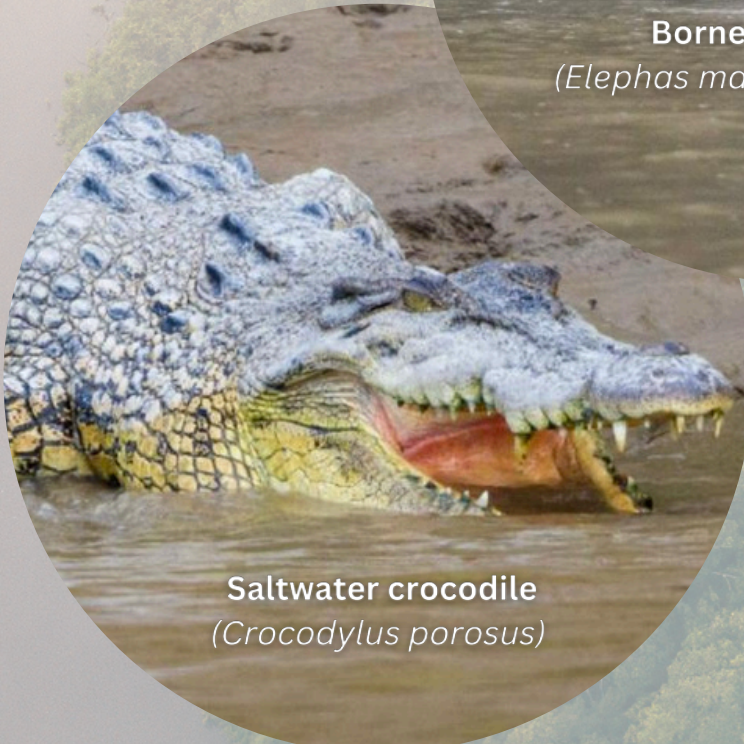
**Oriental pied hornbill**  
(*Anthracoceros albirostris*)



**White-bellied woodpecker**  
(*Dryocopus javensis*)



**Bornean elephant**  
(*Elephas maximus borneensis*)



**Saltwater crocodile**  
(*Crocodylus porosus*)



**Borneo Orange-Fringed Tarantula**  
(*Ornithoctoninae*)





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