

### **Centre ValBio Newsletter**

May 2023

## **CVB** News

**Environmental Education** 



With the generous support of <u>Re:wild</u>, Centre ValBio held a workshop on April 24th and 25th for local tour guides and CVB's Conservation Club members. The two-day event included a reforestation session in Ranomafana, a park visit, and training for the tourist guides on plant identification led by CVB's botanists Paul Rakotonirina and Dominique Razafindraibe. The guides also had the opportunity to train interested members in park tourism. For most of the 36 Conservation Club members who participated, it was their first visit to Ranomafana National Park!



Between April 17th and April 21st, CVB also hosted students from nine local primary schools to participate in environmental education activities. A total of 154 third-graders and 87 fourth-graders had the opportunity to visit the park for the first time and spot lemurs, chameleons, insects, birds, and other wildlife. After their visit, the students spent the rest of the afternoon back at CVB, coloring and painting their favorite animals from the day.

Photo credit: Onja Rafanomezantsoa

Check out our newest video from the Education Team 💽



#### **Restoration Ecology**



Meanwhile, the Restoration Ecology Team helped to plant 10,000 endemic tree saplings in Kianjavato for the opening of the 2023 reforestation campaign in the region of Vatovavy. The Team also organized a tree-planting session in Kelilalina, where 1,000 more endemic saplings were planted by CVB staff from all departments!

Photo credit: Jean de Dieu Ramanantsoa

# **Celebrating Fanny Cornejo**



Dr. Patricia Wright with students Daniella Rabino (left) and Fanny Cornejo (right)

Fanny M. Cornejo, a Peruvian primatologist, Stony Brook University graduate student, and member of the Pat Wright Lab, was awarded the "Emerging Conservationist Award" by the Indianapolis Prize this past month. The Indianapolis Prize, which is often referred to as the "Nobel Prize" of conservation, created this new award to recognize "professional wildlife conservationists, biologists and scientists under 40 years of age working to make strides in saving animal species from extinction." Fanny, the first recipient of the Emerging Conservationist Award, has dedicated the past 15 years to the conservation of primates in the Peruvian tropical Andes through her organization <u>Yunkawasi</u>.

Fanny's graduate mentor Dr. Patricia Wright won the Indianapolis Prize in 2014. She describes Fanny as a dynamic, motivated conservationist who works with communities and gets conservation accomplished. "Nobody deserves this prize more," Dr. Wright says. "She gives me hope for the future of our planet."

**Congratulations Fanny!** 

## Where are the T-10 Now?



Since releasing the translocated greater bamboo lemurs, or the T-10, into Ranomafana National Park, we've been keeping careful track of their whereabouts. The group has split in two, with one group of four females staying within Simone's home range in Talatakely and the other three females and three males traveling far

into the northern part of the park. The Talatakely group, including motherdaughter pair Margaret and Rose, Daffodil, and Blanche, are the only lemurs to have encountered Simone (to the right). Apart from a few scuffles over bamboo, our research technicians have also observed Simone eating and resting within their vicinity. The other group, on the other hand, has proved challenging to follow, given their fast pace and steep terrain. We hope that they soon rejoin the females in Talatakely for breeding season!

Be sure to check out our social media for more updates on our greater bamboo lemur translocation project, a collaboration with Madagascar National Parks and generously supported by the <u>Holtzman Wildlife Foundation</u>.

Read more about the translocation project here

## **Exploring the Lemur Microbiome**

by Mariah Donohue



Mariah collecting *Eulemur cinereiceps* feces in Manasara, a remote site in the COFAV forest corridor near Vevembe

Primates cannot survive without their gut microbiomes, a diverse community of microorganisms residing in the gastrointestinal tract that aid in host digestion, immunity, and neurological functioning. Variation in the gut microbiome can trigger a range of outcomes, from disease to specialized dietary adaptations. So, elucidating the factors driving microbiome variation can provide key insight into Primate ecology, evolution, and conservation. Comparisons across Primates and the broader Tree of Life have revealed important effects of host evolutionary relationships (i.e., phylogeny), diet, and habitat in shaping the gut microbiome. However, the vast majority of work in this field has focused on single- celled microorganisms (i.e., bacteria and archaea), leaving questions about community variation among multi-cellular gut organisms (i.e., worms, fungi, protists) unexplored.

Our study aimed to leverage the unique evolution and biogeography of Madagascar's lemurs to identify the most important factors shaping the gut "eukaryome" (the portion of the gut microbiome comprised of multi-cellular organisms). We compared gut eukaryome diversity and composition across three diverse lemur communities in Ranomafana (rainforest), Isalo (dry forest), and Zombitse (dry forest). We sampled 12 species in the Lemuridae, Indriidae, and Cheirogalidae family, all with unique dietary and ecological niches. Surprisingly, we found no effect of host diet, habitat, species identity, or phylogenetic relatedness on the gut eukaryome. This contrasts with our findings in singlecelled organisms (i.e., the bacteriome), which were strongly associated with each of these study variables. The disparity in diversity patterning between the bacteriome and eukaryome suggest these communities serve fundamentally different roles and are therefore shaped by different forces. We posit the bacteriome represents a natural extension of the host, inextricably linked to survival, fitness, and homeostasis, while the eukaryome primarily acts as a foreign body. Given these findings, we suggest future gut microbiome research should (1) clearly state the target community (i.e., single- or multi-cellular organisms) and (2) prioritize identifying the major determinants of eukaryome variation in the mammalian gut.

Mariah Donohue is a PhD candidate at the University of Kentucky studying gut microbiomes and population genetics of lemurs. Read the recently published paper on this project <u>here.</u>



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