News
To commemorate the park’s 25-year history, a celebration was held in Ranomafana on November 19th. The festivities kicked off with a jovial parade through town and inspirational speeches by local and national authorities, as well as Dr. Patricia Wright herself. The local musical group, Endemika, performed their song especially written to commemorate the park.
Dear readers

It is my pleasure to share with you another edition of VaoVao ValBio. This Fall (northern hemisphere) / Spring (southern hemisphere) saw another full house at Centre ValBio, from Stanford University researchers studying mouse lemur phenotypes and disease vectors such as mosquitoes and snails, to Study Abroad students from Stony Brook University exploring Madagascar’s forests and communities for the first time, and early-career scientists learning conservation methods as part of the Zoological Society of London’s EDGE fellowship program.

The Ranomafana Research Summit on Planetary Health and the inaugural Ecological and Epidemiological Modeling in Madagascar (E2M2) workshop proved once again that Centre ValBio is more than just a world-class center for biodiversity research. Through our many partnerships with organizations such as Pivot and the Global Health Institute at Stony Brook University, we are forging more integrated, interdisciplinary relationships among scientists and public health practitioners focused on humans, animals and vectors, and environment.

Our media awareness for 2016 was enhanced by ABC Nightline News with Alexander Marquandt who reported on our lemur research, as well as our medical drones.

Our CVB Biodiversity team participated in investigating an unexpected rainforest located more centrally in Madagascar. Partnering with scientists from the University of Florida, Gainesville, American Museum of Natural History and Sieve Analytics audio landscapes, we explored this 1,400-hectare forest invited by the local leaders including Leona Rasolonirina.

Of course, it hasn’t been all work and no play this season. We also organized and participated in celebrations for World Lemur Day 2016 and the 25th Anniversary of Ranomafana National Park. We hosted Ben Mirin, a beatboxer from Brooklyn, at our CVB recording studios, and even embraced the season and our diverse cultural backgrounds with parties for Rosh Hashanah and Halloween with the Stony Brook Fall Study Abroad group.

Dr. Patricia Wright  
Founder and Executive Director, CVB

In Memoriam:  
Florent Ravoavy, 1957-2016

On November 5, 2016 in the evening in Ranomafana, Florent Ravoavy, our beloved colleague for over 28 years, died of kidney disease, a complication of diabetes. He was 59 years old. Florent was the Ranomafana Research Cabin Manager, the Director of the Ranomafana National Park Project Museum, and then the Director of the Department of Education and Health for the Centre ValBio, and a member of the CVB Senior Management Team. His wisdom, kindness and expertise brought together the Ampanjaka into understanding the importance of conservation of Nature and the Tanala Culture. He was the guiding light for the establishment of the Ranomafana National Park. His light continued to shine on the education and cultural mission of CVB. It is with great sadness that we mourn one of the founding fathers of RNP and CVB, and we miss Florent Ravoavy and his guidance and leadership dearly.

Florent Ravoavy, you are always in our mind. The Malagasy proverb said “Maty namela mamy ianao ka ho tsaroanay mandrakizay” means you left but you save something sweet to all of us so we never forget you.”
Conservation
25 years of protecting Ranomafana National Park!

After discovering the golden bamboo lemur (Hapalemur aureus) in the forests of Ranomafana in 1986, and around the same time, rediscovering the greater bamboo lemur (Prolemur simus), Dr. Patricia Wright, primatologist and Distinguished Professor at Stony Brook University, worked with the government of Madagascar and with the support from USAID spearheaded the establishment of a national park to protect these two lemur species.

Inaugurated in 1991, the 41,601-hectare Ranomafana National Park (RNP) became just the fourth national park in Madagascar. Over the last quarter century, RNP, also a UNESCO World Heritage Site, has grown to become a popular destination for scientific researchers and eco-tourists, making it one of the island’s most visited parks.

Identifying new sites for amphibian conservation

Centre ValBio has teamed forces with U.S.-based Rainforest Trust to explore and find important sites for Madagascar’s threatened amphibians, over 99% of which are endemic, with the hope of creating new sanctuaries for these animals. Since 1988, Rainforest Trust and its local conservation partners have strategically created over 100 new Protected Areas towards the goal of protecting 50 million acres by 2020.

Research
Understanding Local Attitudes towards Bats
By Mar Cabeza-Jaimejuan
Global Change and Conservation (GCC) group from the University of Helsinki (Finland)

Failing to address and incorporate local attitudes and values may hamper local receptivity regarding conservation projects. Fear of bats has been documented in Western popular culture, but very little is known about the symbolism of bats in tropical countries, particularly amongst local communities.

A Finnish research project for the first time has been examining local attitudes towards bats in the villages around RNP. They have found that 13 endemic bats are found in Ranomafana and some roost in buildings in the local communities.

The University of Helsinki project has developed an archive of Tanala and Betsileo stories, myths and songs about bats. We have also documented several local uses of bats in the area, such as hunting of flying foxes for human consumption, widespread guano collection as a fertilizer, and medicinal treatments based on oils derived from bat fat. Our first results indicate a general positive attitude towards bats, with most people recognising several ecosystem services provided by them, including seed dispersal, pollination and pest control.

Yet, some people also raised concerns on the fact that close contact with bats is undesirable, due to their smell and unsupported health concerns. Overall, we are finding a high intra- and inter-cultural variability of the local perceptions of bats, which calls for targeted conservation approaches, tailored to the local contexts for which they are intended, and sensitive to the cultural understandings of different ethnic groups and population sectors.

The Chemical Ecology of Lemur Seed Dispersal (Omer Nevo from the University of Ulm, Germany)

Omer has initiated a project this year to examine whether chemical communication through fruit odor is indeed the bridge between trees and seed-dispersing lemurs in the Malagasy rainforest. In 2016, the CVB biodiversity technicians, collected fruits of dozens of plant species within RNP to collect chemical samples of the scent of ripe and unripe fruits. With the assistance of University of Antananarivo graduate student, Zo, thousands of fruits were analysed at the Center ValBio labs, and results will be finished next year.
New Publication by CVB researcher


Dr. Brett Scheffers and his colleagues recently published a comprehensive paper on climate change in Science entitled “The Broad Footprint of Climate Change from Genes to Biomes to People.” For the past two years, Dr. Sheffers has worked to develop a pantropical assessment of thermal heterogeneity in degraded and pristine rainforest systems. His research is ongoing in Colombia, China, Borneo, the Philippines, Australia and Madagascar. In this assessment, he examines the effects of selective logging on thermal regimes and microhabitat-thermal buffering (sampled via new thermal infrared imagery technologies) from ground to canopy; in the hopes of better understanding how logging and fragmentation might synergize with novel climates in the future.

Brett has been working on bird’s nest ferns in the canopy of Ranomafana National Park for the past year. We are proud to have him as a CVB scientist.

More News and Visitors

ABC Nightline news comes to Centre ValBio

We were privileged to have Alex Marquardt of ABC Nightline News come to Centre ValBio to film lemurs, as well as our Health Team and the medical drones. The lemurs were cooperative, but the drones were washed out with a major thunderstorm. The footage will be shown in 2017.

The Board of Trustees of the University of Helsinki, one of our founders, spent a week at the Centre ValBio. CVB was honored that Tarja Halonen, the former President of Finland, was one of the visitors. A final party was enjoyed by all.

Conservation Education

World Lemur Day 2016

World Lemur Day is celebrated across Madagascar and the world, and 2016 marked the third annual World Lemur Day celebration in Ranomafana. Community members, local authorities, and CVB health and conservation partner organizations such as Pivot, Help Simus and Madagascar National Parks, gathered to learn more about these incredible creatures only found on the island of Madagascar.

The morning started off with a lively parade through the town of Ranomafana. Local area children and CVB staff wore lemur masks and lemur furry costumes. Stony Brook University’s study abroad students joined in the fun by painting faces. Authorities shared messages with the local population on the importance of lemurs. The Mayor of Ranomafana discussed the laws protecting lemurs, as well as procedures surrounding the use of slash and burn agriculture. The Ranomafana National Park Director, Madame Josiane, explained that lemurs are endemic to Madagascar and play a huge role in attracting eco-tourists to the island. Dr. Patricia Wright talked about how Madagascar has more than 100 species of lemurs and expressed our commitment to saving these amazing creatures!

Foldscopes: Bringing the Microscopic World to the People

Microorganisms are everywhere but we can’t see them! When the microscope was developed, which allowed humans to see beyond what is visible with the naked eye, it opened up a whole new dimension in science, allowing for the discovery of the existence of microorganisms, for study the structure of cells, and to see the smallest parts of plants, animals, and fungi. Our understanding of the world changed – and this is why many see microscopes as the most important scientific instrument there is. Today, the microscope is still commonly used to diagnosis illness in hospitals and clinics all over the world.
The problem with the microscope is that they are often costly, bulky and can be damaged easily. Dr. Manu Prakash, Assistant Professor of Bioengineering at Stanford University and head of a “curiosity-driven” lab, and his then student, Dr. Jim Cybulski, sought to find a solution and set out to design a microscope that could be portable, durable and widely available. Thus, the Foldscope, a foldable microscope made out of paper and other common materials (which costs less than one U.S. dollar to produce) was born.

In 2014, The Foldscope pilot program was launched and distributed 50,000 Foldscopes to 135 countries. One year later, Manu and Jim founded Foldscope Instruments with the belief that “every kid in the world should carry a microscope in his/her pocket...just like a pencil.” To this end, they are now partnering with educational organizations across the globe with the aim of distributing one million Foldscopes by the end of 2017.

Manu, Jim and other members of the Prakash Lab, along with Dr. Mark Krasnow from Stanford University, visited the school in Kelilalina to bring the discovery of microorganisms to middle and high students there. With the help of Professor Hanta Rasamimanana and her students from the Ecole Normale Superieure in Antananarivo, each student was coached in how to construct their very own foldable microscope.

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Study Abroad

Fall 2016 Student Searches for Aye Aye and Finds Much More...

By Alexandra Rose
Class of 2017 at Western Washington University (Bellingham, WA)

No one was quite sure what to expect when our bus of students finally pulled into CVB after the 12-hour drive from Tana. I was a little nervous for the next three months Madagascar; I had no field experience, I'd never been a big fan of heat nor humidity, and my French wasn't great. Even so, I was excited to see what was in store. Our trip would include lectures, hikes and camping in Ranomafana National Park (RNP), visits to local villages, free days to spend in the town of Ranomafana, a cross country expedition, and the culmination of the program: our independent research projects. I knew I wanted a challenging project, but I ended up attempting one of the most difficult topics to study: the aye-aye. Over the course of my project I relied on our Malagasy guides for their expertise, but gained even more from experiencing their culture with them.

From our very first hike into the park, I was asking our guides to point out Canarium trees, containing a main food source for aye-ayes. Even though the staff at CVB agreed that Vatoharanana, a non-degraded sector of RNP, would be my best bet to find aye-ayes, it was still going to be a difficult task.

A couple of rainy days into my two weeks in Vato, we were joined by CVB’s TEAM Network, preparing to deploy their camera traps. Camp quickly grew from three to thirteen, creating a whole new dynamic. I had been teaching our wonderful cook Jean Paul some English words here and there, and all of a sudden, throwing around some helpful English words turned into actual daily language lessons after every lunch and dinner. This was the last thing I would have expected to do while looking for aye-ayes, but lessons became something everyone looked forward to. Soon, I noticed that guide Dominique wasn't the only one joining me. Members of TEAM and even our cooks were joining us day and night as we continued searching for aye-ayes.

After days of mapping Canarium trees and nights of surveying mammals, we found secondary signs of aye-ayes, but alas, no visual sightings of the unique primate itself. Even though I didn't find aye-ayes, I learned more about Malagasy life than I could have ever imagined. Spending two weeks in Vato with those twelve Malagasy men, only one of which I knew going into the trip, was the best experience of my life. Their guidance, support and willingness to share their culture with me was better than finding any aye-aye.
He described how programmatic efforts on health system strengthening are being combined with extensive data collection and scientific research to create a model health district for Madagascar. Dr. Patricia Wright followed with a presentation on her long-term research on the ecology and behavior of sifakas in Ranomafana National Park. She discussed how findings on lemurs relevant to conservation are now being extended to research at the interface with human health. Next, Jesse McKinney discussed the role that drones may play in health care delivery in remote settings. Particularly, he presented a pilot project on Tuberculosis diagnosis being launched by Dr. Peter Small of the Global Health Institute at Stony Brook University. Dr. Mark Krasnow then explained his lab’s recent research at CVB on mouse lemurs. From an initial perspective on how mouse lemur research can help us better understand human disease, he concluded with an unexpected finding with consequences for conservation: the potential discovery of a new mouse lemur species. Dr. Manu Prakash, a world expert in frugal science, then presented some of the innovations under development at his lab on the areas of vector surveillance and disease diagnostics for low-resource settings. Field testing of these novel technologies developed at Stanford, was being carried out in Ifanadiana at the time of the summit. Finally, Dr. Andres Garchitorena rounded out the summit by laying out a potential plan for integrating research efforts in Ifanadiana into a common agenda for Planetary Health. He proposed a research platform combining yearly surveys, diagnostics and periodic environmental fieldwork that could align the work of multiple collaborators both locally and internationally.

**Featured 2016 Artist in Residence**

Ben Mirin (aka DJ Ecotone) is an internationally recognized beatboxer who travels the world making music from nature. Through his collaborations with scientists and other explorers, his art is to gather sounds of the planet’s most threatened ecosystems, and turn them into music with which to engage people with the natural world and inspire conservation.

Ben has had previous art residencies at the National Centre for Biological Sciences in Bangalore, the Lurie Garden at the Chicago Art Institute, and most recently at the Bronx Zoo in New York City. When