

SPECIAL POINTS OF INTEREST:

- **Bushmeat Poster Created and Distributed**
- **SAVA Project Manager Visits Duke/DLC**
- **Fish Farming Update**

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Duke LEMUR CENTER
SAVA CONSERVATION
M a d a g a s c a r

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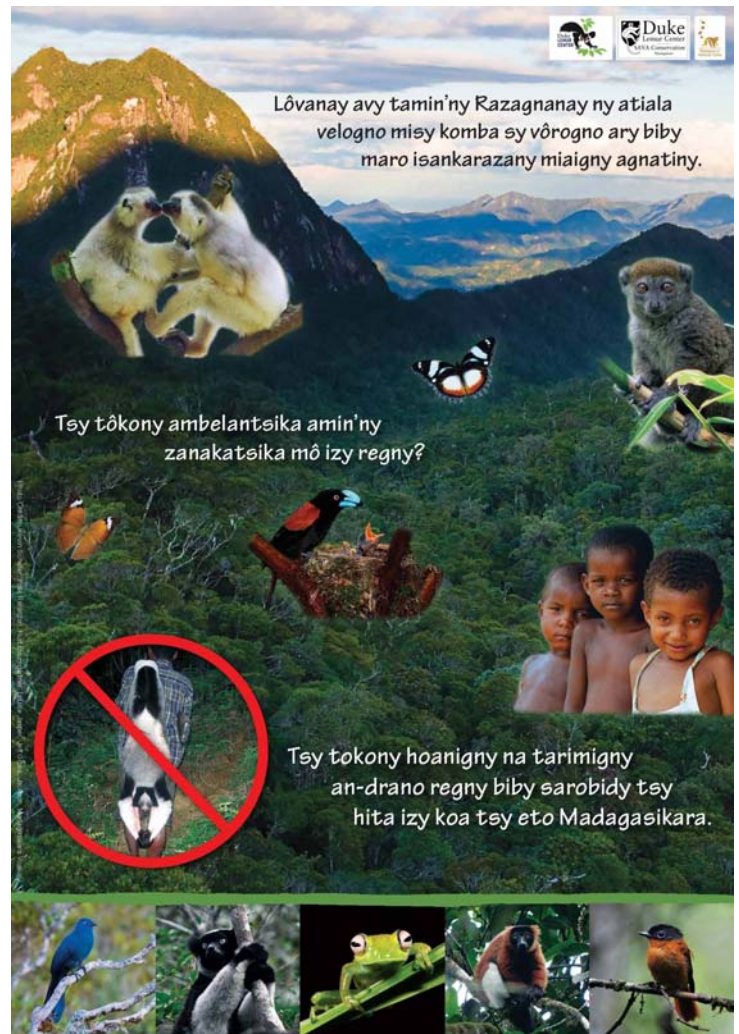
News from the Sambava-Andapa-Vohemar-Antalaha region of NE Madagascar

Bushmeat Poster Created and Distributed

By Charlie Welch

In tandem with the increase of illegal cutting and traffic of rosewood and ebony occurring in northeastern Madagascar in recent years, a “bushmeat” problem has now arisen as well. Although the hunting of lemurs at a subsistence level has no doubt taken place in Madagascar since humans first arrived on the island about 2,000 years ago (or now believed to be close to 4,000 years ago!), widespread bushmeat hunting of lemurs is a relatively new phenomenon. Bushmeat can be defined as any meat that comes from wild animals, but is generally considered to be animals killed in numbers, the meat smoked and dried, then transported into population centers for sale. Though a rampant problem in some African countries, bushmeat hunting is now also occurring in certain parts of Madagascar, due to more access to arms and a nonelected government that has other priorities at present.

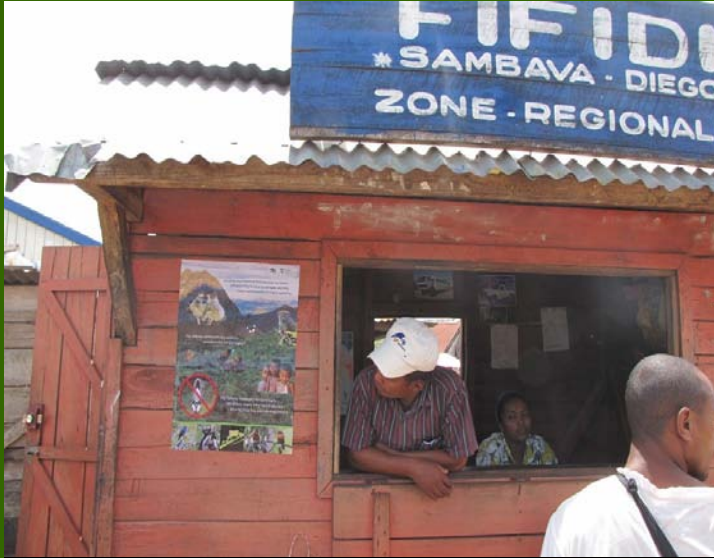
To address bushmeat hunting in the region, SAVA Conservation has undertaken several initiatives. One is the introduction of fish farming, to provide an alternative protein source to bushmeat (see this and previous newsletter). Another action is the creation of an anti-bushmeat poster. Working with noted artist and designer Louise Jasper, a poster was developed using photographs taken by some of Madagascar’s leading wildlife photographers



Anti-bushmeat poster.

By Louise Jasper

Bushmeat Poster Created and Distributed *Continued*



Anti-bushmeat posters displayed at SAVA region businesses.

Photos by Lanto Andrianandrasana

(Kevin Schafer, Inaki Relanzon, and Kurt Baumgartner), the ngo Madagasikara Voakajy, and Jeff Gibbs. Thanks to all! Our team has distributed the poster to schools, and posted it in other central locations of villages and towns. The text was carefully created by Erik and Lanto and Madagascar National Parks, with input from other Malagasy colleagues in the region. Our goal was to stimulate thought about killing and consuming local wildlife, without sounding insulting or condescending. The text is written in the regional dialect (tsimihety) of Malagasy, and was vetted repeatedly with locals before declaring a final version. Now that the first wave of posters are out and posted, the feedback has been positive, from adults to youth. In fact Erik and Lanto were asked why we had not put out such a poster years ago!

Many thanks to Louise for her expertise and patience in creating the poster. To see more of Louise's exquisite photos, take a look at <https://www.facebook.com/pages/Louise-Jasper-Nature-Photography/289804457701253>. We are hopeful that in conjunction with some of our other project activities, the posters will make a difference in the SAVA region bushmeat trade.

Translation of Anti-bushmeat Poster

We inherited healthy forests from our ancestors, complete with all the lemurs, birds and other animals that live there.

Shouldn't some of that forest remain undisturbed for our children?

The magnificent and unique animals of Madagascar should not be eaten, nor be kept as pets in your house.

SAVA Project Manager Visits Duke/DLC

By Charlie Welch

As most of you are already aware, the SAVA Conservation project has a grand total of two permanent staff members in Madagascar – project director Dr. Erik Patel and project manager Lanto Andrianandrasana. Although Erik has been to DLC numerous times, Lanto had not yet visited the organization for which he works. That is, until this past May! Thanks to a grant from the new Duke Africa Initiative (DAI), we were able to host Lanto for his first visit to the US, as one of [three DAI invitees](#) to Duke (the other two were both from Zimbabwe, and had different interests/career tracks).

Although Lanto had a few responsibilities to DAI, the majority of his time was spent with us at DLC. It was extremely important for Lanto to become acquainted with DLC, our objectives, and to meet the dedicated staff that make our varied programs here work. He spent learning time with each DLC department, from veterinary to research to husbandry to education, and was a welcome participant in special events such as DLC Alumni Weekend and the donor appreciation evening. Lanto now has a much better understanding of DLC's overall mission, and the loyal support that we have for the conservation work that he and Erik carry out in the SAVA region.

And just to be clear, we did not miss the opportunity to introduce Lanto to some of the non-work related aspects of Americana and North Carolina, such as bar-b-que, baseball, and local music! What visit to NC is complete without bar-b-que and hush puppies?

We are extremely indebted to the Duke Africa Initiative for making Lanto's visit possible from both a financial and organizational perspective. Many thanks especially to Anna Alcaro of DAI.



Lanto with new friend in a DLC natural habitat enclosure.

Photo by David Haring



DAI Scholars visit DLC. L to R: Lanto Andrianandrasana, Sithabile Tirivarambo, Charlie Welch (DLC Conservation Coordinator), Oliver Nyambi.

Photo by David Haring

Fish Farming Update

By Charlie Welch



Fish pond after draining.

Photo by Lanto Andrianandrasana



Adult "fony" measurement.

Photo by Lanto Andrianandrasana



Counting fish to put back in fish pond.

Photo by Lanto Andrianandrasana

SAVA Conservation is supporting the startup and operation of a demonstration fish farming pond as part of our efforts to reduce bushmeat hunting in the SAVA region (see vol. 1 issue 2 of SAVA Conservation newsletter). Our goal is that fish will serve as a protein substitute for the meat of hunted lemurs and other wildlife. Two additional village ponds are now completed and are filling at isolated locations on the north side of Marojejy National Park, near the village of Antongodria. Those ponds will also soon be filled and stocked with fish fry.

The fish farming project is unique in that a locally endemic species of native fish is being raised, *Paratilapia* sp., or "fony", rather than exotic Tilapia or Carp, which are typically raised as food in tropical countries.

In September of 2012, after the construction of the Ambodivohitra demonstration pond was finished, 400 *Paratilapia* sp. fish fry were introduced into the pond. After 10 months of watchful care, on 1 July the demonstration pond was drained and fish netted out and counted. Some adults were taken out for food/to be sold, some were returned to the pond to be fruitful and multiply, and some were released into the nearby Matsobe River. The secondary objective of the fish farming initiative is to repopulate the local rivers with the native fony, which have all but disappeared due to overfishing locally. A total of 1,704 fish were counted in the pond – a very exciting moment for the project! Of the fish netted out of the pond, 600 subadults were returned to the pond, 531 fry were released, and 573 fish were sold for food, at a total weight of 44kg. The fish sold brought a price of 10,000 Ariary (or \$5) per kilogram, which is a princely sum in rural Madagascar.

The demonstration pond at Ambodivohitra is a collaborative venture with Desiré Rabary, who many of you may remember visited DLC about three years ago when he came to the US to accept the Seacology conservation award. Desiré has provided the land on which the pond is built. The accessibility of the location has afforded the project with the unexpected bonus of being able to use the pond as an education tool. There have been multiple

Fish Farming Update *Continued*

guided class visits to the demonstration pond, with students learning not only the details of fish farming, but also the importance of not relying on hunted wild animals for meat.

Duke Engage student Sophia Staal (more on the Engage program in the next newsletter) is presently in Andapa and working with SAVA Conservation to conduct market and village assessments about the availability and demand for sale of this fish, local knowledge of this fish, and business model for operating the ponds. Such information is essential in order to assure that the ponds are truly beneficial to local people, hence will continue to be operated after our start up support is completed.

The fish farming is also a collaborative initiative with Guy Tam Hyock of Andapa. Guy is a remarkable man, and well known even internationally for his expansive knowledge of fresh water fish of the SAVA region. Guy has been successfully breeding native fish in and near Andapa for years, so we enlisted him for advice and guidance in our fony fish farming efforts. The initiative would simply not have been possible without Guy.



Release of some of the fish fry into the Matsobe River.

Photo by Lanto Andrianandrasana



Cameron, Rabary, Sophia and William feed fish.

Photo by Lanto Andrianandrasana



A school group visits the fish pond.

Photo by Lanto Andrianandrasana

School and Footbridge Update

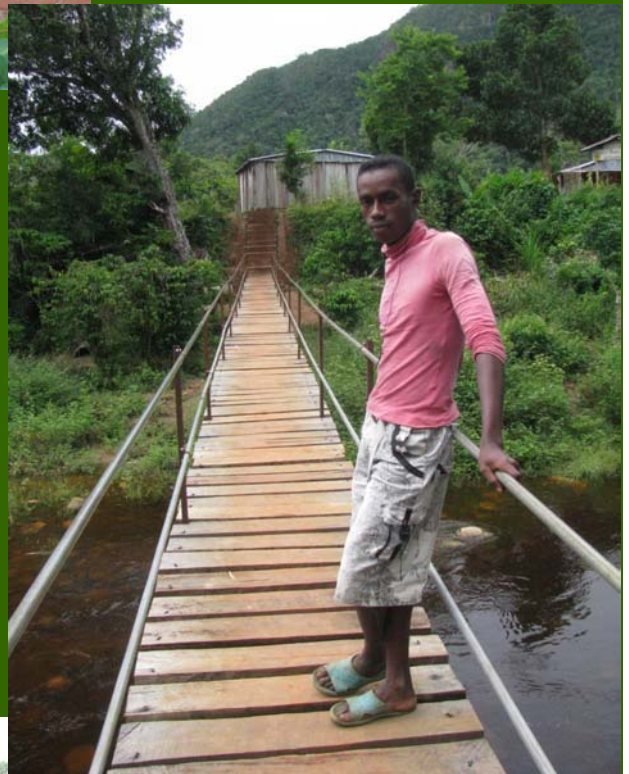
By Charlie Welch



The Seacology-funded construction of the school in the village of Antsahaberaoka is moving forward and now nearing completion. (See previous newsletter for details about the school and bridge construction). Finishing touches on the three classroom concrete building are underway, and desks for the students will be done within two months.

As you can tell from the photo to the right, the 47m footbridge is finished. Students living on the other side of the river now have a safe passage across the river, to get to the school during times of high water.

The two projects have helped SAVA Conservation build good relations with villagers in an isolated and sensitive zone near Marojeje National Park.



Razia Said Visits SAVA Conservation

By Charlie Welch



Lanto and Razia Said at the SAVA Conservation office.

On June 17, noted New York-based Malagasy musician Razia Said visited the SAVA Conservation office in Sambava. Lanto was in Sambava at the time and gave her the grand tour of our new base of operations. Razia is a staunch defender of Madagascar's forests and natural heritage, and much of her recent music reflects that commitment: <http://www.raziasaid.com/standard/>. She is originally from the town of Antalaha, on the southern edge of the SAVA region, and was in the area with her daughter, to visit family. Many thanks to Razia for the visit, and we hope to be able to host her at Marojejy National Park at some future date!

New SAVA Logo

By Charlie Welch



Although very pleased with our SAVA Conservation "lemurs in shield" logo as designed by Stephan Nash (whose artwork graces the pages of the "Lemurs of Madagascar"), we decided that a tie-in with the DLC logo was needed. Kimio Honda, who designed our DLC logo some years back, was kind enough to help us out with that process.

As you can see here, not only did Kimio add the leaves from the DLC logo, but also gave us a much more professional look by retooling our amateurish addition of text to Stephen's original logo. The result (we feel) is a more professional looking logo, which is linked to the DLC logo through the text form as well as the leaf placement.

A very sincere thank you to Kimio for his donated efforts at a time when he was already juggling a multitude of other tasks. And thanks to Stephen for producing the original SAVA Conservation logo. Both Stephen and Kimio have been generous friends of DLC for many years.



SAVA Conservation Research To Be Presented at Prosimian Conference

SAVA Conservation staff and collaborating Malagasy Masters student Manitra Rajaonarison and former Duke University Nicholas School Masters student Jennifer Moore will be presenting posters and oral presentations at the upcoming Prosimian Congress in August. More on the Congress in the next newsletter, but two of the poster abstracts are listed below.

Diet, Ranging, Activity Budget of wild silky sifakas in Makira

¹Manitra Fabien Rajaonarison, ²Erik R. Patel, and ³Emilienne Razafimahatratra

^{1,3} University of Antananarivo, Department of Animal Biology

² Duke Lemur Center, SAVA Conservation

A 4.5 month study of silky sifaka (*Propithecus candidus*) feeding ecology and ranging was conducted in the Makira Natural Park near the village Andaparaty. The fieldsite inhabited by this single group of four individuals is an unusually low elevation and disturbed habitat for this species. This location, just north of the Antainambalana River, is the southern range limit for this species in Madagascar. No other groups are currently known to be found within 25 kilometers of this isolated group. 1040 total focal hours of data were obtained between July 1 and November 11 2011. In total, 70 different plants were consumed. Plant part percentages confirm that they are folivorous seed-predators: leaves 56.6%, seeds 18.0%, buds and flowers 11.5%, stems 8.3%, fruits 5.0%, and .6% soil, galls, and other. Feeding time on their top ten foods accounted for 76.7% of their diet: mampay (Fabaceae, 22.3%), vongo (Clusiaceae, 14.7%), taintsitsiha (Loranthaceae, 9.5%), vaheny (Apocynaceae, 7.2%), tarantana (Anacardiaceae, 5.7%), sambalahy (Fabaceae, 5.6%), nanto (Sapotaceae, 3.1%), rotro (Myricaceae, 3.0%), hazinina (Clusiaceae, 2.9%), and ompa (Myrtaceae, 2.7%). Home range was determined from 931 GPS points to be 98.6 ha (100% MCP), 67.8 ha (95% Kernel), and 21.8 ha (50% Kernel). This is the largest home range known for silky sifaka in Madagascar. The activity budget revealed 63.0% of time spent for resting, 28.5% for feeding, and 8.5% for moving, social activities and other. Results illustrate the flexibility, despite rarity, of this species and provide new information about how this species copes with habitat disturbance.



SAVA Conservation: A new initiative by the Duke Lemur Center

¹Erik R. Patel, ²Charles R. Welch, ³Lanto H. Andrianandrasana, and ⁴Anne D. Yoder

^{1,2,3} Duke Lemur Center, SAVA Conservation

⁴ Duke Lemur Center

Duke Lemur Center's new conservation initiative in the SAVA region of northeastern Madagascar will be described and recent project newsletters will be distributed. Based in Sambava where the new office is found, the project has followed a multi-faceted community-based approach to biodiversity conservation which is similar to that used by the Madagascar Fauna Group (MFG) in the Toamasina region. The extensive environmental education program includes both structured educational visits to Marojejy National Park with local student groups as well as a teacher training program which will introduce a 68 page environmental education manual as part of the required primary school curriculum in dozens of schools. To diminish bushmeat hunting, fish farming of a locally endemic *Paratilapia* species ("fony") is being taught as an alternative protein and income source by a local specialist in the practice. Restocking of this endangered species into local rivers will also help to reestablish wild populations. Reforestation campaigns have been established in several villages around Marojejy National Park with approximately 10,000 seedlings (fast growing endemics and fruit trees) being planted annually in each village. Direct collaboration with Madagascar National Parks includes improving boundary demarcation at Marojejy NP, and revival of a village guard program, among other activities. Lemur research and conservation projects are also an important aspect of this conservation program. Results of several projects will be reviewed which have recently been undertaken by graduate and undergraduate Duke University students.



Closing Comments

Throughout this issue of the newsletter, you may have noticed that time and again we mention the names of those who have helped us out with some aspect of the project. Whether through an outright collaboration or isolated tasks, their contributions, and those of many others, are critical to achieving our conservation objectives. "No man is an island" (John Donne) is a perspective that also applies to our conservation work. Our successes hinge upon the good will and outside support of many.

Charlie



SAVA region students on their way home after a hard day in class.

Photo by David Haring



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Miaro atiala, mamboly fiainana
"Protect the forest, and life will grow"