

What's Inside...

Project of the Month – Butterfly House & Laboratory 2

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Butterfly house and lab

Our main focus this month has been on one of the more ambitious projects planned for this year. We, staff and volunteers, have spent a couple of weeks sewing, digging holes, clearing ground, even carrying away pieces of tree, and generally working very hard to construct what will be a butterfly house. Daniel Alvarado (Gigo) our butterfly guy has been studying the butterflies within the reserve for over a year, building an inventory of the species present in this area. The plan now is to reproduce inside the butterfly house the natural environmental conditions for various lepidopteran species in order to breed them for educational and recreational purposes. The house itself is a huge tent made from 50% shade netting, measuring 17m x 8m and is approximately 4m tall. Inside we will start to transfer those species of plant specific to the needs of the butterflies we wish to breed, as they require different plants to feed and lay their eggs on. Once eggs are laid they will be removed to a laboratory at the side for specialist care – the caterpillars require regular feeding and a lot of cleaning!



Also within the house we have dug an area for a small pond for the young Taricaya turtles (*Podocnemis unifilis*) which have remained with us this year for observation. The aquariums they have been residing in were adequate to start with but they do not receive a lot of light, essential for reptiles, and now they are growing bigger more space is required. It could also be beneficial for the butterflies as often, travelling along the river, you can spot turtles with butterflies perched on or flying around their heads to lick the salt around their eyes.

As the tent was being sewn, a new building standing alongside the butterfly house was being completed. It replaces the old workshop and includes a second floor with a laboratory



and presentation area, while the ground floor will hold the new workshop, a room for Pedro (Pedro Bautista, looks after the pilot farm) and a work area useful for processing plant samples, inspecting specimens collected from traps, or any project which needs temporary space under a roof.

Project Updates:

1. Sensor Cameras

Since the end of 2008 one of our volunteers has been working with the sensor cameras, digital cameras with an infrared beam designed to be set up in remote locations and take photographs of anything detected to be crossing the beam. Due to a little bad luck with the heavy rains and initial placements, among other things, relatively few interesting photos had been taken. However, last month things were a little better with a couple of photos of a species new to our list, a large brown rat! It is difficult to identify the exact species but we are working on it and hope to capture more photos in the near future.



2. Herpetotraps

All through March Daniel Neira (herpetologist) has been installing new traps designed specifically for the capture of ground-dwelling amphibians and reptiles.

Each one consists of a 60m long knee-high plastic fence with collecting buckets dug



into the ground at various points along them, the idea being that any animal travelling along the forest floor that came up against one of these fences would try to go around it to the left or right and hopefully in doing so would fall into a bucket ready for collection and identification. Of course there are many different types of animal that live on the ground, so volunteers are often required to remove not only frogs and lizards but also millipedes and tarantulas!

At present there are 6 traps installed around the reserve, more than at any point

previously and there are plans to set up a couple more.

Unusually this month Daniel found a rare species of lizard in one of the buckets, the beautiful Eastern Green Thorny-tailed Iguana, *Uracentron azureum*, one which is normally only found at canopy level. It was a juvenile and did not have the complete adult colouring (gorgeous green and black stripes) and



Daniel explained that young lizards can often miscalculate when jumping from one branch to another, ending up in unexpected locations. One volunteer had previously taken photos of an adult which had been spotted from the canopy platform, but it had never been captured.



3. Turtle Project

Last November when it came to the moment of release for our baby turtles (*Podocnemis unifilis*) we retained a number of them along with those of a different species (*Phrynops Geoffroanus*, known locally as the Teparo) to monitor their growth rates and development from time of hatching. Measuring just 45mm upon hatching, the taricayas have grown to a massive 65mm! It may not sound like too much but the visual difference is striking, and they have increased their body size by about 30%. The weight gain is also notable, going from just over 19g when freshly hatched, to 37g at last measurement. We will continue observing these turtles over the next year or so.



Taricayas then.....and now.

Teparos then.....and now.

4. Palmiche Leaves

The fish-tailed palm or palmiche (*Geonoma deversa*) is a relatively small palm (up to 4m tall) which is widely used locally to make thatched roofing panels. One of our goals this year is to produce a plantation at the pilot farm as there is huge demand for the leaves, thatched roofing being so much cooler than corrugated iron. These plants can be found within the forest, however most of the larger areas are located inside the Tambopata National Reserve and extraction is illegal. Our first challenge has been to transfer some plants from the forest to the pilot farm, alive. At first we were failing miserably with all the plants dying, but since then due to a little experimentation with extraction techniques and planting conditions we've had a little more luck. Some of the plants from the most recent trip are actually still alive, although maybe not quite in perfect condition so we hope to be able to improve on this further.

5. Animal Rescue Centre

Recently we received 2 new monkeys in a transfer from Amazon Shelter, a rescue centre just outside Puerto Maldonado that specializes in howler monkeys. The Squirrel Monkey (*Saimiri sciureus*) and White-fronted Capuchin (*Cebus albifrons*)



were kept in the quarantine area for a couple of weeks, during which time a new dormitory was built connecting to our main small monkey enclosure. Following that the new arrivals were transferred to the main enclosure and have settled in nicely, so now we have a full

enclosure with 8 individuals of 3 different species, although a little sadly all of them are male! The new dormitory means that now when entering to feed the animals we can shut them in one enclosure while the food is placed in the other, reducing human contact.

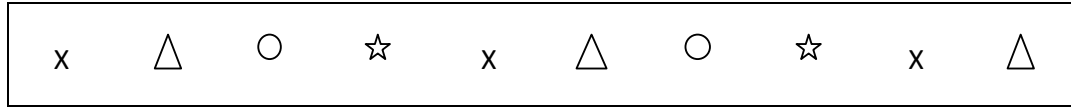


We have also come to the conclusion now that our 2 coatis (*Nasua nasua*) are ready for release. They have been undergoing a final treatment for internal parasites before their blood test, due to take place in April. If the blood tests show that they are not carrying any disease or parasites uncommon to this species then we can apply to INRENA, the Institute for Natural Resources, for their release permit. They have developed very well over the year they have been with us, growing from kitten-sized babies to the healthy animals they are now.

6. Palma Real

To finally complete the first phase of a pilot permaculture project at the Ese'ejá Native Community of Palma Real we paid one final trip there this month. The community consists of about 80 families and is located 1 hour downriver from Taricaya. They have lived in that area for a very long time and one of the consequences of this combined with a rapidly-growing population is that the area immediately surrounding the village has been overfarmed leaving poor-quality soil where relatively little can grow. Taking ideas from the projects at the pilot farm, we started to implement a plan for reforesting the area with brazil nut trees, an important species locally for both the nuts and lumber. As these trees take a long time to mature (10-12 years) we interspersed them with other types of fruiting plants so that in the period until the trees can produce there will at least be some gain from the land, fruits that can be exported for sale or consumed within the community. The fruit trees will provide protection for the brazil nut saplings and the rows will be kept clear so that the fruit can be harvested.

The form of planting within each of the 10 rows is as follows:



X = brazil nut tree, 10m between each

△ = banana tree

○ = mahogany or guava tree

☆ = pineapple plant

(Each row measures 2m wide by 60m long, and the pattern of planting is repeated for the entire length, with each plant 2.5m apart)

One of the things we had noted since planting began was that the ground vegetation along the rows was growing back very quickly. As an alternative to the wild creepers which tend to cover everything and could stunt growth of the saplings, this time we visited to plant vegetable seeds in between all the plants, including watermelon, cucumber and pumpkin. These are all ground vines and well suited to the soil type so we hope that these will prevent the wild plants from becoming uncontrollable while producing further fruits for sale or consumption. Now the plantation is complete and will only require checking on a regular basis.

Other News

This month we have been doing a complete safety revision of the lodge and surroundings and have improved several things with the help of some local builders. Wicho and his team have replaced the staircase leading up to the nursery, where the food is prepared for the animals, and also lowered the entire walkway to ground level. The wood has been thoroughly checked and any unreliable pieces replaced. We took advantage of their presence to undertake some maintenance work on the canopy walkway platforms and also those of the bridge crossing the creek by the lodge.

One of the less positive results of the dry season has been that with the added strength of the river a little more land has fallen away from the riverbank in front of the bar, so with a system devised by Nando it has been covered with layers of sacking material to reduce erosion as the level of the river rises and lowers.



And yet again, as many of you may remember from previous years, the paths around the animal rescue centre have become rather muddy. Recently we have made several trips into Puerto Maldonado to collect sacks of brazil nut shells (this is the time of year when the nuts are harvested) which were laid down on the paths making it much easier to check on and feed the animals.

Finally as we move towards the dry season preparations are underway to restart the turtle census. Our small boat with the peque-peque motor, the Titanic, has been out of use since



November last year and had seemingly gained a few leaks so it was time for an overhaul. Being only 8m long it was easy enough to lift out of the water with the help of the volunteers, then was checked and retarred in the few places where the wood had weakened and was finally painted in the Taricaya colours. It now looks a lot better and is completely riverworthy so as soon as the motor is installed we will be out counting turtles once again.

Volunteer Arrivals and Departures:

Arriving: Agatha Jung, Lucy Cardwell, Stine Andersen, Kathrin Schluchter, Liesbeth Oudesluijs, Madeleine Ammar, Alex Firth, Jean-Charles Quinquis, Nick Bannan, Ophelie Bonnieu, Ina Wriedt, Michele Williams, Shelby Campbell

Leaving: Keira Atkinson, Jen Gambardella, Kai Eldredge, Andrew Flinn, Nate Bird, Matt Johnston, Madeleine Ammar, Louise Schmidt,

Jungle Fact:

The U.S. National Cancer Institute has identified 3,000 plants that are active against cancer cells. 70% of these plants are found in the rainforest.