



## EXPEDITION DIARY Peru 2008

By Andy Stronach

11 November

Hi there, this is Andy Stronach, leader of Biosphere Expeditions Peru 'Icons of the Amazon' expedition.

I arrived in Puerto Maldonado today, after having spent a fair bit of time preparing during the last two months. Administrative business had I suppose, taken a bit of the shine off the anticipation of coming here. However, when I got out of the airport, all those necessary evils were blown away behind me as the wonderful reality of this most special of places hit me right between the eyes with its beautiful lush vegetation; right between the ears with the sounds of forest birds and cicadas, on my skin with the strong heat of the tropical sun, whilst the knockout blow was square on my nose with the wonderfully rich earthy aroma of the forest. This could only be a very, very special place. Somewhere, a switch was flicked and having arrived in the Amazon, I felt I had come home, wow!

I staggered into my hotel (WASAI) under an unfeasibly large load of telescopes, binoculars, GPS, tripods and cabbage coloured clothing, already, I'm glad I got a decent pair of jungle boots! Tanagers, scarlet cardinals and parrots flew around the trees of the gardens; Mila, the receptionist, says there are sloths in the trees as well as night monkeys; I'm beginning to wonder why we need to leave this place for Piedras at all ☺

In the afternoon, I met Emma Hume who owns the Piedras Biodiversity Research Station where we will be based and we went out shopping for medical supplies, batteries (Duracell available), stationary and most importantly, mango refrescos. Yes, mangos, the emperor of all fruits are in season and I for one will be exploiting this fortunate fact as much as possible – yum.

Tomorrow, I'll be looking for a boat going up the Tambopata river so I can meet Alan Lee our expedition scientist and his assistant Miguel. I'll stay with them for a week or so, so the next diary entry will probably be then.

I hope all you team members are fired up for the expedition - it's fantastic here and I'm looking forward very much to meeting and working with you all.

Andy

P.S. If you have not yet packed your silica gel or crystals to keep your electronic equipment dry, please pack some and then some more for expedition use.

13-15 November: Posada Amazonas

I took a boat up the Tambopata river a couple of hours to Posada Amazonas Lodge, where our expedition assistant scientist is currently based. Miguele is studying rainforest mammals and how factors such as proximity to humans and whether an area has a protected status or not, affects the likelihood of these animals being present. As well as looking for animal tracks on trails, a bit of a passion of mine, Miguele also uses camera traps to survey the animals present. At a presentation he gave at the lodge, Miguele showed a small (!) selection of the pictures he has already succeeded in capturing. These include expected animals such as collared peccaries, white-lipped peccaries, tapir, red brocket deer, armadillo; rare animals such as grey brocket deer and ocelot and totally unexpected animals such as racoon dog. It will be fantastic to have Miguele with his great experience and knowledge on the expedition and the results of his studies should help in determining the effectiveness or otherwise of declaring protected areas, or whether, simply the proximity, or rather lack of proximity, of humans, is the more important factor in effectively protecting mammals. Las Piedras is supposed to be very rich in mammals and I can't wait to see what there is there :-)

16-19 November: Tambopata Research Centre

I went another five hours upriver to the Tambopata Research Centre (TRC); whilst there were occasional signs of human habitation before Posada Amazonas, there was far less on the way to TRC. Both lodges are owned by Rainforest Expeditions who, as well as catering for tourists, support conservation research by providing facilities for researchers at reduced or no cost. Posada Amazonas is more a tourist destination, but TRC is more heavily a research centre. Most of the research carried out at TRC is to do with macaws and parrots; and with good reason, there are lots and lots of these fantastically beautiful and charismatic birds everywhere! I had come here to meet our expedition scientist, Alan Lee, and see what he was up to. The main studies being carried out at TRC relate to breeding biology, clay lick use and artificial nest boxes, and I was extremely privileged to be directly involved in all of these during my brief stay here. This has given me a rare insight into macaws and parrots; that will be very useful for our particular studies on the expedition.

Macaws and parrots eat clay, probably to obtain salt and to assist in the removal of toxins from their food. The biggest and most spectacular known clay lick in the world, the Colpa Colorado, is here, near to TRC. Around 16 different species of macaws and parrots visit the colpa early in the morning to eat clay (and potentially to socialise) and the whole thing is a spectacular confusion of all the colours of the rainbow and a raucous, rowdy assault on the ears at what is a rather ungodly hour of the morning; I've never seen anything like it – wow!

What macaws and parrots eat is not at all well known and is obviously a very important factor in their effective conservation, so this is being studied at TRC too. I went on a few 'foraging transects' looking for birds eating; when found, samples of the plant were taken for identification. It was amazing watching the experts sneaking around quietly and finding birds that most people would walk past unaware.

The macaws started laying eggs on the first of November and nest monitoring is now in full swing. Along with researchers, I checked nests, both by remotely viewing them with a camera installed in the nest and also by climbing up into the wonderful forest canopy and visually checking. I was advised to wear a bee proof suit to do this; I have to say I wasn't too keen as it was very hot, but when I got to the nest and was covered with bees, that suit instantly became my very best friend in the whole wide world :)

I'm really looking forward to getting stuck into our bit of macaw/parrot research at Piedras; certainly no climbing into the canopy, checking nests or the like, but hopefully some great encounters at our colpa and some useful scientific information that can help contribute to macaw and parrot conservation.

20 November: Tambopata Research Centre to Puerto Maldonado

I took a boat all the way back to Puerto Maldonado today, watching trees and animals go by. On the way up I'd seen an osprey with a fish, on the way down, it was a great black hawk, carrying what looked like a fresh water stingray. There were flocks of black skimmers, a family of capybara and even a basking turtle with a great big bright orange butterfly perched on its snout – wonderful.

21 November: Slow boat from Puerto Maldonado up the Piedras river.

Took a 20 min ride in a taxi to Puerto Arturo where Gloria, Melissa, Miguel and myself met Chino, our boat driver who was waiting for us in his peke-peke boat which, I was delighted to see, was loaded to the gunnels with all sorts of lovely looking food. After crossing the Madre de Dios river, we entered the Piedras River and for me, we had really started the expedition ;-). Our peke-peke boat was far slower than the outboard powered boats I had been in previously and as such was far superior in terms of being able to spot and watch wildlife on the way. Birds in particular were very abundant and easy to see; my particular favourite of the day, of the many spectacular birds being the sunbittern. This bird is a medium sized heron-like bird, not actually closely related to any other bird, whose wings are fantastically coloured in grey, black, yellow and terracotta with a 'sun' in the centre of each wing. Turtles too were in abundance, again, many of which had, what appears to be, a compulsory orange butterfly, perched on their snouts.

As we were travelling at a stately pace, we stopped at a comfortable looking beach complete with capybara tracks and camped for the night, leaving the remainder of the journey for the next day. Melissa cooked us a lovely dinner, which we ate whilst watching parrots and oropendolas in the trees around us.

22 November: Slow boat to Piedras Biodiversity Station ;-)

Up with the dawn and off up the river again. Lots more wonderful wildlife.

Arrived at Piedras Biodiversity Station about 14:00 and proceeded to unload all our kit and the mountain of food. The path from the boat to the station is not very short, it is definitely steeply stepped in places and it was very hot; with the breeze whilst travelling on the boat we had managed to avoid sweating too much, but with the heat and exertion, our clothes were soon absolutely soaked in sweat as we carried everything uphill.

The Station itself is beautiful, surrounded by a garden full of fruit trees and red and yellow heliconia flowers being visited by hummingbirds. The station is built on a raised platform of lovely wood, the rooms being open to the air on one side with the walls only being about 1 m high, giving lovely views into the rainforest and its wildlife just outside. However, the best bit of the lodge was, without a doubt, the cold showers; unquestionably the best in the whole world :-)

23 November: Piedras Biodiversity Station

Spent the day with Gloria and Miguel walking the trails, familiarising ourselves with the area – wow, what a place. During the day, we saw many monkeys; saddleback tamarins, black spider monkey, brown capuchin, squirrel monkeys, white faced capuchins and dusky titi monkeys, along with the red howler monkeys we heard, that made seven species in one day – amazing.

24 November: Piedras Biodiversity Station Training

With team 1 safely at the Station, we were up early in the morning, split into two groups and then went into the forest for an orientation walk; Jhin, our local and exceptionally good guide showed us some of the plants to avoid touching, many rare and beautiful birds and some of the other animals and insects present here; well, everyone was blown away by the diversity, abundance, beauty and strangeness of what they saw, heard and smelt. After delicious lunch :) we did training in machete use, telescope use, rangefinder use, GPS use, and how to use Miguel's automatic camera traps.

Late afternoon was a trip to the tower with Jhin where we saw a stunning iridescent bluish fronted jacamar amongst other birds.

The evening was spent with a talk by Miguel who explained all about his studies, how we will be collecting data, what it will be used for and how it all fits into larger conservation plans; fascinating.

25 November: Piedras Biodiversity Station Training

In the early morning, half of the team went to the macaw clay lick for training, whilst the other half went training on a mammal transect. Having been to the biggest known macaw clay lick in the world last week, I was not expecting the large numbers of macaws and parrots that we found there; around 40 red and green macaws, 40 blue headed parrots, 25 mealy parrots and a few dusky headed parakeets. The view we had of the clay lick too, was fantastic, across the Piedras river. We could see the whole clay lick clearly as well as all the birds in the surrounding trees – wonderful. Mammal transect training went well too, my favourite bit being when I got to be a monkey in the forest for the team members to find and practice recording.

In the afternoon we split into two groups, I went to the platform with Emma, Mary, Gebard and Johannes, whilst Alan went to the mammal colpa with everyone else. At the colpa, Miguel set up one of his camera traps, which will record the animals that visit there. When that was done, he switched to peccary mode and charged around the forest, so that the team members could practice recording mammal observations..... all kinds of fun. Back at the platform, it was much calmer, until that was, Chico went off for a pee; a shout was heard and when he returned, he told us he had seen a jaguar; there was then a bit of a loss of interest in the platform and more of a desire to go for a wee walk..... until Chico said he had scared the jaguar away :(

The platform is located about 25 metres up in a strangler fig tree, access being either by jummaring up a rope or by getting winched up. I went up first, followed by Johannes, Mary and lastly, Gebhard. Mary gets vertigo and Gebhard has a great fear of heights, but both were determined not to miss out on a once in a lifetime opportunity to get up into a big emergent tree above the canopy and enjoy the wonderful views of a sea of green disappearing away to the horizon in all directions; such was our view of the Amazon rainforest.

In the evening, Alan gave a talk about macaw breeding biology, conservation, clay licks and how the data we collect will be used, all really interesting stuff, unfortunately, cut a little short by the very impressive storm that blew up with fantastic thunder and lightning ;-)

26 November: Piedras Biodiversity Station. Starting survey work.

After completing our training yesterday, today is our first day where we did some proper scientific survey work. Mary, Martin and Alan went to the macaw clay lick, setting off at 0430. Martin got carried away with the drama of recording macaw behaviour – “ok watching the red and green macaw; OK, he flies away, no, no, NO, NO, FIGHTING, FIGHTING, ONE FLIES AWAY, ONE STILL THERE, if that’s mine, he won, wow.”

27 November: Piedras Development Corporation in action.

Yesterday, those at the macaw clay lick said that it was very hot, so I decided to build a proper bird hide to provide shelter from the sun as well as hide us from the birds. Mary, Steph, Miguel, Jhin and I set off, armed with machetes. We made a frame of wood lashed together with vines. We then covered the roof and front with split palm fronds and we were done – finest bird hide in the known universe ;-)

28 November: Search for the lost mammal colpa.

There was a grand total of two breakfasts at civilised ‘o’ clock, everyone else was up around 4 or 5 and off out on the trail. One of Emma’s employees had found a mammal colpa, around 10 km from the station and in her Brazil nut concession, but we were far from sure where it was. So it was that Mary, Emma, Gebhard, Jeffa (our boat driver) and myself all headed off to look for it, loaded up with gallons of water, machetes and loads of enthusiasm. The weather was ideal, being overcast and cool, relatively speaking! We got to the boundary of the Brazil nut concession quickly, only having stopped a few times to see red howler monkeys, brown capuchin monkeys and some beautiful birds. The boundary, which we planned to follow to get to the colpa was marked with flagging tape occasionally and though we had feared it would be totally overgrown, it was not too bad and with “Hacker Hume” and her favoured machete, progress was fine, though the chances of sneaking up on any animals was around zero.

Having reached and turned the corner of the concession, we were nearing where we thought the colpa was. We crossed a stream and then, the trail ended. Jeffa had a look down along a mammal trail that we saw, and there it was, all of 50 m away, the colpa we were looking for! We could see mud going high up the tree trunks from the colpa – a sign that monkeys and the like had been here. There were peccary tracks and most exciting of all, fresh jaguar tracks. We selected a tree trunk that faced and had a good view of the colpa and then fixed one of Miguel’s automatic cameras to it, tested it and then left it to photograph whatever visited the colpa.

Meantime, back at the ranch Margret, Janice and Kevin were cleaning up the hide at our mammal colpa, in preparation for the first of our two planned 24 hour watches there, can’t wait to see what wanders past.

29 November: Macaws, macaws, macaws.

Johannes and I went to the macaw clay lick early in the morning; early on, there were a few dusky headed parakeets, lots of blue headed and mealy parrots. However, it was a bit later, around 09:00, that the most spectacular part of the morning happened. Around 55 stunningly beautiful red and green macaws descended on the clay lick and surrounding trees, turning the drab brown clay into a raucous Technicolor explosion of red, blue and green – amazing.

Out on transect A, Kevin and Janice along with Emma had an equally wonderful day, recording no fewer than eleven species of monkey, two agouti species, Spix’s guan, a herd of white lipped peccary and a partridge in a pear tree.

30 November: Day off!

Had a late breakfast and then those with the inclination headed off to play football on the beach; scorching temperatures, sand, insects and football – my idea of living hell, takes all types I guess. After their exertions, the footballers took the boat to swing over the river and everyone had a go, even those afraid of heights. Next was a swim to the waterfall; no-one got eaten by piranhas or caiman, stung by sting-rays or zapped by electric eels, so that was good.

After lunch, the Piedras Card-playing Society convened and we stretched our brains/sharpened our reflexes with canasta, sevens, switch, trumps, spoons, etc, etc..... it was a long afternoon. Later, the Piedras Dance Society met and under the expert tutelage of Gloria we sampled the sensuous delights of salsa, cumbia, tacirari and those more rhythmically challenged or with co-ordination issues conjured up some interesting variations all their own. Next on the action packed agenda was a presentation, by myself about Biosphere's expedition to Altai on which I have been for the last three years; everyone loved the photos of the stunning scenery there.

1 December: Back to work.

Almost everyone was up at 4 or 5 in the morning for transect surveys and macaw colpa observations whilst Miguel and myself headed for "The lost colpa" to retrieve the memory card from the automatic camera we installed a few days ago. The sky was overcast, so it was reasonably cool and we got there quickly, only stopping to look at jaguar and giant anteater tracks :-) golden collared toucanet and white throated toucan :-) saddleback tamarins, squirrel monkeys, white fronted capuchin and brown capuchin monkeys :-) etc. etc. :-)

At the colpa, all was quiet and there were no fresh tracks, so we collected the memory card and headed back. On the way, we cleared a tree that had fallen across the trail, getting stuck in with the machetes. We thought we had had our measure of good luck for the day, but no, we found no fewer than five puma scrapes :-) and a flock of cobalt winged parakeets feeding in a big fig tree :-)

At the station, Miguel got out his laptop and plugged in the memory card from the automatic camera at "The lost colpa" and everyone gathered round to see this, the first set of photos. There were 7 photos, not many :-/ Photo 1, me looking into the camera... Photo 2, me looking into the camera.... Photo 3, nothing. Photo 4 Emma. Photo 5 Nothing, but it was from the day after we installed it. Photo 6, A giant anteater right in the middle of the frame, resplendent with his big bushy tail, a huge roar goes up from around the laptop – what a result! [Photo 7, me looking into the camera :-) ]

Later, Emma, Steph and Mary did a night transect survey which gave the sighting of the expedition so far, a fabulous ocelot that they saw on the trail no more than 5 m away – amazing!

2 December: Macaw colpa #2

Dropped off Janice, Kevin and Jhin at the macaw colpa and then continued upriver for another kilometre or so to a second macaw colpa that we were not sure if the birds were using or not. Got dropped off and Gloria, Miguel and myself were left with a wooden canoe to get back again. Emma had done some weeding in the canoe yesterday, so we were no longer sure just how watertight it was. Anyway, got to the colpa and built a hide from canya brava, a huge grass that grows along river banks and then waited to see if any birds would appear. We did not have long to wait, with chestnut fronted macaws appearing almost immediately, perching in the trees above the colpa. So far, we have only seen one of these macaws at our main colpa, but here, we had 10. There were also dusky headed parakeet, cobalt winged parakeet, mealy parrots, red and green macaws and scarlet macaws. However, these birds did not hang around the colpa for nearly as long as at colpa 1. At this colpa, they eat and go, rather than catching up on the gossip before having a leisurely feed.

3 December: Automatic camera results, treetop platform climb

Miguel started collecting his automatic cameras today, when he got back, everyone gathered around to see the results on his laptop. They were impressive. Red brocket deer, pale winged trumpeter, Spix's guan, paca, brown agouti, southern amazon red squirrel, white lipped peccary and confirming the sign we had found over the last two days, a fabulous image of a puma.

After lunch, we headed for the treetop platform; Johannes, Jhin, Alan and Jeffa provided the power to winch Cassie, Janice, Margret, Emma, Kevin, Uli and myself up to the treetops where we enjoyed fabulous views of the forest, with macaws and parrots flying by, it was wonderful. Someone quoted Biosphere's philosophy of safety, science and satisfaction; Cassie said "Well, I certainly got my satisfaction today"..... ;-)

4 December: Last work day.

Emma, Margret and Gebhard did transect A for the last time and it was a good one. Difficult to see Saki monkeys and red howler monkeys that descended a little in the trees to get a better view were a couple of the great sights. Janice, Kevin and Jhin were on the early macaw colpa shift; the river had risen around a metre so that there were seven boats heading downstream with rafts of timber..... During the previous week we had only recorded a total of five boats. Every time a boat passes, it causes a flush of the macaws and parrots from the colpa, disturbing or even preventing their feeding; recording and subsequent analysis of these data being an important part of our work here.

With all expedition work finished by 14:00, the afternoon was free for some R&R and team members relaxed in the hammocks, played backgammon, sat by the river watching logs drift by, photographed bugs and birds or said goodbye to the forest in their own ways.

Before dinner, Alan and Miguel gave presentations on the science, summarising what we had achieved, how the data will be used. This was rounded off with Miguel's photos from his automatic cameras which were fantastic; red brocket deer, grey brocket deer, pale winged trumpeter, spix guam, paca, brown agouti, white lipped peccary, giant anteater, southern Amazon red squirrel, puma and the piece de la resistance, walking straight towards the camera and looking awesome, the most wonderful looking jaguar. ;-)

Gloria provided us with yet another lovely meal. Emma produced some pisco sour drinks ;-), which was the perfect start to an evening of dancing and chatting; it's amazing to see how everyone has gelled together so well, through the time spent working together in the forest and how relaxed and at ease we all are together.... Or maybe that was the pisco sour at work!

5 December: Piedras to Puerto Maldonado

Had breakfast and set off around 0630. With the river being high, water was flowing fast and we hoped for a speedy trip to Puerto Maldonado. However, logs, branches and occasionally whole trees in the river slowed our progress a little. Nevertheless, after, much wildlife spotting and innumerable games of backgammon, we arrived in Puerto Maldonado early afternoon.

I would like to thank all of the team for a fantastic first slot; you were a joy to work with, much was achieved and I had a wonderful time.

6 December - Puerto Maldonado

Did some very exciting shopping for batteries, printed some datasheets, did the internet thing, etc. etc..... Oh how I've missed civilisation.....

7 December - Puerto Maldonado to Piedras

All team members up bright and early as planned and after some delays, which allowed us to watch a sloth at Wasai lodge ;-), we eventually made it to the boat at Puerto Arturo and departed at 07:45. With Jeffa at the tiller, we made good progress seeing capybara, turtles, black spider monkeys, red howler monkeys, giant anteater – yippee! My first ever sighting, as well as many, many kinds of birds. Arrived at Piedras at 17:30, installed ourselves in or very fine, fantastically ventilated rooms before moving on to the most important matter of the evening; sampling some of Gloria's finest cuisine.

8 December - Start of training.

Alan and Miguel gave talks on the background to the expedition, why the research was being done and what it would be used for; all very interesting. We went for a familiarisation walk in the forest, seeing cayman tracks by the river and Jeanette's razor sharp eyes found a couple of very well camouflaged frogs. Alan and Miguel explained the survey methodology for both the macaw colpa monitoring and the mammal transects. I had to 'be a macaw' so that everyone could practice recording macaw behaviour; I suppose that's something not many people could add to their CVs. After lunch we did training in the use of equipment; GPS, rangefinders, machetes, Miguel's automatic cameras and telescopes. No deaths or serious injury during the machete training, so that's good.

Went for a short, but very successful night walk. Geckos, frogs, birds, a very speedy and beautiful pink-toed tarantula, two cayman in the river and a red brocket deer that Alan got us all excited with by first thinking it was an ocelot. Not bad for about 40 min!

9 December - The return of Charlie!

Up with the lark, or whatever the equivalent is here – up with the brown rumped foliage gleaner? Doesn't have quite the same ring to it eh. Katie, Jeanette, Stefan, Alan and myself headed for the macaw colpa and installed ourselves in the hide under a blanket of cloud that came down to the tree tops. The weather conditions were not good for seeing lots of macaws and parrots, but it was not long before we had blue-headed parrots, dusky headed parakeets, mealy parrots and red and green macaws were on the trees around the clay lick. Soon, the blue-headed parrots landed on the clay and started feeding. Katie, Jeanette and Stefan were kept busy, observing and recording bird sightings, arrival times, and weather conditions, flushes where the birds flew away from the clay lick area, boat traffic and its effect on the birds as well the feeding activity. Whilst observing macaw behaviour, I noticed that one of the birds had a very asymmetrical bill, being 'corkscrewed' very seriously to the left. On mentioning this to Alan, he got very excited and started ranting about a long lost pal called Charlie. After about 10 minutes of hysteria, we eventually managed to calm Alan down enough to work out that Charlie was the macaw we were looking at and had last been seen November 2007 at Posada Amazonas on the Tambopata river, about 70km away. On the leaving the hide, Alan spotted a swamp snake that was in the process of swallowing a frog; we all watched in silence. We were there for a while, long enough for a group of collared peccaries to approach us, unaware of our presence, what a great morning and it wasn't even breakfast time.

Later in the morning, after breakfast, we went out with Miguel to put into practice what he had been telling us about mammal transect survey methodology. All went well and I ended up doing more animal impersonations, this time a tapir and then a jaguar; where's that CV of mine?

Lunch went well too, but after lunch, disaster. My backgammon crown was unceremoniously taken from me by Lisa in very short order :- (I let her win really).

10 December - First day of work.

After all our training, today, we got stuck into the work, both at the macaw colpa and on the mammal transects. All the hard work done during the training paying off with lots of good data. Second shift on the macaw colpa was cut a little short when we had a little (!!!!!!!!) rain; that'll be why they call it a rainforest then, quack!

Having succeeded in creating some data, we then had to transfer it all to the computer, so Bob got stuck in and with Stefan's help, it was soon done :-)

We are really right in the middle of the rainforest here at Piedras Biodiversity Station and see all sorts of things from the dining room table. Alan was particularly pleased to see some dusky-headed parakeets feeding on a palm; a particularly useful and usually hard won piece of data.

11 December

As usual, everyone was woken up early by Heidi's very persistent alarm clock, everyone apart from Heidi that is. More than one person has now very kindly offered to turn off Heidi's alarm clock.....permanently!

Chito, one of our local guides, first led transect went well with Bob and Alan. In the space of around 100 m, everyone got great views of the four guan species that occur here; chacalaca, spix, common piping and razorbill curassow! Alan also said something about getting great views of red squirrels having sex; need to book him an appointment with a psychiatrist I think..... Jeanette and Heidi took late shift in the macaw colpa, being made of stern stuff, they braved a downpour and continued to monitor two hardy macaws who remained on the colpa during the rain.

Undaunted by the rain, Katie, Lisa and Bob headed out on the mammal colpa trail after lunch, armed to the teeth with tape measures, marker pens and flagging tape to mark the trail. Mask, snorkel and fins might have been more appropriate ;-)

Heidi practiced her Spanish, adding pillow and candle to her vocabulary, great to have these for comfort and ambiance. Jeannette was programmed to do a mammal transect survey on Friday with Chito. Alan suggested that it would be a good opportunity for her to practice her Spanish; Jeannette agreed, saying she could book a room! Maybe she could set out some candles and get the pillows ready too.... Doesn't waste any time our Jeannette!

## 12 December

Bob, Stefan and Alan took the early shift at the macaw colpa and were extremely lucky to see an orange-breasted falcon half-heartedly though very spectacularly, attacking a much larger red and green macaw. Katie and I had a good morning at the macaw colpa too, with a maximum of 63 red-and-green macaws. We managed to maintain continuous behavioural observations on one macaw for 30 minutes. During this time, it preened itself and (presumably) its mate on a branch high above the colpa, also looking around continually, checking for dangers. Both birds made their way down towards the colpa and then onto the clay itself. Many macaws are crowded onto the small colpa and the pair stayed together, occasionally asserting their right to be there with a bit of shouting at other macaws. There are two deep holes in the colpa that have been made by macaws eating the most favoured clay. Our pair ate clay from the entrance to one of these holes, as well as from inside. It was amazing to watch these very dextrous birds break off a bit of clay and grind it down with their beaks and eat it. The quantity of clay that they ate too was remarkable; lots and lots of it. Red-and-green macaws are beautiful, raucous and rowdy when spread out in the trees, fantastic and fascinating to observe when all on and around the colpa together and utterly spectacular when they all fly off together in synchrony during a flush; an ephemeral kaleidoscope of blues and reds. This rare treat reserved only for those who come here.

Highlight of the afternoon was the banana hunt. Supplies were running low in the kitchen, so Stefan, Heidi and Jeannette set off for the chacra armed to the teeth with a blunt machete. No sooner had they gone and they were back, asking what kind of bananas they should get, green or yellow, and how many they should get, I thought 14 would be about right. Two hours later, they returned triumphant..... with a papaya and two oranges.

## 13 December

Stefan and Alan set off at 03:30 (!) to survey mammal transect A. Turned out to be well worth the ungodly hour though. At around 2500 m on the Brazil nut trail, they saw orange/yellow eye shine and heard bone crunching. Despite their best efforts, they could not get clear sight of what was there because of the very thick vegetation. Their vegetation crunching must have sounded pretty scary because whatever was crunching the bones then slipped off into the night. Alan and Stefan continued to the far end of transect A and then started working their way back towards base. On the way, near where the bone crunching had been heard, Alan found very, very fresh jaguar scat on the trail.....

Jeannette and I headed off downstream at the positively lazy hour of 05:00 to parrot colpa number 3. This colpa had been studied intensively in previous years, but we had not checked it this year. And we had not been missing much! No birds visited the colpa, However, we were entertained by watching a big red tractor going down the river. I need to get more sleep.

## 14 December

Miguel and Stefan surveyed transect B for mammals, seeing collared peccary, southern Amazon red squirrel and white-throated toucan amongst other things. Lisa and I were at the macaw colpa early, but it was unusually quiet, there being only one blue-headed parrot feeding on the clay other than the red-and-green macaws. Jeannette and Heidi had a quiet second macaw colpa shift too with the red-and-green macaws being rather skittish today. Katie, Bob and Chito fared much better seeing saddleback tamarind, dusky titi monkey and white cappuccino as Katie seems to call them; must be suffering from coffee withdrawal. Spix guan, common piping guan, many toucan, toucanets, woodcreeper, cobalt winged parakeet and oropendulas were some of the long list of birds they saw.



After lunch, we all went to the platform (27 m) with ropes, harnesses, helmets and enough karabiners to sink a long boat. This was our afternoon for a climb up a big emergent tree to get up above the canopy to see some of the different flora and fauna that live in this habitat that is so different to the dark ground level that we have become used to. There were many fascinating and unusual insects as well as epiphytic plants such as orchids and bromeliads adapted for the extreme bright sun and very dry conditions. The views were not bad either ;-)

First up to the top was Bob, complete with white knuckles. Next was Katie who managed a sort of a smile for the camera on the way up. Stefan managed to get tangled up in the safety line on the way up, which everyone thought was amusing, even Stefan! Lisa squared up to her fear of heights because she didn't want to regret missing out on this once in a lifetime experience. I got a look that would have killed her on the way down, but she swears she enjoyed it :) Heidi was so keen to get up into the canopy, so didn't have lunch, racing round to the platform after her late macaw shift so she didn't miss her chance; the smile on her face afterwards lasted well into the night.

15 December - Day off

Alan, our lead scientist left today, having to return to Tambopata where he is running another macaw research project. Alan has been great to work with, but now Miguel will be in charge of planning the science work that needs to be done. Miguel got off to a very popular start by planning a day off, no sooner than Alan's boat had slipped its lines. The day's activities were the following; 07:30 breakfast, 08:30 mid morning nap, 10:00 hammock workshop, 13:00 lunch, 14:00 canasta/uno/backgammon/yahtzee, 15:00 rope swing/swim in river, power shower (waterfall), football/volleyball on the beach, 19:00 dinner, 20:00 dance. And who said science was dull!

Katie, Lisa, Miguel, Stefan, Jeffa and Chito did the rope swing into the river. I would have had a go as well, but had a technical difficulty with the stitching around the groin area of my trousers that meant I was rather better ventilated in that area than planned. In order to preclude any possibility of shock or heart attack to innocent team members that were hoping for a display of daring and sporting prowess, rather than any other sort of display as I flew through the air, I decided to stay on terra firma. [Gloria very kindly donated a pair of shorts, which I wore apron like to protect the sensibilities of those with a delicate disposition]. Heidi, Bob, Stefan and I walked back from the waterfall whilst everyone else went back on the boat. We walked very slowly and quietly so we managed to see a red brocket deer and a group of 5 red howler monkeys; a lovely walk.

After the dancing, I went for a walk to look for frogs as there had been rain and so, at last, there was some standing water, I did ask if anyone wanted to join me, but everyone opted to go to bed. Only about 500 m from base, I found a small swampy area, the noise coming from it was amazing. What is normally very, very quiet forest, was now almost becoming deafening with the sound that the frogs were making. I waded in up to my knees and there were frogs everywhere, hundreds of them. Many of the males were calling, I saw one frog being eaten by a tarantula and a snake swam past also hunting frogs; this was a dangerous place for a frog to be, but also an important place as they were mating. With a wet bum I had from crouching down to photograph the frogs and a grin like a Cheshire cat, I headed for home; what an amazing experience.

16 December - Mammal colpa survey

Heidi and Miguel did early shift at the macaw colpa and Bob and Stefan did the late one. The river continues to rise with all the rain we have had the last couple of days, most of the beach on the far side of the river is now gone and I wonder how long it will be till the macaw hide gets swept away too? Katie and I did the first of four six hour shifts at the mammal colpa, seeing a green agouchi for about 0.001 seconds and a Southern Amazon red squirrel who kept coming back, for about an hour all together. A twist-necked turtle swam around in a muddy pool for a bit, headed off purposely, returned later and swam around a bit more. A black poison dart frog with beautiful green stripes hopped around the colpa for a while, entertaining us. Miguel and Jeannette did the second shift seeing ruddy quail dove and tinamou. Third shift, into the night, was taken by Heidi and Bob who only saw a rat. Last shift from midnight till 06:00 was completed by Stefan with the assistance of our two lovely cooks, Gloria and Melissa; they saw a butterfly..... So, not the most exciting of watches at the mammal colpa, but that's sometimes the way it goes.

Back at base in the evening, Jeannette, Katie, Gloria, Melissa, Miguel and I went to look for frogs. We passed the small swamp where I had been last night, it was alive with the calls of frogs and headed straight for the frog trail. A couple of hundred metres down the trail we came to another small swamp, this too was almost deafening with the sound of frogs calling, however the calls were different and it was different species of frogs we found. Monkey frogs, sheep frogs (actually a kind of toad), leaf frogs and many species of tree frogs were all around in their tens or hundreds, amazing. After a while we decided to go to the bridge on frog trail, our original planned destination, but when we got there, there were no frogs! In the distance, we could hear a commotion of frogs, so we headed off to investigate. We arrived at

another small swamp. Small, but big enough to ensure everyone was thoroughly soaked in no time flat. Here again, the calls were different as were the species of frogs, but this time the frogs were in their hundreds and perhaps even thousands of a small golden species of tree frog. In big palms were big monkey frogs and on the ends of the palm fronds, frog spawn hung like jewels. The golden tree frogs sat on short lime green plants, whilst small toads and brown frogs were to be found on dead leaves by the edge of the water. Frog heaven! Well, frog spotters heaven anyway. As with last night we saw a tarantula killing a frog and a snake swimming in the water, hunting for frogs. We headed back to base, soaked to the skin, but buzzing with excitement from the fantastic spectacle we had been in the middle of.

17 December

Miguel and Jeannette surveyed mammal transect A in the morning and collected the cameras. There were many animals captured, including a puma that had wandered past yesterday mid-day. In the afternoon, Miguel, Katie, Bob, Stefan and Chito went to the lost colpa to collect Miguel's automatic camera. There were photos of white lipped peccary and red brocket deer. Meanwhile, Jeannette, Heidi and Jeffa were having an adventure of their own. They were walking on transect B, collecting Miguel's cameras, actually, swimming might be a better description.....

After dinner, Heidi and Jeannette did a night mammal transect survey with Chito.

18 December - Last day at Piedras Biodiversity Station :-(

We surveyed mammal transects A and C in the morning and collected the last of Miguel's automatic cameras later. Miguel finally got the picture of a tapir that had eluded him for so long. However, the best images were from the mammal colpa near base. Fortunately, Miguel had set the camera to record movies as well as still images. A troop of white bellied spider monkeys had visited the colpa and we could see that one or two would descend from the trees to feed on the clay whilst others probably maintained a lookout from above. Miguel is unaware of these monkeys having been recorded eating clay before, so that is a fantastic result for the expedition.

After lunch, Jeannette wanted to climb to the platform in the canopy, so off we set. Stefan, Chito and Elias winched Jeannette, Gloria, Melissa and myself up to the platform whilst Chito climbed the tree, protected by the rope from above, an impressive climb.

After dinner, Miguel gave a great end of expedition talk. We recorded an impressive 30 mammal species from observations, automatic cameras and track identification. We collected much data on feeding and behaviour from the macaw colpa and had a dazzling maximum of 83 red and green macaws on one day. Our data will add to long running datasets that are used by many different scientists/conservationists for important nature conservation work. Miguel's work will create a model that can be used to identify areas that are important for wildlife, taking into account factors such as protection status of the land, proximity to human habitation and habitat characteristics. Very important stuff.

With all the work done, after dinner we had a party with pisco, dancing and telling of tall tales late into the starry night.

19 December - Piedras to Puerto Maldonado

Breakfast at 05:30 and off at 06:15 :( Stefan decided that his boots needed to be cleaned, so he washed them in the river as we went along; one of them got a better wash than planned, it should be really clean by now....

Well, that's the end of the 2008 Biosphere Expedition to Piedras in South East Peru. Thanks to Alan and Miguel for their instruction and direction in matters scientific. Along with them, Chito, Jhin and Emma were our excellent guides who are tuned into the forest and its animals, showing us all sorts of wonders and without whom most of them would have slipped quietly past us. Jeffa was our boat driver, ferrying us across the Piedras every day to the macaw colpa, always ready and waiting for us. Gloria and Melissa were our wonderful cooks who continually amazed us with the delicious meals they prepared in a basic kitchen. Emma and JJ who own Piedras Biodiversity Station did a fantastic job of setting up the station in the first place and continue to ensure a not too small piece of wild paradise is protected. Emma's enthusiasm and love for the wild was plain to see, infectious and an inspiration for us all. Finally, thanks to all you team members without whom the research simply would not have happened. You were very easy to work with, enthusiastic and very helpful. Thanks ;-)

Andy