# ROYLE SAFARIS

# **Pantanal Exploration**

**Destination:** Pantanal, Brazil **Duration:** 16 Days **Dates:** 12<sup>th</sup> – 27<sup>th</sup> Sept



#### Tour Leader / Guides

Martin Royle (Royle Safaris Tour Leader) Ailton (Guide / Naturalist & Panthera Researcher) Fisher do Santos (Jaguar Camp Guide) Bigao (Jaguar Camp Boat man) Stefan (Embiara Manager and Guide) Paul (Embiara Owner and 'entertainer') Matthew & Adalto (Embiara Guides) Robson (Transpantiero & Cuiaba Driver) Brebo & Lucas (Pilot & Co-Pilot of Air Taxi)

Participants Mr. Derek Howes Mrs. Sally Howes

# **Overview**

Day 1:	Cuiaba
Days 2-7:	N. Pantanal
Day 8:	Cuiaba
Days 9-14:	Embiara
Day 15:	Cuiaba
Day 16:	Home













# Day by Day Breakdown

# Overview

For a long time a forest enigma, a shadowy presence rarely seen and seldom understood the jaguar remained one of the last big cat species to be encountered with any regularity. But as research continues in Brazil's huge wetland area (known as the Pantanal) this big cat is beginning to reveal itself to the world. Despite this, few people are aware of the frequency that jaguars are seen here and as a result by joining this tour you could witness wonderful interactions between different jaguars, jaguars and giant otters or even a hunt and kill in the presence of just a dozen or so people and a few hundred vacre caiman. This big cat specialist trip aimed to bring you closer to a species which is so elusive elsewhere in its vast range through South and Central America; and there is no better place to do this than in the species' last stronghold the northern Pantanal. With the expert help of a local guide (Ailton Lara) and his team (currently based on the Jaguar do Pantanal houseboat as their camp is refurbished) we were in excellent hands as they guided us through the land of the jaguar. Whilst here in the north of the Pantanal we were immersed into a world dominated by fast flowing waterways that intersect a burgeoning cattle ranching industry that suppresses all other agriculture in the area. This is the number one beef producing area in Brazil, which in turn is the world's number one beef exporting nation. It doesn't take a rocket scientist to figure out that in an area full of valuable cattle that the world's highest density of jaguars hangs on a knife edge. Only by continued eco-tourism and invaluable research will this remain the jaguars' last stronghold. And as the Pantanal receives more and more international acclaim and visitors the wealth of life here will flourish and show itself to a wider audience. From playful giant otters and the more elusive neotropical otters and stunning hyacinth macaws or toco toucans, to rare cats such as the ocelot, jaguarondi, oncilla and puma to thousands of capybara and millions of caiman, all the species will benefit. But alongside the jaguars there is one group of animals that brightens up the Pantanal from sunrise to twilight and they are the birds. It is possible to rack up a huge number of species and seeing thousands of individuals everyday is a given. Kingfishers, terns, toucans, hyacinth macaws, storks, jacamars, parrots, egrets, darters, herons, donacobias, kisadees and dozens more groups of birds. All of these ecies help to make this the jewel in South America's wildlife watching crown (and I am taking into account the mighty Amazon) and a place that should be at the top of every wildlife enthusiasts wish lists.

In addition to the tracking down jaguars in the north of the Pantanal we also took a flight south to the capital of Mato Grosso do Sol, Campo Grande and from there headed into the heart of the cattle ranches to the very special private ranch / lodge of Embiara; to experience a very different side of the Pantanal. Here there are fewer large rivers and far less 'swamp' habitat but instead a more dry savanna (cerrado) and scrub forest which is home to a whole different array of wildlife; including tapir, giant anteaters, southern tamadua, pampas deer, red-and-green macaws, golden-collared macaws, burrowing owls and boa constrictors to name a few. By staying at Embiara we experienced a great variety of wildlife that the Pantanal has to offer, seeing many species of birds and mammals that are very difficult or impossible to see in the north from the boats. Whilst here we will were also able to experience the Pantanal in a variety of ways; via 4x4 open jeeps, horseback, boat or on foot. All in the expert hands of the local guides and ranch staff, this is a little piece of wildlife heaven and must be the closest thing to a private national park in the world. So which ever mode of transport used to explore the fields, forests, rivers and lakes of Embiara, this beautiful boutique lodge will not disappoint.

All in all this is a true exploration of many of the Pantanal's different habitats and as you can see by reading further we had some excellent sightings and spotted a great range of species inhabiting this fantastic wildlife hotspot.



## Day 1 Cuiaba

#### Arrival

In the afternoon Derek and Sally were met at the airport in Cuiaba by their zoologist guide (Martin Royle), local guide Ailton and our driver Robson and transferred into the centre of this developing city (construction is taking over the city in preparation for the 2014 FIFA World Cup. Once we had navigated the traffic and diversions we arrived hotel and after checking in had some lunch in the hotel restaurant. Then after some rest and a shower we ate dinner in a nearby restaurant, probably choosing the wrong table as we were 'serenaded' by football fans watching the local team Athletico Mineiro winning thanks to goals from their star striker Jô. After dinner we headed back to the hotel and after a long day of travelling and with a long day ahead of us tomorrow we all had an early night.





## Day 2 Transpantaneira

Travel & Wildlife Watching

The Transpantaneira highway was originally planned to span the 350km between Pocone in the north and Corumba in the south and construction started in 1976. However after reaching Porto Jofre (148km from Pocone) the work was abandoned and it was too difficult and not cost effective to carry on \*mostly due to the fact that when the road was proposed and construction started the whole of the Pantanal was contained in one state, Mato Grosso. However during the building of the road the state was split into two and the southern state, Mato Grosso do Sol decided that their budget would not cover the construction of their half of the road so that it now stops at Porto Jofre on the banks of the Rio Cuiaba and the border of the two states. As a consequence of this the road has never been completed and remains unpaved and with no thoroughfare to the other side the heavy traffic bypasses the Pantanal. This has resulted in the highway becoming one of the best wildlife watching roads anywhere in the world. In order to get to 'Jaguar Central' in the heart of the Pantanal we spent most of the day travelling the road and stopped dozens of times to take in the plentiful bird, mammal and reptile life along the way. The plethora of life here is comparable to anywhere outside of Eastern Africa. We clocked up close to 100 species of birds on our first day including peach-fronted parakeets, black-headed water-tyrant fork-tailed flycatchers, plumbeous ibis, savanna hawks, lesser kiskadees, hyacinth macaw, greater rhea and toco toucans to name a few. Another highlight was trying to count the throngs of Yacre caiman which congregated in every pool, stream, pond, lake, brook and puddle! This is a fruitless task as there are literally millions throughout the Pantanal. Estimates of their population range from 2 or 3 million to 10 to 35 million, either way there is no shortage of the jaguars favourite food (especially during the wet season). But undoubtedly the stars of the Transpantaneira are the birds; there are thousands of passerine birds and waterfowl here as well as a few species of truly monstrous birds. One being the official bird of the Pantanal the mighty jabiru stork and another being the largest bird in the Americas the flightless greater rhea. Whilst the rheas nest on the ground in large communal crèches which the male incubates and then cares for the voung the jabirus mate for life and nest high in old manduvi palms. Their huge, mountainous nests are clearly visible and we saw one very close to the road which had an adult and three chicks inside. These nests are so large that they are also used by another bird species; this is the monk parakeet. A very noisy and communal nester that uses the underside of the jabirus nest to build little tunnels and chambers for themselves. This symbiotic relationship works as the parakeets provide an efficient guard duty and defend the nest as well as the jabiru eggs/chicks whilst the monk parakeets spend less energy on the construction of their nest. Our wildlife viewing actually started before we officially reached the Transpantaneira when Fisher spotted a false water cobra crossing the road, however it had made it to cover by the time we had reversed to find him. Then as we started on the Transpantaneira and made our first bird watching stop complete with many charismatic species of birds; including snail kites, southern lapwings, cattle egrets, Brazilian teals, greater rhea, hyacinth macaw and buff-necked ibis; we came across a family group of Azara's capuchin monkeys, between running across the road, playing in trees, skilfully balancing along wire fences, carefully guarding young and feeding on small fruit they made an entertaining start to the trip and our first species of mammal. We then spotted a pair of chestnut-eared aracaris in a tree close to the road, when we opened the door for a photograph one took off but the other stuck around and showed off its stunning plumage. Shortly before reaching our lunch stop we spotted a young male marsh deer eating just off the road, however he didn't stay in the open very long. However shortly after lunch we spotted a female in a small pool who cooperated much better for photographs. For our lunch visited the famous Mato Grosso Hotel which lies roughly half way down the Transpantaneira and on the banks of the Paraguay River. As well as having a hearty lunch there are some good bird feeders in the hotel grounds. Amongst the yellow-billed cardinals, bay-winged cowbirds, shiny cowbirds, grevish saltators, palm tanagers, silver-beaked tanagers, saffron finches and lesser kiskadees there are common amandava lizards that scurry around the trees and buses and even a capybara making itself at home on the lawns at the front of the hotel. As we continued south we had a large (2m) caiman crossing the road as well as great views of vibrant birds like male vermilion flycatchers, scarlet-headed blackbirds, orange-backed troupial and a pair of hyacinth macaws. We then stopped for a pair of southern screamers (living up to their name) close to the road before arriving at an old and abandoned ranger station. Here a couple of huge mango trees provide lots of shade and in these trees is a pair of great-horned owls. We found thes adult easily enough and then with closer inspection we spotted the large and very downy chick too. The chick staring down at us very curiously before resuming its daytime sleep. As well as the owls we also spotted a ringed kingfisher, a pair of rufous-tailed jacamars and black-collared hawk here. Further on we drove past two of the largest flocks of great egrets anyone had had ever seen. Hundreds covered the pond shores and bushes and trees on either side of the road. Interspersed with the great egrets where the smaller snowy egrets as well as rufescent-tiger herons, cocoi herons, bare-faced ibis, ringed kingfishers, southern crested caracaras and dozens of other species (most of which we would see again on the trip. A couple of rarer species that provided great sightings we a small group of stunning capped herons and both juvenile and adult black-crowned night herons. Once we reached Porto Jofre we unloaded the vehicle and departed on a couple of small boats and headed the couple of miles towards the house boat. Along the way we stopped by the small beach colony of black skimmers before Fisher expertly spotted a female jaguar on the river bank, we stopped and watched as she moved down the bank to the reeds and behind a dense tangle of roots and branches. We never saw here again but for 10 - 15 minutes we heard he splashing and almost certainly catching and eating a caiman (all hidden from view unfortunately). Well a jaguar sighting (albeit brief) was something special after only 20 minutes on the river. But it was to get better as we approached the confluence of





the Piquiri and Cuiaba rivers; here a throng of boats surrounded a collared male jaguar lying on the sand bank. We watched as he got up and walking along the beach, scent marked and disappeared into the vegetation. On the way from this sighting to the boat we were engulfed in a cloud of lesser and greater bulldog bats that come from the forests to drink and catch fish on the river as well as band-tailed nightjars and nacunda nighthawks who catch insects above the bats. Well that was a true welcome to the Pantanal and after reaching the houseboat (appropriately named Jaguar do Pantanal) and having dinner we hit the hay as an early night seemed the best way to prepare for a day on the water in search of more jaguars and other wildlife tomorrow.

# Day 3 North Pantanal

#### Wildlife Watching

Today was the first full day around the Rio Cuiaba and the world's number one hotspot for jaguar sightings. Our hopes were relatively high as Ailton had informed Martin that this year they had been seeing more jaguars than ever before and when you consider that he usually averages nearly 2 jaguar sightings per day, it is an incredible place. The day began with breakfast at 06:30am before departing on the Rio Cuiaba for 'Jaguar Central', around 2km from our houseboat the Rio Cuiaba is joined by the Three Brothers and Black Bay Rivers. These rivers (along with the Piquiri River further downstream) are home to the greatest densities of jaguars in the world. We headed for Black Bay River first but this river was quite quiet this morning; sightings of note being a nice blue-crowned trogon, a pair of black-collared hawks bonding before the gruelling hunting and feeding schedule needed to raise chicks in the weeks ahead. We then tried the Three Brother River and found a large group of black howler monkeys, most were sleeping in the tree but there were a couple of youngsters in the groups who climbed and played in the tree. Without anything else unusual (other than the usual plethora of birds: ringed kingfishers, neotropical cormorants, rufescent tiger herons, lesser & greater kisadees and dozens more as well as the multitude of yacre caiman everywhere you look; we headed to the island in the middle of the Three Brothers River where Martin set one of his camera traps up; whilst ashore we had a family group of 6 giant otters cruise past. We quickly left and headed after the otters, finding them a little downstream and fishing. One had caught a large katsuki catfish and ate the fish in plain view of us for a couple of minutes. The crunching and cracking of bones filling the air as the rest of the otters continued downstream. We had also heard of a jaguar sighting (although not a great one further downstream), so we decided to follow the otter (now he had finished feeding on his fish) and see if the jaguar was around once we reached that part of the river. However before we arrived where the jaguar was spotted we came to their holt and so we anchored up and sat and watched as the group entertained us. The arrival of the fishing party back at the holt was a very loud affair and at one point it felt like we had heard all of the 15 or so distinct calls that giant otters use when communicating. The reason for all of the excitement was evident when one of the adults carried a small kit in its mouth from one holt (hidden from view) to a new one. Giant otters do regularly move holts throughout the year, most probably for protection but also maybe due to infestations of ants or other insects, flooding or chambers and maybe even collapsed tunnels. Whatever the reason the rest of the group (barring one) followed the adult and the kit into the hole. The lone giant otter stood his ground outside the holt (probably waiting to defend its territory from the rival family of otters we were mimicking). During this encounter with the otters Fisher played some recordings of giant otter calls and it was very interesting to see their instant reaction and how they raised up out of the water like snakes looking for the rival otter family. We then pasted where the jaguar had been seen and when speaking to other boat drivers and guides the jaguar had only been seen briefly and there may have been two of them? We found one of the jaguars (although Martin was sceptical two were seen as their only seemed to be one) however the view as very obscured and soon after we arrived she got up and moved out of view. As the jaguar(s) had moved into the forest we decided to place the second camera trap above the otter holt (not thinking that the motion of the river would most likely set the camera off all of the time - a mistake we rectified the following day and moved the camera trap elsewhere). Then before lunch back on the houseboat we had good views of an orange-backed troupial and turkey vulture, the latter drinking on a sandy beach. Then after lunch we headed out again, almost immediately we spotted a male and female pair of great black hawks on the beach opposite the houseboat before carrying onto Black Bay River. There was no sign of jaguars here, but we did hear of two that were seen close to where the 1<sup>st</sup> camera trap was set up near the island so we made off towards them. However we were too late and they had moved away from the river bank, we then travelled to the other side of the island to see if they would come out that way. Once we arrived we saw a family of capybara including 2 very young babies just in the water and they were very calm as we approached very close for excellent views and photographs. There were any capybara around this afternoon as well as huge numbers of caiman out basking on the river banks and sandy beaches (a lot of them, even by Pantanal standards). We also found a green kingfisher fishing along the narrow rivers of the island and we followed him until we allowed us to have great prolonged views and get some pictures. We then left the island and on return to the main trunk of the Three Brothers river Fisher spotted a Brazilian porcupine up a tree on the side of the river. It was an incredible spot, the unusual arboreal rodent sat with its fore paws wrapped around the branch and its prehensile tail and large feet gripping the branch it sat on. From the front the large pinkish muzzle was distinctive enough for this rarely seen mammal (Fisher had only seen 2 before this one, in over 20 years of guiding here). We also got good views of the side and back of the porcupine and were able to see the characteristic spines that make it a member of the porcupine family, the short thick bristles very different from the long and thin ones of the typical porcupines of Africa and Asia. As the porcupine seemed to be resting and not moving at all we left him and carrying on our search for jaguars. We tried a couple of spots where jaguars had been seen today and yesterday afternoon but no luck anywhere. Maybe the high abundance of capybara and caiman being exposed was





a sign that the jaguars were not as active this afternoon? Unfortunately for jaguar spotting the only other sighting of note was shortly before arriving back at the houseboat we spotted a pair of capybara rising out of the water and fighting, at first from the distance we saw it we all thought it was giant otters, but on closer inspection it was capybara and exactly what they were squabbling about in the middle of the Cuiaba River is a mystery. This was the last action of the day as we arrived back at the boat and dined before getting a good night's rest.



### Day 4 North Pantanal

#### Wildlife Watching

This morning we had barely set off when we heard of two jaguars that had been spotted on the Three Brothers River, most possibly the same pair that was seen the yesterday. They were both resting and only one was visible and only just through the dense foliage, so we decided to head towards the island and try and find our own. Along the way we had great views and photography opportunities with an adult rufescent tiger heron and a pair of very cooperative Amazon kingfishers that allowed us to get very close to them as the female fished and the male preened. It was interesting that even though the female had not caught a fish yet, as soon as the male had finished preening and flew off the female followed immediately. We also had a pair of greyish saltators feeding on pink flowers around the Amazon kingfishers and with a flock of unicoloured blackbirds and a toddy some white-bellied seedeaters it was quite good for birding this morning. As we carried on along the shore of the island we got beached (for the first time so far) and as we were getting pulled out by Bigao we heard on the radio of a jaguar in the open walking along the shore further downstream, so we headed to it once we were free. Along the way we found a giant otter family fishing close to where the now hidden jaguar was last seen. One of the giant otters caught a fish and went over to some vegetation near the bank to eat it. Whilst they crunch and tear their way through fish this is the best time to get a picture of them as they are still and above the water. However the fish was small and he was behind some vegetation, so by the time we had positioned the boat for better views he has finished the fish and was swimming away to meet up with the rest of his family. We headed from the Three Brothers to the Cuiaba River as this was the direction that the jaguar was walking, our intention was to get to the Caxiri Canal that links the Cuiaba back to the Three Brothers Rivers, however we didn't get that far before we heard that a jaguar had been spotted walking along the Three Brothers River. As we headed there we once again came across the giant otter family and decided to take our time and follow these instead of chasing jaguars back and forth. They were travelling with a purpose and speedily made it to the confluence of the Three Brothers, Cuiaba and Black Bay Rivers. Here they surprisingly climbed onto the shore at the peninsula separating the Three Brothers and Black Bay Rivers. They walked (or loped) through the brushes to the other side and dived in on the other side. Part fishing and part travelling they worked their way through the water hyacinth and lilies along the river bank. They crossed the river and on the other side one caught another fish and fed, whilst the rest made it to an overhanging tree with a dense tangle of vines hanging down, making an almost complete curtain. The tree roots were an ideal playground as they played, groomed and made every call in their extensive repertoire for some 20-30 minutes. We stayed with them and watched as they played and frolicked without a care in the world. They then climbed (often struggling to) up the tree roots to the bank (some 2m off the water's surface) where they rolled around in the sand to rid themselves of parasites and probably for some fun. After watching them enjoy their sand bath they left the area and we headed back down the Black Bay River towards the Cuiaba River. Along the way we had a great sighting of a squirrel cuckoo in the open and quite low down (both unusual for squirrel cuckoo sightings). It was very quiet this morning, after the initial burst of brief jaguar sightings on the radio it was gone quiet and as we had exhausted the Cuiaba, Three Brothers and Black Bay Rivers we made it to the Piquiri River. For some reason this river was not experiencing the same number of sightings of jaguars as last year (when it was probably the best river for sightings). We didn't go very far down the Piquiri River and as there was nothing around we called the morning and went for lunch. After lunch we went down the Three Brothers in search of jaguars, we hadn't gone far when Derek asked the boat to stop and go back for an interesting looking bird he had seen, as we turned the boat around Fisher spotted a young male jaguar siting on the banks of the river panting and looking directly at us. We quickly anchored up and watched as he panted on the river bank and then quickly disappeared into the forest. We then went to the other side of the river and turned the engine off, with him panting so much he was overheating and was most likely to come down the river to cool down and surely enough after a couple of minutes we watched as he climbed down the river bank and cooled down in the river close to a tangle of roots. For the most part only the top of his head, eves, ears and nose were visible. Occasionally his tail would break the surface and flicker, after cooling down and drinking he swam downstream a short distance and climbed back up the bank underneath a fallen tree and back into the forest. We remained in the area a while longer to see if he re-emerged, whilst we waited Derek spotted a straight-billed woodcreeper. We also heard over the radio about another sighting further upstream so we left, by the





time we got there the jaguar was hidden so we set off again in hope of finding a jaguar to ourselves again. We did have great views of a large green iguana on a beach, being around 1.3m long and a very vibrant green it was quite impressive but by no means as large as they grow. We then heard about a jaguar on the radio walking along the beach nearby, when we came by he had sat down in a semi-visible position behind some vegetation on the river bank. So we anchored up on the opposite bank and waited for the jaguar to come out for a drink maybe. Whilst we were there a family of capybara appeared rustling the long grass near our boat and a couple of other people's boats nearby. Some of the boat drivers got worried and moved their boats thinking it could be a jaguar moving through the grass. But then the two adults and three babies appeared and moved very close to our boats. They had obviously noticed the jaguar on the other side as they barked in alarm and looked for a way into the water but our boats were in their way, so they very stealthily moved past our boats and into the river and swam downstream. This was a great sighting of the capybara so close as they were only within a couple of meters or so as they pasted by our boats. Barking and eating in equal measure all the way. After a while we left the jaguar as it had fallen asleep and was unlikely to move for a while, so we went to collect the camera trap that we had set up above an giant otter holt the day before. Mostly due to the number of times the camera would have been triggered by the water and moving branches but also because the camera traps had been playing up and we wanted to test it. On the way we found some giant otters heading in the same direction so we followed them for a while before going ahead so we could collect the camera before they arrived and we would disturb them. Afterwards we carried on around the island in the Three Brothers River (well as far as we could as the water is very shallow and clogged with vegetation at certain points). We then came upon a jaguar who was swimming across the river and we had not really noticed him until he jumped up a near vertical bank (of over 2m), scrambling up. He then stared at us with the most loathsome look I can recall from any animal I have encountered in the wild before. As this unfolded our boat had drifted towards the same river bank and only when Fisher and Martin noticed how close we had come to the jaguar (pretty much 3m away above us) Bigao reversed and we moved the boat around for a better angle as he had moved into a bushy area. We didn't find him again though and headed back to another point on the river where we set the camera trap. This one on a large open and flat grassland, there were oldish jaguar prints and well used game trails around here so it looked promising but with it not working 100% we were unsure exactly what we would get, if anything. We then started back slowly along the Three Brother River as the sun was beginning to set and as we got to the

we then stated back slowly along the Three Brother River as the sun was beginning to set and as we got to the confluence of the Three Brothers and Black Bay Rivers we saw a jaguar walking along the river bank hunting for caiman. We followed here along the vegetation and in and out of bushes as she carefully searched the water hyacinth for caiman and capybara. We were within 10-15m of her all the time and with Fisher and Bigao being so good as positioning the boat and predicting the movments of the jaguar we managed to get in prime location every time she came out of the vegetation and on show. We then watched as she climbed out onto a fallen tree, in shadow and with the sun setting the visibility wasn't great but Derek still managed to produce some magic on his camera and get very bright and vibrant images of her scent marking, scratching and rubbing her cheeks on the branches. At this point it was very dark and we decided to leave her to her hunting and headed back to the houseboat with a throng of greater and lesser bulldog bats beneath dozens of nancunda nighthawks and band-tailed nightjars.



## Day 5 North Pantanal

#### Wildlife Watching

This morning as Martin was just getting into the dining room for breakfast the chef and houseboat staff told him of a jaguar on the opposite river bank, he looked and saw a collared male walking along the beach on the other side of the Cuiaba River. He then went to tell Derek and Sally as the boats were being prepared, but by the time we were all ready the jaguar had moved into the dense vegetation. Throughout breakfast and for a while afterwards on the smaller boat we staked out a beach near where he was last seen and in the same direction he was travelling in. But he didn't come back out. We then heard news of two other jaguars that had been spotted, one further upstream on the Cuiaba River and one of the Three Brothers River. However as we headed to these jaguars we came across another one on the Cuiaba River (this is a great example of the density of jaguars here – with 4 different adult jaguars being spotted within 1 hour of the first boats heading out. What helps to make this even more amazing is the fact that the total area that we explore is around 100km<sup>2</sup> and we only have 2-5m of river bank either side of the river to spot them on!). We knew it was a different one from the one we saw opposite the houseboat as this one was not collared. We watched and followed this male as he walked along the Cuiaba River before heading into the grasslands away from the river. We then travelled to the Black Bay River to see another jaguar that was spotted early this morning. The sex of this individual was unknown and the views as it walked through the tangled forest of





vines and twisted trees were not great for photography but very atmospheric. The dark presence of the powerful predator moving between dappled sunlight and black shadow making us all feel how lucky we were to be in a boat and not being a caiman or capybara. The jaguar (most probably a male sue to its size and behaviour) then went into thick forest and made the deep rasping and repetitive long distance contact calls. Fisher has on his iPod a selection of bird and mammal calls recorded and we played the jaguar long distance contact call but didn't get a response nor did the jaguar come out to investigate. Unlike the giant otters that always interact when you play some of their calls or even the calls of a jaguar in their presence. We then went further upstream (away from the direction the jaguar was walking) and another boat told us that he (the male being confirmed by them) had double backed and swam across the river and headed towards the Three Brothers River. We then decided to take some time and search for our own jaguar and enjoy the birds and other wildlife in the process. The highlight of this being a very nice view of a crane hawk and also many striated herons, these tricky birds do not allow very close views but with persistence we got some nice views. On the radio we heard of another jaguar on the Three Brothers (very possibly the same one that was spotted there yesterday), however we heard that it was well hidden so we went to the Piquiri River instead. The Piquiri River was very quiet today the highlights being a small colony of nocturnal and unusual boat-billed herons and many black vultures & southern lapwings along a beach. We then went for lunch and in the afternoon we started down the Black Bay River and spotted a beautiful coloured and patterned golden tegu basking underneath some tree roots. Then on the Three Brothers River everyone agreed was the sighting of the trip; we found a young male climbing out of the river and onto the bank, he quickly went into the forest and out of sight but we were patient and e came back out walking upriver. He then came down to the river level and appeared between a curtain of vines and proceeded to walk out into the river on a large fallen tree. We didn't expect this as they usually stay hidden and do not expose themselves like this in the middle of day, but he came right out towards the end of the tree and sat down, before turning around and walking back to the shore. It was almost like he was investigating us as much as we were investigating him. There was no reason for him to walk out there, he didn't scratch his claws or scent mark or anything than sit and look at us; amazing! By now other boats had appeared and his speed when walking along the shore sped up, we moved further upstream and in waiting for him to come out Martin spotted a rusty-back antshrike; a very rare bird for here. But before Fisher, Derek or Sally could see the jaguar came out in the exact same spot and the bird flew off. As we prepared to move off from the throng of boats arriving now we spotted a laughing falcon perched high on a dead tree opposite. Then a little further upstream we found a small colony of around 15 long-nosed bats. These very well camouflaged bats hanging upside down but flat against the bark of the tree were very hard to spot but was very pretty with their mottled backs, wings and heads and two white wiggly lines down their backs. Also in the same tree were a pair of white-wedged piculets fighting over a food source and also a beautiful orange-backed troupial. The rest of the afternoon was fairly quiet with a caiman taking a fish (which was so small that it had finished eating by the time we reversed to see) and very good views close up of Amazon kingfishers feeding as well as southern screamers being the most notable sightings.



## Day 6 North Pantanal

### Wildlife Watching

Today the weather was significantly cooler with a brisk southerly wind blowing hard, the temperature dropping by around 20C overnight. As a result of this very unusual and unseasonal weather we didn't expect great jaguar sightings or much wildlife at all today. We went down the Piguri River first thing and found a pair of giant otters travelling guickly before great views of a juvenile rufescent tiger heron and capybara along the Black Bay River. We then found a huge female jaguar sleeping right in the edge of the river bank in a great open area sunbathing (getting the little warmth available from the sun today). This was highly unusual considering the wind and we sat and watched her for a couple of hours. After the first 15-20 minutes she got up, yawned and then went back to sleep then after around 1.5 hours she got up and walked upstream and we got some great views of her standing looking down over the bank at our boat before we disappeared into the forest and out of sight. As we waited for a while a couple of giant otters (possibly the same pair from the Piquiri River swam past so we followed them for a short while until we came upon an old female jaguar sleeping on the river bank. We stayed with this old, dark and scarred female as she rested, occasionally getting up arching her back to stretch turned and lay back down in a different position. This continued for a while until she awoke and went hunting along the shore. Looking down intently into the vegetation in search of caiman. Following her for many half a kilometre was a great experience, she would disappear into the forest for a few minutes, we would try and predict where she would come out and when she did emerge she would be so focused on the river bank, almost falling off as she peered over the edge. We found here at around 09:50am and stayed with her until 10:35am when we disappeared for a long time. Most of the boats left but we stayed and waited and were rewarded when at around 11:00am she came out right in front of us. We then lost her in very dense vegetation and called the morning and returned to the houseboat for lunch.





After lunch we returned to the Cuiaba River the weather was still cold and overcast but with the success of the morning we were optimistic. Because of the cold weather most of the caiman were in the relatively warmer water and not basking but we found a large caiman (>2m) basking and approached to within 1m of him for photographs. We also found a family group of black howler monkeys resting high in a tree, there were 3 adult males with their rich black coats and many brown females and youngsters. The younger ones moving around in the branches as the adults rested and tried to soak up any ray of sunlight that came through the gloom. In a nearby tree we heard and then found a large troop of Azara's capuchins feeding on the flowers of the tree. After leaving these two species of primates (with very different life strategies, the howlers being strict leave eaters and needing bacteria in their gut to help digest the cellulose and as a result they spend long periods resting and digesting; compared with the more energetic and opportunistic capuchins who will take anything from leaves and flowers to small mammals and birds eggs. In fact watching this troop they seemed to be licking the nectar from the flowers as much as they were eating the petals), we came to a male jaguar on the low and vibrant vegetation of the Black Bay and Cuiaba confluence, he was collared and a big impressive male. He posed for nice pictures before bending down to smell scent on the ground (most likely another jaguar and possibly a female in heat) as he Flehmen response three times after smelling the ground. This is when the animal looks like it is snarling and the lips curl up, in effect the animal is sucking the scent into the roof of its mouth where the Jacobsen's organ (sometimes called the vomeronasal organ) is and the scent is detected and interpreted. As the sun was getting low in the sky we left and tonight we were meeting Ailton at Porto Jofre and heading out on a night drive along some of the Transpanteiro Highway. So we travelled to meet him and were duly followed by the cloud of bats, nightjars and nighthawks who come out and take over the night shift from the swallows, kisadees and kingfishers. After setting up the spotlights and starting down the road we headed down the road for about one hour before turning around. It was quite quiet, the notable sightings on the way up where a boatbill heron and a sleeping green-and-rufous kingfisher both very visible and the kingfisher next to a bridge. As well as a common potoo and a large bullfrog we didn't have anything to match the best nocturnal sighting which was an ocelot. It was around 30m away in the grass, but sat down and watched us for nearly 10 minutes before heading off into the grass to continue hunting. This was a great view of this elusive and nocturnal cat. After this we headed back to the houseboat had a late dinner and prepared for our last full day in the northern Pantanal on the boats and our last good chance to see jaguars.



### Day 7 North Pantanal

#### Wildlife Watching

Last night we had said by to Fisher as he went to meet another group and we would have the expertise of Ailton for today as well as the drive back up the Transpantiero tomorrow. This morning the weather looked like it would return to normal and be around 20C warmer than yesterday, Ailton had also brought with him a small remote controlled boat that he had painted in camouflage colours and attached a small GoPro HD video camera to so we would trail this out if we found a jaguar on our own and with the caiman to see if it would be become a great way of getting video close to the animals without being in danger ourselves. We started today on the Black Bay River and found a jabiru stork collecting nesting material, the amount and size of the branches that it was picking up and flying away with was staggering. Only when you are this close to the jabiru do you really appreciate their huge size. We also had some great kingfisher sightings (ringed and Amazon kingfishers) as well as spotting a green iguana high in a tree, quite unusual. We then heard of a jaguar in the open on the Three Brothers so headed over there and found a large male lying on the river bank, so close to the edge one of his legs was dangling over. He was probably taking advantage of the morning sun after a day and night of cold weather. We found him at around 07:50am and stayed with him, watching him occasionally raise his head, stare at us and the other boats, groom and then go back to sleep. At 08:30am he got up and moved just 2m into the forest and was all but invisible. Just a few blotches and rosettes being visible between leaves giving his location away. We stayed another half an hour and then moved upstream to where a couple of jaguars had been seen. Just like the jaguar there were many caiman basking and warming up in the first sun for over 24 hours. When we reached the jaguars they were in the forest but shortly after arriving one of the them (female) came down to the bank and lay down but then guickly moved upstream and into dense bushes. We followed for a while and checked both sides as both jaguars may have crossed the river without any of the other boats noticing. We couldn't find them so headed towards the island to collect the camera traps, hopefully to see if they can worked and then got something interesting on them. Along the way we saw an adult jabiru and 3 chicks high in one of their gigantic nests as well as some fishing giant otters near the entrance to the island but they didn't hang around for very long. We also spotted a lone adult male black





howler monkey (again sunning himself) before collecting both camera traps, but on first inspection it didn't look like either had been triggered and maybe they were not working very well. On the way back from the island we found an otter feeding on a fish with a green kingfisher diving in and feeding off the scraps of fish being ripped off by the giant otter. Once the otter had finished the fish we followed him to the holt. This was a different holt to the previous one we had seen them at and it is not unusual for a giant otter family to have numerous holts that they use and move between. This was the same group we had seen many times over the last few days and they were all there at the holt and played and fished in the shady areas close to the holt and underneath an overhanging tree. There was lots of noise as they played and the younger otters (probably offspring from the last 2 years) were very vocal as they played and chased each other over the roots and submerged branches. They slowly made their way upstream to another holt where the adult male went ashore and started digging away some loose sand that had clogged up the entrance, the rest of the group were restlessly playing but it was very interesting that as soon as the adult male had finished cleaning the holt's entrance he swam ahead and made a very distinctive high pitched click and squeak and immediately the other otters stopped playing and followed him as he swam away upstream. We left them here and went back to the first jaguar we had seen this morning (the large male) and he we asleep under a tree a little upstream from where we left him. So we left him and went to check on the other jaguar (the one of the pair) on the Three Brothers River and found it sleeping behind a log and mostly out of sight. We then heard of a jaquar that was opposite our houseboat so we left to see this one, once we arrived it was out of view but this was a blessing in disguise as our boat's engine was acting up. So we swapped boats (later finding out that grit of dirt had gotten into the fuel line) and headed out to see if the jaguar close to our boat had come out. We found her hunting for caiman and she even pounced into the vegetation but didn't catch one, she continued hunting upstream coming and going from view. She eventually went into a dense section of forest so we went to where we had left the jaguar sleeping behind a log to see if it had moved. The jaguar had moved but only to another bush to sleep, so we decided to set the traps up from one night to see if we could figure out the problem they were having. We spent an hour or so travelling around to see if we could find our own jaguar as opposed to waiting for one of the two sleeping jaguars to move. We did come across a 1.5m caiman on a sandy beach with a large catfish in its mouth. We watched and Derek got some tremendous photographs as the caiman trashed the fish around and threw it up into the air to reposition it in its mouth for easy swallowing. It was so large that we were unsure it would be able to swallow it but it managed it in the end. Derek, Martin and Ailton then went ashore to see the black skimmer's nest on the beach, 4 very well camouflaged eggs lay in a small depression in the sand. Despite not getting very close we were mobbed by the adults, with them flying very quickly towards us with their fighter jet shaped bodies and long sharp beaks it was quit intimidating. We then decided to spend the last couple of hours of daylight on the river with the jaguar sleeping behind the log. We arrived and anchored up as normal with some other boats, however there was one boat (full of men with large cameras – who we hadn't seen on the river before, so probably their first day) moored to the same river bank that the jaguar was on. This is against the rules of the park, there are minimum distances and they were only around 2m away and not the recommended 10m; Ailton made the prediction that as soon as the boat moved the jaguar would reappear and move along the bank, he had seen many times that when boats are close to the jaguars that they do not move and remain hidden. They are used to people and the boats but they still do not like being that close to them. After around 1 hour this boat had got bored and left, and within 5 minutes (as predicted) the jaguar got up and walked upstream, resting a little way down before rolling and stretching and then disappearing into the grassland. It is the idiotic actions of pushy tourists like them (who only want to get closer and closer) that will ultimately lead to a reduction in jaguar sightings (as they move away from the river banks if they are pestered) and that is why proper management of the national park needs to be implemented before the potential influx of people for the 2014 FIFA World Cup. It would only require a sign along the river (maybe at 2 or 3 spots) stating the rules and distances and fines for breaching this as well as maybe 2 boats with a park warden in each to make sure that when a jaguar is seen every boat acts responsibly and behaves. This is not difficult or expensive to implement and would ensure the continued and sustainable jaguar viewing as it is now into the future; as the northern Pantanal continues to get busy these are essential before it gets too busy and someone is injured or worse. Anyway this is a conversation, debate or argument for another time. We then left for the houseboat and on the way we noticed the subtle difference in the time of night that the different bats emerge. Firstly around 15 minutes before the sun reaches the horizon the large and very red greater bulldog bats emerge and fly high (4-5m) above the river in straight lines, presumably heading to ponds and smaller streams where we have seen them feeding in the past. Then at around 15 minutes after the sun has disappeared behind the horizon the hundreds of lesser bulldog bats emerge and fly low to the surface (1m) and fish the larger rivers. The nightjars and nighthawks also have a similar emergence pattern with the band-tailed nightjars appearing earlier than the larger nacunda nighthawks. However these both fly higher over the water (5-10m) and probably avoid competition by feeding on different sized prey.







# Day 8 **Transpantaneira**

Travel & Wildlife Watching

This morning we went to collect the camera traps and also have one last scout for a jaguar before the long journey back up the Transpantaneira highway. When collecting the traps the pungent odour of white-lipped peccaries was obvious and we thought we would have maybe got some peccaries on the camera traps. As we left the rivers and headed back to Porto Jofre to leave for Cuiaba the only notable sightings were a blue-throated piping guan that Martin spotted in the open. As we were loading the vehicle with luggage a family of hyacinth macaws was around the airstrip and Derek managed to get some good photographs. We also had a visit from some yellow-billed cardinals as they hopped around the engines of the boats thinking that we were fishing boats and hoping for some scraps. We then set off down the road and almost immediately had a nice sighting of a toco toucan and in the first large pool a large dead anaconda and a lone Maguire's stork. As we went further down once again the birdlife was prolific and reached a peak when we had hundreds (if not a couple of thousand) great egrets and snowy egrets around water holes and perched on bushes on both sides of the road for around 500m. Alongside the innumerable and brilliantly white egrets where dozens of cocoi & rufescent-tiger herons, jabiru & wood storks, ringed & Amazon kingfishers, limpkins, black-crowned night-herons, lesser kiskadees, black-collared hawks and many more species. Clearly this was a good fishing spot and just a little further up we spotted a small pond with several very active caiman. We also came across a pair of southern screamers with their fledging chicks and when we stopped at the large mango trees and derelict buildings we saw one of the great horned owls but they were not in a great position. We did see a nice common toddy flycatcher though who cooperated for photographs. It was a little further up when a suspension spring broke (completely snapped in half and free from the bracket keeping them taught). The contast driving up and down the Transpanteiro Highway ages cars very quickly and it was only the ingenuity of Ailton and Robson that we managed to get going again. Within 1 hour they had fixed the car and it was no trouble again, their only tools being a jack, spanner, tree branch, a rock and cable ties. As they say in the Pantanal, 'we do not have problems, only solutions'. As we drove further north towards Cuiaba we had a distant view of a small troop of Azara's capuchins as they crossed the road. Further along the road a group of black-tailed marmosets crossed the road and went into to some trees close to the road for a while before venturing further into the forest. These small primate is the only marmoset found in the Pantanal and the black-tailed marmoset is endemic to the region. We also saw a small group of collared peccaries briefly in a ranchers field before the bolted to the forest and we arrived at Rio Claro Lodge for lunch. After lunch we spent some time in the wonderful gardens of the lodge and marvelled at the variety of birds feeding at their feeders and the flowers. Everything from the more common bay-winged cowbirds, shiny cowbirds, yellow-billed cardinals, greyish saltators to more unusual birds like nanday & white-eyed parakeets, glittering-throated emerald hummingbirds and also a nice pair of whistling herons at a nearby pool. As we prepared to leave Rio Claro we stopped by a small forest to search for black-tailed marmosets, they are quite hard to find in the heat of the day as they lie still and quiet spread flat against branches to cool down. However within 5 minutes Ailton had found a scaly-headed parrot as well as a large male marmoset lying on a branch only around 2.5m off the ground. He stayed around for a while and allowed us to get great photos of him close up as he peered over the branch at us. After leaving the lodge we had great views of a brown brocket deer and South American coatis in the same field before stopping at a long body of water on either side of the road (connected under one of the rickety old bridges) where literally thousands of yace caiman were either basking or in the water, they were back to back along the banks of both side of the water on both sides of the road for around 1km on both sides. The numbers of animals here and the variety of life is incredible and it is hard to believe that there is enough fish life to support all of the birds and caiman here. Ailton thought he would test his boat here and as he did it was amazing to see the different reactions of the caiman, there were 3 main reactions. The first being indifferent to the boat, the second being very scared of the boat and diving under water in a splash and the third being to swim very fast at the surface towards the boat and just when we thought the caiman would bite the boat and the whole experiment would be over, they would just stop about 5cm away and watch. However one of the caiman who splashed as he tried to escape the boat must have short circuited the battery and Ailton lost control. Just when we thought he would have to get his feet wet and brave the hordes of caiman the battery must have dried out and the boat sprung back to life. The footage he got was very good and interesting as not many people see that caiman that close. We then arrived back at the entrance to the Pantanal and here at the little ranger station there were many grey-necked wood rails and other common birds found at feeders. Martin checked the camera traps from the one night we tested them and not expecting to get anything we were surprised at the two videos firstly some bare-faced currasows and then low and behold a jaguar walked on screen and sat down in front of the camera. The only downside being that its head was just off screen. But at least they worked and in only one night we got jaguar. The rest of the drive was uneventful and we arrived back in Cuiaba after dark, had dinner and went to bed to prepare for the long journey south to Embiara tomorrow.







# Day 9 Embiara Lodge

Travel & Wildlife Watching

This morning Ailton came to drop us at the airport and after saying bye to him we duly completed the formalities at the airport before departing Cuiaba for the capital of Mato Grosso do So, Campo Grande. The flight was 1.5 hours and when we arrived we were met by our driver Jefferson, he would drive us to Aquiduana which is the closest town to Embiara and then a further 5 hours through the ranch land. We lunched at a roadside café before reaching Aquiduana where we also picked up some groceries for the lodge as they are so remote they need every vehicle coming in to bring needed food and equipment. The drive to the beginning of the ranches was very uneventful, with long straight motorways all the way to Aquiduana. Then when we reached the beginning of the dirt road that would take us the 120km into the heart of the southern Pantanal. As soon as we were in the rural land again we started to see the wildlife that makes this region so wonderful. Many greater rheas, picui ground doves, monk parakeets and toucans made the journey very pleasant. Some of the highlights being a rosette spoonbill in a small pool near the road that Derek stalked to get a photo but it eluded him. We also had a couple of very close toucan sightings as they came down next to the road to drink from small pools. We also had great sightings of a flock of nanday parakeets (sometime called hooded parakeets) further along as well as many hyacinth macaws feeding on the plam nuts that have been partially digested by feral pigs and tapirs and are found in their dung. It was when we stopped for three hyacinth macaws that we spotted a nine-banded armadillo foraging nearby. We followed it as it moved through the grass and bushes, its poor eyesight allowing us to get very close for photographs. A little further on and we found a very productive little field with four blue-and-yellow macaws, hyacinth macaws, toucans, pair of campo flickers and a tree full of black, turkey & lesser yellow-headed vultures. We then made it to the rickety old bridge over the Pantanal's own Rio Negro (not the same one that meets the Amazon River in the north of Brazil); after we had been through 30 of the 36 gates and the signs that we were getting close to Embiara Lodge. The only notable sighting (amidst the many chaco chachalacas) was an Azara's agouti who bolted across the road in front of us. On arrival we were met by the barking of Nina the gorgeous (if not very shy) jack russel and the cawing of hyacinth macaws that had taken up residence in a tree in the middle of the lodge complex and a rather more shy crab-eating fox that was living around the lodge at the moment. After these noisy welcoming calls Derek and Sally were shown to their room by Stefan (the manager and son of owner Paul Grol) and Mat (a really nice English man who is employed here as a guide / driver during the tourist season).We then met in the main lodge house for pre-dinner drinks and picture exchange and of course dinner. Afterwards we were warned that a young puma has taken up a territory around the lodge and with Stefan having a very close encounter a week previous there was no walking around after dark on your own. We also met Will Farrel the feral pig who has also taken up accommodation at the lodge. The feral pig is the only animal in the Pantanal that the local people can hunt and what they do is look out for young males that they lasso and castrate (to take to the bitter testosterone out of the meat) before cutting off half of the tail and making a nick in the ear and releasing the animal back. This is so that they know which males to kill once they reach a good size. It is a brutal process but it provides the local people with meat (other than beef) and the abundance of the introduced pigs is tolerated for this reason as well as giving the jaguars and pumas another easy prey source so they take less cattle and thus come into conflict with famers less. On the return to the rooms we spotted a Brazilian rabbit on the boardwalk, an uncommon sighting and one we don't usually see this close (as we nearly ran into it).

## Day 10 Embiara Lodge

#### Wildlife Watching

This morning we started with breakfast in the main building (as the weather was so hot and we were the only group there we ate here instead of the dining room) and all around the lodge complex were dozens of resident bare-faced currasows as well as crested oropendulas, nesting hyacinth macaws, plush-crested jays, purplish jays, southern crested caracaras, white-tipped doves and pale-vented doves and the feral pig and crab-eating fox. After the breakfast and a little photography of the stunning birds here (the blue, purple and yellow markings one the plushcrested jay, making it one of the most attractive birds in the Pantanal) we departed the lodge and headed out across a small field to an inlet of the Rio Negro with Stefan. Separated by 100's of kilometres from the more famous Rio Negro in the Amazon, but both rivers gain their names from the high concentration of tannins in the water. These bitter chemicals are realised by vegetation (particularly in leaves) and turn the water a dark brown (almost black) colour. We then boarded the boat and headed downstream with the aid of the silent electric motor. There were a few black skimmers around skimming of which Derek got a shot after some persistence with their ability to fly past you high above the water and when you least expect it start to skim right past you. Almost as if they are waiting for you to look away or lower your camera. As with around the lodge the most common bird were bare-faced currasows with many feeding, drinking and displaying to either sex on both sides of the river. A little further ahead of us we spotted 3 giant otters swimming fast, we later found them in a lake that is currently cut off from the river and probably supporting a good number of fish that are relatively easy to catch. On a bend in the river we heard some crunching sounds coming from behind a tangle of vines and roots and despite not seeing the animal it sounded like a neotropical otter feeding on a fish, close to close to a holt Stefan knows to be home to one. We also found a couple of black-crowned night herons (an adult and juvenile) but as usual with this species they didn't hang around very long. We then came to a sandy island which has a small colony of large-billed terns and black skimmers (some on nests) we also found a very shy striated heron here. Above us flying across the river were 2 pairs of goldencollared macaws, this small macaw species is one of the most numerous in the southern





Pantanal; there was also a few plumbeous kites gliding effortlessly overhead on their pursuit of flying insects. These stunning greyish raptors with red patches near their wing tips are among the most aerially adept of all of the raptors in the Pantanal. They are also migratory and when they are preparing to migrate you can often see dozens if not hundreds of them coming together before setting off. Whilst we stopped and drifted slowly towards a few capybara sunbathing on a sandy beach we watched a yellow-billed tern mobbing a roadside hawk at the top of a tree. Presumably the hawk was inadvertently near their nest and the tern was very boisterous in its attempts to get the hawk away. Before we reached a grassy bank and began to turn around we had great views of ringed and Amazon kingfishers as well as a henna-capped foliage gleaner. On the small grassy bank we found green ibis, bare-faced ibis, southern lapwings, giant cowbirds and shiny cowbirds. At this point we turned around and using the petrol motor a little to battle against the current we made it back to the inlet with only a brief sighting of the giant otters returning from the lake and swimming ahead of us again and a striated heron with a fish being notable sightings. When we arrived back we saw the hyacinth macaws nesting in the manduvi tree in the middle of the lodge ground and the male was outside perched in full view with the female poking her head out from inside the hole. We then rested a while, lunched and then prepared to head out on a game drive into the many fields and woods that make up the Embiara property. As we left the rooms and walked to the garage a large group of whitelipped peccaries marched from the forest opposite and across the field that the lodge and guest rooms look out over. The lodge and ranch grounds are incredible for wildlife and whilst open for tourism the ranch still has a working cattle operation. With around 800 head of cattle the ranch is not overgrazed and the different methods of farming used by Embiara compared to the other more intensive cattle ranches is evident in the lushness of the vegetation and abundance wildlife; compared to the parched and withered grass and lack of wildlife on the large cattle ranches. The drives explore many of the different habitats from the green pampas grass fields, freshwater lakes that receive flood water, salt-water salinas that do not receive flood water, forsests and the vast drainage field that floods each year and forms a 120km river through the ranches and acts as a fish breeding ground. One of the first things you notice at Embiara is the wealth of bird life, even for the Pantanal the variety and numbers of birds here is amazing. Very early into the safari we had great views of golden-collared macaws, snail kites and burrowing owls and a little further on we came across a flock of around 30 Coscovaba swans, these are from further south in South America and are only very rare vagrants to the southern Pantanal in September and October. Stefan had only seen them on a couple of other occasions and their large brilliant white bodies and long curved necks looked a little out of place in the sub-tropical Salina they found themselves in. As usual the freshwater lakes and the salinas had their great diversity of wading and shore birds, from white-backed stilts, southern lapwings and bare-faced ibis to wattled jacanas, solitary sandpipers, black-bellied & white-faced whistling ducks. The journey introduced the different habitats that make up the Pantanal, what you do not see from the large rivers in the north, these are the grasslands (or pampas) and the palm forests that are mostly fragmented on higher elevated ground as most of the Pantanal is flooded each year, in fact two years ago they had the largest floods in over 80 years and nearly all of the southern Pantanal was underwater, with the rivers rising at an average of 30cm a day for nearly 3 weeks! But one of the most dominant habitats in the Pantanal (in the dry season anyway) are the freshwater lakes and the salt water lakes (the salinas). The salt water lakes are formed when the rain water and receding flood waters are trapped over very salty rocks, clays and sand. As the water is evaporated during the dry season the water draws up the mineral salts from the earth (there is lots of salt in the earth here as the whole of the Pantanal used to be an inland sea until around 65 million years ago). The resulting mineral extraction and evaporation leaves some of the lakes very saline. They are obvious because they are devoid of aquatic vegetation and the perimeters of the salinas are free from ground vegetation as well. We then started towards Embiara farm located on the drainage field, on the way a tyra crossed the road in front of us. This large mustelid is related to weasels and otters, the distinctive loping gait as it crossed the road is unique to the mustelid family. They are always on the move and not often seen here, luckily the road we were on was a wide one and the tyra had to cross a lot of road. Once we arrived at the drainage field the light was beginning to fade, but we did find greater rheas, pampas deer, crab-eating foxes and yellow armadillos. One of the most unusual things about armadillos is that when they breed the sperm fertilizes only one egg and this egg splits into 4 embryos. So the litter is of identical quadruplets as opposed to numerous eggs being fertilized which is the norm in animals that produce litters of young. Also on the drainage field we had a fly by from red-and-green macaws and also a white woodpecker before we started back towards the lodge and spotlighting along the way. The spotlighting was quiet until we spotted a couple of tapirs, the first one was a fleeting glimpse as it walked behind vegetation and off the road, the second (only a couple of minutes later) was of one standing looking at us in a field. A great view of South America's largest mammal and one that is hard to see. The only other sighting during the night drive back to the lodge was of a great potoo along the runway, but it took to the air before we could see him well perched on a fence post. On returning to the lodge we relaxed with a cold drink (such as the lodge's famous caiprinha) and enjoyed another excellent meal.

## Day 11 Embiara Lodge

#### Wildlife Watching

This morning after breakfast we were escorted through some of the nearby forests and grasslands on foot. We were guided by the excellent Adalto; Adalto is regarded as the best tracker and guide in the southern Pantanal and Embiara are very lucky to have him as h is regularly approached by other lodges and tour operators. He has lived his entire life here and has seen everything that the Pantanal has to offer. We were also joined by Stefan so that we were sure of finding any wildlife that would be around with the help of these two knowledgeable guides. This fact





was highlighted when Adalto made the first sighting of the morning and it was a perfectly camouflaged greater potoo. Having spotlighted this nocturnal bird last night briefly this was a chance for everyone to get a good view of the bird as it pretended (quite convincingly) to be an extension the branch it was perched, very statuesque on. With feathers that match the local tree's barks to perfection and an ability to remain absolutely still for hours on end, allows the potoo to go unnoticed in the tree during the day. Whilst the bird sleeps away the daylight hours it remains concealed in direct view from predators such as hawks, snakes and small cats. We also had good views of toco toucan and turquoise-fronted parrots. We then came to a small freshwater lake with lush vegetation (mostly sweet smelling canfer) around the edge and Derek managed to stalk a pair of golden-collared macaw and a pair of bluefronted parakeets feeding and drinking around the lake in excellent light for photography. Further around the lake we came to a couple of line of leaf-cutter ants. Their never ending labour manifest in the cleared 'highways' they have created through the grass and canfer. We then continued through to a more open area and had a pair of hyacinth macaws fly by overhead before Stefan spotted a streaked flycatcher and small flock of savaca tanagers in a tree before blue-and-yellow macaws flew past low enough for good pictures. Here we met Matthew who had driven the jeep towing a couple of canoes, we then drove down to a lake at the end of the airstrip, loaded the canoes (Derek and Martin in one and Sally and Stefan in the other) and off we went on a gentle paddle around the shallow lake. By slowly exploring the lake we noticed the abundance of life that lives on the aquatic vegetation above and below the water. From paracuna fry and the Hypherssobycon eques (Mato Grosso fish) swimming under the lilies and water hyacinth to the aquatic grasshoppers, water spiders, dragonflies, damselflies, Pseudis limellum (a small frog species) and the wattled jacana that live on the vegetation; the lake was alive with wildlife. After circumnavigating the lake we went back to the lodge where we were met by the hyacinth macaws outside the nest and posing very nicely for photographs. We then had lunch and prepared for a jeep safari in the afternoon; after a small rain we headed towards Barranco Lodge, this is one of Embiara's neighbours and they have a famous dilapidated house that is home to around 400 vampire bats in the old toilet. This building and the vampire bat colony was made famous by the BBC when the camera man Gordon Buchanan filmed them during their recent series Dark. As soon as Stefan showed us a picture we took of one of the bats and explained the location, we knew we had to try and see these incredible animals. On the way to the vampire roost we had great views of a brown brocket deer very close to the road and crossing just in front of us as well as coatis foraging including one up a bociuva palm, using their double-jointed ankles to climb vertically down the trunk as well as they climb up it. A little later we heard some jays alarm calling but didn't see what they were warning of, then we entered the drainage field and had a great sighting of an adult male pampas deer with his antlers free of velvet and ready to rut for females; a little further we spotted an American kestrel hovering and swooping over the grass; hunting for small mammals, frogs and lizards. We then arrived at the old house (one of the first farm houses on the property and the original basic home for the farmers before electricity and eco-lodges were all the range); the exterior of the house looked like something out of a horror film and the appearance was matched by the smell as we got closer to the house. There is no real way of describing the smell; other than saying that when you have years of years of congealed blood festering in a small room with little ventilation and an already decaying odour. We then went inside the first room and the sound of the squeaking, chattering and fluttering of wings greeted us as we went closer to the toilet door that was slightly ajar. Sally at this point decided to stay outside as bats are not really her thing; when we opened the door the smell hit you like walking into a wall and the sight; well the vampire bats were everywhere and they were all moving in what looked like one pulsating, throbbing blob of moving wings, legs and furry faces showing off their specially designed teeth. Along with the throng of bats in every corner, hanging from the rafters, above the door we were under, on the ledges, pipes, clinging to the walls and even on the old toilet bowl and cistern the congealed blood oozing down the walls and into the 5cm deep gelatinous pool on the floor added to the 'atmosphere'. We all took some photographs, took in the incredible spectacle and left in a state of awe. There are very few experiences in the natural world that will leave you feeling speechless and almost giddy but walking into that old room and being surrounded by hundreds of blood-sucking (possibly rabid) vampire bats is defiantly one of them. Especially when you shine your torch at one and they don't like the light and they snarl and hiss at you, showing their razor sharp canines and incisors used to make the incision that they then lap the blood up with their tongue. On our return to the lodge the skies darken and a storm approached, in the midst of the lighting, thunder and torrential rainfall we decided not to spend more time in the open top jeep in open fields; just in case of a stray lightning bolt. So we called the afternoon game drive at that point and didn't get the spotlight set up. In any case this heavy rain and stormy weather is most likely to have the majority of wildlife sheltering and not coming out anyway. So the rest of the drive was uneventful (other than getting very wet, being deafened by some very loud thunder and seeing some spectacular lightning strikes before arriving back at the lodge at dusk, enjoying another great evening meal and preparing for another wonderful day in Embiara Lodge.







#### Day 12 Embiara Lodge

Wildlife Watching

This morning started off quite cool and very windy and after some close up photography with the local crab-eating fox in the lodge grounds we headed out on a morning game drive. There was some light rain as we stopped at a burrowing owl hole, with the male posing for us very nicely on a fence post. There were lots of birds around this morning, many insect eating species who were taking advantage of yesterday's rain and the bountiful insects that have now come out. A good sighting was a pair of southern screamers with their chicks, all nearly fully grown and just slightly lighter in colour and smaller in size than the adults. On the drainage field we had great views of one of the most beautiful herons in the Pantanal, the whistling heron; second only to the agami heron in Martin's opinion. We also came across Franco and Carlos in full cowboy gear on horseback as they came to check on the cattle herd. We stayed and watched them corral the cattle and inspect them for any obvious injuries, pregnant females or new calves, we then headed off to a marshy area of the drainage field. Despite being dry for nearly 6 months now the field still has pockets of water and marsh where plenty of fish have got themselves trapped and these have attracted hundreds of caiman and a plethora of birds who cleanse the remaining fish from these pools. In this particular pool were several roseate spoonbills along with great & snowy egrets, whistling, cocoi, rufescent tiger herons, maguari, jabiru & wood storks, wattled jacanas, plumbeous & bare-faced ibis, southern lapwings and blackbellied & white-faced whistling ducks. So Derek (as the skittish roseate spoonbills had become a personal mission to photograph) stalked his way around the marsh, remaining hidden in the bushes and getting reasonably close; well closer than we have managed with the vehicle or boats in the past. We then continued on and had some more fantastic birding with a green-barred woodpecker being the pick of the bunch. A little later we had a great encounter with a brown brocket doe and her fawn, both quite relaxed with the vehicle and carried on their daily routine on the fringes of a wooded area. The rains had also roused many of the beetles and grubs in the tree bark as we saw many woodcreepers and woodpeckers this morning, with great views of a lineated woodpecker and red-billed sycthbill being the highlights. On our return to the lodge a large beautifully iridescent beetle lay on the boardwalk, this was the last sighting as such before we ate lunch and then departed for the Embiara farm and a horseback safari through the drainage field on the lookout for giant anteater.

After arriving at the farm we met the horses who had already been saddled up and were ready to go, so we mounted up and departed along the fence line to a forested area. The afternoon was quite quiet with the regular cast of birds in the drainage field (including many egrets, southern lapwings and buff-necked ibis) until we heard very consistent and loud alarm calls from plush-crested jays in a section of forest close to where we were riding. This kind of persistent and aggressive alarm calling is most likely in response to a cat, but we couldn't rule out a snake. Being so close to where we were we thought we would see a puma or jaguar if it was one of those species walking through, but on closer inspection we didn't see anything and left to continue around the forest edge. The rest of the horseback safari was very quiet (not even a rhea, armadillo or crab-eating fox to be seen), but we did arrive at a roosting tree just in time to see a flock of stunning fork-tailed flycatchers spiral out of the sky and disappear into the canopy. After this there was just a small group of pampas deer near the farm and many skeins of bare-faced ibis and cattle egrets returning to their roosts. The bare-faced ibis in particular numbering several thousand as they travelled in skeins of a hundred or more each time. By the time we arrived back at the stables, dismounted and warmed up with a cup of tea it was dark and we spotlighted on the way back to the lodge. On this drive we found both species of Pantanal peccary, the small and shier collared peccary and the larger (and very smelly) white-lipped peccary. We also saw pampas deer sleeping and a couple of foxes but nothing of special note. After dinner we tried to entice the resident Brazilian red tarantula out of hiding in her hole behind the main lodge, but whilst she was there and a little visible she refused to cooperate and come out.

# Day 13 Embiara Lodge

#### Wildlife Watching

This morning the temperature was warmer and it felt like things were getting back to normal in the Pantanal. Today we would have a morning and afternoon game drive around to try and locate the now very elusive giant anteater. Very early on (before we reached the first gate Stefan spotted a southern tamadua (the smaller and more arboreal cousin of the giant anteater) track in the sand. The hind feet looking remarkably like human feet despite looking incredibly different. This was an encouraging sign, maybe the rains and now dry weather had increased ant and termite activity and with the cooler temperatures of the last few days (and with today still not being as hot as usual) the anteaters could be very active. Early on we had some great bird sights including a low fly by from a blue-andyellow macaw and a savannah hawk and red-legged seriema both feeding on the same ants nest, both being quite tolerant of each other until they got too close and the savannah hawk spread its wings and hopped forward with its talons raised; the seriema duly backed down and moved away a little with its own hackles raised in defiance. We watched these two very different birds (the savannah hawk being a typical raptor and the seriema unique in its family but most similar to Africa's secretary bird I appearance and behaviour). We then left this freshwater lake and headed to a nearby salina where we had great views of bare-faced ibis and caiman with the reflections being exquisite on the still water's surface. Another feature of these salinas is the abundance of least grebes that aggregate on them. Whilst we skirted the salina looking at the white-backed stilts, jacanas, least grebes and barefaced ibis we found three Wilson's phalaropes. These dainty wading birds are very rare vagrants to the Southern Pantanal from North America, in fact Stefan wasn't 100% what they were and Martin was reluctant to say that they looked like phalaropes as they are not really known from here at all. But the book confirmed their appearance and





also their unique phalarope behaviour of swimming in tight circles to stir up the sediment and take insects and larvae from the water. All three of them spinning in tight circles independent from each other was enough to make you dizzy; but this behaviour was key in our confirmation of the Wilson's phalaropes. The first record for Embiara and one that is significant. On the second tour Martin was guiding in the Pantanal he mentioned this to Fisher and he immediately contacted his ornithological colleagues and informed them. Not only are they rare vagrants to the southern Pantanal but if they are to be found here it would usually be in October and November. So a very unusual and great sighting and very interesting to watch their strange feeding strategy. Opposite the phalaropes was a aplomado flacon perched nicely in a clear tree as well and a further scan around the salina found hyacinth macaws collecting plam nuts that had already been partially digested by tapirs or feral pigs and carrying them off to break open and red-and-green macaws nervously on the salina bank. We then heard jay alarm calls in the forest in front of us, we waited to see what would happen or if any animal would come out, but the sounds of the alarm calls were not as intense and you could hear them move as the birds flew through the forest. This is a good sign that the reason for the alarm call is a bird of prey and not a big cat so we carried on around the salina. A little further on and around a well vegetated lake we spotted a male tapir walking in the long grass, so we climbed out of the vehicle and stalked as best we could behind the tapir. We got reasonably close but the tapir's walking pace is significantly faster than ours and he was into the forest quickly, from there he began to hear us as we crunched on the dry leaves and he them stampeded (the tapir often bangs its feet loudly on the ground when running away from threats) and off into the forest. It was a great sighting and experience to walk after South America's largest mammal and in broad daylight too. We then carried on and came to a new red-and-green macaw nesting tree with the bird both present before arriving back at the runway with a large group of white-lipped peccaries feeding. Whilst we watched the peccaries Martin noticed a lot of black vultures on the ground and soaring around the opposite side of the lake and thinking a fresh puma or jaguar kill had been made we went to investigate and set up Stefan's camera trap. As we approached the number of black vultures filled the skies and surrounding trees and close to the carcass Stefan spotted a king vulture, perched still and quite low down on a perfectly exposed, leafless branch. This large and impressive vulture is the rarest in South America and with a white body and wings (with black primaries) and multi coloured (red, orange and yellow) wattles covering its head, beak and neck it cut an imposing figure as it watched us before a number of black vultures flew to land on the same branch and he took off. This is only the 4<sup>th</sup> time Stefan had seen a king vulture and the first time it was not flying high in the sky. We then went to see the carcass which was a dead feral pig, there was no sign of predation and it may have died of natural causes, but because it was not opened up by a predator the vultures couldn't get at anything other than the eyes and soft tissue around the anus. So Stefan came back this afternoon and set his camera trap up to see if anything would come and scavenge from the carcass in the next couple of days. Once we returned to the lodge we found the hyacinth macaw family out of the hole and perched low down above the road, there were the mating pair and last year's chick, still a little downy around the head and clearly not a confident as the adults. We watched for a while as the chick came close to the adult male and nuzzled him and the adult put his head over the youngsters and comforted it for a while. This afternoon's game drive saw the weather well and truly get back to normal, with the temperatures reaching the high 30's, maybe even hitting 40C. As we loaded into the vehicle the crab-eating fox was sleeping in the shade of the garage and not paying us the least bit of attention and shortly after setting off we had a nice view of a female pampas deer. As we approached the lake with the feral pig carcass we noticed a distinct lack of vultures around, when we went to set Stefan's camera trap up we saw that the carcass was still intact and the vultures had probably lost interest as they had eaten what they could at that point. The king vulture was nowhere to be seen too, so we climbed back into the vehicle and headed out towards the drainage field in search of the elusive giant anteater. Along the way we tried to get close to busy yellow armadillos as they shuffled and crashed through the leaf litter and bushes in their never ending pursuit of food. On the main 'highway' through the ranches (nothing more than a wider road made of sand and mostly devoid of vegetation, as the cattle are driven down here in big numbers as they eat everything other than the trees and very spiny bromeliads); Matthew slammed the brakes on and when we all looked down on the ground we thought our luck had changed as a yellow armadillo lay on the road in front of us. However, after carefully and quietly climbing down from the jeep and walking the long way around we found out that it was dead, run over by another vehicle, the only injury a small crack on its armour plated back. Martin moved him off the road and we carried on, when we came to the drainage field we tried a different area than normal and here a small stream still ran through most of the field, and inside were hundreds if not thousands of caiman as well as a whole host of birds. A reminder of the Transpantaniero and that despite being separated by around 500km that they are all part of the same wetlands ecosystem (or more correctly speaking mosaic of ecosystems). The rest of the game drive didn't yield an anteater and the only memorable sightings was a perched bat falcon, many vultures (mostly black and one turkey vulture) around a pigs head (probably from the pork we ate yesterday) and as we spotlighted back to the lodge a couple of crab-eating foxes. But we still had another full day and we still had hope for giant anteater.







## Day 14 Embiara Lodge

Wildlife Watching

Today was our last chance to try and find a giant anteater and we decided that we would have a morning game drive whilst the temperatures were cooler and then if we hadn't seen one head out again in the afternoon but if we got lucky we would head to the river for a spot of piranha fishing. So we once again made a beeline for the drainage field which is the best bet for giant anteaters, as they spend the hotter parts of the day and hot days deep in the forests we hoped to catch one as it emerged and wandered through the open space. As in other days here we were amazed by the wealth of bird life with hundreds of birds aggregating around the last few pools that were drying out more and more each day and therefore exposing more of the fish to the birds. We came across one particular pool that had a few hundred birds of various species that also contained a good size flock of roseate spoonbills, so Derek set off to stalk these birds and see how close he could get. We all waited in the vehicle a good distance away and watched the feeding birds from a distance. From where we were we could clearly see magaurie storks, wood storks, jabiru storks, bare-faced ibis, plumbeous ibis, green ibis, buff-necked ibis, southern lapwings, cattle egrets, snowy egrets, great egrets, cocoa herons, rufescent-tiger herons, whistling herons, a littleblue heron, black-bellied whistling ducks, white-faced whistling ducks, wattled jacanas, white-backed stilts and of course the pink roseate spoonbills. Whilst Derek crept closer and closer we had a small group of pampas deer come quite close as well as 4 red-and-green macaws flying past and giving the sort of aerial display reminiscent of the Red Arrows. We waited for around an hour before Derek came back and he told us how close he gotten and it is a safe bet the pictures will be stunning, after creeping up on the birds for so long he was right in the thick of the action with snowy egrets raising their fluffy hackles and cocoi herons piercing fish with their long pointed beak. We then started slowly back towards the lodge and came across a mother and baby black howler monkey; both of which were a light brown colour (as females and youngsters are brown and only mature males take on the black colour that gives them their name). We tried to get into the forest for a better view of the howlers but the vegetation was too thick and the monkeys too guick through the canopy. We did see fresh puma tracks on the road another reminder that two of the world's big cat species inhabit the region and that we could encounter one at any stage. The morning was being very good bird wise and as we drove through the scrub forest on the perimeter of the drainage field we found a couple of red-and-green macaws feeding low down in a tree, so as we stopped and circled back to find them we did spot ocelot tracks from last night. The distinctive tracks have the rear foot clearly overlapping the forefoot and the size also being a dead giveaway. The only confusion being with a puma kitten, whose gait is different and generally not overlapping and of course a puma kitten that young would be accompanied by the mother and there were no other cat prints around. As we set off from looking at the tracks, Matthew slammed the vehicle to a holt again and pointed out of the window, a giant anteater emerged from the shadows of a bush next to the road and walked away from us in a diagonal direction going to meet the road, we quickly got out of the vehicle and positioned ourselves on the road just in time for the giant anteater to come out and cross our path. As they have very poor hearing and eyesight we could follow it as long as we reminded upwind from him (which we were), so we followed him for about 10 minutes through the bushes to an almost dried out lake where he ran across to the forest on the other side. What a sighting, we were within 5m of one of the world's most unusual mammal species and following it through the scrub was a great experience. We were all exhilarated and didn't stop talking about the anteater on the way back; on which we spotted a couple of small collared peccaries sleeping in the shade under a palm tree as well as a giant tegu lizard rested right next to the road, presumably heating up in the sun, having its ribs flatten as much as possible to increase surface area. But as he was lying there on the side of the road we all climbed down and managed to get incredible close up views of this uniquely South American lizard, whilst fulfilling the roles of monitor lizards from the Old World they are more closely related to skinks and by looking at its face from this close view you are able to see the comparison clearly with the much smaller skinks. This was the last sighting of the morning game drive and with a great giant anteater sighting in the bag we decided that after lunch we would head down upstream on the Rio Negro and try our hand at some piranha fishing (Derek being a keen sport fisherman). Before we started fishing Stefan took us upstream a little, where we had great sightings of a black-backed water tyrant, pied lapwings and a pair of capybara. A mother and youngster, the youngster complete with the parasite eating yellow-headed caracara perched on its head. After 45 minutes of going upstream we drifted back downstream and found a promising looking spot behind a fallen tree. The tree causing sack water where fish aggregate and wherever fish aggregate in rivers around here so do the piranha. Stefan then cut up some steak, baited the hooks and Derek & Martin (and Sally for a short while) tried our hand at piranha fishing using the basic (yet very effective) bamboo rods. Even before Martin or Sally had their lines baited and set Derek had caught a red-bellied piranha. And this turned out to be the story of the afternoon; whilst Sally didn't carry on fishing for very long both her and Martin proved to be either unlucky or useless when it came to setting the hook in the piranha when they bit the bait. This is the trick as the piranha bit the bait almost instantly every time we dropped it in. However Derek turned out to be piranha fisherman par excellence with 13 landed, 12 released and one dispatched for some ceviche later. With Derek's catch we headed back to the lodge and before dinner a small ceviche had been prepared using the fillet marinated in lime juice, honey, chilli, olive oil and coriander. After dinner we tried to see if the resident Brazilian red tarantula was out of her hole behind the main lodge building, she was just out of the hole (her front pair of legs and palaps visible as she waited patiently for any prey to wonder past. However she didn't stay like this for very long and around the outside of the lodge building we





found a large huntsman type of spider as well as a very small scorpion who were most cooperative for photographs. We then got some sleep and prepared for our last full day in Brazil.

### Day 15 Embiara Lodge & Cuiaba

### Wildlife Watching & Travelling

This morning we went on one last game drive before lunch and our air transfer back to Campo Grande; two of the resident hyacinth macaws (and adult and last year's chick) were perched above the road to see us off. We then went around some of the salinas and had took advantage of the morning light and the reflections created by the many wading birds. Stefan also showed us the skull of a feral pig that had been killed by a jaguar and in particular the puncture wounds to the skull. The jaguars' main mode of killing is to bite through the skull to the brain and the strength of the big cat's jaws was evident with this skull. During this morning's drive we collected the camera traps and would see what we got at lunch. As we continued around the salinas, lakes and forests we had views of the rarest macaw species around here, the red-shouldered macaw. A small flock of 4 were clearly visible and in very nice light before we also spotted turquoise-fronted parrots (these are probably the most common parrot around here) posing very nicely in an open tree. Matthew then spotted a ferruginous pygmy owl perched low over the road (at eye level for us in the back of the open jeep), we all had great views of this tiny owl but before we could get our cameras up he had flown off and away. On another salina we watched red-and-green macaws feeding on the partially digested palm nuts that tapirs and feral pigs had consumed, they flew into a nearby tree than Derek approached slowly and was rewarded with close photographs. A flock of plumbeous kites also flew overhead and away towards the forest, this species is known to aggregate into large flocks for migrations and to take advantage of flying insect swarms and we were seeing many plumbeous kites around at the moment. We also had great views of a single plumbeous kite in a tree in excellent light for photography. At a dried out lake we came across a recent (within the last week) feral pig carcass, there was no obvious signs of a jaguar biting into the skull but the carcass had been opened up by animals and there was also a pile of palm nuts (presumably spilled out of the intestines) nearby. We then tried a spot where the rare Brazilian porcupine had been spotted a few times in the last couple of months and we were very lucky as it was there again, between the tangle of vines and leaves we had views of the porcupines feet and hands it is sat upright on the branches and gripped one tightly, we could also make out the large pink nose and muzzle and from a different angle some of the short spines along the back and flanks. We could barely believe it, within 2 weeks we had seen 2 Brazilian porcupines. Stefan had only seen this individual 4 times in 4 years (all within the last 3 months) and Fisher in the Northern Pantanal had only seen 2 in 20 years of guiding; so we were incredibly lucky to get two good views. A little further on from the porcupine we spotted great views of a female black howler monkey moving swiftly through the trees as well as good views of a solitary male coati crossing the road behind our jeep. We then returned to the lodge and before lunch Martin checked the camera traps (and Stefan checked his from the pig carcass, which was eaten by a feral pig (apparently not very fussy about the meat they eat and even turning cannibalistic). On Martins' camera traps the range of wildlife was incredible, between the two cameras (with the one behind the lodge being far more productive) we had both white-lipped and collared peccaries, pampas deer, brown-brocket deer, Brazilian tapir, bare-faced curassows, giant tegu, feral pigs, a male oncilla, the first jaguarondi sighting on a camera trap here, three tyra bounding down the trail, Azara's agoutis and crab-eating foxes. It just goes to sow the wealth of life there is around here when this many species of captured using the same pathways in only 5 days. Also before lunch Derek watched as the nesting hyacinth macaws mobbed and aggressively shooed away a black howler monkey from their tree. Whilst howlers are foliage eaters and pose no threat to the macaws they were probably not distinguishing the howler from the more opportunistic capuchin monkey that would not think twice about raiding the nest for eggs. Then after lunch we packed and at 14:50 departed from the airstrip, saying our good byes to Stefan and Matt and flew south-east over the Pantanal towards the hills and the city of Campo Grande. The views out over the different lodges are a reminder than whilst many of the farm owners around Embiara are environmentally minded and keep their forests intact not all do. There are many intensive cattle ranches between Embiara and Campo Grande the different in vegetation cover was stark. One of the main problems being that the Brazilian government gives tax breaks for more productive ranches, meaning that if you don't have lots of cattle and run your farm solely as a cattle ranch the taxation can be too much to keep a small farm and lodge operational. Another problem is the initiative of only keeping 20% of your land was original vegetation. There were no stipulations that this had to be prime forest or even continuous forest and you see large fields mostly cleared for pasture with narrow bands of forest running parallel to each other. This is an example of a famer getting around the 20% rule by using a tractor or another piece of heavy machinery to clear 4 lines and leave the fifth one free, so keeping 20% forested but in a way that is easy and cheap to manage, allows maximum grazing for cattle and provides the wildlife with a very small amount of forest that is not continuous with other forested areas. For now the Pantanal is still mostly wild, remote and home to huge numbers of animals (including an estimated 6,000 jaguars) but the future could well see a change in this if development and bad agricultural practises are allowed to continue unabated and in many cased promoted by the national and local governments. However during the hour long flight we saw many flocks of birds, the white egrets and jabirus standing out the most, as well as capybara and even a tapir standing proud in a lake; we also had some turkey and lesser-yellow headed vultures soaring around us before we came to land at Campo Grande airport. The rest of the day was very straightforward and without





incident, we got the plane back to Cuiaba, were met by Ailton there and taken to the hotel for dinner and our last night on the tour.

#### Day 16 Home

#### Departure

This morning Derek and Sally were transferred to the airport in time to catch their afternoon flight back to Sao Paulo and onwards to the UK. Martin was staying on as his next clients were arriving this evening (along with Kate his wife) for the second Pantanal Exploration tour of the year. Hoping for the same luck we had, one thing would be for sure, it wouldn't be the same. That is the beauty of nature, every time it is different from the last.

# **Species List**

# *Mammals* (\* = heard or signs only)

	0	Discusional Name							SE	PTEME	BER						
_	Common Name	Binominal Name	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Black howler monkey	Alouatta fusca			8			7	1	*						2	2
2	Large fruit-eating bat	Aritbeus jamaicensis											1				
3	Marsh deer	Blastocerus dichotomous		2								1					
4	Crab-eating fox	Cerdocyon thous									1	3	1	1	3	1	1
5	Brazilian porcupine	Coendou prehensilis			1												1
6	Azara's agouti	Dasyprocta azarae									1						1
7	Nine-banded armadillo	Dasypus novemcinctus									1						
8	Common vampire bat	Desmodus rotundus											~350				
9	Tyra	Eira barbara										1					
10	Brazilian big-brown bat	Eptesicus brasiliensis										~10					
11	Yellow armadillo	Euphractus sexcinctus										1	*	1	2	1	
12	Common long-tongued fruit bat	Glossophaga soricina										2					
13	Capybara	Hydrochaeris hydrochaeris		128	71	56	53	78	45	95		32	30	48	57	36	42
14	Ocelot	Leopardus pardalis						1		1						*	*
15	Neotropical otter	Lontra longicaudis										*	1				
16	Brown brocket deer	Mazama gouazoubira								2		1	1	3			1
17	Black-tailed marmoset	Mico melanura								10							
18	Black myotis	Myotis nigricans		3													
19	Giant anteater	Myrmecophaga tridactyla														1	
21	South American coati	Nasua nasua								9	8	1	7				1
21	Lesser bulldog bat	Noctilio albiventris		100's		~100		~20	~100								
22	Greater bulldog bat	Noctilio leporinus		24		~50		11	~25								
23	Pampas deer	Ozotoceros bezoarticus										9	8	6	14	11	3
24	Jaguar	Panthera onca		1	1	4	5	2	3	*							*
25	Collared peccary	Pecari tajacu								6				5	3	3	
26	Greater dog-like bat	Peropteryx kappleri		1		2											
27	Giant otter	Pteronura brasiliensis			7	24		6	10			3					
28	Puma	Puma concolor														*	
29	Proboscis bat	Rhynchonycteris naso					12										
30	Azara's capuchin	Sapajus cay		11	1			9		11							

31	Feral pig	Sus scrofa							7	34	14	8	
33	Tapeti	Sylvilagus brasiliensis					1	1		1			
34	Southern tamandua	Tamandua tetradactyla									*		
35	Brazilian tapir	Tapirus terrestris						1		*	2	*	
36	White-lipped peccary	Tayassu pecari				*		17		~35	27		

# **Birds** (\* = heard or signs only)

	Common Nome	Dineminal Name							SE	PTEM	BER						
	Common Name	Binominal Name	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Blue-throated piping guan	Aburria cumanensis				2	4		2			6	9	1	7	3	1
2	Bicoloured hawk	Accipiter bicolor												2			
3	Spotted sandpiper	Actitis macularius						2				~20					
4	Bay-winged cowbird	Agelaioides badius		~20						~10							
5	Unicoloured blackbird	Agelasticus cyanopus			10	21	22	~30	22	7							
6	Glittering-throated emerald	Amazilia fimbriata								2							
7	Blue-fronted parrot	Amazona aestiva									4	3	2	2	4	12	4
8	Brazilian teal	Amazonetta brasiliensis		2											2		
9	Scarlet-headed blackbird	Amblyramphus holosericeus		1													
10	Southern screamer	Anhima cornuta		11	1	10	2	4	2	31				8	14	3	3
11	Anhinga	Anhinga anhinga		10	8	12	23	24	11	8		1			1		2
12	Hyacinth macaw	Anodorhynchus hyacinthinus		3				3		4	10	10	4	4	8	3	10
13	Yellowish pipit	Anthus lutescens		1													
14	Blue-and-yellow macaw	Ara ararauna									4	3	3		8	3	
15	Red-and-green macaw	Ara chloropterus										5	1	4	5	11	2
16	Grey-necked wood-rail	Aramides cajanea		4		3	1		1	10		2				3	
17	Limpkin	Aramus guarauna		65			2	8		131	3	53	3	~20	2	4	1
18	Blue-crowned parakeet	Aratinga acuticaudata										*	5	2			1
19	Peach-fronted parakeet	Aratinga aurea		1	6												
20	White-eyed parakeet	Aratinga leucophthalma								~40							
21	Great egret	Ardea alba		~300			3	1		~240	23	~280	2	~30	6	100's	4
22	Cocoi heron	Ardea cocoi		57	33	37	42	85	40	51	2	4		~60	9	18	3
23	White-headed marsh-tyrant	Arundinicola leucocephala		1	1	1	1			1					2		
24	Burrowing owl	Athene cunicularia									1	9	7	3	3		1
25	Rufous-tailed atilla	Attila phoenicurus			1												
26	Yellow-chevroned parakeet	Brotogeris chiriri											5		~20	3	3
27	Great-horned owl	Bubo virginianus		3						1							

28	Cattle egret	Bubulcus ibis	1	86	10		1	3	1	14	26		~120	~160	100's		~100
29	Zone-tailed hawk	Buteo albonotatus				1											
30	Black-collared hawk	Buteogallus nigricollis		5	5	1		2	6	6		2	1	1	1	2	1
31	Great black hawk	Buteogallus urubitinga		1	7	1	8	2	5	3							
32	Striated heron	Butorides striata		4	1	3	8	10				5		~10		6	3
33	Yellow-rumped cacique	Cacicus cela		2	2	4	6			1		3					
34	Muscovy duck	Cairina moschata		8							1	5	3	~30	8	8	2
35	White-rumped sandpiper	Calidris fuscicollis						1									
36	Green-barred woodpecker	Caloptes melanochloros												1			
37	Cream-backed woodpecker	Campephilus leucopogon											*				
38	Crimson-crested woodpecker	Campephilus melanoleucos														1	
39	Red-billed scythebill	Campylorhamphus trochilirostris												1			
40	Rufous nightjar	Caprimulgus rufus				1											
41	Thrush-like-wren	Campylorhynchus turdinus												*			
42	Southern-crested caracara	Caracara plancus		11	8		19	10	5	16	6	10	21	15	6	22	11
43	Red-legged seriema	Cariama cristata								1	2	4	2	2	4	1	6
44	Rufous casiornis	Casiornis rufus												3			1
45	Turkey vulture	Cathartes aura		13	10	9	18	10	8	89	3	9	3	4	16	8	8
46	Lesser yellow-headed Vulture	Cathartes burrovianus		3		1	1			8	4	1		1	11	4	7
47	Mato Grosso antbird	Cercomacra melanaria										*					
48	Collared plover	Charadrius collaris				5	2	5	2			9				1	
49	Amazon kingfisher	Chloroceryle amazona			3	7	7	6	1	2		9		1	2	6	2
50	Green kingfisher	Chloroceryle americana			1	4			1			1				1	
51	Green-and-rufous kingfisher	Chloroceryle inda						1									
52	Least nighthawk	Chordeiles pusillus														2	
53	Maguari stork	Ciconia maguari		3	2					3				~10	~15	17	
54	Little cuckoo	Coccycua minuta								1							
55	Dark-billed cuckoo	Coccyzus melacoryphus									2						
56	Boat-billed heron	Cochlearius cochlearius					4	2									
57	Campo flicker	Colaptes campestris									2						
58	Feral pigeon	Columba livia	~20	0 ~10						2		21					
59	Plain-breasted ground dove	Columbina minuta		7	7	4	8	1				11					
60	Picui ground dove	Columbina picui								12	76	33	37	~10	~20	~25	22
61	Scaled dove	Columbina squammata				1											
62	Ruddy ground-dove	Columbina talpacoti					3			7						7	
63	Black vulture	Coragyps atratus		117	30	19	39	54	18	~280	~70		6		~100	28	~50
64	Red-plieated finch	Corphospingus cucullatus												1			
65	Coscoroba swan	Coscoroba coscoroba										~30					

66	Bare-faced currasow	Crax fasciolata		3	7	8	3	4	3		66	54	~50	~55	92	~56
67	Smooth-billed ani	Crotophaga ani	14	9	3	4	28	9	13			4				
68	Greater ani	Crotophaga major	3		4	2	2	4	3		1					
69	Undulated tinamou	Crypturellus undulatus		1	*	*	*	*	*		1	*	*	*	1	*
70	Plush-crested jay	Cyanocorax chrysops									6	14	11	~15	~10	11
71	Purplish jay	Cyanocorax cyanomedas							11	3		3	6	5	12	6
72	Rufous-browed peppershrike	Cyclarhis gujanensis		*												
73	Black-bellied whislting duck	Dendrocygna autumnalis	~10						3		~125	7	~200	~60	~55	
74	White-faced whisIting duck	Dendrocygna viduata											~160	~40	52	
75	Straight-billed woodcreeper	Dendroplex picus			1											
76	Red-shouldered macaw	Diopsittaca nobilis														4
77	Black-capped donacobia	Donacobius atricapilla		5	5	11	7	4	1							
78	Lineated woodpecker	Dryocopus lienatus											1	3		1
79	Little blue heron	Egretta caerulea							1				1		1	
80	Snowy egret	Egretta thula	122			32	1	1	~135		~50	~10	~100	14	100's	2
81	Swallow-tailed kite	Elanoides forficatus				8										
82	Sunbittern	Eurypyga helias													1	
83	Aplomado falcon	Falco femoralis												1		
84	Bat falcon	Falco rufigularis												1		
85	American kestrel	Falco sparverius										1				
86	Black-backed water-tyrant	Fluvicola albiventer	3												1	
87	Rusty-backed antwren	Formicivora rufa				1										
88	Pale-legged hornero	Furnarius leucopous	1		1			3	3	1						
89	Rufous hornero	Furnarius rufus	6		4	6	8	6								
90	Rufous-tailed jacamar	Gallbula ruficauda	2	2	5	4	1	2								
91	Crane hawk	Geranospiza caerulescens	1		1	3	1		1						1	
92	Ferruginous pygmy owl	Glaucidium brasilianum											*			1
93	Chopi blackbird	Gnorimopsar chopi											4			
94	Guira cuckoo	Guira guira	3				1			15	13	8	22	1	47	
95	Laughing falcon	Herpetotheres cachinnans				1										
96	Savanna hawk	Heterospizias meridonalis	8	1			1		5	4				3	3	1
97	Black-necked stilt	Himantopus mexicanus	1													
98	White-backed stilt	Himantopus nimantopus	9			3			2	21	~50	~80	~30	118	1	61
99	Barn swallow	Hirundo rustica					1									
100	Henna-capped foliage-gleaner	Hylocryptus rectirostris									1					
101	Ash-headed greenlet	Hylophilus pectoralis	*													
102	Orange-backed troupial	Icterus croconatus		2	1	2	2						*			
103	Plumbeous kite	lctinia plumbea									2			5	3	10

104	Jabiru	Jabiru mycteria		62	3	2	11	2	6	15	39	1		13	4	5	3
105	Wattled jacana	Jacana jacana		7	1		1			19		18	5	~40	62	~55	52
106	Narrow-billed woodcrepper	Lepidocolaptes angustirostris											1				
107	Grey-fronted dove	Leptotila rufaxilla		2													
108	White-tipped dove	Leptotila verreauxi										~20	~15	~20	~20	~25	~10
109	Cattle tyrant	Machetornis rixosa				3	4	11	8	11	1		3				
110	Ringed kingfisher	Megaceryle torquata		8	11	7	15	14	2	10		11		1		4	1
111	White woodpecker	Melanerpes candidus						1				1	1				
112	Green ibis	Mesembrinibis cayennensis		6						3	2	1	1	7	1	3	4
113	Collared forest falcon	Micrastur semitorquatus													*		
114	Yellow-headed caracara	Milvago chimachima										2	1		4	5	
115	Shiny cowbird	Molothrus bonariensis		7						53	9	2	22	~30	1		
116	Giant cowbird	Molothrus oryzivorus								7		1	26	4	10		1
117	Black-fronted nunbird	Monasa nigrifrons			4			8									
118	Wood stork	Mycteria americana		161				5		276		4		33	~10	~20	
119	Brown-crested flyctahcer	Myiarchus tyrannulus													2	1	
120	Streaked flycatcher	Myiodynastes maculatus											1			1	
121	Monk parakeet	Myiopsitta monachus		13	6	11	11	11	~10	14	3			17			
122	Nanday parakeet	Nandayus nenday								6	23			6	2		5
123	Great potoo	Nyctibius grandis										1					
124	Common potoo	Nyctibius griseus						1				2					
125	Black-crowned night-heron	Nycticorax nyticorax		4			3	7				2					1
126	Common pauraque	Nyctidormus albicollis						6			3				3		
127	Band-tailed nightjar	Nyctiprogne leucopyga		~10		~50		~65	~50								
128	Chaco chachalaca	Ortalis canicollis		4	5	1	7	7	1	3	35	15	13	13	14	14	17
129	Osprey	Pandion haliaetus			1										1		
130	Yellow-billed cardinal	Paroaria capitata		21	28	29	22	18	29	177		2	3				
131	House sparrow	Passer domesticus	5														
132	Pale-vented dove	Patagioenas cayennensis			4	6	3	4	2	11		4					
133	Picazuro pigeon	Patagioenas picaxuro								1	~60	3	2	4	23	~55	6
134	Greater thornbird	Phacellodomus ruber					1										
135	Buff-bellied hermit	Phaethornis subochraceus						1									
136	Large-billed tern	Phaetusa simplex		15	4	5	11	3	2	3		19		1		1	
137	Neotropical cormorant	Phalacrocorax brasilianus		61	28	8	14	27	9	9		4	55		15	2	17
138	Wilson's phalarope	Phalaropus tricolor													3		2
139	Lesser kiskadee	Philohydor lictor		16	19	20	26	45	37	10			1	4	4	8	2
140	Bare-faced ibis	Phimosus infiscatus		3	2	3	1			3	6	39	~10	1,000's	1,000's	~110	12
141	Squirrel cuckoo	Piaya cayana			2	1	1	1	1	1							

142	Golden-green woodpecker	Piculus chrysochloros											1			
143	White-wedged piculet	Picumnus albosquamatus				2										
144	Capped heron	Pilherodius pileatus	6				1	1								
145	Scaly-headed parrot	Pionus maximiliani							4							1
146	Great kiskadee	Pitangus sulphuratus	6	9	5	9	18	8	4			1				
147	Roseate spoonbill	Platalea ajaja	2						1	1	8		32	~15	~35	
148	Nacunda nighthawk	Podager nacunda		1	13		3									
149	Purple gallinule	Porphyrio martinicus													3	
150	Golden-collared macaw	Primolius auricollis									9	16	2	2	4	3
151	Solitary-black cacique	Procacicus solitarius			1			1								
152	Grey-breasted martin	Progne chalybea		2	2	9	4	3	2							
153	Brown-chested martin	Progne tapera		67	39	38	10	34					3			
154	Crested oropendola	Psarocolius decumanus										10	11	~15	11	6
155	Chestnut-eared aracari	Pteroglossus castanotis	2													
156	Vermillion flycather	Pyrocephalus rubinus	3	3		1	2	1							2	
157	Toco toucan	Ramphastos toco	3			2	2		1	5	10	5	7	1	3	1
158	Silver-beaked tanager	Ramphocelus carbo	7		4	5	6				4		~10			
159	Greater rhea	Rhea americana	8						6	36			1			
160	Snail kite	Rostrhamus sociabilis	7								3		1	2		1
161	Roadside hawk	Rupornis magnirostris	3	4		2	1		7		4	2	1	2	4	2
162	Black skimmer	Rynchops niger	52	2	6	15	58	4	52		7				4	
163	Greyish saltator	Saltator coerulescens			4	4	2	4	6							
164	King vulture	Sarcoramphus papa												1		
165	Saffron finch	Sicalis flaveola	2						~80							
166	Olivaceous woodcreeper	Sittasomus griseicapillus											2			
167	White-bellied seedeater	Sporophila leucoptera	1	3												
168	Southern rough-winged swallow	Stelgidopteryx ruficollis	9	24	94	~275	~240	~250	33		20				18	
169	Yellow-billed tern	Sternula supercilaris	23	~10	2	7	13	1	4		2				3	
170	White-lored spinetail	Synallaxis albilora	1					2		1						
171	Yellow-chinned spinetail	Synallaxis rutilans	3			2										
172	Whistling heron	Syrigma sibilatrix	2						2	1	1	1	8	4	4	2
173	Least grebe	Tachybaptus dominicus							~70			~60		~140		~100
174	White-winged swallow	Tachycineta albiventer	2	44	44	58	131	76	20	1						
175	White-rumped swallow	Tachycineta leucorrhoa	6	15	6		8	8								
176	Striped cuckoo	Tapera naevia		*												
177	Great antshrike	Taraba major	2													
178	Fork-tailed woodnymph	Thalurania furcata			1											
179	Plumbeous ibis	Theristicus caerulescens	3	2		1		1	3	7	2		12	19	52	

180	Buff-necked ibis	Theristicus caudatus	3		2				3	1	3	3	9	8	23	3
181	Palm tanager	Thraupis palmarum	1													
182	Sayaca tanager	Thraupis sayaca										5				
183	Rufescent-tiger heron	Tigrisoma lineatus	9	11	13	11	8	3	6		2		6		1	2
184	Common toddy flycatcher	Todirostrum cinereum			1				1							
185	Lesser yellowlegs	Tringa flavipes									~20					
186	Solitary sandpiper	Tringa solitaria	1											26		44
187	Blue-crowned trogon	Trogon curucui		1							*					
188	Creamy-bellied thrush	Turdus amaurochalinus	1													
189	Rufous-bellied thrush	Turdus rufiventris	2													
190	Tropical kingbird	Tyrannus melancholicus	4	5	3	1								1		
191	Fork-tailed flycatcher	Tyrannus savanna	2	1			2			2			~20	2		
192	Eastern kingbird	Tyrannus tyrannus													1	
193	Pied lapwing	Vanellus cayanus		2	2	3	1	2			29				5	
194	Southern lapwing	Vanellus chilensis	42	3		66		2	31	31	16	11	92	27	~75	11
195	Blue-black grassquit	Volatinia jacarina											2			
196	Great-rufous woodcreeper	Xiphocolaptes major										1				
197	Grey monjita	Xolmis cinereus	1													
198	White monjita	Xolmis irupero		1												
199	White-rumped monjita	Xolmis velatus	1											1		1

# **Reptiles** (\* = heard or signs only)

	Common Name	Binominal Name							SE	PTEME	BER						
	Common Name	Binomnai Name	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Amazon racerunner	Ameiva ameiva		1													
2	Yacre caiman	Caiman yacare		100's	100's	~100	~100	~100	100's	1,000's	3	~100		2	100's	15	27
3	Whiptail lizard	Cnemidophorus ocellifer												1			
4	Yellow anaconda	Eunectes notaeus								*							
5	Haseman's gecko	Gonatodes hasemani										1					
6	False water cobra	Hydrodynastes gigas		1													
7	Green iguana	Iguana iguana			2	4	2	1	3								
8	Green kentropyx	Kentropyx viridistrga											1	1			
9	Point-nosed false chameleon	Polychrus acutirostris											3	1	2	1	3
10	Giant tegu	Tupinambis merianea								1		3				2	
11	Golden tegu	Tupinambis teguixin					1		1								

# Amphibians (\* = heard or signs only)

	Common Nome	Dineminal Name							SEI	PTEME	BER						
	Common Name	Binominal Name	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Cane toad	Bufo marinus						1					1				
2	Quacking treefrog	Hyla lanciformis				1											
3	Chaco tree frog	Hypsiboas rancieps									2	2	3	1	2	1	
4		Leptodactylus podicipinus										2					
5		Lysapsus limellum												3			
6		Physalaemus albonatus													1		
7		Pseudis limellum											~20				
8	Lesser-snouted tree frog	Scinax nasicus							1								

# Freshwater Fish (\* = heard or signs only)

		Dia aminal Nama							SE	PTEME	BER						
	Common Name	Binominal Name	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Piraputanga	Brycon microlepis											~100				
2	Serpea tetra	Hyphessobrycon eques											~30				
3	Acari	Hypostomus plecostomus		2													
4	Cascudo	Liposarcus anisitsi			1				1								
5	Jau	Paulicea luetkeni				1							6				
6	Pacu	Piaractus mesopotamicus				2			2								
7	Spotted sorubim	Pseudoplatystoma corruscans			3	1		2									
8	Barred sorubim	Pseudoplatystoma fasciatum			1	2		1									
9	Red-bellied piranha	Pygocentrus nattereri					7									8	
10	Spotted piranha	Serrasalma marginatus														4	

# **Notable Invertebrates** (\* = heard or signs only)

	Common Name	Binominal Name	SEPTEMBER														
			12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Leaf-cutter ants	Atta spp.										100's	100's		100's		
2	Marimbondo wasp	Auplopus spp.										1		1	2	1	
3	Scorpion	Brazilobothriurus pantanalensis														1	
4	Scarlet dragonfly	Diastatops pullata			2	3	1	3	2				2				
5	Brown huntsman spider	Heteropoda venatoria											2		1	1	
6	Brazilian red-and-white tarantula	Nhandu chromatus														1	
7	Cloudless sulphur butterfly	Phoebis sennae		3		2						2	3				