

Dear Supporters of the Pantanal Giant Armadillo Project,

"It was the best of times, it was the worst of times ..." I thought I would establish the tone of this report right from the very beginning! Amazing things happened in the last expeditions as well as disappointing setbacks. As always the field work was full of unpredictable surprises both good and bad. The only thing that does not change is the dedication, enthusiasm and hard work of our team.

I sent my last report right before attending the ZACC conference in Des Moines where I met many of our project supporters. It was a fascinating conference and it was wonderful to see all the fantastic work zoos are funding across the world. Once again thank you to Nashville Zoo for sponsoring me. Within days of returning from the conference we were in the field for the July expedition.

In July our team consisted of myself, biologist Gabriel Massocato, the project veterinarian Danilo Kluyber and our volunteer from the United States Ben. The team for the August expedition consisted once again of myself, Gabriel, Ben, Veterinarian Renata Santos and we had a Brazilian final year Veterinary student come participate in the project as part of the capacity building component of the project. Diego is from Mato Grosso do Sul and one of the first veterinarians I have met from here who is passionate about wildlife and does not want to work with cows!

Instead of describing the events chronologically I will describe the setbacks before celebrating some of the progress made.

It was the worst of times... when we arrived in July the plan was to change our male giant armadillo Robert's transmitter. Gabriel and I set out after him at the crack of dawn the day after we arrived. It took us a long time to locate a signal, but at the end of the day, we were excited to hear a distant beep. We set off on foot in search of the burrow, listening to the signal getting stronger and stronger.... The signal was blasting, but there was no burrow!... We were absolutely crushed to find the transmitter had fallen off. We lost Robert.

Everyone on the team has their favorites and Robert was one of mine. In the three months we monitored him he gave us a new perspective on giant armadillo behaviors. He kept crossing the floodplain no matter how deep it was, he used degraded habitats which I would have thought unsuitable for giant armadillos, he could travel great distances in one night, he would re-use old burrows. I could not believe we lost him and I knew finding him again would be close to impossible. I therefore decided to keep all the camera traps in his home range active and we checked them every day in the hope we would find a sign of him. This added a good 4 hours to a heavy workload and we never saw Robert again.... How disappointing.

To make matters worse Ben's GPS tag also fell off two days after we arrived in the field. All the transmitters fell off as the leather strap ripped off. Unfortunately Ben and Rob had the transmitter put on only weeks apart so we learned this mistake too late. We have now fixed the attachment of our transmitters. The GPS tag has batteries for about 80 days, so falling off after less than 30 is a big blow. However the data collected was excellent. No surprises with Ben, habitat use and travel patterns all very giant armadilloish! During both July and August we came so close to catching Ben again. We found fresh feeding holes on several occasions but never managed to locate his sleeping

burrow. We worked very hard to catch him again, and I am confident that eventually he will as his home range and area use is more restricted and predictable than Robert.

As for the Southern naked tailed armadillos, we did not catch any new individuals in the past two months despite Gabriel and Ben's best efforts... and to make things worse the transmitter of one of our females Daniela stopped working. This was expected as we had been monitoring her since last December. However Gabriel and Ben were able to find her and a full health check revealed she was pregnant... How frustrating not be able to follow this exciting time, but implants can only be used once.

But enough of that.....it was also the best of times! The day after realizing that Robert had lost his tag we went to check on our female giant armadillo Isabelle. Her transmitter is losing its batteries and so weak that after searching for a few hours we gave up and went to check the cameras we left in her home range. When we arrived at burrow I72 we could not believe the size of the sand mound surrounding the burrowthe entrance was also different. It was closed by sand.... it could not be? Could it? How? When? Why this looked like a nesting burrow?

We had left a camera on this burrow in June, so we rushed back to the ranch to check the pictures to understand what was going on. We could hardly believe what we were seeing. Isabelle used this burrow for the full two weeks since our absence and was displaying all the behaviors she did last time she had a baby. But where was the baby? And for that matter where was Isabelle?

I will spare you the million questions we asked ourselves and the anxiety we felt until we returned the next day to the burrow to find that Isabelle had returned. A few days later the baby giant armadillo took his first steps out to a new burrow... unbelievable... we were overcome with joy. To this day, we continued to carefully record every detail through our camera traps and have been overjoyed to document the progress of her adorable baby. He is a beautiful shiny male that we have named Alex.

Looking at her behavior and other signs we guessed that a baby was born on the 2nd of July. That is the day we left the ranch after the June expedition. Up until now we have all the above ground behavior recorded and hope to be able to continue. In a few days Gabriel and a trainee will return to the field and will continue documenting the parental care and progress of the baby. He has gotten so much bigger.

Other fantastic news is that in August we caught another female giant armadillo and fitted her with a GPS transmitter (the new version, as always I am positive this will be the one). We are really happy with the quality of the data the GPS transmitters give us. We just need them to stay on! This large female was the female whose small tag snapped off after a few hours in June. She is called Dayse and we look forward to learning a lot from her as she was caught near the floodplain and she lives in a very interesting mosaic habitat.

It was also the best of times as we started working with some new species: Giant anteaters and the nine banded armadillo. YES....We did it!!! We launched the pilot study for giant anteaters. Three giant anteaters were fitted with harnesses in July and are being carefully monitored. In August, Renata and I, on two occasions got within meters of each animal and examined them closely and we were reassured that the harnesses, at the moment, is not having any negative impacts. The harness

seems to be fitting them well and is working really well and it is easy to locate the animals. Let's just hope that our small team can manage all this extra work. This is the reason why we will follow only three animals this year. We must understand the logistics and study design this project will require before making any further plans.

We also started monitoring a female nine banded armadillo in the hope that understanding her we will figure out how to catch more individuals. Nine banded armadillos are an important component of our epidemiological study and we need to catch more of them. For the moment this has been very hard! This beautiful female was missing a finger and was therefore called Lula.

Other exciting highlights from the expeditions were some of the visits we had. During the July expedition we had the wonderful pleasure to enjoy Bengt Holst and his family for a week. Both my wife and I were there with our kids so it was a real treat having our families all together. In August Jon Hall who manages the mammal watchers website visited and you can read about his visit on his website. This website is a great resource to anyone wanting to see mammals.

<http://mammalwatching.com/Neotropical/neotropicbrazil2013tripreport.html>

Finally before ending this update I just want to mention how amazing and helpful Ben our volunteer from the United States has been. He was a real addition to the team, hardworking and a fast learner. We are really sorry that he is leaving in a few days. He was part of our team and will be missed. Ben has finished university and is applying to jobs in zoos. If you know of any positions assisting in the conservation department or zoo keeping opportunities please contact me so I can forward them to Ben. Also Ben can give talks or presentations about the project to any zoos on the East Coast. Please let me know if you are interested.

This update is a little too long, but in the next update I have lots of exciting news regarding our environmental education work to share. I also almost forgot to mention our paper in Biotropica is finally out! I am preparing a press release and will send it to you in the next few days. This is a huge accomplishment for the project, another milestone! It demonstrates the role of giant armadillos as ecosystem engineers.

Once again thank you so much for supporting our project. I hope you enjoy the pictures. I can send you high resolution pictures in drop box. Please do not hesitate to contact me if you have any questions and don't hesitate to come and visit us and gain a firsthand experience of the project.

Thank you again, without the long term support from all of you we could not carry out this work.

Thank you, thank you, thank you.

All the best from Brazil,

Arnaud