



MACAW TAILS

THE MACAW SOCIETY NEWSLETTER

THE FALL OF THE GIANTS.....5

The non-breeding season

LAUREN BAZLEY

The low season at the Tambopata Project is a time to fix equipment, repair and build new nest boxes, maintain the bridges, hides and trails, clean the research centre and enter data from the breeding season. It is also important to keep track of the macaw activity at the claylick, around the nest trees and in the jungle to compare it to the breeding season.

Lauren Bazley, our Field Leader during the low season gives us an update on how things are going below.

'Since the last chicks fledged in April this year things are a little more relaxed around the Research Centre, but we're still keeping busy! We're a much smaller team now with only 3-5 people here at a time in comparison to the group of up to 15 we had during the breeding season.

In May, we were busy climbing to check and photograph all the nests. We needed to compile what ended up being a very long list of the maintenance required on the nest boxes to prepare them for the 2019 breeding season. When Carlos returns in August to do the nest maintenance he

will be very busy, as most of the artificial nests need some sort of repair or update. We are also taking the opportunity to re-mark trails and routes for our activities like census and recording macaw, parrot and parakeet foraging activity.

We are recording fewer and fewer large macaws at the claylick. They are busy with their fledgelings and perhaps starting to head to other parts of the forest. When we do see groups of large macaws they're often in a family group; parents with a chick or two who hang out in the trees and beg the entire time.

The two chicks from Pukakuro this year are also seen and heard regularly. It's so nice to see little Pukakuro I & II doing so well out in the big wide jungle, although it looks like they still have a lot to learn. As mom and dad are relaxing and preening each other the chicks are usually nearby, swinging in the branches and chewing on leaves and twigs, still unsure of what they should actually be eating!

Lauren and the team will be at the Research Centre until November this year when she will be off home to take a well-deserved break.

More than just a beak

The Scarlet Macaw consumes at least 38 species of nuts and seeds in the jungles of Peru. Although they lack the tastebuds of mammals, they can taste sweet, sour and bland. They are also able to feel texture, which in addition to colour, plays a significant role in recognition and food selection.

Macaw parents will expose their chicks to a variety of shapes, textures, colours and tastes during the weaning process to ensure the chick is familiarized with nutritious food in the jungle.

The macaw mandible is hinged at the top and bottom, allowing them to use it to grasp and explore new items as well as cracking open seeds and nuts. The upper mandible works as a hand to hook food, whereas the tip is used to dig out fruit or nuts.

They have a ledge on the inner upper mandible which acts as a curb, stopping the food from rolling forward while the lower mandible pierces the shell which is discarded. The Macaw keeps the edge of the lower mandible sharp by rubbing it against branches and nut shells. You can often see them doing this in the rainforest.



One of the chicks peeks its beak out of the bucket, giving a good view of the upper mandible. Photo credit Liz Villanueva Paipay.

Table 1: Showing a breakdown of the breeding season as of April 30th 2018 and how many chicks we monitored in the nests around TRC.

Macaw Species	Nest Name	# Chicks Hatched	Chicks Died	Chicks Fledged	Nest Type	Tree Species	# chicks translocated	New Nest for translocated chicks	
 Scarlet Macaw	Amor	2	1	1	 PVC	<i>Apuleia leiocarpa</i>	0		
	Gavilan	3	2	1		<i>Dipteryx micrantha</i>	1	Tigres	
	Pukakuro	2	0	2		<i>Dipteryx micrantha</i>	0		
	Invisible	1	1	0		<i>Dipteryx micrantha</i>	0		
	Tigres	1	0	1		<i>Hymenaea courbar</i>	0		
	Pflucker	2	2	0		<i>Dipteryx micrantha</i>	0		
	 Red & Green	Ceiba	2	0	2	 Wooden	<i>Ceiba pentandra</i>	2	Tapir & Gavilan
		Tapir	2	1	1		<i>Ceiba pentandra</i>	2	Gavilan & Ceiba
		Mandy Lu	2	0	2		<i>Dipteryx micrantha</i>	2	Back to Mandy Lu
		Franz	3	0	3		<i>Dipteryx micrantha</i>	2	Franz & Hugo
		Hugo	3	1	2		<i>Dipteryx micrantha</i>	1	Tapir
Molinero		2	0	2	<i>Spondias mombin</i>		1	Back to Molinero	
Bill		1	1	0	 Natural		<i>Apuleia leiocarpa</i>	0	
Silver	3	3	0	<i>Dipteryx micrantha</i>		0			
Stanford	3	1	2	<i>Dipteryx micrantha</i>		0			
Intocable	3	1	2	<i>Dipteryx micrantha</i>		0			
Vaginito	3	2	1	<i>Hymenaea courbar</i>		0			
Ayahuasco	2	2	0	<i>Dipteryx micrantha</i>		0			
Rojas	1	1	0	<i>Dipteryx micrantha</i>		0			
Max	2	1	1	<i>Erythrina ulei</i>	0				
Summary of Chicks up to 30th April 2018		43 Chicks Hatched	20 Chicks died	23 Chicks Fledged	Breeding Season 2018				

Meet our off-season Field Leader:

Lauren Bazley

During the low season this year, the project has been left in the very capable hands of Lauren Bazley. Although the macaws aren't breeding, there is a lot to do to prepare for the next season which is keeping her and the volunteers very busy. Below Lauren tells us a little about herself and how she came to be our field leader.

I studied at Trent University in Peterborough, Canada and graduated with a degree in Biology with a focus in Conservation Biology. I spent my first summer after graduation working as a Field Technician for a research lab at my Alma Mater, mainly on a project surveying for amphibians across Southern Ontario.

When that job finished at the end of the fall I began looking for positions in the tropics to escape the bitter Canadian winter. That's how I first became a volunteer for the Macaw Project! I was here for 2 months during the middle of the 2017 breeding season and I completely fell in love with the TRC, the chicks and the hands-on, challenging and extremely rewarding work that happens here.



Lauren measures the culmen of one of the Scarlet Macaw chicks last season. Photo credit: Lauren Bazley.

When my time at the Macaw Project wrapped up I headed to another tropical project, this time on the Caribbean island of Puerto Rico. I spent the summer there trekking up the mountain in the National Forest doing more herpetile surveys by night and crashing in a hammock in the cloud forest by day. As beautiful as it was in Puerto Rico, I missed TRC, the biodiversity of the jungle there and of course the macaws! So, I made plans to return again for the 2018 breeding season - this time for twice as long!

Being back this past season and watching the development of the chicks from eggs to tiny plucked chickens to proper little macaws was such a rewarding experience. Watching as one by one the chicks we'd spent months checking up on began to venture out of the nests and into the jungle.

Now, after a vacation in Canada to visit family and friends, I'm back at TRC for 6 months as Field Leader, holding down the fort at the Macaw Project until the next breeding season starts all over again.

As far as the future goes, since I can't seem to stay away from the jungle, I plan to continue working in the field of tropical ecology and conservation and at some point, I want to fit my Master's degree in as well.



Lauren Bazley has always loved animals and has a range of experience working with them.

The fall of the giants

SHANNAN COURTENAY

In February and March this season, two of our macaw nest trees fell down, Huayranga and Ceiba.

Huayranga....

Huayranga was a *Hymenaea courbaril* species that had fledge many Scarlet Macaw chicks in its early years. It was on the list of "challenging tree climbs" because the branch where the climbing rope passed "jumped" with every movement of the climber. This resulted in an uncomfortable climb and quite a scary one!

Once on the top, the view of the palm swap was spectacular. Maybe that was the reason the macaws liked nesting there. Even one of our female "chicos" nested there for a couple of seasons. Huayranga was always a difficult tree in many aspects. With a dosel full of bromeliads, the climbing line often rotted and broke which meant we needed to place a new one several times per breeding season.

In the last few seasons, the tree had a 'huayranga' wasp nest inside it so the nest wasn't used by the macaws anymore. The tree fell over after a storm in February 2018, the huge trunk almost crashing down onto two of our bridges. Although massive, the trees in the tropical rainforest have very shallow root systems because most of the nutrients sit in the topmost layers of soil. During strong winds and heavy rainfall many trees fall over because of these shallow roots; especially if roots are not healthy, which might have been the case in Huayranga.

Ceiba....

Ceiba nest tree was a *Ceiba pentandra* species, known as the mother of the jungle. In 1999, when Don Brightsmith first arrived at TRC, it was located over 1.2 km from the river. By 2004, the river had shift direction and it was eroding the riverside where Ceiba was located. At that time, Ceiba was a bit under 1km away from the river. By 2012, it was close to 500 m and last year, 2017, the river was as close as 20m away.

On the 17th of March this season, the water reached the buttresses of Ceiba and the huge giant finally succumbed to the great strength of the flooded Tambopata River, its massive trunk and branches broke and swept downstream. It was an emotional scene for us, as this tree had a special place in many of the volunteers' hearts. Not just because of the beautiful view of the river, or because of the huge, flat branch you could lie on and contemplate how lucky you were to be there,



Many of the trees in the Amazon jungle grow to great heights, making us all seem tiny in comparison. This photo of Ceiba was taken a week before it fell into the river. Photo credit: Liz Villanueva Paipay.

or the number of Scarlet macaws the nest had protected over many seasons. It was the energy that tree gave off that was special in its own right, and a little bit inexplicable.

However, it is the cycle of the jungle. A Ceiba tree usually only stands for a couple of hundred years, providing a home and food for many plant and animal species before crashing down to return to the jungle. In the Amazon, the trees that fall in the river provide food for dozens of species of Amazon catfish that need wood in their diet to help digestion. It also provides fungi, bacteria, insects and nutrients for the soils, allowing other seedlings to grow and complete the cycle.

It is very sad to lose a giant of the forest, but our friend Ceiba was a key member of the team. She helped 8 chicks fledge, housed one of our macaws with a satellite collar and hosted two of our translocation experiments. A great tree, which will be remembered fondly by all who had the pleasure to see it.

Rotten Fruits and Rotten Bridges

BEN BECKER

One of the crowning achievements and defining characteristics of all civilizations is a system of laws. Rules, designed in part to keep people safe and to free to conduct their business without fear of danger. Many of these rules seem commonsense: Do not kill, do not steal, do not form trust monopolies to control an essential commodity in the market. However, these rules only became rules because the stealing, killing, and monopolising etc happened often enough in the first place so as to make a rule against doing them.



Many explorers of the rainforest will notice as they walk through palm swamp vegetation, that on the forest floor there are many soft, orange fruits at the base of the trunks. Usually, they've been on the ground for a while and thus have started to decompose, emitting this sweet smell as the fruit ferments. Common sense will tell the average educated traveller that although it smells nice, it would not be a good idea to eat them. They have clearly been on the ground for a while and, even if they were fresh there are still many forms of bacteria in the rainforest. These ground fruits have not only been covered in dirt but doubtlessly have also provided the ideal breeding ground for all kinds of decomposing microbes.

Evolution has given humans with an invaluable tool of common sense. Since evolution works to take away more often than it provides, it gives most of us the common sense by removing those who don't have it. I came very close to being part of this evolution myself when I decided to eat one of these fruits off the ground.

In my strong defence, it wasn't exactly eating, more so a little quick taste-test, like how one samples a piece of aged cheese. A quick nibble, a small sample, a taste...then I spat it out faster than one can say "that wasn't a good idea". My buddy Roshan looked at me somewhat bemused, but mostly with a face that said "I can't believe this muppet just did that". With an air of pride that one puts on when they do something that other people dare not, I spat out the fruit, claiming the flavour to be soapy and slightly sweet. And that was that, nothing more. We quickly put the experiences behind us and continued on our way home.

Everything was fine and I felt normal. That is, until about 3 hours later at dinner when I started to experience some queasiness when I ate. I mentioned this to Roshan and with a knowing smile, he told me

that there was no doubt it was because of the fruit I ate. At this point, I was starting to feel a little bit concerned. An hour later this feeling was legitimized when I had to run to the bathroom to throw up.

Well, I thought that was it; bad stuff out, nothing left inside to worry about. So, I went back to bed. Two hours later, I woke to throw up again, only I didn't make it to the bathroom, instead, I retched over the conveniently placed balcony and on to the dirt below. But I was still convinced that I would be fine and went back to bed...only to wake again to repeat the process all over again.

The limit of stupidity reached its edge at about 1am when I decided to wake up our veterinarian and unofficial people-doctor, Mabe. Without hesitation, she was up and gathering medical supplies, inspecting me and asking questions about what happened.



An old growth Aguaje palm swamp in Tambopata where you can find thousands of their fruits on the ground. Blue-and-Yellow Macaws are found nesting in the tree hollows of these dead palms. Photo credit Rainforest Expeditions.

Of course because there was a witness to my taste testing I couldn't stretch the truth about what happened, so I told her everything. Yes, I ate a fruit off the ground of the rainforest floor. Yes, I was throwing up all night. Yes, I am an absolute moron and maybe in the middle of the wilderness, this cruel form of natural selection is exactly what I deserve as an organism in the rainforest. To her amazing credit, however, there was no judgment, only concern. She made sure I was getting enough hydration and rest throughout the night. And it wasn't just her. Our other veterinarian Suzanne was up and helping me as well. Thanks to their help, I made it through the rest of the night with no more trips to the bathroom.

continued from page 7...

However, the next day I was very worse for wear and made the decision to make the trip downriver to a clinic in Puerto Maldonado. Thankfully, the trip was easy and the doctor very helpful. It turned out I had a minor fungus infection from taking a small bite of that aguaje fruit off the forest floor. Within four days I was back on the boat heading back to the jungle.

What an adventure! Lesson learned, and because of my noble sacrifice, a rule for not eating things off the forest floor was created. You're welcome future volunteers. Because of me, you are safe.



There are a plethora of different species of fungus in the Amazon rainforest, however there is very little literature on them. Photo credit Shannan Courtenay.

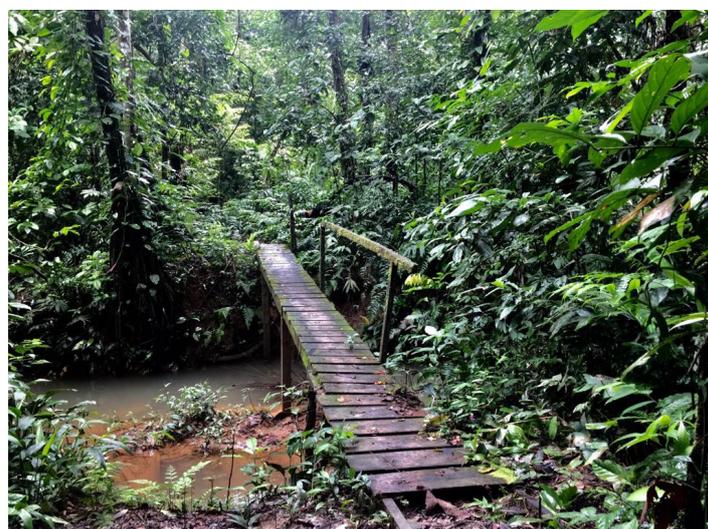
But, that's not the end of my story. About two weeks later I was put in charge of nest observation at Gavilan with my friend Emma. Now, the important part of nest observation is to be as observant as humanly possible, maybe even a bit more. So we have to keep track of all the Scarlet macaw parents movements. Veterans of the trails at TRC will know that right near Gavilan is an old wooden bridge spanning a little river that floods whenever there is high rainfall. The water-level rises quite dramatically; sometimes by 2 meters overnight, occasionally even over the bridge itself.

In this case, it had rained the night before and the river was very swollen. We were nearing the end of our watch and were both tired and worn out after 5 hours of nest obs. At this point, two macaws landed on the far side of the nest tree. We couldn't see them from where we were sitting so I went to the other side of the bridge to get a better view. The water was brown, swollen and slow moving. Kind of peaceful in a way. I felt relaxed and looking up with my binoculars I peered into the leaves of Gavilan. Up and up and sure enough, yes, the two parents were there. I started to lean back on to the

railing of the bridge, content that I had found them. Back and back, I rested more of my weight on the edge until...snap...the railing broke. Then I was falling backwards with nothing to catch my fall. It felt like it was happening in slow motion. I was in such shock that I couldn't do anything except try to prepare for the sensation of hitting the water. With a huge splash, I was in the river. My head went under and I couldn't stand. Luckily the water was plodding along and I was able to grab my now ruined binoculars and swim to the bank. Even luckier, there were no caiman in sight. Soaking wet and with boots full of water, I began to walk back to the observation area, as miserable as a soaked kitten.

Emma saw me, she was still in the chair, not moving a muscle and with a look of bafflement on her face. Suddenly she burst into laughter. Then I burst into laughter, and we were joking and laughing our heads off as I stumbled over to my chair and began to remove my water-filled boots. She said she had heard a huge splash, but for some reason, she didn't feel the need to go and check what had happened. That's understandable though, I know that after 5 hours of nest observations the human mind turns into something resembling a tossed salad. However, if you're reading this Emma, love ya, but maybe if there is a next time we can work on some lifeguard skills.

Well, that's my story of how one idiot changed the rules for the greater good. Because of me, future volunteers will know not to just simply eat off the jungle floor like an ape, but rather to learn proper manners and wait for the fresh fruit back at TRC. Bridges will be safer, and others will know to take care when traversing slow-moving rivers. With all this said, however, I'm proud of my work for the Macaw Project, and even though I have a small legacy of, in the words of volunteer Roshan Tailor, "being a bloody muppet", I'm glad that I was able to leave a part of myself for a program working to save the birds and the rainforest that I love.



The bridge that Ben fell off, with its broken railing. Photo credit Shannan Courtenay.

Thank you, from the whole team at TRC



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