

“Do we HAVE to go home?!?” – Looking Back on our Costa Rica Field Course Experience
by – Sammy Lowe, on behalf of the AUBIO 350/459 field studies team Winter 2018

Greetings! I am writing this on behalf of a little band of student scientists and our instructors, who are based at the University of Alberta’s Augustana Campus in Camrose (Alberta, Canada). I want to recount some of the highlights of our research work done at and around the Greg Gund Station during January 2018, which served as the field-work portion of a two semester-long class, Field Studies in Tropical Ecology and Conservation. Our group of 12 students spent the fall 2017 term designing research projects based on different areas of focus (e.g. bats, insects, and plant life) and nailing down travel logistics under the careful guidance of our two intrepid instructors. While that initial part of the course was exciting in many respects, we were extremely thrilled to leave the chilly -30 °C (-22 °F) Canadian winter behind as we boarded our early morning flight destined for Costa Rica!

As we arrived in San José and spent our first night and full day in Costa Rica, we were welcomed by lovely humid warmth and beautiful sights of CR biodiversity. We had the opportunity to explore the city of San José (with some of us getting to practice our Spanish-speaking skills!) and visit the breathtakingly gorgeous and serene La Paz Waterfall Gardens. The following day, we drove all the way to Puerto Jimenez by bus and then hopped in our rainforest “taxis” that brought us all the way to the station. While en route, we were simply in awe of the dramatic landscapes, as well all the lush vegetation and active wildlife, including spider and howler monkeys scampering about, some vibrant macaws keeping watch over a road-side snack stand, and colourful heliconia plants flowering along the highway. It was evident that we were in store for an incredible adventure rife with gorgeous field conditions and vast biodiversity. However, we could not have anticipated the sights we were greeted with upon our arrival to the Greg Gund Station.



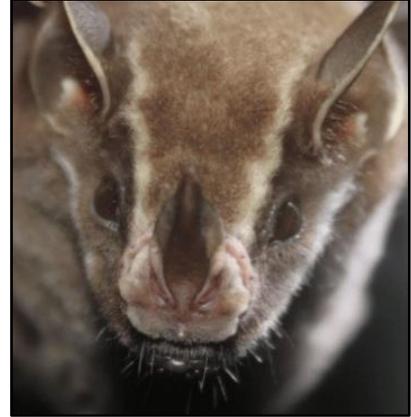
Our incredible view from the Greg Gund Research Station!

Any doubts that we had left our chilly Alberta home faded away as we stood transfixed in the middle of our new rainforest surroundings. The ambient sounds of buzzing insects, singing birds, howling mammals, and distant crashes of the Pacific Ocean waves complemented the gorgeous sprawling vistas of thick canopy cover, striking slopes and drop-offs, and the sun hanging low in the partially-cloudy sky. Beyond these surreal sights and sounds, our other senses were also welcomed as dinnertime arrived. It was immediately clear that we were going to be spoiled by the food during our visit, as the assortment of beans, rice, fresh fruits, and other dishes (such as fish, stew, and fresh goat cheese) prepared by our absolutely PHENOMENAL chef René, never failed to please. As one of my fellow students frequently said, “every plate is a work of art!”. The traditional Costa Rican Lizano salsa quickly became a staple during these mealtimes, with some of us adding it liberally to every dish (even at breakfast)! With full stomachs and a lasting sense of awe, we all climbed into bed eager to begin our fieldwork.

Our first few days involved scoping out potential sampling sites, and beginning to practice our methods and collect our first bits of real data! Typically, days started out with waking up early, enjoying a delicious breakfast, and holding our daily tailgate meetings. These meetings, which involved check-ins, sharing hi points or interesting observations that we’ve made, and planning the schedule and logistics of each day, ensured that we could make the most of our limited stay in the Osa Peninsula. We began with some walks along the station trails with Rachael, our incredibly knowledgeable and welcoming guide who could easily spot interesting birds, monkeys, and other wildlife among the dense vegetation. After getting this lay of the land, we separated into smaller groups to find our preliminary study sites, although we didn’t get to sample our first day due to some heavy rainfall (which came back almost every day, making some of us skeptical that we had, in fact, come during the “dry” season!).

I should note here that we never left the station without our trusty rubber boots, which you always have to shake out before putting on lest you risk a slithery or crawly surprise! Safety first!

To give you a bit more context in regards to our projects, we were divided into five research teams that focused on questions all relating to the overarching concepts of bat ecology and biodiversity in the neotropics. We had two bat teams, with one studying the species richness and abundance of Phyllostominae (insect-eating bats) in primary and secondary growth forests, and the other looking at the species richness and abundance of Phyllostomidae (fruit-eating bats) in relation to different levels of forest disturbance. There were also two plant teams who examined the variances between different forest types, with one focusing on forest structure and the other investigating the abundance of bat-preferred plants. Last, but certainly not least, we had an insect team who considered how habitat integrity (based on different forest types) effected katydid abundance. It was absolutely amazing to have everything that we read about in our textbooks, as well as these planned projects, finally spring to life in front of our eyes. The rain forest had now become our classroom, and the bats, katydids, and diverse vegetation had become our hands-on (and absolutely adorable) teachers.



Flowering *heliconias* (left), katydids (center), and bats (right) were included in our studies, and are just a small sliver of the incredible biodiversity found in the Osa Peninsula.

One of the first lessons took place on our first sampling day in the field, after arriving to our sites laden with backpacks full of sampling equipment, water, and snacks (of course!). It became apparent that we had been a bit optimistic during our planning stages. We hadn't expected to see so much life everywhere, and realized that no field guide or technical report could have fully prepared us for the realities of the field. We quickly learned to reshape our research questions, pair down the scope of our projects, and rework our methods on the fly (as any good little group of field scientists would do)!

Not only were our days filled with collecting, analyzing and interpreting our own data, but we each had various opportunities to help out with everyone else's project. This aspect of collaboration among our little band of hard working (and sometimes, a little smelly) scientists really made for such a rich experience, and allowed us to experience new and exciting aspects of the rainforest (despite my initial fear of anything that wasn't a plant...). While many of us had very different interests, such as our avid birders or insect enthusiasts, I'm sure that we will remember spotting our first katydid hiding underneath a leaf in the dark, holding our first bat and truly realizing just how cute they are, or identifying and measuring your first piper or heliconia (because plants are just as exciting as the critters that live on and around them)!

Despite the focus on our projects and associated research work, we also made time for some sightseeing and other fun activities! Most of us would get up early to go on hikes, with many trying to add new species to their ever-expanding diversity lists. We also had multiple opportunities to hike down to the Piro Research station, which was surrounded by beautiful and surreal old growth forest with absolutely gigantic trees that just seemed to go up and up and up! Piro was close enough to the beach that we could meander down, where we were greeted with gorgeous views of the sprawling waves of the Pacific Ocean. Swimming enthusiasts beware, however, as strong currents and sharp drop-off make swimming a no go! Additionally, we were treated with a visit to the Osa Verde sustainable farm. We got to learn about the various horticultural and agricultural projects taking place, while enjoying some freshly-picked coconuts that proved to be quite a delicious and energizing snack. While the all of the work being done there was absolutely inspiring, I must say that the hard-working farm dog stole the show for

many of us! If we ever needed a work break, we didn't always have to go so far away from our research station, however. For example, we would often have mini dance parties in the dining area and very much appreciated chef René's amazing playlists (although I'm sure the monkeys all thought we looked ridiculous!).



Some students take in the breathtaking view and serenity of our rainforest home!

Without a doubt, there was certainly something for everyone on this trip! Whether it was connecting with nature while sampling deep in the rainforest, taking in the beauty and serenity of the breathtaking sunsets, practicing our Spanish with the AMAZING Osa Conservation staff, or stuffing our faces with a third helping of food, we all fell in love with our rainforest home away from home. Although we did have to make a few logistical adjustments to accommodate the fairly moist “dry” season, we didn't let the weather dampen our experience (and sometimes even welcomed a bit of a cooling shower after a long hot day in the field)!

As we approached the final days of the trip, our impending departure rang quite bittersweet for us all. While we were starting to miss our friends and family back home, we were sad to leave our little slice of paradise in the rainforest, along with all of the wonderful people we had met who are so passionate and dedicated to conserving this precious area. We are so grateful for the warm hospitality and genuine kindness of the Osa Conservation staff, as they truly helped make our research trip a life-changing experience. We were also incredibly lucky to end our trip with a beginning of sorts, in that we had the unique opportunity to release just-hatched baby sea turtles into the ocean. I simply cannot describe the feeling of pure joy that we felt as we carefully placed the young turtles on the beach, and cheered them on as they made their way into the ocean. The

experience seemed to evoke some dormant parental instincts within us all, as we were all so hopeful for the future of these beautiful creatures and kept a close eye on the birds of prey circling overhead to ensure that no harm came to these precious turtles.



As we came to the end of our journey in the rainforest, we had the opportunity to witness the beginning of a new journey for these precious sea-turtles!

As we hiked back to our station, and for the rest of the evening as we finished packing and preparing to depart, everyone could be heard laughing and reminiscing about their favorite memories and experiences from the trip. It was clear that we had all been fundamentally impacted by our trip to the rainforests of Costa Rica, and it is my sincere hope that the Osa Peninsula has not seen the last of this physically weary, but emotionally full, little group of scientists.