



Herpetology at the Isthmus

15-23 June 2026

Trip Report

Day 1 – Monday, 15 June 2026

Guest arrival and Orientation

Night walk of upper Semaphore Hill Road and Canopy Tower

Throughout the day, we welcomed all the participants of our 7th Herpetology at the Isthmus program to the Canopy Tower. The herpetologist, Dr. Stephen Mullin (“Steve”), was assisted by Jessica Yates (“Jessie”), a doctoral student at the University of Central Florida whose specialty is semi-aquatic reptiles. This year’s program was unique in that the cohort of participants included two sets of “alumni” from previous years’ tours, and three recent college graduates who had each taken a herpetology course. With as many skilled sets of boots on the ground, we anticipated an above average encounter rate with amphibian and reptilian taxa. Before dinner, Steve and our guide for the program, Erick Rodríguez, outlined our expected schedule for each day. Steve also provided some context as to why the isthmus between the two continents is such a good region to observe biodiversity in general.

Steve made an impromptu request prior our evening hike, asking the participants to line up near the main entrance to the tower. He then alerted the group that a species was in plain sight, and their goal was to spot and identify it without disturbing the animal. All participants eventually noticed a juvenile Green Iguana that was perched in the bougainvillea vines growing over the entrance roof. This exercise helped develop each person’s search pattern for our target species before setting off on our stroll down Semaphore Hill Road.

The area had received a modest rain shower in the late afternoon and these conditions promoted plenty of chorusing activity by several frog species. We documented calls of Túngara Frogs, Savage’s Thin-toed Frogs, Yellow Dyer Rainfrogs, and Tatayo’s Glass Frogs. Near an abandoned cistern, Jessie spotted examples of Red-eyed Treefrogs and Sylvia’s Treefrogs. She also caught a Rhombic Cat-eyed Snake, and pointed out several Panama City Anoles. Encountering a juvenile Terciopelo provided some excitement and reminded everyone of the need for caution when encountering these venomous snakes. Returning to the base of the Tower, we also encountered examples of Giant Toads, Yellow-headed Geckos, and Turnip-tailed Geckos.



Yellow Dyer Rainfrog along Semaphore Hill Rd.

Daily totals: 21 species, all of which were new for the tour.

Day 2 – Tuesday, 16 June 2026

Semaphore Hill Road & Ammo Dump Ponds

Night walks at El Charco and Kent Marsh

We enjoyed our morning coffee and tea on the Tower's observation deck and observed many colorful birds, the most unique of which was a transient Red-throated Caracara (usually seen at Canopy Camp). After breakfast, we hiked the length of Semaphore Hill Road as it winds its way down from the Tower. We got off to a great start by spotting two Green-and-Black Poison Dart Frogs. We also heard many Talamanca Rocket Frogs, leaf-litter specialists that are closely related to this visually striking group of amphibians. We marveled at the variety of coloration and pattern among the multiple examples Forest Toads, one of which led us to a second encounter with a juvenile Terciopelo. We also encountered several examples of Banded Rainfrogs and, scurrying among the roadside debris, we observed a Brown Spotbelly Snake and two species of lizards, the Central American Ameiva and the Delicate Ameiva.

After lunch, boarded the open-canopied "El Tinamou" truck for a drive over to the Ammo Dump Ponds, just north of the city of Gamboa. It seemed like our arrival at this site was announced by dozens of Mexican White-lipped Frogs calling from the tall grasses along the railbed that parallels the canal. Jessie was scanning a cove adjacent to a small marina for crocodilians when she spotted a large Black Spiny-tailed Iguana. Steve's effort to sneak up on the wary lizard was entertaining, but futile. We saw a few geckos and ameivas but, on account of rain, ended up returning to the Tower for Steve's lecture on strategies to reduce road mortality for snakes.

Our night-time adventure featured two sites, the first of which was El Charco Park, a managed parcel of Soberania National Park. We were greeted by Rosanette Quesada, resident biologist and media relations director for the Canopy organization. She studies Opiliones, the group of spider-like arachnids that includes harvestmen and daddy-longlegs. After spotting a healthy Turniptail Gecko at the guard station, we followed the trail towards a portion of the stream that had been dammed to form a swimming pool. Along the way, Jessie spotted the eye-shine of a crocodilian but wasn't able to confirm the species. We also heard the calls of several frog species and found evidence of their prior reproductive bouts in the form of tadpoles swimming in a few stream-side pools. In the vegetation adjacent to both the stream and the pool, we discovered several sleeping Common Basilisks. Steve caught one of the juveniles so that everyone could marvel at its ability run across the water surface of the pool. That was followed by an equally acrobatic performance by a large Milky Treefrog. Jessie spotted this animal in a tree over 3 m above ground level. Steve used a telescoping pole to tap the frog's backside and it leapt from its perch into the hands of a student participant! The frog promptly confirmed its common name with a milky secretion that oozed from its skin.



Turniptail Gecko at El Charco Park

We then visited Kent Marsh, adjacent to research facilities of the Smithsonian Tropical Research Institute. In spite of the water level being relatively low, there were times when it was nearly impossible to hear ourselves over the calling males of several frog species: four types of treefrogs were accompanied by representative glass frogs, New World rain frogs and grass frogs. This site also yielded three additional lizards — the Bronze-backed Climbing Skink and two species of anoles. We weren't the only animals interested in all of the frog activity because we also caught two species of snakes in the surrounding vegetation — Despax's Parrot Snake and another Rhombic Cat-eyed Snake. The night was capped off just as we approached the Tower, when we were surprised to find a Blunt-headed Treesnake crawling across the road.

Daily totals: 36 species, 18 of which were new.

Day 3 – Wednesday, 17 June 2026

Pipeline Road Trail & Summit Ponds at Old Gamboa Road

Night walk along Pipeline Road

The bookends for today's adventure were a pair of visits to Pipeline Road, a location famed for the consistent opportunities to observe a diversity tropical wildlife. After breakfast, we drove to the Discovery Center which provided convenient shelter during a morning storm. Once the rain subsided, we crossed the bridge over Juan Grande Stream and encountered another Common Basilisk along with several Fitzinger's Robber Frogs, Yellow-headed Geckos, and Panama City Anoles. In spite of having received rain, the habitat was otherwise less productive than we expected. When stopping to explore a roadside habitat during our return, however, we did observe several Black Spiny-tailed Iguanas.

Following a restorative lunch, we re-boarded "El Tinamou" for the short drive over to Summit Ponds that border either side of Old Gamboa Road. Using Erick's spotting scope at the ponds, we observe over a dozen Pond Sliders (a turtle species introduced from North America). In addition to encountering a few Forest Toads a little further down the trail, we discovered a Panama Humming Frog under a rock. Near the end of our hike, we again heard a male Mexican White-Lipped Frog calling but were unsuccessful in pinpointing its location.



Panama Humming Frog at Old Gamboa Rd.

That evening's return to Pipeline Road offered a more memorable experience in several respects. Instead of crossing at the bridge, we followed the streambed and heard male Granular Glass Frogs and Tatayo's Glass Frogs chorusing around us. We caught examples of Giant Toads and Yellow Dyer Rainfrogs, and Jessie pointed out the eye-shine of a Spectacled Caiman lurking in one of the deeper pools of the Juan Grande. Periodically, Jessie returned to that portion of the stream, attempting to determine if the caiman might be small enough to capture safely. In the meantime, we also documented a Truando Toad and a Stream Anole. Exiting the streambed back on to Pipeline Road, we observed Red-eyed Treefrogs, and caught a Turbo White-lipped Frog and our second Blunt-headed Treesnake.

Jessie urged us to quiet down as we approached a trail-side pool in which she had spotted another Spectacled Caiman. Everybody was eventually afforded good looks at this individual, but it remained wary of any of us approaching too close. As we returned to El Tinamou, one of the participants happened upon a colorful snake species crawling along the foundation of an information booth: a Panama Spotted Nightsnake.



Panama Spotted Nightsnake at Pipeline Rd.

Daily totals: 24 species, 8 of which were new for the tour.

Day 4 – Thursday, 18 June 2026

*Plantation Road Trail, Gamboa Rainforest Resort, and El Charco Park
Night hike at the base of Semaphore Hill*

During breakfast, Erick alerted us that administrative changes within Panama's national park service had resulted in public access improvements to Plantation Trail that might reduce the number of species that we'd likely encounter. The relatively wide trail lacked much vegetative cover along its margins, but that didn't appear to have affected our frequency of encountering Forest Toads. Small sections of the trail offered a different opportunity, however, because tire ruts left by the machinery used to widen the trail had filled with water. It was here that we observed the foam nests of Túngara Frogs as well as several tadpoles and recent metamorphs of Savage's Thin-toed Frogs. A more open canopy along other portions of the trail provided the opportunity to observe Central American Ameivas (and for Steve to snare one of them).

After lunch, we visited the "Tierra de Ranas" exhibit at the Gamboa Rainforest Resort (GRR). Within this enclosed habitat for dart-poison frogs, we observed several Strawberry Poison Frogs and Green-and-black Poison Frogs. In spite of the manicured property, we also observed Green Iguanas, Yellow-headed Geckos, and juvenile Panama Humming Frogs. We went over to the resort's marina, and spotted a large American Crocodile patrolling the waters adjacent to the docks. Before leaving GRR and crossing back over the Chagres River, we stopped at the entrance gate to observe two Spectacled Caimans and another adult American Crocodile. The turtles inhabiting the pond adjacent to the guard station were accustomed to people because several of them approached the banks. A combination of patience and deliberate movements allowed Jessie to catch two species — a Pond Slider, and a Western Meso-American Slider.

Our afternoon activities concluded with a return to El Charco Park, where we split into two groups to hike a loop trail in opposite directions. We observed another Green-and-black Poison Dart Frog, as well as examples of Fitzinger's Robber Frogs and Panama City Anoles. Just after crossing the stream that fills the dammed swimming pool, Steve noticed a Yellow-headed Caecilian in the middle of the trail. Unfortunately, the specimen was dead and, although that explained the unusual time of encounter (caecilians are usually nocturnal), we could only guess what might have happened.

For our last night activity at the Tower, we decided to survey a wetland at the base of Semaphore Hill, opposite the Plantation trailhead. We heard male Rosenberg's Gladiator Treefrogs chorusing, along with several other treefrogs, rainfrogs, glass frogs, and Túngara Frogs. Given this activity, it wasn't long before we spotted a snake climbing into the core of a palm tree. The trunk of the tree was sloped enough to allow Steve to search for the snake by reaching up and removing leaf litter from the base of the fronds. We were about to give up when Steve spotted the snake slinking through the fronds on the opposite side of the trunk. This turned out to be a Northern Cat-eyed Snake. Several minutes later, while admiring another four individuals that had been captured (representing both species of cat-eyed snakes), Erick alerted everyone to a juvenile Terciopelo crawling nearby. Suffice it to say that we enjoyed an exciting conclusion to our time at Canopy Tower.

Daily totals: 32 species, 4 of which were new for the tour.

Day 5 – Friday, 19 June 2026

Transfer to Canopy Lodge & trails at Canopy Adventure

Night walk at Canopy Lodge

Our pace during the last morning at Canopy Tower was relatively relaxed, as we prepared our belongings for the 2.5-hour drive to El Valle de Anton. We assembled on the hummingbird feeder platform for a group photo and said our goodbyes to the staff before departing. Our arrival at the Canopy Lodge was announced by a chorus of Rainforest Rocket Frogs and we enjoyed an orientation presentation for the Lodge facilities in the open-air living room.

Our hike that afternoon featured the trail system at Canopy Adventure, which is patronized by both tourists and residents of El Valle. We hadn't even entered the facility before finding some amphibians and reptiles — Jessie uncovered two Hoffman's Earth Snakes, and we also spotted a Red-webbed Treefrog, a Delicate Amieva, and a few Slender Anoles. Proceeding along the trails that traverse the property, we spotted a Slim-fingered Rain Frog, a few Forest Toads and, close to a beautiful waterfall, a couple of Stream Anoles. We backtracked to the Lodge and explored the short trails there. At the end of our survey, one of the staff brought us a Lion Anole that had been discovered in the kitchen. The afternoon concluded with Steve's lecture about the diversity of amphibian reproductive strategies.

While enjoying dinner, we started hearing several frog choruses beyond the nearby stream. So little encouragement was needed to slip on our headlamps for our return to the trails throughout Lodge property. Erick led us to a spot where a large Terciopelo had been spotted by another guide. Before reaching that location, however, Jessie spotted a Green Keelback resting on a large overhead leaf. We bent the young tree over to successfully capture and examine the snake. Upon our return along the same trail, we discovered a year-old Bridled Anole and the Terciopelo nestled into a resting position immediately adjacent to the trail. Because of the potential risks to other Canopy patrons and staff, Steve and Jessie attempted to catch the snake. It evaded us through a tangle of vines, before sliding down the creekbank.



Bridled Anole at Canopy Lodge

The frogs were in full chorus when we arrived at the downstream wetlands. Everyone had good looks at Hourglass Treefrogs and Red-Webbed Treefrogs, and we also caught our first examples of Emerald Glass Frogs and White-spotted Glass Frogs. Jessie pointed out a Boulenger's Snouted Treefrog and was successful in capturing a Scorpion Mud Turtle that she spotted in the adjacent stream. In addition to the House Geckos scaling the walls of the Lodge, other reptile species observed that evening included Common Basilisks, and a Black-necked Crowned Snake.

Daily totals: 34 species, 18 of which were new.

Day 6 – Saturday, 20 June 2026

Mario's Trail at La Mesa & Las Minas Trail

Night walk at Cerro Gaital

This morning's hike featured a relatively new trail that ascended one of the east-facing slopes of the caldera rim that surrounds El Valle. The trailhead is adjacent to a pond, and we easily identified the calls of several Mexican White-lipped Frogs. We also saw more examples of two rainfrog species, but that morning's highlight was our first encounter with the Green Climbing Toad. This colorful anuran is unusual in its ability to navigate through the foliage of the forest understory. During the return drive to the Lodge, Steve spotted a road-killed snake which he later determined to be a juvenile Ebony Keelback.

In the afternoon, we hiked the first 2 km of Las Minas trail. The habitat here was more diverse, initially following an ecotone between a parcel of forest and an adjacent poultry farm, but the canopy then opened up through a grassy mesa. Steve found a Pink-bellied Litter Snake under some fallen leaves, and we also saw several Banded Rain Frogs and Forest Toads. Several water-filled ruts along the trail contained evidence of foam-nesting frogs, as well as many tadpoles. We wrapped up the afternoon at the Lodge with Jessie's lecture about the biology of crocodilians.



Pink-bellied Litter Snake along Las Minas Trail

Following a delicious dinner, we drove to a trailhead at Cerro Gaital National Monument, a parcel of montane forest along the northeast rim of the caldera. A period of rain that afternoon meant that conditions were ideal for amphibians — in addition to seeing Red-eyed, Hourglass, and Red-webbed Treefrogs again, Steve and Jessie were able to catch a Masked Treefrog. Along the trail edge, we also encountered a Truando Toad, a Clay-colored Rain Frog, and several healthy Giant Toads and Yellow Dyer Rain Frogs. While the participants were visually occupied by this diversity of anurans, Erick alerted us to a Northern Cat-eyed Snake that was consuming frog eggs from a mass affixed to a leaf dangling above a small pond. This hike also produced our third Blunt-headed Treesnake for the program, but this discovery was overshadowed when Jessie found a Temporal Snail-eating Snake.

Daily totals: 25 species, 6 of which were new.

Day 7 – Sunday, 21 June 2026

Trails in Valle Bonito at Altos del Maria

Night hike on Mario's Trail at La Mesa

Today's full-day experience required 4-wheel drive vehicles for the steep ascent up to Altos del Maria along the outer slope of northeastern crater rim, the highest elevation site for the entire program. The housing development being constructed there is controversial, but the central Valle Bonito offers good examples of lower montane rainforest. After adding snacks to our day-packs, we started along the path that follows the shoreline of Lago Bonito. We heard Mexican White-lipped Frogs and Red-webbed Treefrogs, and it wasn't long before we found the first of three Panamanian Spiny Tegus.

Shortly after turning away from the lake on the trail ascending into the interior forest, we heard Rainforest Rocket Frogs and observed several size classes of Brilliant Forest Frogs. Most of the group stopped to rest at a set of trailside benches, but Jessie reached that point several minutes later. Just after sitting down, she called our attention to a Helmeted Iguana that was perched within a few meters of our group. After some *in situ* photos, we caught this specimen to examine its unusual cranial crests. We posed the lizard for additional photos on a branch with better lighting.



Erick (guide) photographing a Helmeted Iguana.

In the interest of time, we decided to turn around prior to the steepest part of the ascent. Adjacent to this section of the trail, however, we observed a Central American Ameiva and a few Ghost Anoles. Two interesting encounters during our descent were a Rustyhead Snake and a Short-tailed Crown Snake. Sadly, this latter specimen was discovered dead on the trail, in all likelihood having been stepped on while underneath a large leaf. Our lunch break next to the lake was extended by the arrival of heavy rain, but after the storm dissipated, we hiked along an undeveloped cul-de-sac. Here, we encountered two more Panamanian Spiny Tegus, a Hoffman's Earth Snake, and several Banded Rain Frogs. After an exhausting day, we were glad to return to the comforts of Canopy Lodge.

After a relaxing dinner, we returned to Mario's Trail at La Mesa for our last night hike. No sooner had we disembarked from the vehicles when Jessie spotted a Cloudy Snail-eating Snake perched on the chain-link entrance gate. Among the many frog species documented, we heard Hourglass and Red-webbed Treefrogs, and observed more examples of Masked Treefrogs, Savage's Thin-toed Frogs, and Giant Toads. We were also fortunate to find another Green Climbing Toad, a couple of Golden-spotted Rain Frogs. To everybody's delight, we also added a salamander species to our check list with the discovery of two Gamboa Worm Salamanders.

Back at the Lodge, Jessie and one of the participants encountered the large Terciopelo that had been seen previously along one of the trails. With the appropriate equipment and Jessie's assistance, Steve managed to secure the snake in a bucket so that it could be relocated to forested habitat away from the Lodge.

Daily totals: 27 species, 9 of which were new.

Day 8 – Monday, 22 June 2026

Cerro Gaital & El Valle Amphibian Conservation Center and the Artisanal Market
Optional night walk on Canopy Lodge grounds

Our final morning hike brought us back to the trailhead at Cerro Gaital in the hopes of finding some diurnal species along this slope of El Valle's caldera. In addition to the calls of male Rainforest Rocket Frogs, we also documented two other representatives of the poison dart frog family — Pratt's Rocket Frogs and Vincente's Poison Frogs. Unfortunately, the males were calling from sites that were either too arboreal or too deep into the forest leaf litter to be seen. We were lucky enough, however, to sneak up on two representatives of another secretive species known from this site — Dunn's Spiny-tailed Lizard. As Steve moved the tip of his snare close to one of the lizards, it leapt up acrobatically and bit the twine. Perhaps the snare loop resembled the wing of one of its insect prey! Entertaining though this was, the lizard decided not to remain out in the open and scurried back to its burrow along the slope. We also observed Banded Rain Frogs, Slender Anoles, and a single Humble Anole.

In the afternoon, we visited two attractions in El Valle. First, Erick drove us to the El Valle Amphibian Conservation Center (EVACC). This small facility is dedicated to the conservation of Panamanian Golden Frogs, a beautiful species endemic to the El Valle area. In addition to viewing a few representatives of this taxon, we perused the enclosures containing other herpetofauna, all native to the region. We supported EVACC's dedication to amphibian conservation by walking over to an adjacent microbrewery where a percentage of the sales are allocated to frog conservation efforts. Everybody enjoyed a refreshing *cerveza* and Steve was able to snare one of several Ghost Anoles scurrying around the grounds.

Before returning to the Lodge, we paid a visit to the central market and artisanal shops, a great opportunity to acquire some souvenirs to commemorate our collective experience in El Valle. Steve's pre-dinner presentation focused on conservation, highlighting some of the key contributors to species loss in the Central American tropics, as well as a few "case studies" involving various herpetofauna. We also recapped the day's sightings, memorable events of the tour, and indulged in a final evening of delicious appetizers, dinner, and some lively conversation.

Because of a pre-dawn departure the next morning, Steve and Jessie each needed to pack their belongings accompanied by the sounds of the frog choruses around the water features at the Lodge. Other participants remained curious about what they might encounter on the grounds, and it wasn't long before a young adult Terciopelo was discovered just beyond the cabins. Jessie and Steve secured the snake in a bucket for relocation the next day, but this encounter provided motivation for continued searching. As might be expected given their "alumni" status, two participants called everybody over to where they had discovered a Cope's False Coralsnake. This provided an exciting conclusion to our stay at Canopy Lodge.



Hourglass Treefrog calling at the Lodge

Daily totals: 17 species, 4 of which were new.

Day 9 – Tuesday, 23 June 2026

Departures

This morning, we enjoyed breakfast whilst observing the nearby plant and wildlife specimens, soaking up as much as possible before departing the Canopy Lodge. A memorable time was had by everyone, and we learned much about tropical herpetology. Our thanks to Dr. Steve Mullin and Jessica Yates for their enthusiasm and wealth of knowledge, to our primary guide, Erick Rodríguez, and to the participants who joined us this year. Overall, we documented 88 species of herps, a record total for the 7 years that this tour has been available. There were 42 amphibian species represented and 46 reptile species, along with many other fascinating examples of animal, botanical, and fungal life. Suffice it to say, we experienced an amazing iteration of Herpetology at the Isthmus!

(Photos and trip report written by Steve Mullin)