Mexico Herp Adventures

Robert L. Bezy

Dedicated to :
Wade C. Sherbrooke

Cover:
Senticolis triaspis
(Green Ratsnake)
by
Erik F. Enderson

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Mexico Herp Adventures

Robert L. Bezy

1. Departure

“I can’t stand it any longer up here in Gringolandia, Bobbybro, let’s go down to Sonora and maybe we never come back to Arizona. Despite all their problems Mexicans are happy and fun loving. Gringos totally lack the spark of life.”

“Yes, Billy, we have investigated herp biogeography in Arizona, so it makes sense to head south into Sonora and examine the transition of the Sonoran Desert to the Neotropics.”

“Ply is on her last legs and I think we will need a better vehicle.”

“I have already taken care of that and bought us a 4X4 VW van. Of course we will continue to sleep under the stars when its dry, but we will need a roof over our heads in the monsoonal tropics.”

“Lesgobro.”

Bezy, **R**. **L**., **P**. **C**. **Rosen**, **T**. **R**. **Van Devender**, **and E**. **F**. **Enderson**. 2017. Southern distributional limits of the Sonoran Desert herpetofauna along the mainland coast of northwestern Mexico. Mesoamerican Herpetology 4:138–167. https://www.researchgate.net/.../315725342_Southern...

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2. **Bahía Kino.**

Crossing the border and getting a Mexico tourist card and a car permit was time consuming, but we relearned how to relax and enjoy things as they happen. Billy had become quite fluent in Spanish and was good at befriending the officers.

“Bobby, I want to change our social approach as I like interacting with la gente here. Unlike Gringos, they are fun. So lets just relax and enjoy their company. And, Mexico’s food is delicious and a good change from our tortillas with peanut butter, so let’s have a comida in a restaurant when we can.”

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At the first road block, the new Billy swung into action and chatted with the young soldado who searched Van. And I started to relax and join in best I could with my limited Spanish. The soldados seemed to have no knowledge of Sonora.

“If I break through their “tough guy” shell I see a youth who is lost and sees no path forward,” Billy observed. Bro was becoming a people person.

We managed to find a road to Bahia Kino without going into Hermosillo. We stopped for dinner and had the most sabroso camarones and pescado before setting out on our snake drive.

Soon after dark we spotted a little snake slithering across the pavement like greased lightning. I did a roller and grabbed it just as it was getting off the shoulder. “*Chionactis palarostris*,” I screamed and Billy and I danced down the pavement in front of a big rig with the beautifully banded Sonoran Shovel-nosed Snake.

A first nighter hit, flooding the entire coastal plain and the anurans started screaming their guts out. We were delighted to find *Bufo kelloggi* (Little Mexican Toad) that we had never seen before and it was calling from the same creosote bush as its relative *Bufo retiformis* (Sonoran Green Toad).

After the storm passed we lay lookin up at the stars and realizing we had embarked on an exciting new adventure that would take us thousands of miles into Mexico.

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***Chionactis palarostris* by Nick Pederson**

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***Bufo retiformnis* by Erik Enderson**

***Bufo kelloggi* by Erik Enderson**

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Bahia Kino

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3 *Crotaphytus dickersonae* (Dickerson's Collared Lizards).

The tranquility of the Gulf of California was starting to seep deep into our bones and Billy and I began to find peace. “Lets try making stations along the bahias and playas of the Gulf and spend a few days at each exploring the herps and snorkeling.” Billy proposed.

“I agree. We kept up entirely too fast a pace in Arizona to really savor the places we visited. There is a range just north of Kino that has a collared lizard endemic to the this part of the Gulf. Let’s camp on the beach there. We can explore the herpetofauna and dive into the sea when it’s hot.

Billy was very adept at driving Van on the playa at low tide and got us to a wonderful remote spot with dunes near the mouth of a large canyon. At puesta del sol we sat for a long while gazing at the sun disappearing into the tranquil sea.

After tortillas and peanut butter we walked the dunes with headlamps and saw many tracks, but had encountered no snakes. Just as we were about to give up we saw undulating sand and Billy grabbed and came up with a *Chilomeniscus stramineus*.

“Wow it does not look at all like they do in Arizona. I don’t believe this is the same species as *Chilomeniscus cinctus*. Someone needs to look at the DNA in greater detail,” I pronounced.

We were up at dawn to greet the rising sun and walked deep into the canyon. It soon warmed up and we spotted our first *Crotaphytus dickersonae*. Its beauty blew us away. “Wow does Mary Dickerson ever have a magnificent Collared Lizard named for her,” I declared.

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***Crotaphytus dickersonae* by Erik Enderson**

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***Crotaphytus dickersonae* by John Sullivan**

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***Chilomeniscus stramineus* by Osiel Flores**

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Mary Dickerson

4. **El Sargento**.

We headed north towards Desemboque and stopped in Punta Chueca for lunch, and thoroughly enjoyed a comida of camarones and dorado. We were happy to buy a snake vertebrae necklace offered by the waitress and she told us that her Mom had a rattlesnake wood carving that we might be interested in and led us to her. It was a magnificent piece and we paid her the high price she asked as we were not inclined to bargain for such a work of art.

“Lets camp at El Sargento,” I suggested.

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Billy drove us all the way to the tip of the point where we were delighted by the *Sauromalus ater* (Common Chuckwalla) perched in the rocks. We dove into the water for the rest of the afternoon and then sat together admiring puesta del sol, and fell asleep listening to the waves gently lapping the shore.

***Sauromalus ater* by Erik Enderson**

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5. *Xantusia jaycolei* (Cole's Night Lizard).

Bro and I were up to greet the dawn, our spirits soaring like eagles.

“Let’s head over to Cerro Tepopa and see what lives in the cardonal on the bajada,” I proposed.

The Cardon (*Pachycereus pringlei*) stand was incredibly thick and the view out across the bajada to Punta Sargento was absolutely stunning. Under the second dead Cardon was as a *Xantusia jaycolei.*

“That this lizard is found only along a 25 kilometer stretch of the Sonora coast is absolutely incredible. I wonder if the DNA is telling the real story here. Hard to believe that its nearest relative is Xantusia arizonae (Arizona Night Lizard) 500 km to the north in rock crevices in the chaparral of Arizona’s Weaver Mountains. As always the biogeography of Night Lizards is totally inscrutable,” I declared.

We continued up over Cerro Tepopa and down to Playa Mancha Blanca. There we spent the day snorkeling and then got out to sit together gazing at the puesta del sol. After tortillas we donned our headlamps and walked the dunes, finding a particularly pale *Arizona elegans* (Glossy Snake).

We fell asleep in the sand gazing up at a zillion stars and knew this is what we would do together our whole life.

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***Xantusia jaycolei,* Cerro Tepopa, by Erik Enderson**

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***Arizona elegans*, Playa Mancha Blanca, by Erik Enderson**

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Cardonal, looking towards Punta Sargento, by Erik Enderson

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Cardonal, Cerro Tepopa, by Erik Enderson

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6. El Desemboque del Rio San Ignacio

“Let’s head on into Desemboque and visit the Seri, “ Billy suggested.

“Sounds like fun,” I enthused.

It was a quiet day and few people were visible. We asked a boy if there was somewhere we could eat. He pointed to a house and said the woman can prepare comidas for visitors. She was beautiful and said that she would be serving lunch soon for the two teachers and could prepare extra for us. The teachers, Mateo and Santiago, soon arrived and sat with us. They were young and enthusiastic and we took to them big time. They were not Seri but spoke Coma’ac in addition to Spanish and had taught in Desemboque long enough to thoroughly understand the culture. They had limited English and invited us to come to the school house and teach the kids a bit of English.

Billy immediately jumped in with both feet. “And I know mechanics and could teach them how to repair old auto and outboard motors.”

I was shocked at how much of a people person Billybro had become. He loved interacting with people in Mexico, particularly the Seri. So we went with Mateo and Santiago to their one room school house and they introduced us to the kids. We would say a word in English and the teacher would repeat it in Spanish and Coma’ac.

Mateo also introduced us to Roberto Ocupado and Ricardo Blanco who were there studying reptiles for a research project. They told us all about the best spots for various species and showed us a *Crotalus atrox* (Western Diamond-backed Rattlesnake) that they found.

A Seri woman brought a rattlesnake basket and wanted a steep price for it which we happily paid. Her face was beautiful and I was very happy she allowed me to photograph her and her sister.

White, **R**. **S**., **and R**. **L**. **Bezy**. 2021. Desemboque, a Sonoran Desert paradise. Sonoran Herpetologist 34(1):24-32. https://www.researchgate.net/.../349989517_Desemboque_A....

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***Crotalus atrox* by Erik Enderson**

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Mateo **Santiago**

Richard White and Robert Bezy, Desemboque 1966 byRichard Felger

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7 *Sauromalus varius* (**San Esteban Chuckwalla**).

We had become infatuated with Desemboque and the Seri. Billy liked teaching the kids how to take apart and repair the outboard motors of the boats. I found the smiling enthusiasm of the teachers, Mateo and Santiago, infectious and I enjoyed spending time with them and photographing the Seri.

We were interested in going out to Isla San Esteban to photograph *Sauromalus varius*, and Mateo was able to arrange for Juan and his son Juanito to take us in their panga.

We shoved off just as dawn was breaking, our spirits soaring with the pelicans. We put into a bay on Isla Tiburon for a noon break.

"It is not surprising that Tiburon lacks endemics as you can walk to the mainland across the Infernillo, mas o menos. It does share the local endemic *Crotaphytus dickersonae* (Dickerson's Collared Lizard) with the adjacent mainland," I declared and I was delighted that I succeeded in getting a photo of the lizard on the island.

After we shoved off from Tiburon a horrendous chubasco hit. The boat nearly capsized in the fierce wind and towering waves. The downpour and the waves were rapidly swamping the panga and we bailed out the water as fast as we could. Then the motor died. Wisely Juan kept oars in the panga and he and Billy were able to paddle us to Isla San Esteban.

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After the chubasco passed, Billy took the engine apart and was able to fix it and get it running again. We were surprised to encounter two guys on the island, Dillon and Kieran, who were studying the *Sauromalus varius*. They also helped us photograph two of the other island endemics, *Masticophis slevini* (San Esteban Whipsnake) and *Ctenosaura conspicuosa* (San Esteban Spiny-tailed Iguana).

I was in extasy, "Compared to Tiburon, this deep water island has high endemism with three species of reptiles found nowhere else on the planet. That just goes to shows the importance of geographic isolation in the evolution of island species.

***Sauromalus varius* by Marisa Ishimatsu**

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***Ctenosaura conspicuosa* by Robert Harding**

***Crotalus estabensis* by Rob Schell**

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***Masticophis slevini* by Marisa Ishimatsu**

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***Crotaphytus dickersonae,* Isla Tiburon, by Guadelupefelixcampos**

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***Ctenosaura conspicuosa* by Ventura**

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gettyimages
Pool DUCLOS/SALABER

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8 The Sierra Seri.

Billy and I took up the practice of spending an hour away from others each afternoon and sitting together and bro talking as the sun dropped into the sea at puesta del sol. We had passed the turmoil of early adolescence and were comfortable now with ourselves and our life together. Our deep bro talks were no longer triggered by teen angst but were discussions of our future life together. I was delighted that bro had become more expressive of his feelings and more free with his hugs.

“Billybro, do you want to spend the rest of our life here with the Seri?” I asked.

“No, I don’t. They are wonderful, interesting people, but I do not really connect with them emotionally. Two biologists from Unison (Universidad del Sonora) are coming tomorrow to climb Sierra Seri and document the insect biodiversity. I hope we can join them and then head south.”

“Glad to hear this as I too do not feel a strong emotional bond with the Seri. I like happy smiling Mateo and Santiago. I would much rather live where the people are more like those two guys are.”

We set out at dawn to climb Sierra Seri with the two Unison biologists, Victoria and Isabella, and two young Seri, Diego and Alejo. As usual I was struggling to keep up. I was pleasantly surprised that Alejo recognized my physical limitations

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and he encouraged me to sit and rest with him often. He had an interest in reptiles and asked me a zillion questions. Alejo and I arrived at the summit long after the others and we all sat under an ironwood and had our tortillas with peanut butter.

Victoria and Isabella were particularly interested in beetles and we enjoyed sweep netting with them. They were delighted to find two species new to science and many previously unrecorded in Sonora.

After puesta del sol we walked the crest with headlamps and Victoria found a great *Crotalus molossus* (Northern Black-tailed Rattlesnake). “This is clearly different from the *Crotalus molossus* out on the island that DNA indicate is most closely related to *Crotalus basiliscus* (Mexican West Coast Rattlesnake), a tropical species.

“We Victoria expounded, “We are finding similar phylogenetic and biogeographic relationships among the Coleoptera of Isla San Esteban,”

Shortly after that Alejo came running to me, “Que es este?” I was delighted to see a *Xantusia jaycolei* (Cole’s Night Lizard). “De donde esta?” I asked. “De una griega entre las piedras.” I was shocked. By finding the species in a rock crevice Alejo had solved the mystery of

***Xantusia jaycolei* by Erik Enderson**

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the close relationship of $X.\ jaycolei$ in the Sonora Cardons to $X.\ arizonae$ of the Arizona boulders.

***Crotalus molossus*, Sonora, by Tim Burkhardt**

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Victoria and Isabella

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Boa sigma (**Mexico Wext Coast Boa Costrictor**).
As we were saying goodbye to the Desemboque teachers Mateo and Santiago we were pleasantly surprised to see so many of the kids had come out to see us off.

“Seris are reticent to make attachments, but Billy and his outboard motor repair fun reached the kids. The Seri have seen many people come and go their whole life and few are able to reach them like you guys did,' Mateo proclaimed.

We were sad to see Desemboque, the Seri, Alejo, Mateo, and Santiago in the rear view mirror.

“Billybro, I have a proposal for our Gulf adventures. Let’s explore the herps along the coast all the way down to Nayarit and then take Van on the ferry to La Paz and drive up the peninsula to compare the reptile distributions there with those along the mainland coast.

“Wow, what an innovative guy you are, Bobbybro. Yes, let’s do it. Maybe after that we can explore the distribution limits along the Sierra Madre Occidental with those along the mainland coast and the peninsula. I love those mountains.” Billy proclaimed.

The new Billybro was a foodie, so we stopped in Bahia Kino for “una comida sabrosa de camarones y dorado.”

Billy was now also a kid person and struck up a conversation with Pepe, the teen waiter. They chatted away the whole time. Pepe told us how to drive along the playa at low tide to Bahia Colorado where we planned to spend a few days.

And of course bro found the prospect of driving the playa to be exciting. We bogged down twice and he got out and pushed with his considerable muscle power while I gunned the engine. But no physical challenge is too great for Billybro and he got us to Bahia Colorado.

We were surprised to find two biologists camped there. They were undergraduate students from the University of Arizona. Pablo was a avid marine biologist and his bud Beto was a herpetologist.

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They had found a *Boa sigma* at Bahia Colorado, the northern-most record on the coast for the species at that time. Beto and Pablo became our close friends and we will a

***Boa sigma* by Erik Enderson**

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Paul Bezy, Audrey, and a Boa Constrictor

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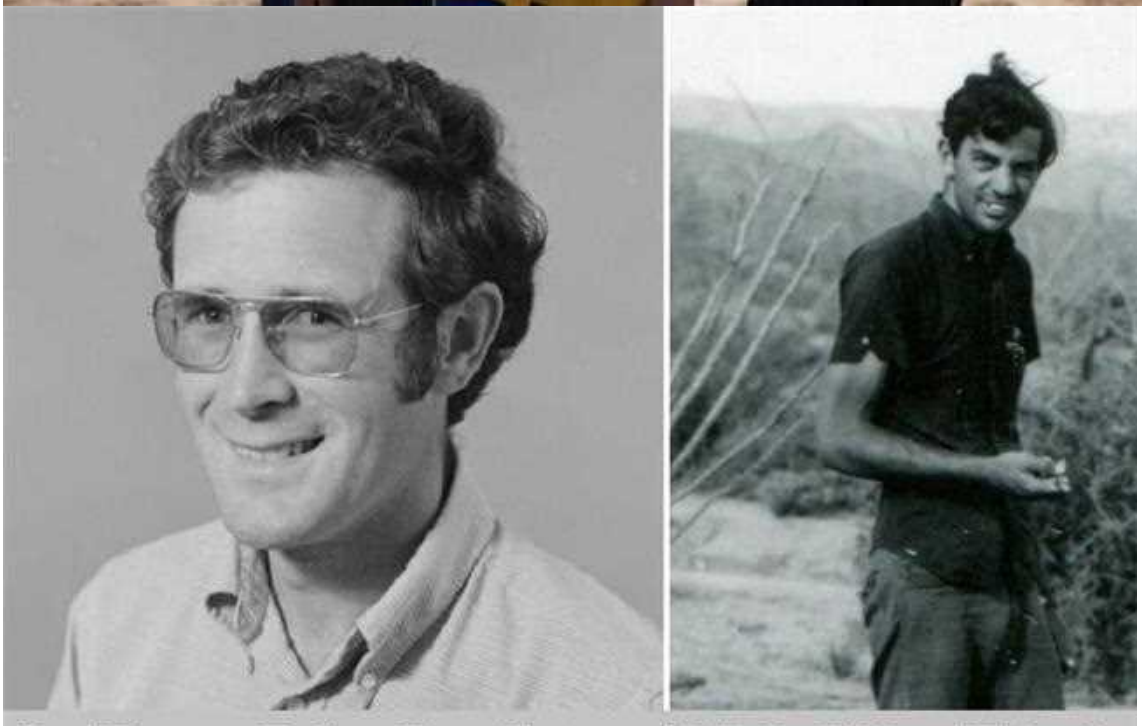

Paul Dayton; Robert Bezy (Sonora, 1966, by Richard Felger)

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10. **Bahia Colorado**.

Bro took to Pablo in a major way. Billy had always loved the sea but never had had an opportunity to learn about marine biology. Pablo saw the void and he spent the day with bro in the water. Billy was delighted to learn the names of many Gulf species. More importantly Pablo enjoyed teaching Bro to think like a marine ecologist. The experience had a big impact on Billy.

Beto was a tireless herpetologist who preserved every animal he caught for the University of Arizona herp collection. I spent the day with him searching for reptiles but we found few species. *Callisaurus draconoides* (Zebra-tailed Lizards, UAZ4271) were abundant along the playa and *Aspidoscelis tigris* (Western Whiptails, UAZ 6478) in the arroyo. I was surprised how different the *Aspidoscelis tigris* are from the ones in Arizona

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We stumbled across a *Crotalus atrox* (Western Diamond-backed Rattlesnake, UAZ 27348) coiled beneath a bush and were delighted to find a *Crotalus cerastes* (Sidewinder) sunk in the sand of the playa, This is near the southern limit of this Sonoran Desert species.

Beto and I jumped into the water to cool off with Pablo and Billy. Afterwards we all sat under an ironwood having our tortillas and peanut butter and Billy said he would spear some fish for our dinner.

Pablo listened to my proclamation that reptile species diversity was very low here and I thought that maybe there was a gap between the Sonoran Desert species and the tropical herpetofauna. He asked many penetrating questions about my hypothesis and suggested approaches to testing it.

Beto and I hiked up a cerro to Mina de las Pirates and searched for the buried treasures but found none. We were rewarded instead by finding a *Crotalus* molossus (Northern Black-tailed Rattlesnake, UAZ 27348) coiled in the mine shaft.

Billybro and I felt we were starting to drift apart as he spent the day with Pablo in the sea and I collected reptiles on land with Beto. But we had our puesta del sol hour sitting close together, gazing at the sea, and bro talking and that fully restored our emotional closeness.

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***Crotalus molossus,* near Bahia Colorado, by Omar Calva**

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***Crotalus atrox,* near Bahia Colorado, by Upanguaimas GN**

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***Crotalus cerastes*, near Bahia Colorado, by Ilse Perez Monte**

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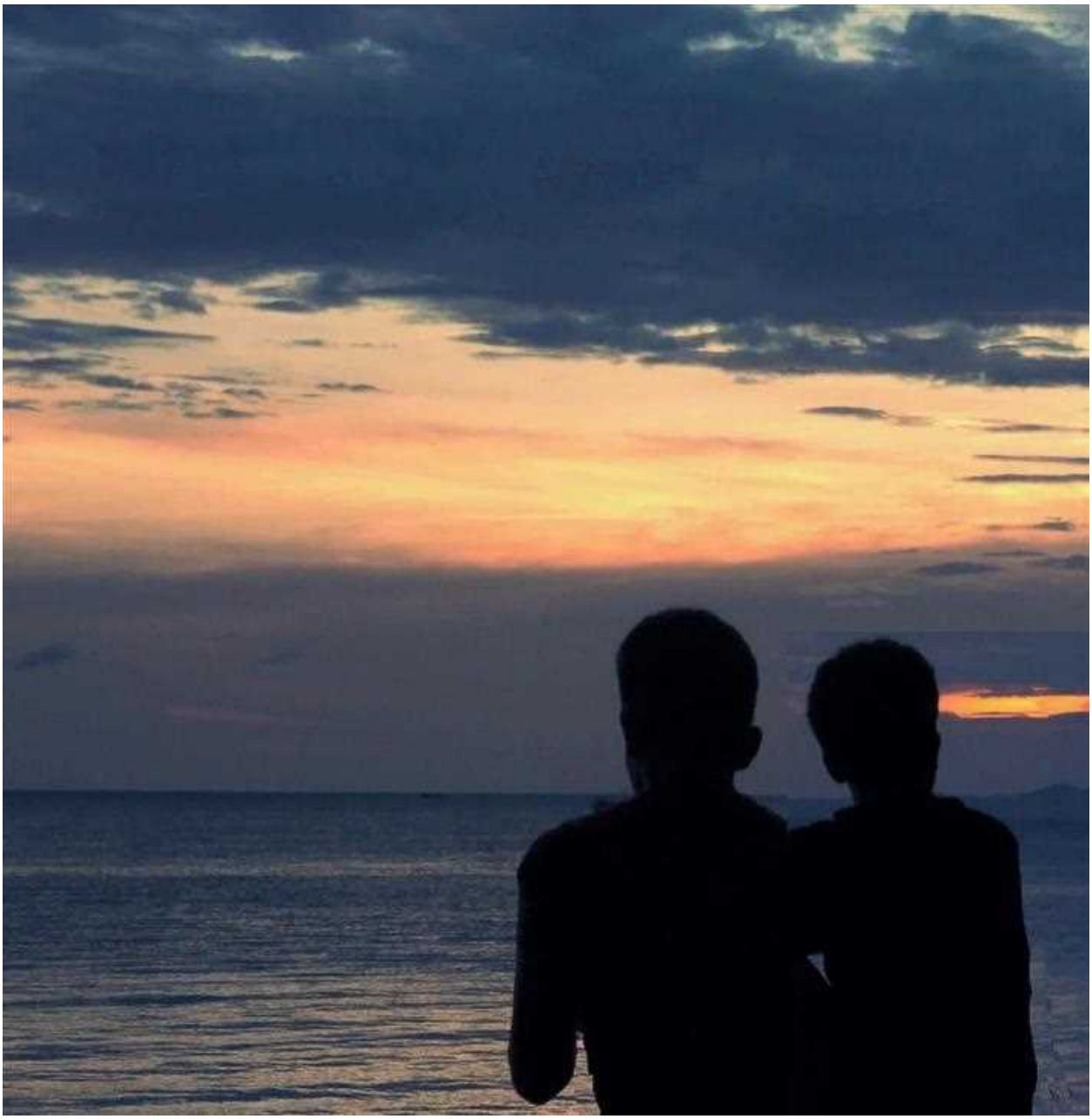

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11 *Crotalus basiliscus* (Mexican West Coast Rattlesnake).

We said goodbye to our new buds Pablo and Beto and left Bahia Colorado heading south to explore the transition from the Sonoran Desert to the tropics along the Gulf coast.

Pablo had made a lasting impact on Billy. He was now SeaBro and loved to spend time in our natal environment looking at marine organisms. The only thing constant in life is change and my bro-love extended to the new SeaBro as I never want to imprison him.

Our next adventure was to get to Himalaya on the coast of Cajon del Diablo. Billy planned to get there by driving along the playa at low tide. It turned out to be way too rocky for that, but bro does not give up easily. After Van got hung up on the

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rocks a third time, Billy finally accepted that we needed retrace our route and approach Himalaya via a road through the Diablo from Highway 15.

That “road” was just a faint rocky track but of course it was a challenge that Billy relished. We were practically to Himalaya when we encountered a wash out that bogged Van down thoroughly. While digging Van out, two kids, Diego and Lorenzo, came riding up on a burro.

“A donde van?” Diego inquired.

“A Himalaya,” I answered.

“Esta circuita, pero el camino esta totalmente chingado. No hay paso.”

“Quanta distancia?”

“Solamente un hora a pie.”

We abandoned Van and set off to Himalaya with Diego and Renzo. The kids thoroughly charmed us and said they could show us the best camping spot where we could easily catch lots of the snakes and fish. And the playa was as charming as the kids. We decided not to herp now and just enjoyed an afternoon snorkeling followed by our puesta time together.

We were about to fall to sleep listening to the waves when Diego came running up, “Grandote cascabel!”

And what a magnificent *Crotalus basiliscus* it was.

“We have now pinpointed the transition from *Crotalus molossus* and *estabensis* to *basiliscus*.

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Crotalus basiliscus by Petr Myska

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Diego and Renzo

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12 *Drymarchon melanurus rubidus* (Red Indigo Snake).

Another boat arrived in the bay. It turned out to be a dive boat with an instructor, Erik, and five teen students who came ashore. Billy's was chomping at the bit, "Could I come out and join you? I really want to learn to dive."

"You are welcome to join us and I have some extra equipment you could use."

I wanted to give bro some space and declined to join him on the dive boat, so I stayed ashore and herped with Diego and Renzo. We found several additional species, including *Aspidoscelisurti* (Burt's Whiptail), an interesting northern record for the species.

Diego came running, "Culebra grande." I ran after him and I could not believe my eyes. There lay the snake of my dreams, a large *Drymarchon melanurus rubidus*.

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Out on the boat Erik quickly saw that Billy was a physical type and strong swimmer who quickly learned to dive proficiently and safely.. Bro encountered a *Chelonia mydas* (Green Sea Turtle) and spent hours following the chelonian around. Before returning to shore he speared us a sea bass for dinner.

At our puesta together time Billy was very excited and talked enthusiastically about his dive. I of course was jealous, but recognized and controlled my feelings.

“Billybro, I really missed being with you today but I am very happy for you having this great new experience in the sea you cherish. A part of me feels jealous. But I love you and want you to be free and happy.”

“I hear you talking loud and clear, Bro. All while I was following the sea turtle I constantly thought that I sure wish Bobby could enjoy this experience with me. I really missed ya.”

And I missed sharing the Indigo Snake with you.

We had a good hug,. savored the fish that Billy cooked to perfection, and fell asleep listening to the waves gently lapping the playa.

***Drymarchon melanurus rubidus* by Daniel Heuclin**

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***Aspidoscelis burti,* Canon Diablo, by Rafael Lara**

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13 Los Dos Boids

At dawn we said goodbye to Diego and Renzo and prepared to leave Himalaya.

“Where we headed, Bobbybro?”

“I think this is the critical zone for the herpetofaunal transition along the coast from the desert to the tropics and I think we should baby step our stations here. Guaymas and San Carlos are certainly no place we would ever want to be. I have been studying the map and it looks like El Farito is our best bet for a wildness camp at the edge of the Guaymas basin. The coast between here and El Farito appears way too rocky to drive so we will need to swing around by way of the highway.”

“It all sounds like fun to me, Bro.”

El Farito was indeed a delightful place and Billy easily found a very secluded camp. Of course a kid came around to join in our herping. With Chico’s help we soon began getting photos and tissues from many desert species. But tropical

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species remained scarce. We were happy to find the tropical species *Ctenosaura macrolopha* (Sonoran Spiny-tailed Iguana) and the endemic *Aspidoscelis burti* (Burt's Whiptail).

"Billy, this is really interesting. It appears that nearly the entire desert herpetofauna gets this far south. I am glad we are collecting tissue samples as it will be very interesting to compare DNA sequences of these species from here near their southern limits with those from near their northern limits on the Baja California peninsula."

Chico came running, "Cascabel." We were shocked to discover it was *Crotalus molossus* (Northern Black-tailed Rattlesnake) as we had seen a *Crotalus basiliscus* (Mexico West Coast Rattlesnake) just a few kilometers away. They apparently do not intergrade although they are quite similar in dorsal color pattern.

After it got hot we grabbed our snorkels and mask and jumped in. Soon Chico's sister Clara joined us. She started closely following Billy around and her dilated pupils were unmistakable.

Chico came running, "Escorpion !" We trotted off behind him hoping for a *Heloderma exasperatum* (Beaded Lizard), but interestingly it was a far southern *Heloderma suspectum* (Gila Monster).

After our puesta sit together and comida de pescado we walked with our head lamps we were delighted to find a large *Boa sigma* (Boa Constrictor) as well as a *Lichanura trivirgata* (Three-line Boa). I was delighted to find both a desert and a tropical boid at one spot.

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***Lichanura trivirgata* by Coweyoow**

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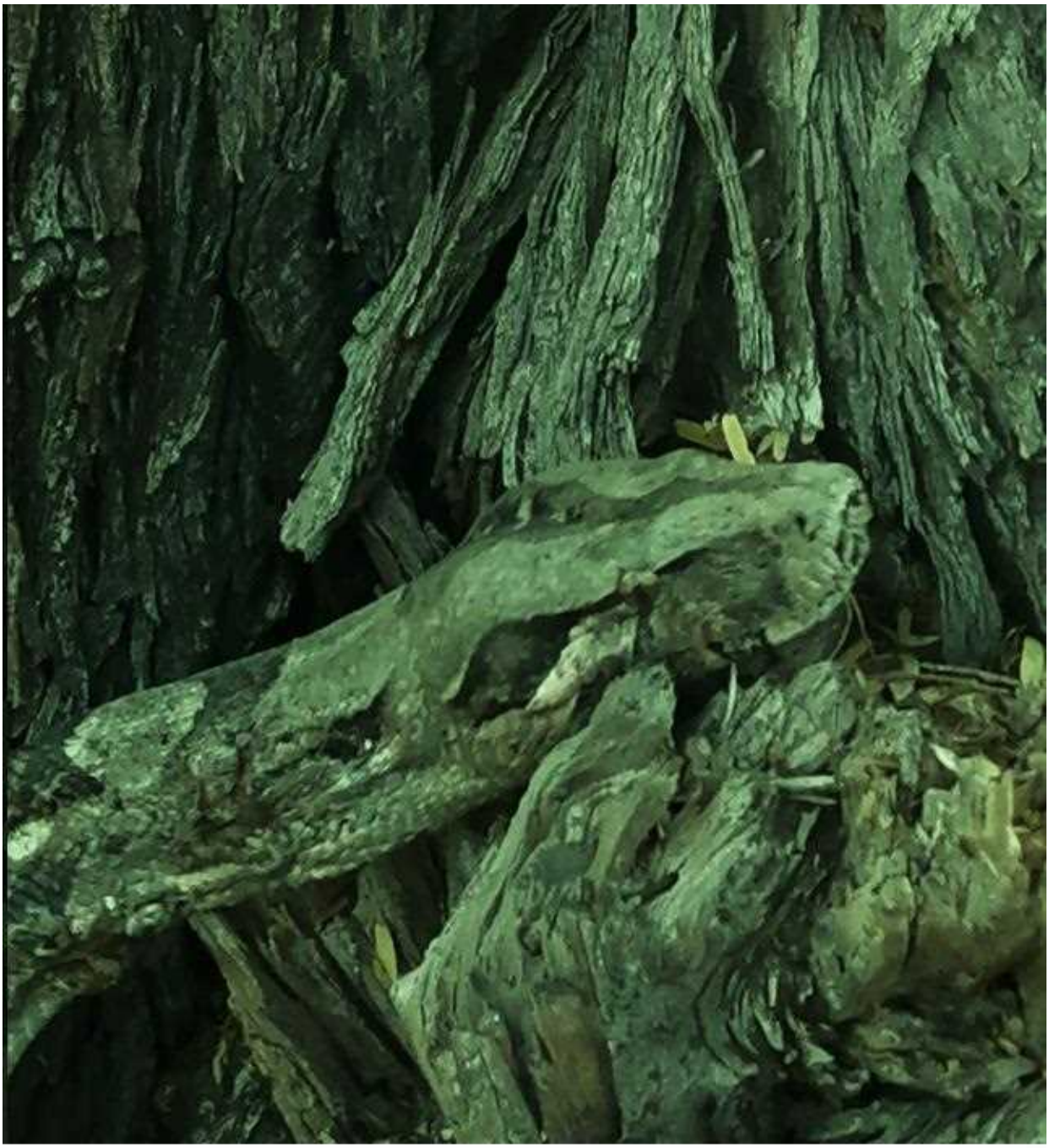

***Boa sigma* by Upanguaimas GN**

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Aspidoscelis burti by Mike Plagens

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***Ctenosaura macrolopha* by naturegirlkh**

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Heloderma suspecutm

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***Crotalus molossus* by Alfonso Sanchez**

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Desemboque
Kino
Colorado
Himalaya
Farito

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14 *Dermochelys coriacea* (Leatherback Sea Turtle).

"Billy, I am wondering just how old the divergences are between the Sonora mainland, the peninsula, and the deep water Gulf islands. Are the divergences between southern Sonora and the Cape region older than between the northern peninsula and northern Sonora? I think the sequences Daniela will obtain from the tissues we are collecting will allow us to begin addressing these and many other questions. Let's go out to the islands and get some samples.

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“I have already looked into this. Chico’s brother Ramon has a boat and can take us out to San Pedro Nolasco. and on up to Martir. Lesgobro.”

We were off at dawn in the panga with Ramon and Chico to Isla San Pedro Nolasco. There is something about exploring islands that is truly exciting and Billy and I could hardly wait to set foot on Nolasco.

When we scrambled ashore it was golden hour for lizards and we got photos and tissue samples from the endemic *Aspidoscelis bacatus* (Nolasco Whiptail), *Ctenosaura nolascensis* (Nolasco Spiny-tailed Iguana), and *Uta nolacensis* (Nolasco Side-blotched Lizard). We were surprised to also find *Sceloporus clarkii* (Clark’s Spiny Lizards), a primarily Madrean species.

Ramon had brought scuba gear for himself and Billy, and Chico and I started snorkeling. The abundance and diversity of the colorful fishes was absolutely stunning. Billy and Ramon were thrilled to see a Leatherback, the second largest living species of reptile.

***Demochelys coriacea* by Tamar-Ibama**

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***Ctenosaura macrolopha* byxitzelhm**

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Aspidoscelis bacatus **by Robb Schell**

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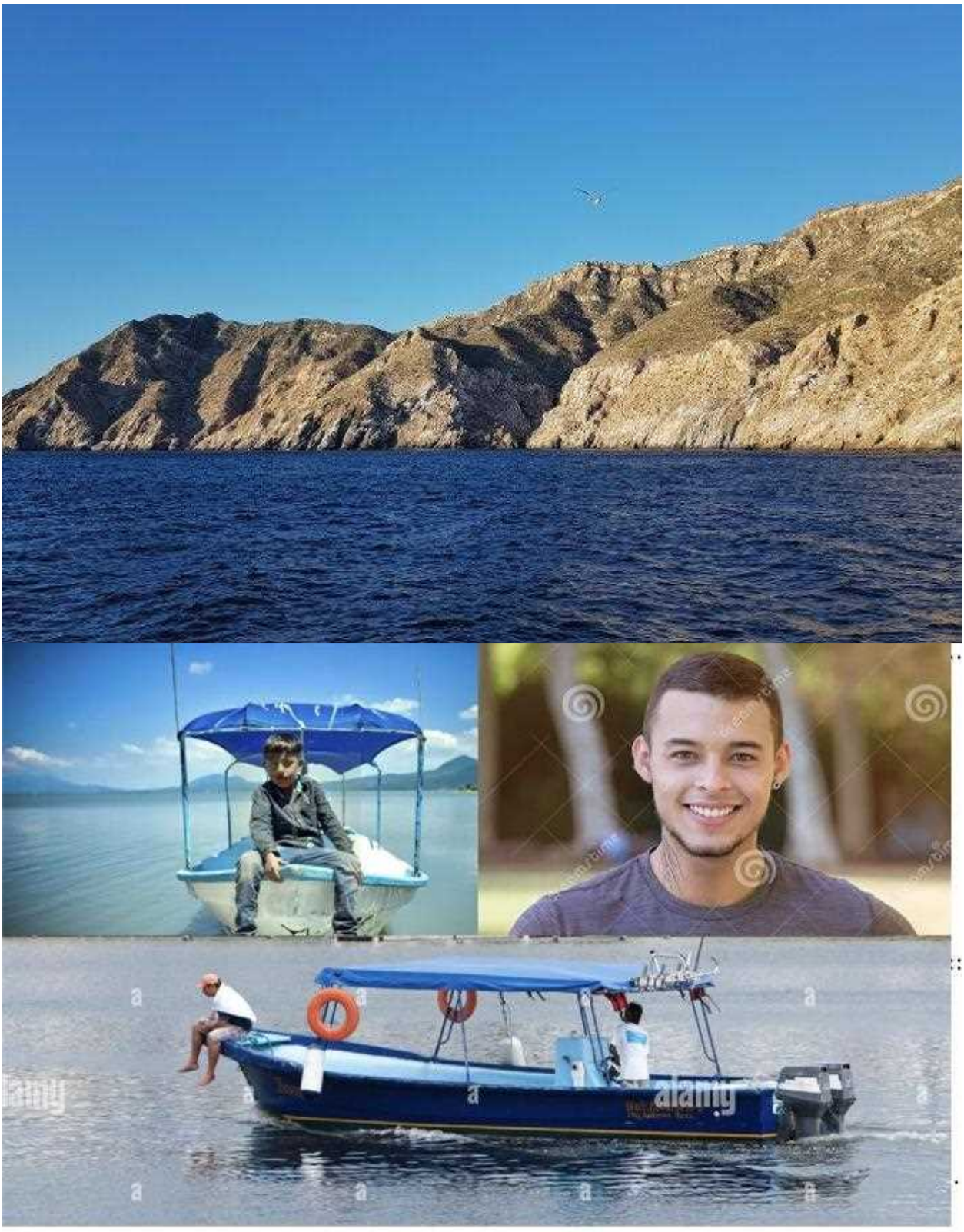

Chico and Ramon

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15 Isla San Pedro Martir

Chico pulled up Panga’s anchor and Ramon headed north towards Isla San Pedro Martir. I sat on the bow feeling the warm Gulf wind on my face and Chico began to sing., He had the wonderful Hispanic spirit that made me happy to the core. And Billy and Roman were now close dive buddies.

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We had almost reached Martir when the outboard engine conked out. Billybro to the rescue and he and Ramon dismantled the engine and diagnosed the problem. Unfortunately a part was needed to do the repair.

Ramon and Billy took out the oars and began the strenuous task of rowing us to Martir. To make a long story short, they were able to get a boat ride to Kino and find the part.

While they were away Chico and I herped and snorkeled and I relished every minute with him. With his keen eyes and stalking ability he soon captured the two lizard endemics, *Uta palmeri* (Palmer's Side-blotched Lizard) and *Aspidoscelis martyrensis* (Martir Whiptail) for me to photograph and tissue sample. Afterwards we sat in warm rays eating our tortillas with peanut butter.

Ramon and Billy arrived in a fisherman's boat and soon had the outboard motor purring away. Chico and I snorkeled again while Billy and Ramon dove and speared our dinner that Billybro grilled to perfection.

We donned our headlamps and set out on a snake walk. Chico almost stepped on a *Crotalus atrox* (Western Diamond-back Rattlesnake).

I was delighted that Ramon and Chico decided not to sleep in Panga but on the island with Billy and me and after bro talking we enjoyed falling asleep together under a billion stars.

Crotalus atrox, Isla San Pedro Martir, by Ricardo Gonzalez

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Aspidoscelis martyrensis by Jorge Valdez

Uta pameri by Jorge Valdez

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16 Estero Guasimas de Belem.

We said good bye to Ramon and Chico and left El Farito heading south towards the southern limit of the Sonoran Desert

“We have to get past Guaymas and Emplame and hope we can find a wildness place. Looks like a relatively uninhabited stretch of playa near estero Guasimas de Belem down the coast a bit.

Billy found a track from the highway to the shore and drove on the playa until no evidence of humans was visible anywhere. We were beginning to realize finding wildness camps was going to be much more difficult below Guaymas.

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As we were trying to noose a *Ctenosaura macrolopha* (Spiny-tailed Iguana), a kid walked up. He watched us for a while and when the lizard headed to the top of the cardon he scaled the cactus and caught the animal by hand.

Yaqu was a shy kid and his Spanish seemed a bit strange to us. Later he explained his native tongue was the Yoeme (Yaqui) language and he only spoke Spanish in school.

Yaqu shared our tortillas with peanut butter and then donned one of our extra headlamps and set out to herp with us. He had incredibly keen eyesight and spotted a *Phyllodactylus homolepidurus* (Sonoran Leaf-toed Gecko) on a rock.. He caught the gecko and enjoyed watching us photograph and get a tissue sample from it.

We were about to give up and turn in for the night when Yaqu screamed, “Alto!” at the top of his lungs. I was just about to step on a *Crotalus molossus* (Northern Black-tailed Rattlesnake). He had saved me from a serious bite.

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***Crotalus molossus,* Sonora, by Alfonso Sanchez**

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***Ctenosaura macrolopha*, Sonora, by asdf2020**

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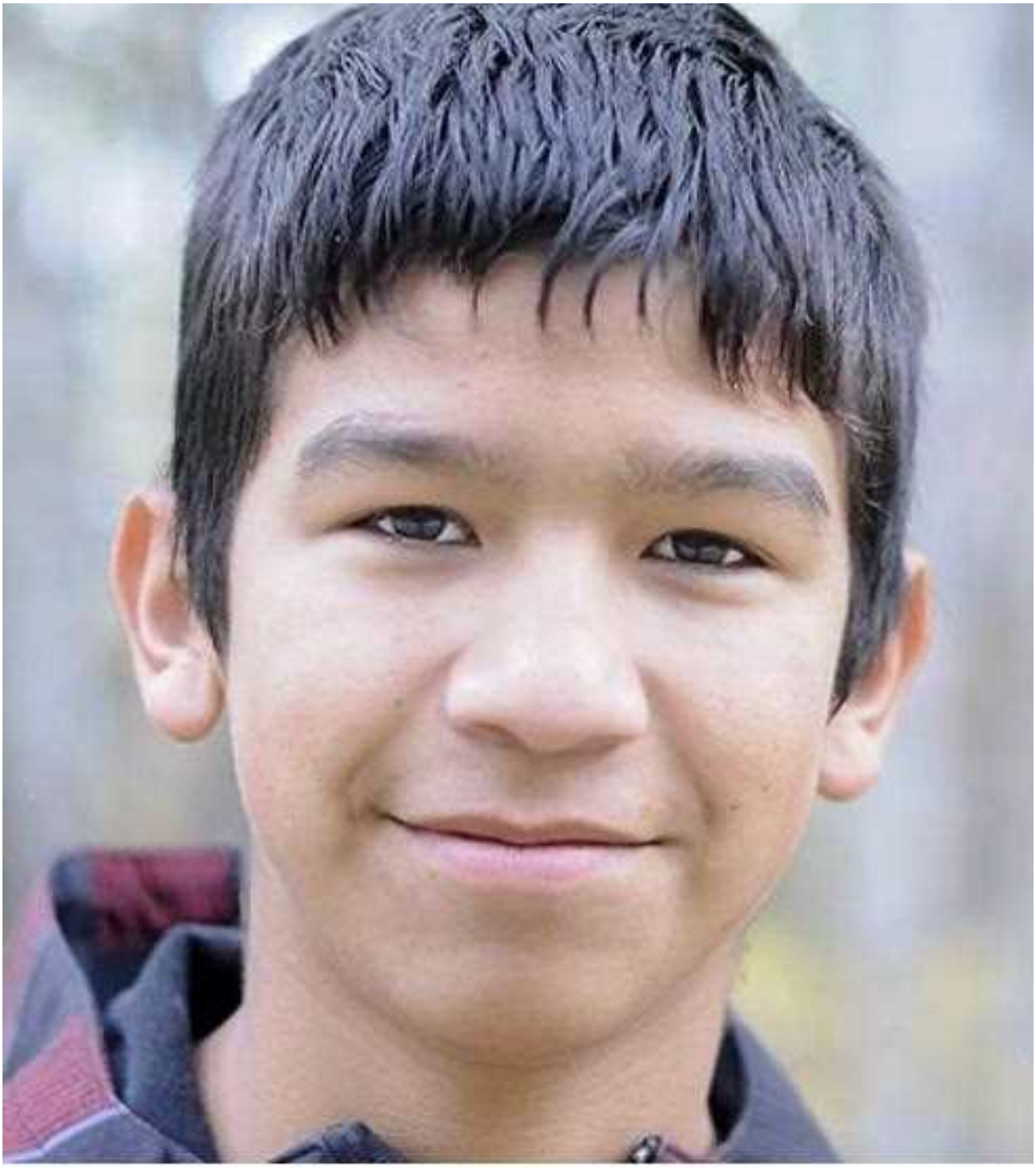

Yaqu

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17 The Yoeme (Yaqui).

Yaqu arrived at dawn. We were surprised that the boy seemed very open to us so quickly. He began to talk about his people, the Yoeme, and how bravely they had fought to keep their culture from being assimilated by Mexico. He lived in Escondida, a village deep in the mangroves that is isolated from everyone, particularly the drug cartels. They were having a celebration today and Yaqu had been given special permission by the elder to allow us to visit.

We were honored, but I was more than a little hesitant to go there. Billy, an adventurer to the core, immediately accepted the invitation.

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Yaqu led us to kayaks hidden in the mangroves. He paddled ahead in one and we followed in another. The open water soon became narrower and narrower and the mangroves joined overhead to form a tunnel.

An hour later the mangroves opened to a lagoon with the Yoeme village of Escondida nestled around it. Yaku took us to the elder, Yooku, and the situation became more clear. The elder wanted us to help get the massage to the Yoeme in Arizona of the existence of Escondida and the critical need for support.

Soon the dancing began and Billy and I could not believe our eyes and ears. It was an experience of a lifetime that we will never forget. It included reverence to *Boa sigma* (Boa Constrictor) and *Bufo horribilis* (Cane Toad). At the end Yooku presented us with an exquisite Yoeme mask that we will cherish forever.

***Boa sigma* by Jesus Gordolomi Butteerball**

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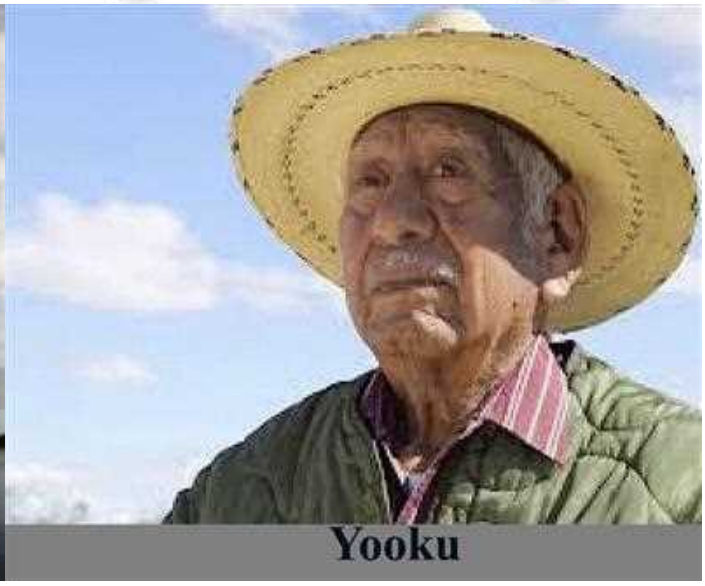
Bufo horribilis by Carlos Anquamea



Yooku

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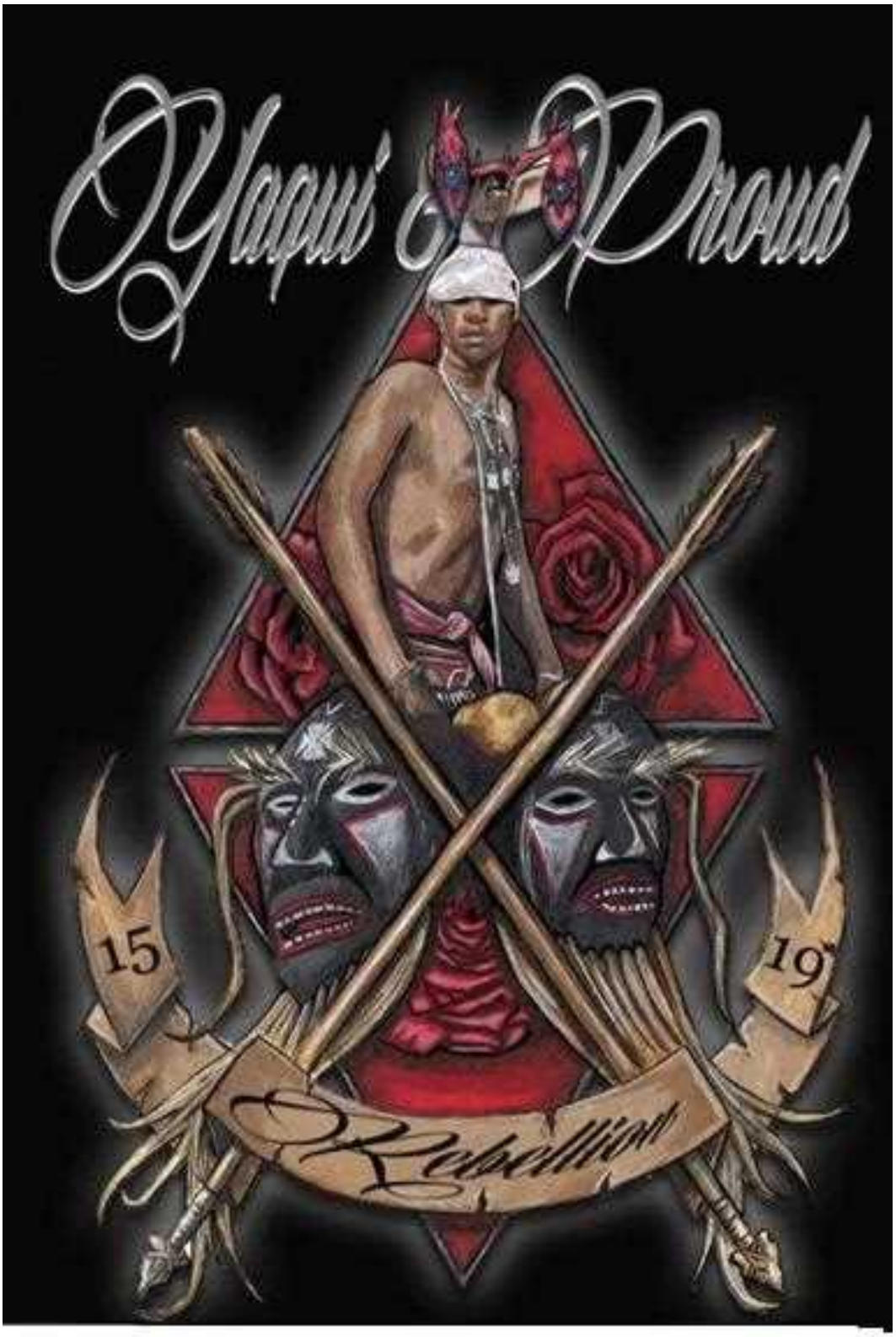

Bv Mario Valencia

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18 Meseta Cacaxtla.

When we crossed into Sinaloa we became very depressed. As far as the eye could see there was nothing but truck farms.

“Billy, I really do not like it here in Sinaloa. Let’s do one station down at Meseta Cacaxtla and then put Van and us on the ferry from Mazatlan to La Paz. Lets get the hell out of here.”

“I agree 150%. This is a horrible place and you know the Baja California peninsula is a paradise.”

But we were pleasantly surprised by the lush forest at Meseta Cacaxtla and easily found a wildness camp on the playa. We were shocked to see desert stalwarts *Callisaurus draconoides* (Zebra-tailed Lizards) and *Holbrookia elegans* (Elegant Earless Lizards) running in the sand. In the forest away from the playa we found a magnificent *Heloderma exasperatum* (Beaded Lizard) sauntering along and a *Drymobius maragaritiferus*m (Speckled Racer) streaking like greased lightening.

“Billy, I think I have discovered the answer to my question. The vegetation makes a relatively abrupt transition from Sonoran Desert to Thorn Scrub near Masiaca but the amphibians and reptiles do not. Starting in the south, each tropical species continues to a different degree north through the desert and along the Sierra Madre. Going south, the desert species drop out one by one as you head into the tropics. There is no sharp biogeographic line delineating the Sonoran Desert herpetofauna lie the one for the vegetation change.

“Wow Bobbybro, you're a smart one..

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***Heloderma exasperatum*, Sinaloa, by Francisco Farriols Saeabia**

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Drymobius msrgrtiferus, **Sinaloa, by Eber Barraza**

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Callisaurus draconoides, Sinaloa, by Eber Barraza

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***Holbookia elegans*, Sinaloa, by Isaac Picos Ayon**

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19 *Aspidoscelis maximus* (San Lucas Giant whiptail).

Our spirits soared like an eagle as we drove Van off the Ferry in Pichilingue and headed into La Paz. It was to be a thousand mile adventure on the dirt road up the Baja California peninsula, the send longest on Earth.

We filled our red metal 10 gallon can with gasoline and our green one with water, and we were off on a three month peninsular adventure.

“There is an interesting road just south of town to a place on the Gulf called Las Cruces. Let’s take it.”

“You got it Bobbybro.”

The track became very sandy and bro shifted into four-wheel, but Van bogged. He hopped out, jacked her up, and put our boards under each wheel.

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Just then a Jeep came along and the youth asked if we needed help. We were surprised he spoke English.

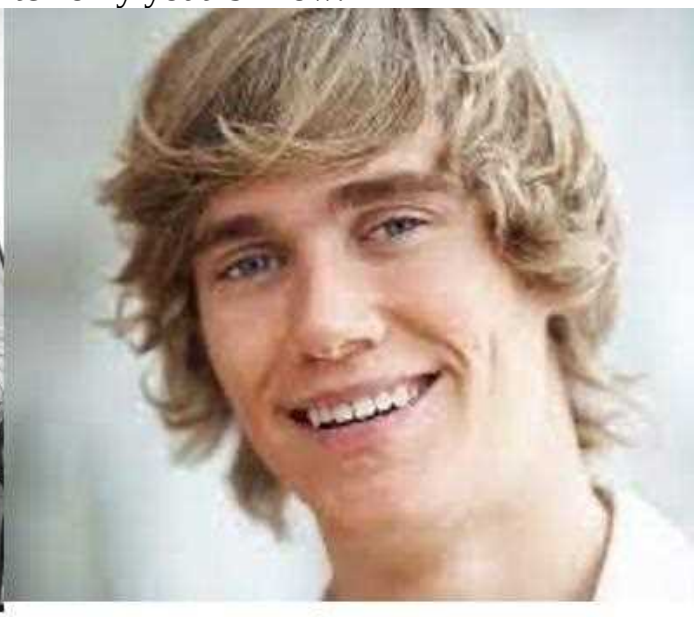
“We are ok for now but might need help if we bog again,” Billy asserted. Is this the road to Las Cruces?”

“Yep. Hacienda Las Cruces was originally built by Bing Crosby. I am Lucas, a relative.

At the Hacienda we were served a great Dorado feast and we chatted a long tine with Lucas. We were ecstatic the he could take us out to Isla Cerralvo in his boat. He also invited us to stay in one of the bungalows, but we declined as we wanted to sleep on the playa.

The sun rose like a fireball from hell and as we headed out on our first peninsula lizard walk our excitement was at a pitch only youths know.

Gary and Bing Crosby



Lucas

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We encountered many species but were particularly fond of the large magnificent *Aspidoscelis maximus*, our first San Lucas endemic.

***Aspidoscelis maximus* by creatursoftheroad**

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***Aspidoscelis maximus* by mknzmrsh**

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***Aspidoscelis maximus* by Bill Levine**

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Hacienda Las Cruces\

20. *Sator grandaevus* (Cerralvo Sator).

Lucas shoved off at dawn and we headed for Isla Cerralvo with high hopes. He knew the island well and found a good bay for anchoring.

We dove in, swam ashore, and were overjoyed to see our first *Sator grandaevus*, a species endemic to Cerralvo The island generalist was everywhere, on the sand,

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the rocks, the trees, and the cacti. It is a strange lizard and Mary Dickerson chose the generic name *Sator*, which means ancestor, because the lizard combines features of *Sceloporus* and *Uta*.

It soon warmed up enough for another endemic to sally forth. *Aspidoscelis ceralbensis* (Cerralvo Whiptail) is also quite unique and differs strongly from other peninsula whiptails and seems to be most closely, related to species on the Mexican mainland.

“It is hot. Last one in is a rotten egg,” Billy yelled and we grabbed our snorkels and masks, and dove in to cool off and enjoy the diverse colorful marine life.

Bezy, R. L. 2009. Sator. Sonoran Herpetologist 22:74-78. https://www.researchgate.net/publication/317533850_Bezy_R_L_2009_Sator_Sonoran_Herpetologist_2274-78.

Sator grandaevus by chanceologist

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***Sator grandaevus* by Brad Hollingsworth**

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Sator grandaevus by Brad Hollingsworth

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Mary Dickerson

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HAPPY REDHEAD
APPRECIATION DAY!


La Paz
Espiritu Santto
Las Cruces
Cerralvo
Google Earth
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Data LDEO-Columbia, NSF, NOAA

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21 *Rhinocheilus etheridgei* (Etheridge's Long-nosed Snake).

We were enjoying the Sea Bass bro had grilled to perfection when I thought I heard music. I figured it must be a delusion caused by sun stroke. But Billy and Lucas heard it also and we walked down the playa to investigate. We were shocked to discover two shepherds, the younger playing a wood flute.

Tomas and Pifano had been dropped off to let their goats graze on the island. They really took to Billy and chatted with him for a long time. Tomas said he had seen a strange snake at a spring near the peak of the island.

That really excited me and I asked if he could take us there. He said it was a long hike and we could leave at dawn tomorrow. Pifano would stay near the playa with the goats.

I was so excited I could not sleep, so Billy and I walked the playa all night and were really blown away when we found the rare endemic *Chilomeniscus savagei* (Savage's Sand Snake).

We arose at dawn to the sound of Pifano playing his flute and the four of us set out on the very difficult climb. Tomas and Billy had to wait many times for Lucas and me to catch up. I had to crawl the last segment.

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It was a beautiful spring with a magnificent *Ficus palmeri* (Rock Fig) overhanging it. “Donde viste la culebra?” Billy asked Tomas. “En las piedras de alla.”

We went wild flipping every rock around the spring. I could not believe my eye when Lucas held up the *Rhinocheilus etheridgei*, another rare Cerralvo endemic.

We all sang, “I am dreaming of a white Christmas….”

***Rhinocheilus etheridgei* by Chris Grunwald., Herp.Mex**

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Chilomeniscus savagei by Lee Grismer

Pifano

Tomas

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22 *Aspidoscelis espiritensis* (Espiritu Santo Whiptail).

We said goodbye to the shepherds and Pifano played his flute for us as Lucas pulled anchor and we headed to Isla Espiritu Santo. It was to be a two day visit to study the contrast in Gulf Islands, Cerralvo, a deep water island with many endemics, and Espiritu Santo, a shallow water island with few.

It was slightly harder for Lucas to find a totally wildness bay as this island was nearer La Paz, but he knew all the bahias and found a wonderful isolated one.

We snorkeled for a long while and Billy speared and grilled s a fish. As we sat there enjoying the delicious sea bass soaking up the warm rays a boat arrived and a woman swam ashore.

Katrina was a graduate student studying a the endemic fauna of the island. She led us on a walk far up the canyon to a broad valley. We were delighted to see our first *Lepus insularis* (Black Jackrabbit), one of the few Espiritu Santo endemics species. Katrina was examining the thermal ecology of their coat coloration.

Then we heard it. It was a strange trilling song that came from all directions. Katrina motioned for us to stay quiet and she took out a small recorder and captured the songs. Afterwards she explained that the trilling came from *Ammospermophilus insularis* (Espiritu Santo Antelope Squirrel). She was studying the sociology of their singing on the peninsula and the island.

Then out popped the endemic whiptails, *Aspidoscelis espiritensis* (Espiritu Santo Whiptail). Katrina was interested in the parallel evolution in this species and *Aspidoscelis burti* of the color pattern involving fused paravertebral stripes.

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Aspidoscelis espiritensis **by Elia Gomez Greene**

Ammospermophilus insularis **by Scott Bowers**

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***Lepus insularis* by Heather Fullerton Bennet**

23 *Petrosaurus thalassinus* (*Baja California Rock lizard*)
We docked at Hacienda Las Cruces and I enjoyed a shower with Billy and Lucas. Bro and I do not consume alcohol but Lucas sipped a margarita as we sat under a palm on the patio gazing at Cerralvo across the glassy Gulf and listening to Bing's crooning.

Afterwards we all adjourned to the dining room for a great feast of fillet mignon wrapped in bacon and smothered in hongos, followed by flan. Lucas disappeared

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into one of the bungalows with a friend and Billy and I took a long walk on the playa.

Bro and I really enjoyed Lucas, but we badly needed some time alone. We took a walk along the playa and at puesta del sol we sat close together for a long while and had a talk about our life. This rekindled our bro feelings and we decided to spend the night there on the playa.

In the morning we had huevos rancheros in the dinning room with Lucas who looked distinctly as if he had played all night with his friend.
"Billy and I want to go to Buena Mujer," I announced to Lucas.

He laughed uproariously. "Well bros, just remember this, mala mujer stings and can give you the, but buena mujer gives you absolutely nothing at all! Either way you lose."

"Ah, Lucasbro, Bing would be proud of you."

With directions from Lucas, Bro I were off in Van for Buena Mujer, dreaming of a white Christmas.

Presa Buena Mujer is the type locality for *Gopherus lepidocephalus* (Baja California Desert Tortoise), the rarest reptile on the Baja California peninsula. The species is known only from the holotype and one reconstructed shell. Many herpetologists have looked for this species in the San Lucan region but turned up no additional specimens.

It could well be the sister species of *Gopherus evgoodei* (Goode's Desert Tortoise) that lives in thornscrub in southern Sonora.

We asked a kid at the Presa if he had ever seen a tortoise. He said he had never seen one but his brother had seen them at Cerro El Puerto and could take us there.

Santiago hopped into Van and gave us directions to his brother Antonio's rancho. Antonio explained that the tortoises once lived in the area but were now scarce as Presa Buena Mujer had flooded their habitat. But he had seen one at Cerro El Puerto a few years back.

It was a two day pack into the montaña and we would need to take a mule to carry water as the pozos were dry this time of year.

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Our youthful spirits soared as we set out at dawn with Antonio and Santiago and their mule to rediscover the Baja California Tortoise. As usual I lagged far behind but was glad Antonio decided to walk with me and we rested together often. I asked him every few hours how much farther. “Esta cerquita,” he would always say

When we arrived in the area, Cerro El Puerto towered above us and my heart sank at the prospect of ascending it. But with encouragement from Antonio I kept putting one foot in front of another.

We found Santiago and Billy sitting at the spot where the tortoise had been seen a few years ago. Santiago and Antonio were disgusted that all Billy and I had brought to eat was tortillas and peanut butter, and they shared their jerky with us.

We searched the rocky terrain for two days and did not find any tortoises. We were able to photograph and tissue many species of reptiles and I was blown away by the *Peterosaurus thalassinus* (Baja California Rock Lizard),a magnificent San Lucan endemic.

When we finally made it back to Lago Buena Mujer, Billy and I dove into the cool water. A gringo surfer kid came swimming up and Billy asked him about turtles. Erik said he knew an island in the lago that had turtles.

The three of us swam out to it and sure enough there were many *Trachemys nebulosa* (Baja California Sliders). Erik dove in and caught one and lectured to us about it.

Ottley, John R., and Victor M. Velázques Solis. "An extant, indigenous tortoise population in Baja California Sur, Mexico, with the description of a new species of Xerobates (Testudines: Testudinidae)." The Great Basin Naturalist(1989): 496-502. https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=3084&=&context=gbn&=&seiredir=1&referer=https%253A%252F%252Fscholar.google.com%252Fscholar%253Fhl%253Den%2526as_sdt%253D0%25252C38%2526q%253Dlepidocephalus%252BXerobates%2526oq%253Dl#search=%22lepidocephalus%20Xerobates%22

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Crumly, Charles R., et al. "Validity of the tortoise Xerobates lepidocephalus Ottley and Velazquez [sic] in Baja California." Biology of North American Tortoises. Fish and Wildlife Research 13 (1994): 32-36.

Petrosaurus thalassinus by Jesus Gordolomi Butterball RC

Petrosaurus thalassinus by Rafa Lara

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Petrosaurus thalassinus by L. Ernesto Perez Montes

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***Gopherus evgoodei* by Taylor Edwards**

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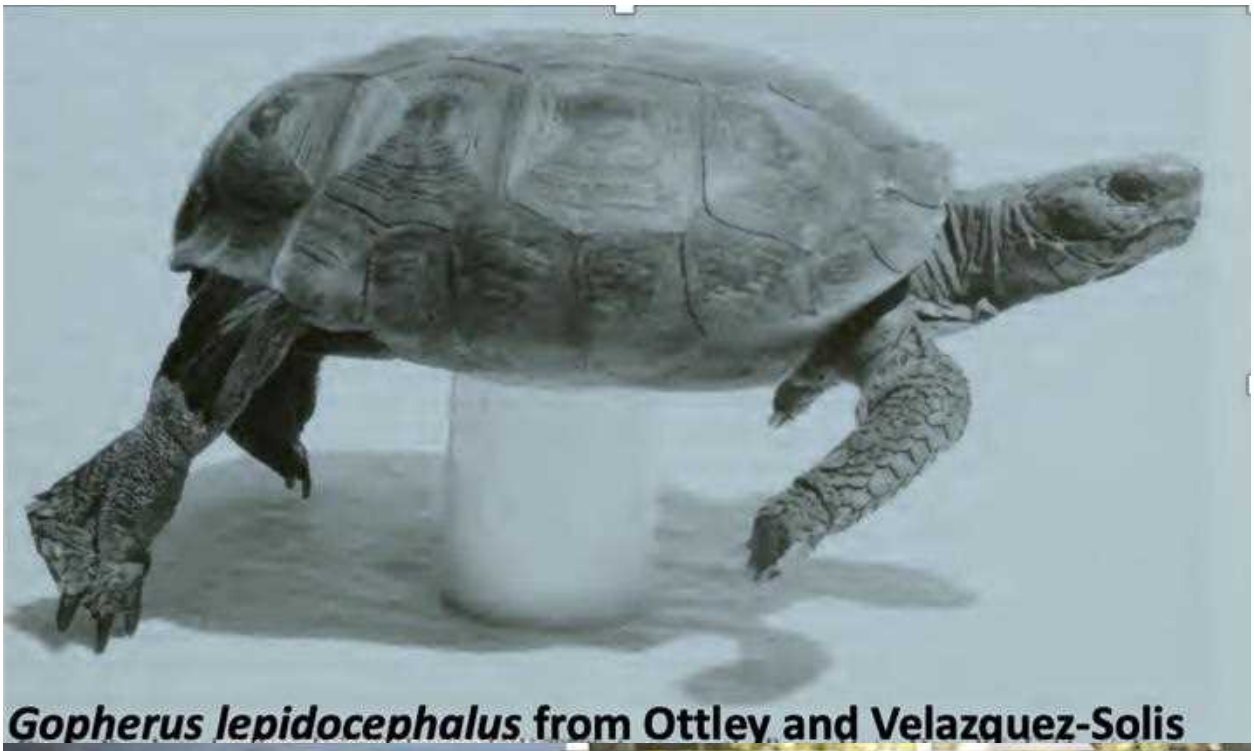

Gopherus lepidocephalus from Ottley and Velazquez-Solis

Antonio

Santiago

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La Paz
Espiritu Santto
Las Cruces
Cerralvo
Buena Mujer
Google Earth

Erik

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24. *Crotalus lucasensis* (San Lucas Rattlesnake).

Billy took a series of very bad roads across the northern end of the Sierra Victoria heading for the Pacific. We got off on a side track that ended at a rancho and stopped and chanted with the vaqueros. They said there was a team at a nearby rancho that was studying the cascabeles.

That was exciting and bro got directions to the rancho. There we met Dora who was studying *Crotalus ruber* venom. She had two gringo assistants, Elijah and Liam. They lived in Todos Santos and were rabid snakers.

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Dora gave us a lively lecture on her research. She was collecting venom samples from *Crotalus ruber* though out its range from southern California to Cape San Lucas. The venom lab in Chilangolandia was finding remarkable differences among the samples. *Crotalus lucasensis* venom was very different from other localities assigned to *Crotalus ruber*.

Dora, Elijah, and Liam led us on a tour of the l*ucasensis* at the rancho. We were amazed by the color pattern differences among the rattlesnakes from *ruber,* to l*ucasensis*, and even to *atrox*-like and *scutulatus*-like. Of course, the boys had to bare handle every rattlesnake.

“Well, that is how they get their rocks off, and boys will be boys. I would never have been able to do this study without their enthusiastic help.

We continued on the the coast. This was our first contact with the wild Pacific. “Last one in is a rotten egg Billy yelled,” as dove in. I had absolutely no experience with undertows and it sucked me down big time. Bro to the rescue. He pulled me to the surface, forced the water out of my lungs, and gave me mouth to mouth.

“Don’t die on me Bobby, you are the only bro I have and I love you.”

Fortunately I regained consciousness and resumed breathing.

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***Crotalus lucasensis* by Osiel Flores.**

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Crotalus lucasensis by Bill Levine

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***Crotalus lucasensis by* Jose Luis Leon de la Luz.**

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Liliana

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***Crotalus lucasensis* by e_nahualli**

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Liam
Elijah

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25 *Bipes biporus* (Baja California Amphisbenian)

Todos Santos is so infested with Americans that it is often called “Todos Gringos.” But Billy was interested in experiencing the place as we hoped to one day live somewhere in Mexico.

We had breakfast in an American restaurant and enjoyed pancakes, maple syrup, bacon, eggs, and hash browns.. Afterward we walked around town soaking up the atmosphere. We were unsure whether we liked it here or not.

We encountered a boy holding something and showing it to a bunch of other kids. We were ecstatic to see he had a *Bipes biporus* and was lecturing to the others about amphisbaenians.

“*Bipes biporus* is endemic to the Baja California and is found along the Pacific side of the peninsula from the cape to the Vizcaino area.”

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Now I ask you, where in the world can you experience a kid disseminating his knowledge and appreciation of a amphisbaenians to the neighborhood kids?

We had a long chat with Tommy. He and his friend Sebastián had organized a Todos Santos reptile club and had made an effort to attract both Americano and Latino members.

“Maybe there is a place for us down here. We could help Gringo and Latino kids promote an appreciation of herps among both cultures,” Billy remarked.

“Anything involving kids and herpetology reaches my core being,” I eagerly chimed in.

Papenfuss, Theodore J. *The ecology and systematics of the amphisbaenian genus Bipes*. Vol. 136. California Academy of Sciences, 1982.

Macey, J. R., Papenfuss, T. J., Kuehl, J. V., Fourcade, H. M., & Boore, J. L. (2004). Phylogenetic relationships among amphisbaenian reptiles based on complete mitochondrial genomic sequences. *Molecular Phylogenetics and Evolution*, *33*(1), 22-31.

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***Bipes biporus* by Jesus Gordolomi Butterball RC**

***Bipes biporus* by scraws**

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Tommy
Sebastián


shutterstock

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26 Bitten.
We took the road towards Rancho La Burrera at the base of the Sierra Laguna. It had many forks and we took a wrong turn and ended up at a different rancho. A woman came screaming up to us, "Ayuda me, mi hija fue mordida por una cascabel."

Billy always knew instinctively what to do in an emergency. He looked at the snake and confirmed it was a *Crotalus lucasensis*. He put Maria and her bitten daughter Juanita in the back seat and her son Juanito in the front seat with us to give directions for the fastest route to the Todos Santos hospital.

Bro had Van absolutely flying over that rough road and we reached the hospital in less than an hour. He explained the situation to the emergency medico. He also found an assistant who knew how to get ahold of Liliana who studied .*Crotalus lucasensis* venom,

Liliana arrived at the hospital pronto. She took one look at little Juanita and her festering leg and gave the medico her entire supply of the latest antivenom from her lab in Mexico.

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They managed to pull little Juanita through alive and without major damage to her leg. Liliana succeeded in assuaging Maria's hatred of the cascabel and convinced her that the snake was usually docile and was just defending itself when Juanita accidently stepped on it. After Juanita recovered Maria gave her a new middle name, Lucas, after the cape and its endemic cascabel.

***Crotalus ruber* by snakeinthepocket**

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Juanita

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Maria, Juanita, Juanito

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27 *Thamnophis validus* (Mexico West Coast Gartersnake)

Billy and I decided to make another attempt to visit Rancho La Burrera in the western foothills of the Sierra Laguna. This time we had Juanito with us to give us directions at each fork. Maria had suggested the boy travel with us until we departed from the region.

Juanito directed us an oasis near the rancho to camp. We were thrilled to see our first *Thamnophis validus* swimming in the stream. We found the snake of interest in two regards. Bro and I had grown up swimming with *Thamnophis rufipunctatus* (Narrow-headed Gartersnake)s in Arizona's Oak Creek. Here was another very aquatic snake with a long head, narrow pointed snout, and dark color pattern. It has been debated whether *validu* and *rufipunctatus* were members of *Nerodia* (Water Snakes) or *Thamnophis* (Gartersnakes). Analyses of DNA sequences have confirmed they are both *Thamnophis* that are independently convergent with *Nerodia* in ecology and morphology.

The other thing I find interesting about *Thamnophis validus* is that it occurs on the peninsula only in the Cape region. But, it is also found along the Pacific coast of the mainland Mexico from Sonora to Nayarit. It seems to me that the biotas of the Cape and Isla Cerralvo are quite distinct from that of the rest of the peninsula and have many tropical species shared with the mainland. This may be in part due to the fact that the Cape region was a separate island during the rifting of the peninsula from the mainland. It is an interesting question whether the occurrence of *Thamnophis valida* on the Cape dates from the original rifting from the mainland or is the result of overwater dispersal.

That night as I was falling asleep, Juanito laying next to me and the vaquero strumming his guitar in a hammock at the rancho, I began to ponder whether bro and I might move to the Sierra Laguna and share Juanito with Maria.

Chiasson, Robert B., and Charles H. Lowe. "Ultrastructural scale patterns in Nerodia and Thamnophis." *Journal of Herpetology* (1989): 109-118.

de Queiroz, Alan, Robin Lawson, and Julio A. Lemos-Espinal. "Phylogenetic relationships of North American garter snakes (Thamnophis) based on four mitochondrial genes: how much DNA sequence is enough?." *Molecular phylogenetics and evolution* 22.2 (2002): 315-329.

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de Queiroz, Alan, and Robin Lawson. "A peninsula as an island: multiple forms of evidence for overwater colonization of Baja California by the Gartersnake Thamnophis validus." *Biological Journal of the Linnean Society* 95.2 (2008): 409-424,

Dolby, G. A., Bennett, S. E., Lira-Noriega, A., Wilder, B. T., & Munguía-Vega, A. (2015). Assessing the geological and climatic forcing of biodiversity and evolution surrounding the Gulf of California. *Journal of the Southwest*, 391-455.

***Thamnophis validus* by Mike Pinkerton**

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***Thamnophis validus* by Kevin**

***Thamnophis rufipunctatus* by chanceologist**

\

***Nerodia sipedon* by Peter Uetz**

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28 *Elgaria paucicarinata* (San Lucan Alligator Lizard).

Billy, Juanito, and I embarked on a major adventure with a level of excitement only youths know. We planned to hike up to La laguna at the very top of the Sierra and loop around to the south to San Francisquito and then back down to Rancho La Burrera. I knew it was beyond my physical abilities, but I just had to give it a serious try as passing up the opportunity to explore the Sierra Laguna was unthinkable.

Billy and Juanito made the arrangements at Rancho La Burrera: one mule to carry our water and food, one experienced burrero (Gabriel), and one youth (Chope) with his machete to chop our way south to San Fancisquito and back down.

Gabriel needed to keep Acorde, the the pack animal, moving and he set a fast pace up the unbelievably steep and difficult trail to La Laguna. Billy, Chope, and Juanito zoomed along with Gabriel. That left me struggling by myself far behind.

Many hot tedious hours later we came to a spring with water gushing out of the rocks and Gabriel called a rest to water Acorde and adjust the pack. Juanito liked walking and chatting with Chope, but recognized what a struggle I was having and he decided to accompany me. That made my heart sing and I completely forgot my exhaustion.

The sun got higher and hotter and the trail became absolutely stifling. It was worn down from centuries of walkers and was deeply entrenched with dirt banks on both sides that blocked any breeze and trapped the heat. My canteen had been long dry, my head started to swirl, and I fell to the ground.

Juanito eventually got me to crawl to the shade of a lone oak. He ran ahead and had Gabriel unload the pack at La Laguna and then return with Acorde. They lifted me and laid my body across the mule's back with my arms and head dangling down one side of the beast and my legs down the other.

I was completely unconscious when we reached the top and they laid me under the shade of a Madrone near a stream on the periphery of the La Laguna meadow. Juanito filled my canteen with water and took out a lima and squeezed the juice into it. He put the metal canteen to my lips and I was able to sip the limeade. The water and the vitamin C brought me to. Juanito took off my shirt, wetted it in the

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stream. and gently wiped my face with the cool cloth. When I opened my eyes and looked up at the boy he had a wonderful smile.

Under Juanito's care I recovered. Chope came running, "Axolote!" It was a magnificent *Elgaria paucicarinata* (San Lucan Alligator Lizard) twisting in his hand, biting him, and defecating.

The species is endemic to the Sierra Laguna and not known to occur any farther up the peninsula. DNA sequences indicate Elgaria paucicarinata is most closely related to *Elgaria velazquezi* found north of La Paz neck. But the relationship of these two to the Madrean *Elgaria kingii* is not entirely clear due to historical gen exchange.

Leavitt, D. H., Marion, A. B., Hollingsworth, B. D., & Reeder, T. W. (2017). Multilocus phylogeny of alligator lizards (Elgaria, Anguidae): testing mtDNA introgression as the source of discordant molecular phylogenetic hypotheses. *Molecular Phylogenetics and Evolution*, *110*, 104-121.

***Elgaria paucicarinata* by Brad Hollingsworth**

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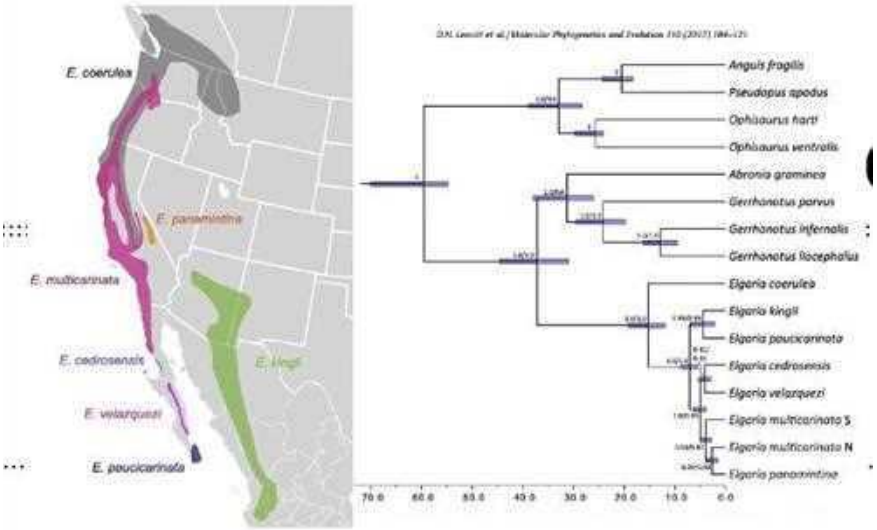

Modified from Leavitt et al 2017

***Elgaria kingii* by Erik Enderson**

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Chope

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28 *Plestiodon lagunensis* (San Lucan Skink).

Dawn broke and the sun's rays illuminated the beautiful La Laguna meadow surrounded by oaks and pinons. I had fully recovered, my spirit returned, and I was excited to be heading out searching for herps on top of the San Lucan montane island . We played together as partners, a flipper and a grabber, Juanito with me, and Chope with Billy. We soon uncovered several additional *Elgeria paucicarinata*, a Sierra de La Laguna endemic species of Alligator Lizard.

We were thrilled to find our first *Plestiodon lagunensis* under a large oak log. It is a species that was once thought to be endemic to the Sierra de la Laguna. Thanks to field explorations by Lee Grismer, Brad Hollingworth, and others, the species is now known at scattered localities along the Pacific slope of the Sierra Giganta north to near San Francisco de la Sierra. This split distribution in the Sierra Laguna and on the flank of the Sierra Gigantea is reminiscent of that of *Elgeria paucicarinata* and *vaelazquezi*. But the Alligator Lizards in the two areas differ

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in DNA and morphology, whereas he Skinks do. The DNA data do clearly indicate *Plestiodon lagunensis* is a distinct species from other members of the *skiltoneanus* group.

While I was photographing the skink, Juanito continued searching. and suddenly screamed. He had almost stepped on a *Crotalus lucasensi*s. The near death of his sister Juanita from a bite of the San Lucas Rattlesnake had traumatized the boy and I comforted him until the panic subsided.

Grismer, L. L. (1996). Geographic variation, taxonomy, and distribution of Eumeces skiltonianus and E. lagunensis (Squamata: Scincidae) in Baja California, Mexico. *Amphibia-Reptilia*, *17*(4), 361-375.

Grismer, L. L. (2002). Amphibians and reptiles of Baja California, including its Pacific islands and the islands in the Sea of Cortés. In *Amphibians and Reptiles of Baja California, Including Its Pacific Islands and the Islands in the Sea of Cortés*. University of California Press.

Hollinsworth, Brad. Amphibian and Reptile Atlas of Peninsular California. https://herpatlas.sdnhm.org

Richmond, J. Q., & Reeder, T. W. (2002). Evidence for parallel ecological speciation in scincid lizards of the Eumeces skiltonianus species group (Squamata: Scincidae). *Evolution*, *56*(7), 1498-1513.

***Plestiodon lagunensis* by Victor Hugo Luja**

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***Plestiodon lagunensis* by Brad Hollingsworh**

***Crotalus lucasensis* by coweyow**

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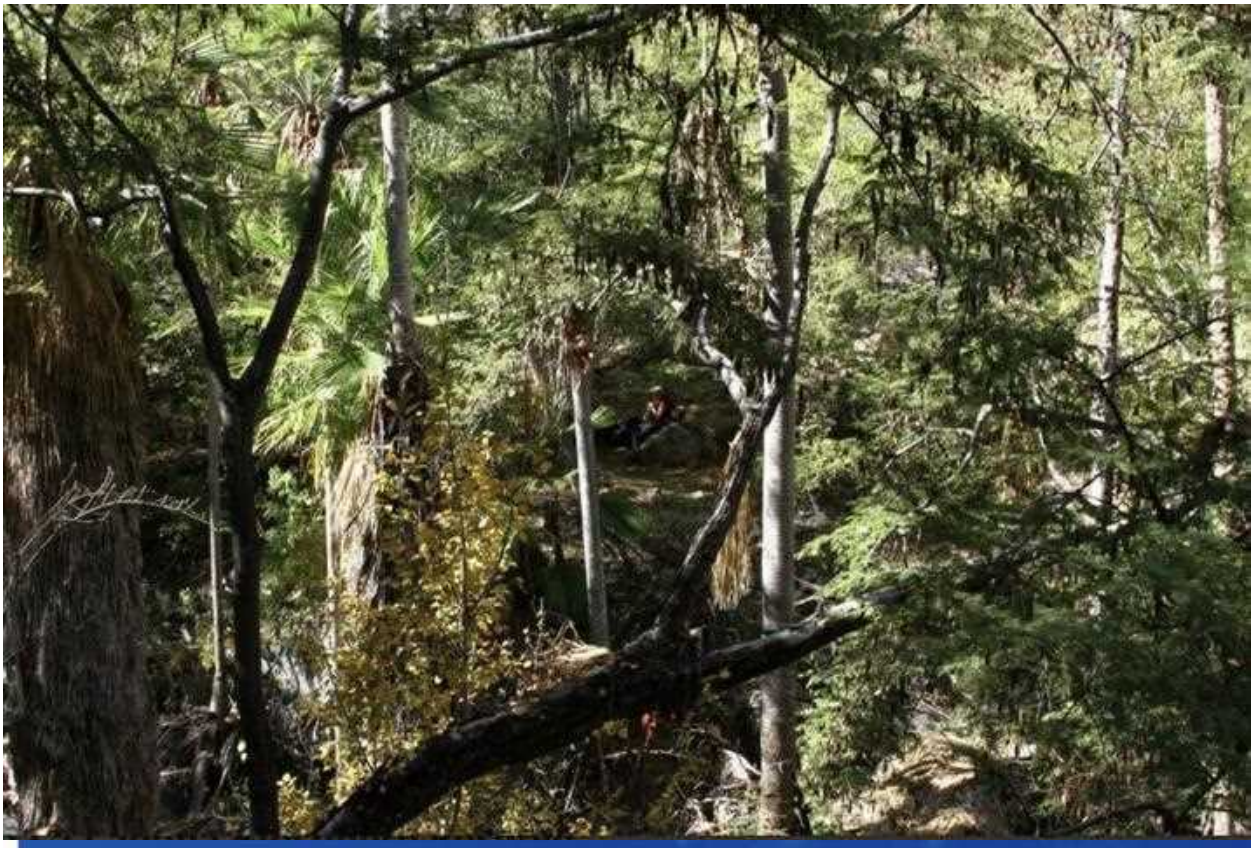


© Ralph Lee Hopkins/With aerial support by LightHawk

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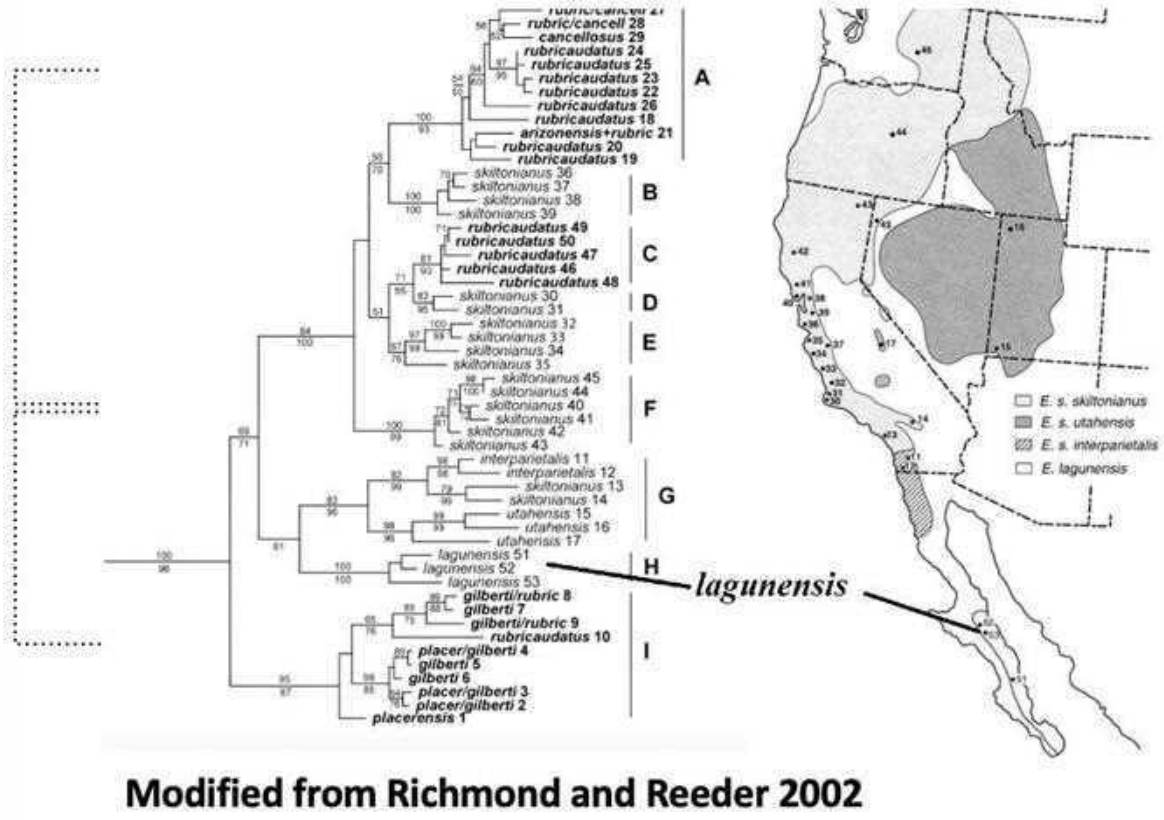
Distribution of *Plestiodon lagunensis* by Brad Hollingsworth



Modified from Richmond and Reeder 2002

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30 *Xantasia gilberti* (Gilbert's Night Lizard)

Gabriel loaded Acorde and we departed from La Laguna heading to San Francisquito. It was there that the intrepid Cape explorer Gustav Eisen collected the type specimen (CAS 401) of *Xantasia gilberti* on 28 March 1892. Eisen climbed, mapped, and named many of the peaks in the Sierra de la Laguna. I had studied his 1896 map and had a good idea where his San Francisquito is located. Also I had talked with Gabriel's grandfather at Rancho La Burrera who knew the range and all the pozos and was able to give us directions to it from La Laguna.

I had a fixation on type localities. Night Lizards vary so extremely from place to place that I believed it important to examine specimens from the particular locality where a species' type specimen had been collected. The specimen collected by Eisen at San Francisquito was the only one John Van Denburgh had when described *Xantasia gilberti* that he named for his Stanford University mentor, ichthyologist Charles Henry Gilbert.

I was able to enjoy this walk. I had been so physically stressed by the very difficult climb up the steep trail to La Laguna that I was not able to appreciate the Sierra on that trek. But the walk to San Fancisquito was along the crest and I could savor the experience. The views down into the deep barrancas with their extremely tall palms and massive fig trees was breathtaking.

Gabriel loaned a machete to Juanito, and Chope taught him how to use it effectively. I liked watching the two boys having a great time together chopping our way through the thick vegetation of the Sierra.

After several hours we arrived at the pozo. Gabriel watered Acorde and then we had a belated meal. He was disgusted that all we brought to eat was tortillas and peanut butter, and he enjoyed his jerky.

We set out searching for Night Lizards, I with Jaunito, and Billy with Chope. Hours passed, nada de nada! I went to sleep eating my heart out.

In the morning Acorde was loaded and the other four set off chopping our way down from the crest of the Sierra to La Burrera. I lagged back at pozo San Francisquito flipping like a maniac. And there under the last few rocks was a *Xantasia gilberti* (UAZ 17519) plus a *Plestiodon lagunensis* (UAZ 23386), both from their type localities.

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Xantasia gilberti is a seldom seen and little appreciated narrow endemic of the Sierra de La Laguna. It is known from only a few localities high atop the range. DNA studies indicate that it is more closely related to i *Xantusia extorris* in the Bolson de Mapimi of the Chihuahuan Desert than to *Xantusia wigginsi* of the central Baja California peninsula.

When it came time for Billy and I to leave La Burrera, I gave Juanito a big hug, said "See you later alligator," managed a smile, and then turned away so he would not see the tears streaming down my cheek.

Bezy, R. L., K. B. Bezy, K. Bolles, and W. C. Sherbrooke. 2019. Night lizards (*Xantusia*) and their discoverers on the Baja California Peninsula. Sonoran Herpetologist 32(2):25-33. https://www.researchgate.net/publication/333393530_Night_lizards_Xantusia_and_their_discoverers_on_the_Baja_California_Peninsula

Eisen, G. (1897). Explorations in the cape region of Baja California. *Journal of the American Geographical Society of New York*, *29*(3), 271-280.

Leavitt, D. H., R. L. Bezy, K. A. Crandall, and J. W. Sites, Jr. 2007. Multi-locus DNA sequence data reveal a history of deep cryptic vicariance and habitat-driven convergence in the Desert Night Lizard *Xantusia vigilis* species complex (Squamata: Xantusiidae). Molecular Ecology 16:4455-4481. https://www.researchgate.net/publication/5972993_Multi-locus_DNA_sequence_data_reveal_a_history_of_deep_cryptic_vicariance_and_habitat-driven_convergence_in_the_desert_night_lizard_Xantusia_vigilis_species_complex_Squamata_Xantusiidae

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***Xantusia gilberti* by Eli Garcia-Padilla**

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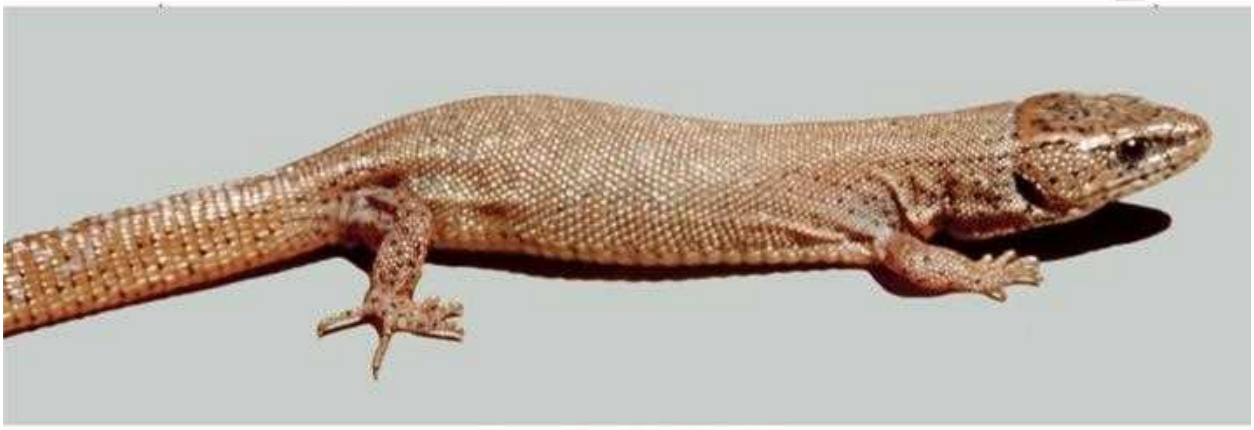
***Xantusia gilberti* by Jesus Gordolomi Butterball RC**



***Xantusia gilberti* by Kit Bezy**

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© Ralph Lee Hopkins/With aerial support by LightHawk

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Gabriel

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John Van Denburgh

Gustav Eisen and his 1897 map of the Cape region

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33 *Masticophis barbouri* (Isla Espiritu Santo Whipsnake).
Separating from Juanito and Chope at Rancho La Burrera left a big hole in my heart and I needed some time to heal. Billy found a peaceful oases south of La Paz for us to rest a few days. I began to take long walks alone on the playa to let solitude repair my heart. That is where I met Chatty Kathy. She was riding her horse to "Kids Up," where she was a volunteer.

Kids Up uses horse-riding as a form of therapy for children with severe disabilities. It is run entirely by volunteers and started out small, but has gradually grown. Old vaqueros come and they bring their horses, and people of all backgrounds volunteer their time, money, and love for the kids. The disabled child rides for at least a half hour, usually with one adult leading the horse, and one walking on each side of them.

The riding becomes the highlight of the kid's life and it works wonders for them in ways that medical science cannot.

Kathy and Bill had a boat and offered to take us out to Isla Espiritu Santo again. As we neared the island Kathy was just putting the finishing touch on her painting. We walked far up the canyon listening to the Antelope Ground Squirrels singing. And there stretched out on a rock was the seldom seen *Masticophis barbouri* endemic to the island. When we returned to La Paz we had a brief visit to the Malecon, topped off with a mango ice cream cone at Juan's.

Billy and I had not done any road driving for snakes in some time. It was a balmy night so we decided to give it a try.

We had our bro puesta time, wolfed down some tortillas and peanut butter, and Billy and I were off on a road cruise at dark to see what we could find in the gap produced by the La Paz embayment between the Cape San Lucas region and the Pacific shelf of the Sierra Gigantea.

We were delighted to find a *Phyllorhynchus decurtatus* (Spotted Leaf-nosed Snake), a desert species that appears to reach its southern limit above the Cape region. It certainly had a very different color pattern from any others we had ever seen.

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The headlights illuminated a large snake stretched out across the middle of road and a big rig was barreling head-on towards us. I did a "roller," jumping from Van before Billy could bring it to a stop, sprinted ahead, and scooped up the *Bogertophis rosaliae* from in front of the on-coming 18-wheeler.

It was a magnificent snake and bro and I took turns holding it before getting photos and a tissue sample. "In color pattern it resembles *Senticolis triaspis* (Green Ratsnake) more than its nearest relative *Bogertophis subocularis* (Trans Pecos Ratsnake). Color and color pattern do not necessarily reflect deep phylogeny," I declared.

We were rolling again and I spotted a small snake moving like greased lightning to get off the road. I did another roller and grabbed the animal just before it could escape into the road-side vegetation.

It was a species we had never seen before, *Hypsigena slevini* (Slevin's Baja California Nightsnake). And it was certainly a strange looking animal indeed, a Nightsnake with a very big head. "I can see why for many years the species was placed in a separate genus, *Eridiphas*. In DNA trees it does seem to branch off earlier than other *Hypsigena* species except *tanzeri*," I remarked.

We took a side track leading far towards the Pacific, threw down our bags, and fell asleep, under a billion stars, two very happy herp bros.

Dahn, H. A., Strickland, J. L., Osorio, A., Colston, T. J., & Parkinson, C. L. (2018). Hidden diversity within the depauperate genera of the snake tribe Lampropeltini (Serpentes, Colubridae). Molecular phylogenetics and evolution, 129, 214-225.
https://par.nsf.gov/servlets/purl/10117240

Mulcahy, D. G. (2008). Phylogeography and species boundaries of the western North American Nightsnake (Hypsiglena torquata): revisiting the subspecies concept. Molecular phylogenetics and evolution, 46(3), 1095-1115.
https://webapps.fhsu.edu/ksherp/bibFiles/186.pdf

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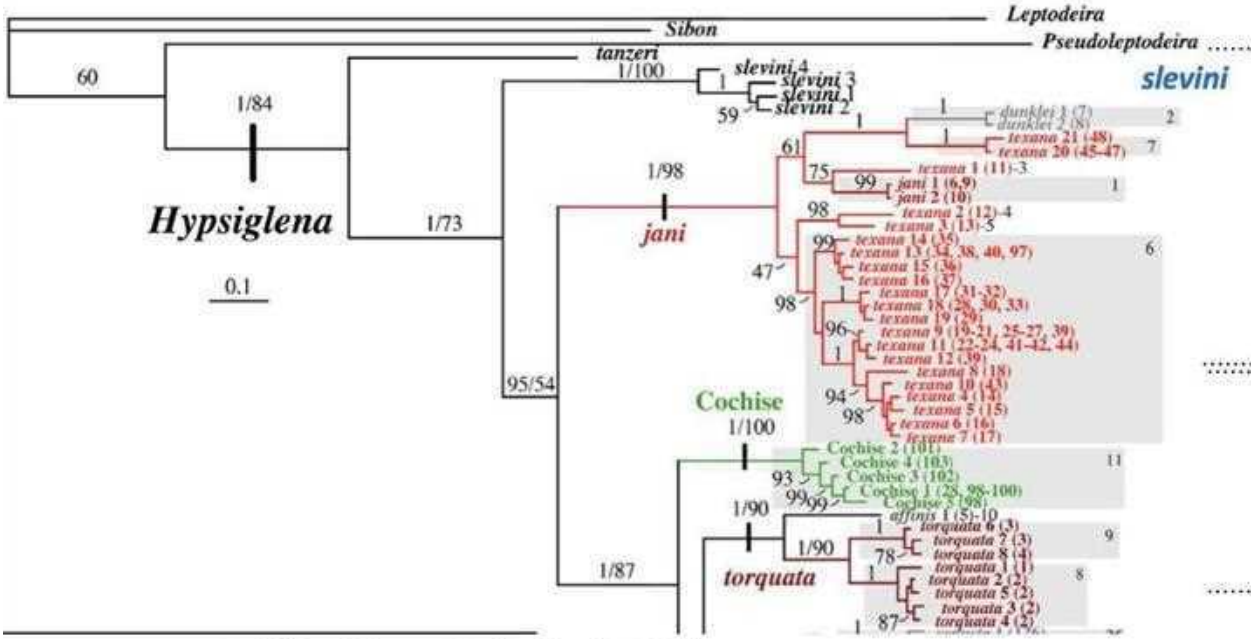

Modified from Mulcahy (2008)

***Bogertophis rosaliae* by Wil Flaxington**

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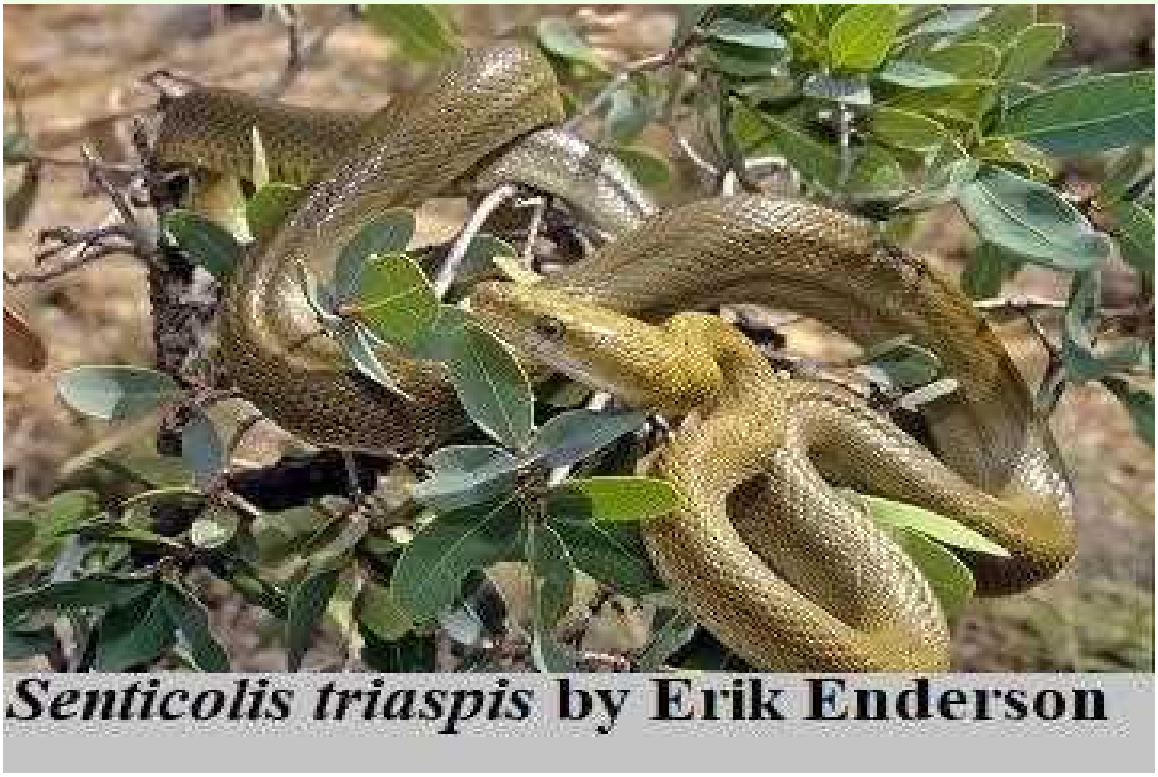
Bogertophis subocularis by Jake Scott



Senticolis triaspis by Erik Enderson

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***Hypsiglena slevini* by Mike Pingelton**

***Hypsiglena slevini* by Mike Pingelton**

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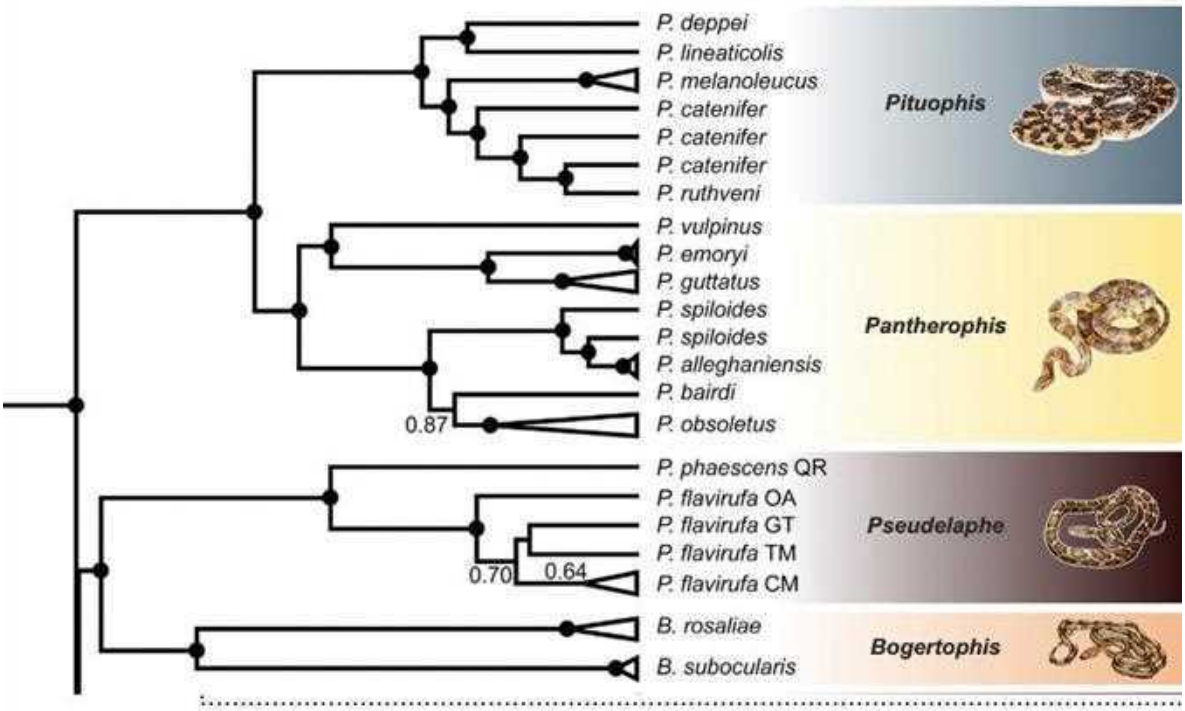
***Hypsiglena tanzeri* by Robert Hansen**



From Dahn et al. 2018

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***Masticophis barbouri,* Isla Espiritu Santo,**
By M. Bernadette Bezy and Delilah Bezy Bremmer

***Masticophis barbouri* by Elia López Greene**

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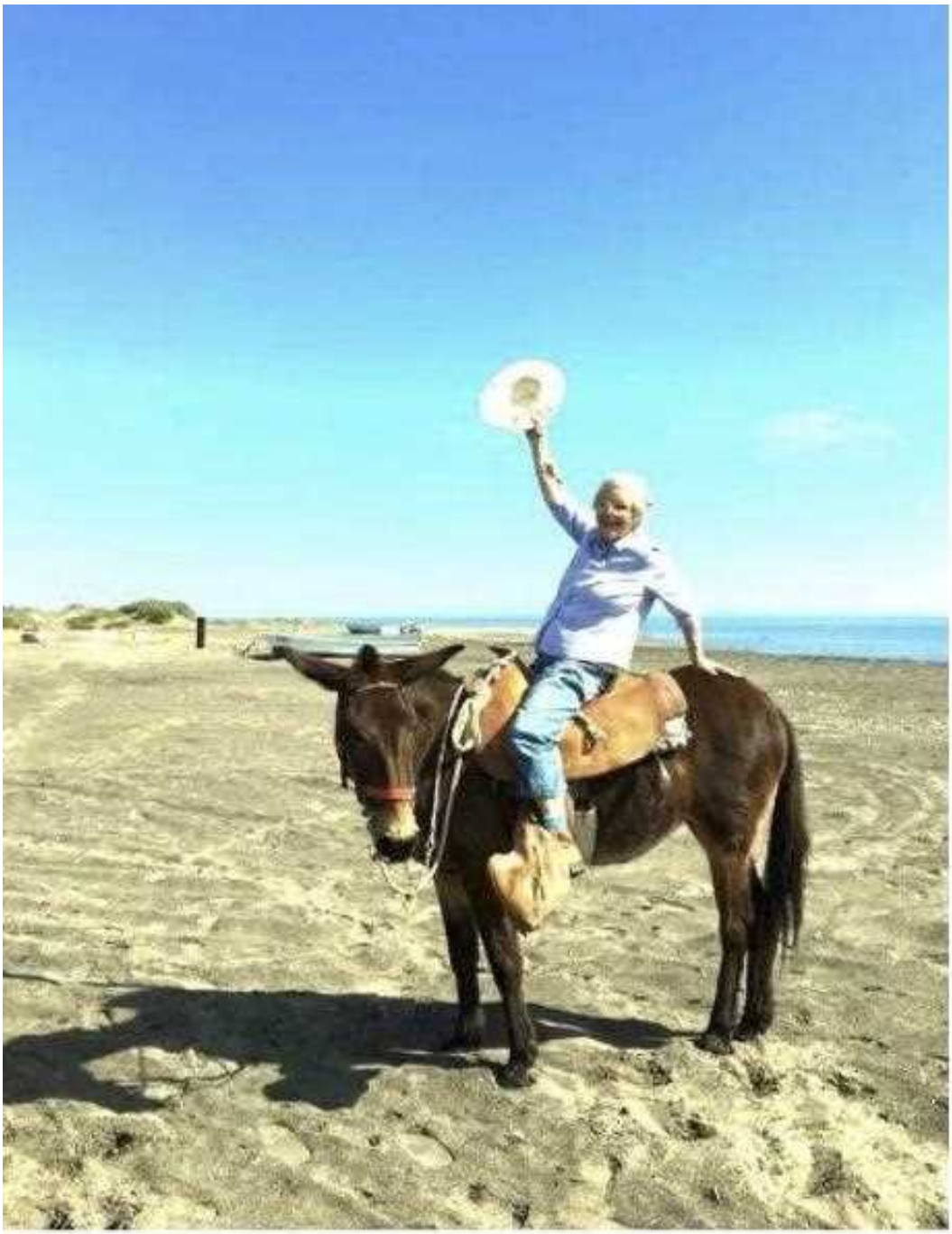

M. Kathleen Bezy

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M. Kathleen Bezy

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Kathy and Bill

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34 *Arizona pacata* (Baja California Glossy Snake).

We awoke to a very depressing gray day on the Magdalena coast. The cold dreary Pacific was definitely unappealing and we were not even entirely sure whether or not the sun had risen

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"Let's spend one day herping over here along the dreary Pacific, then let's stick with the Gulf side. The Pacific is wonderfully tropical down in the Cape but its colder than shit up here," I proclaimed.

The columnar cacti diversity caught our attention. The three peninsular stalwarts, Cardon (*Pachycedreus pringeli*, the largest living cactus), Organ Pipe (*Stenocereus thurberi*), and Senita (*Pachycereus schottii*) were everywhere. Also Gates' Columnar Cactus (*Lophocereus gatesii*) was nestled im the rocks and the prostrate Creeping Devil del Llano de Magdalena.

"With these endemic species of columnar cactus there surely must be an endemic herp or two here on the Magdalena coast," I proffered.

The very nature of field adventure is that even the bad days teach us important new things, and we were certainly having a very bad day.

"Ya know Billy, I think maybe I am starting to get the picture here that it is temperature of the Pacific that controls the herps. The warm Pacific in the Cape promotes the wonderful San Lucas herp diversity, but the cold Pacific currents up here make this coast uninhabitable to desert- and tropics-adapted herpetofaunas.

"I had always thought that the reason herp records are concentrated down the central spine of the peninsula is because that is where the road is located. But now I am beginning to think the herps are more abundant and diverse along the spine because it has a balance between the cold fog-shrouded Pacific coast and the hot hyper-arid Gulf coast."

Eventually the fog burned off on the Magdalena coast and we saw a good variety of lizards, including *Dipsosaurus dorsalis* (Desert Iguana), and the presence of this heat-requiring species defeated my hypothesis.

"Billy, I give up. I just can't seem to figure out the biogeography of the herps on the Magdalena."

"Well, Bobbybro, maybe you are trying too hard. Just relax and enjoy the species we do find."

"You got a point Billybro. I do tend to overthink, and I need to learn to enjoy life more."

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We had a great bro time together at puesta del sol and Billy found a little dirt-floor and thatched-roof restaurant with fresh langostas that the fisherman had just brought in from the cold Pacific. They were wonderful.

Driving to our sleeping spot I saw a snake in the headlights slithering across the sandy track ahead. "Wow, its an *Arizona pacata* and it clearly has a very different color pattern from the *Arizona elegans* (Glossy Snakes) up north. This is the endemic Magdalena herp I have been hoping to find."

We fell asleep happy bros.

***Arizona pacata*, near Ciudad Constituion, by Paul Freed**

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***Arizona elegans*, near San Quintin, by Marco Eduardo Solis Sotelo**

Pachycereus pringeli *Pachycereus schottii* *Stenocereus thurberi*

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Lophocereus gatesii *Stenocereus eruca*

Distribution of *Arizona pacata* by Brad Hollingsworth

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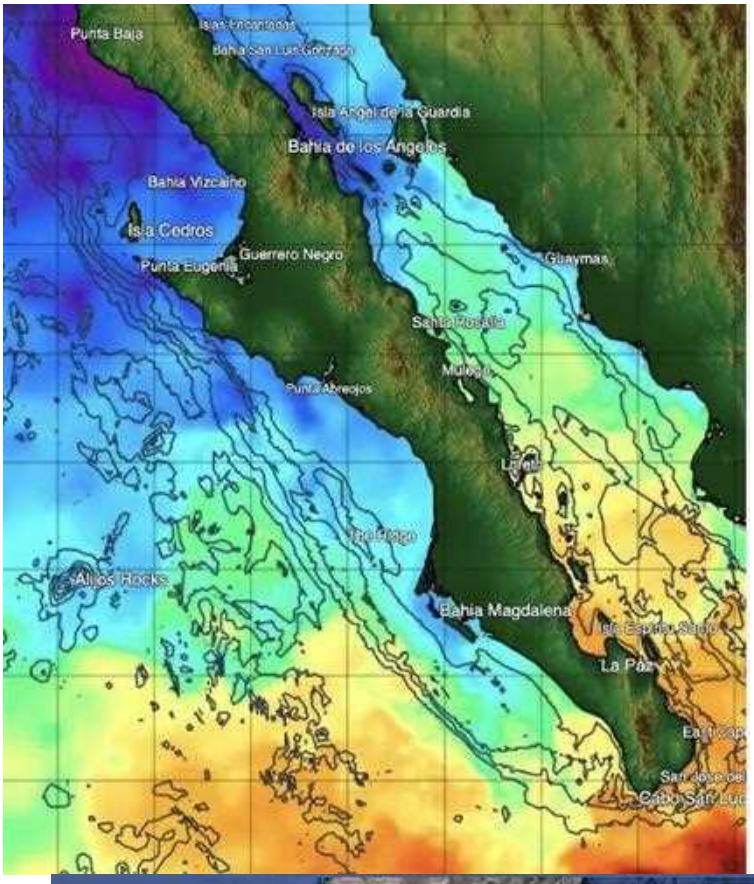
Punta Baja
Isla Angel de la Guardia
Bahia de los Angeles
Bahia Vizcaino
Isla Cedros
Guerrero Negro
Punta Eugenia
Guaymas
Punta Abreojos
Bahia Magdalena
La Paz


Magdalena
La Paz
Espiritu Santto
Las Cruces
Cerralvo
Buena Mujer
Boca de La Sierra
Todos Santos
Sierra Laguna
Google Earth

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35. *Thamnophis hammondii* (Two-striped Gartersnake).

We had entered the truly Forgotten Peninsula. The main peninsular road had lost pavement 50 kilometers ago and it was now just a series of parallel sandy or rocky tracks. We were never quite sure if we were on the main road or a branch to a rancho and most of the travelers were on foot or burros. The "towns" were actually ranchos, mostly without electricity, and they sold gasoline by the pail siphoned from a drum.

"Billy, I think we need to understand the Sierra de la Giganta better. It is certainly very different from the Sierra de la Laguna of the Cape. The map shows a jeep trail across the Sierra to a Misión Dolores on the Gulf. You suppose we could make it across?" I liked to get Billy excited and I knew dealing with horrendous roads is how he gets his rocks off.

His response was quite predictable, "You're on big time Bobbybro. Let's just do it."

After many tries we finally found the "ramal" to Dolores. I had a lot of trouble understanding people in the Giganta as nearly everyone spoke Spanish with a strange outback accent. Billy was much better with la lingua, but he viewed himself as the "driver" and I was supposed to be the "directions guy."

At each ramal, we just selected the track that looked at least occasionally traveled. When it ended at a rancho I would hop out of Van and ask someone in the thatched adobe for directions. It was a challenge for me to understand what they were telling me but I liked interacting with the young rancheros and especially the hijos. The kids stared at me as most had never seen a gringo with ojos azules before.

Many ramales and ranchos later we topped over a rise and were shocked to see standing water in an oasis. We hopped out to investigate. Walking around the presa we were delighted to see Baja California Killifish (*Fundulus lima*, LACM 34364-1) and *Thamnophis hammondii* (LACM 116394) in the water. There was a kid, Chico, wading and he was very good at catching the Gartersnakes with us.

The oases are dotted along the western bajada of the Giganta and they represent an important element of the range's biodiversity. We were interested in getting tissue samples to estimate just how long the oases have been isolated from each other.

Detailed DNA analyses were not yet available for *Thamnophis hammondii* but the sequences for *Fundulus lima* reveal considerable divergences among the

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oases. There is also significant divergence between *Pseudacris hypochondriaca* from La Laguna (*curtisi*) and those to the north in oases on the peninsula (*hypochondriaca*).

Walking back to Van we were excited to find a *Crotalus enyo* (Baja California Rattlesnake).

We had a noon dip in the presa and then shared our tortillas and peanut better with Chico. He explained that historically Misión Dolores had been moved more than once and its location here at San Pedro de la Presa was more recent, but the original site was on the coast. He had been there once on his burro to enjoy the playa, but he had never heard of anyone driving there.

That got Billy excited big time as he liked the challenge of being the first to drive to the coast. After we departed from La Presa the road deteriorated badly and the worse it got the more fun Billy had.

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***Thamnophis hammondii* by Max Laubstein**

***Thamnophis hammondii* by Aaron Echols**

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***Thamnophis hammondii* by Christian Schwartz**

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***Crotalus enyo* by Hector Franz**

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Chico


Magdalena
San Pedro de la Presa
La Paz
Espiritu Santto
Las Cruces
Cerralvo
Buena Mujer
Boca de La Sierra
Todos Santos
Sierra Laguna
Google Earth
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Data LDEO-Columbia, NSF, NOAA

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36 *Petrosaurus repens* (Short-nosed Rock Lizard).

I was quite frankly disappointed with the Sierra de la Giganta. Billy managed to get Van high on the crest and I was hoping to discover oak woodland as the range shares some endemic species of plants with the Sierra de La Laguna, including the oak *Quercus tuberculosa*. But towards the crest, it just got hotter, more arid, and more sparsely vegetated. A few oaks were growing among the boulders but they certainly did not form a woodland anything like that at La Laguna. The Giganta also has a tree *Nolina* like those that harbor *Xantusia gilberti* in Sierra Laguna, but the few plants we found did not yield Night Lizards.

Hours later, the track came to an an abrupt end high above a deep barranca. Billy was crest-fallen and very reluctant to give up, but the steep foot trail with sharp switch backs down the canyon wall was totally impossible for a motor vehicle of any sort.

"Well, Billybro, we've got legs and we can continue down your road the playa," I offered as salve to soothe his disappointment that his fun road ended not with a bang but with a whimper.

I was fine with setting out on this walk into the canyon as it was all down-hill. After two hours, we had drained our canteens and were becoming severely dehydrated and overheated. Fortunately a kid came along walking up the trail. Carlito led us to a palm with a pozo where we filled our canteens and guzzled the agua dulce.

Carlito said that his tio lived in the rancho down below and assured us it was “cerquita.”. An hour later, totally exhausted, we reached a rancho and Angel and Mateo welcomed us. We were shocked. They were not at all anything like the outback peninsula rancheros we were accustomed to. Angel was a naturalista with a keen interest in the entire biota of the Sierra, and Mateo enjoyed living with her in the canyon far from other humans.

They were the caretakers of the remnants of Misión Dolores and it was their job to make sure the extensive date palm groves and mango orchards were irrigated regularly enough to keep the trees alive. That was not a very time-consuming task and they were mostly free to enjoy the Sierra and observe the fauna and flora.

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We had long discussions with Angel about the Sierra de la Giganta. She explained that range is definitely not a high-elevation center of biodiversity comparable to the Sierra de la Laguna. There simply is no woodland like that of the Cape. This is partially due to the climate of the central Gulf and to the structure of the range, she explained. Its western flank gradually slopes down to the Pacific and most of the water from the scant precipitation flows to the west and gives rise to the oases which act as miniature biodiversity centers. The abrupt drop off on the Gulf side of the Giganta has deep canyons like this one with water and some limited biodiversity but they are scoured out by the very irregular deluges from late summer chubascos.

Angel had a site where she was studying comparative ecology and behavior of *Petrosaurus*. The members of the genus are good examples of biogeography and evolution on the peninsula, with a large bodied species (*thalassinus*) restricted to the Cape, an intermediate-sized species (*repens*) here in the Giganta extending north to the Sierra San Pedro Martir, and a small one (*mearnsi*) in the Sonoran Desert ranges extending into southern California. All are very rock-adapted lizards that are quite adept at sprawling over the boulders and clinging upside down.

I suggested that we could get tissue samples from her lizards to look at the relationship of social dominance to reproductive success based on gene data. Angel liked working very close when we were taking the tissue samples and I was turned on by her physical contact. But, alas, as is the usual case, I could clearly see her pupils were dilated when she looked at Billy, not me.

Angel wanted a little more than a look. "I am going up to the cascada to shower this afternoon. Billy, would you like to come with me?" "Sounds like fun to me," Billy replied. I ignored the exclusion and just dove in. "Gee, Angel, can I tag along?" "Of course you and Mateo can also come, Bobbyboy."

The cascada adventure was indeed a lot of fun and by far the most memorable shower I have ever taken.

Aguilars-S, M. A., Sites Jr, J. W., & Murphy, R. W. (1988). Genetic variability and population structure in the lizard genus Petrosaurus (Iguanidae). Journal of herpetology, 135-145.

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***Petrosaurus repens* by Robert Bader**

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***Petrosaurus repens* by creaturesofthe road**

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***Petrosaurus repens* by Andrew Gottscho**

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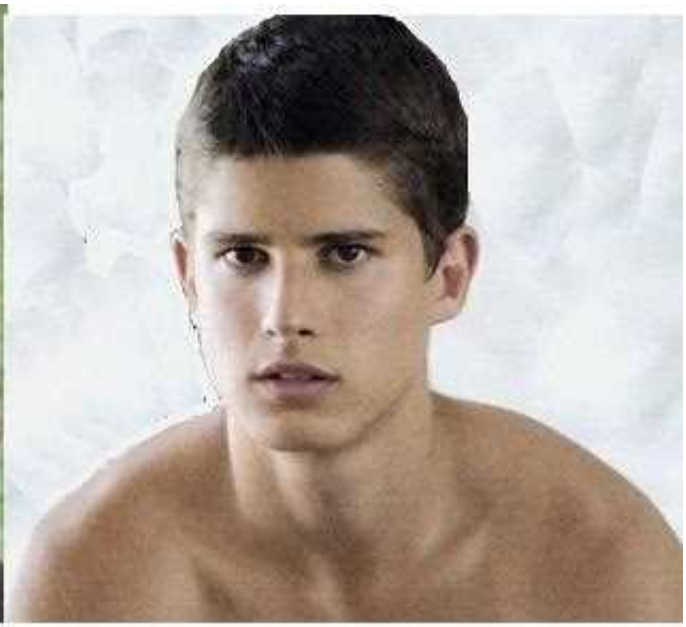
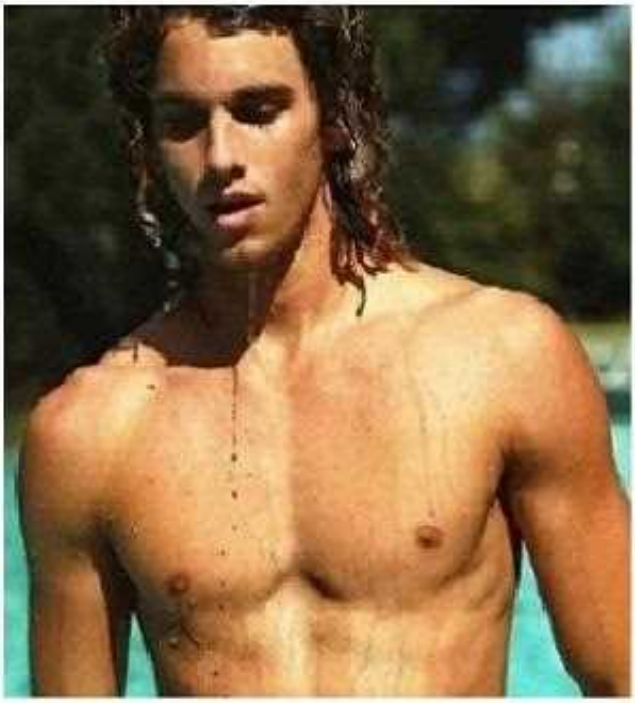
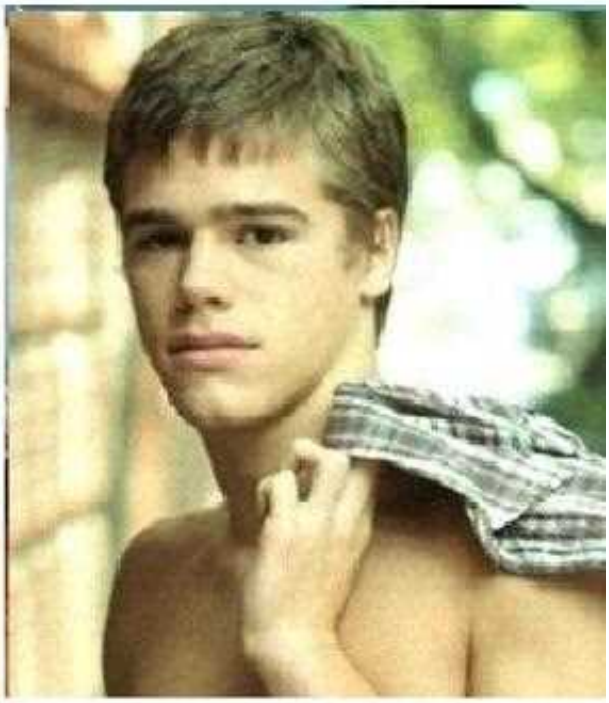
Angel



Mateo



Billy



Bobby

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37 *Elgaria velazquezi* (Velazquez' Axolote).

Billy and I had a long deep talk and were able to rekindle our bro attachment that had been eroded by our cascada adventure with Angel and Mateo. We decided that we would be happier reducing contact with them.

Fortunately Carlito came by on his way to visit his tio again and he took us to meet his family. They lived in a small adobe a kilometer down the canyon and were the sort of earthy rancheros we were totally comfortable with. We decided to move our camp to near their casita.

Carlito went exploring with us every day and turned out to be an ace herper. Kids his age have keen interests, eyes, and reflexes for catching reptiles. With his help we documented many species at Dolores. Other than *Petrosaurus repens* (Short-nosed Rock Lizard) they were widespread desert species, not endemics to the Cape and/or Sierra de la Giganta.

We walked with Carlito an hour to the playa. The view of the Gulf-face cliffs of the Sierra de la Giganta was absolutely stunning, my fondest memory of the range. After our dip in the warm Gulf, devouring of tortillas with peanut butter, and

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puesta bro time we headed out with headlamps. On the rocks we found *Phyllodactylus nocticolus* (Baja California Leaf-toed Gecko; LACM 127207) and the dunes yielded *Chilomeniscus stramineus* (Variable Sand Snake; LACM 116380) and *Colonyv variegates* (Western Banded Gecko). We were amazed by the unique color pattern of *C. v. peninsularis* (Baja California Banded Gecko) that DNA analyses indicate is most closely related to *C. v. abbotti* (San Diego Banded Gecko) of southern California.

Carlito reported that he had once seen an Axolote high up in the canyon. At dawn we climbed up to the place and flipped like maniacs hoping for an *Elgaria*. We never found one and years later Lee Grismer and Brad Hollingsworth described *Elgaria velazquezi* from localities in the ranges on the central peninsula, including an interesting mention of Misión Dolores. On the way back Carlito found a *Crotalus mitchellii*.

I reached the conclusion that the occurrences of mesic-adapted species such as *Elgaria velazquezi* and *Plestiodon lagunensis* (Laguna Skink) north of the La Paz gap are associated with the oases and water courses along the cool Pacific side of the Sierra de la Giganta rather that along the crest of the range or in its hot Gulf canyons.

Grismer, L. L., & Hollingsworth, B. D. (2001). A taxonomic review of the endemic Alligator Lizard Elgaria paucicarinata (Anguidae: Squamata) of Baja California, México with a description of a new species. Herpetologica, 488-496. https://www.researchgate.net/publication/295353785_A_taxonomic_review_of_the_endemic_alligator_lizard_Elgaria_paucicarinata_Anguidae_Squamata_of_Baja_California_Mexico_with_a_description_of_a_new_species

Grismer, L. L., & McGuire, J. A. (1993). The oases of central Baja California, Mexico. Part I. A preliminary account of the relict mesophilic herpetofauna and the status of the oases. Bulletin of the Southern California Academy of Sciences, 92(1), 2-24.

Leavitt, D. H., Hollingsworth, B. D., Fisher, R. N., & Reeder, T. W. (2020). Introgression obscures lineage boundaries and phylogeographic history in the western banded gecko, Coleonyx variegatus (Squamata: Eublepharidae). Zoological Journal of the Linnean Society, 190(1), 181-226. https://academic.oup.com/zoolin.../article/190/1/181/5709824

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***Crotalus mitchellii* by Jorge Valdez**

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***Chilomeniscus stramineus* by Horacio Barcenas**

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***Phyllodactylus nocticolus* by R. Wayne Van Devender**

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***Plestiodon lagunensis* by Brad Hollingsworth**

***Elgaria velazquezi* by Brad Hollingsworth**

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Gulf face of the Sierra de la Giganta

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Tia and Tio

38 *Sator angustus* (Isla Santa Cruz Sator).
Young Carlito became thoroughly infected with our obsession for finding reptiles. He led us to another of his tios, Juanito, who lived a couple hours walk up the coast and who had a panga. That was an exciting prospect as Billy and I were chomping at the bit to visit Islas San Jose and San Diego to photograph and tissue sample their endemic lizards.

Juanito slept on the playa and owned very little except his panga, as the fish in this part of the Gulf had been mostly depleted, at least near the shore. He smiled from ear to ear when we offered to buy gasoline for his outboard and pay him to take us out to San Jose and San Diego. He was a fisherman to the core and going out in Panga was his whole life.

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Our youthful spirits were soaring like eagles as Juanito, Carlito, Billy, and I shoved off at dawn bound for las islas. The outboard motor often stalled, but Juanito reassured us not to worry as he always knew how to take it apart and fix it and, besides, he said he had rowed to the islands several times.

He dropped anchor in a broad bay on San Jose with a magnificent stand of Cardons. We dove in, and swam ashore. Soon the first *Aspidoscelis danheimae* (Isla San Jose Whiptail) issued forth and began scratching around for termites.

Juanito took a clue from watching Carlito and soon joined wholeheartedly in the lizard chase. Carlito pointed out to him that when the huicos do their peculiar little hand jive they are planning to hunker down and bask for a while and that is when to go for them.

We soon had several and I was amazed at their color pattern similarity to *Aspidoscelis espiritensis* on Isla Espiritu Santo and, for that matter, *Aspidoscelis burti* (Canyon Whiptail) at Guaymas.

"All three species are associated with the Gulf and have paravertebral stripes that are attracted to one another. I wonder why that is?" I inquired.

Billy just laughed, "Ya wouldn’t understand Bobbybro, but attraction is the natural state of affairs."

"Ouch."

Then the first *Aspidoscelis celeripes* (Fastfoot Whiptail) emerged and I was blown away. "Wow, what a color pattern, it is almost as stunning as that of *Aspidoscelis ceralbensis* (Isla Cerralvo Whiptail). But this lizard is not a member of the *deppei*/*hyperythrus* species group but of the *tigris* complex and the lizards were as fleet a foot as their name indicates."

But the intrepid team of Billy, Carlito, and Juanito were able to round up a couple for photos and tissues.

The four of us snorkeled for a good long while and Juanito caught a sea bass and. cooked it to perfection. There are moments in life when it all comes together. Sitting there with buds on an island with no other humans, savoring the sea bass, feeling the warm rays of the late afternoon Gulf sun on my back, and examining

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the endemic whiptails, I knew in my heart of hearts this was how I wanted to spend my life.

At dawn Juanito pulled anchor and we headed for Isla San Diego. When the island first came into view with its steep rocky topography, my heart sank as only a physical bud could scale the slope. But Juanito was a perceptive guy and assured me he could moor where even I could scramble up.
Just like *Sator grandaevus* on Cerralvo, *Sator angustus* was an island generalist and was everywhere here on San Diego, even atop the cholla spines. We soon had photos and tissues from several and I was one happy herper.

Juanito announced that the Pangs'a outboard esta muerto. He took out the oars and he and Billy started rowing to the mainland. Billy and Juanito were a well coordinated rowing team who thoroughly enjoyed moving their muscles in consort, and I enjoyed watching them.

Bezy, R. L. 2009. Sator. Sonoran Herpetologist 22:74-78. https://www.researchgate.net/publication/317533850_Bezy_R_L_2009_Sator_Sonoran_Herpetologist_2274-78.

Case, T. J., Cody, M. L., & Ezcurra, E. (Eds.). (2002). A new island biogeography of the Sea of Cortés. Oxford University Press.

Grismer, L. L. (1999). An evolutionary classification of reptiles on islands in the Gulf of California, Mexico. Herpetologica, 446-469.

Kira, Gene. 1996. King of the Moon. A Novel of Baja California.

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an José Island, Baja California Sur, México.

***Aspidoscelis danheimae* by Brad Hollingsworth**

***Aspidoscelis celeripes* by Amy Gross**

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Aspidoscelis ceralbensis by Brad Hollingsworth

Aspidoscelis espiritensis by Elia Gomez Greene

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Sator angustus **by M. Kathleen Bezy**

Aspidoscelis burti by Mike Plagens

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Magdalena
San Diego
Dolores
San Jose
San Pedro de la Presa
La Paz
Espiritu Santto
Las Cruces
Cerralvo
Buena Mujer
Boca de La Sierra
Todos Santos
Sierra Laguna
Google Earth
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Data LDEO-Columbia, NSF, NOAA

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39. **Los Dolores**.

Carlito accompanied Billy and me on the long hike up the very steep trail to the rim of Los Dolores canyon. There was a knife in my heart when the time inevitably arrived to say goodbye to the herper. I did my best to keep my emotions under control, gave him a hug, and my usual, "See ya later alligator." He returned his, "After while crocodile," and slowly turned away to hide his tears. Billy started up Van and as we left Nuestra Señora de los Dolores, never to return, and I knew her sorrow.

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Carlito

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40 *Urosaurus nigricauda* (Black-tailed Brush Lizard)

Billy drove Van down from the Sierra de la Giganta crest and across the Magdalena Plain to the Pacific. There he spotted two surfer girls camped. "I need to shoot the curl for a while," he declared. They were surfing in the buff and we enjoyed watching them a good long while.

When they came in, Billy asked if he could borrow a board. He stripped and headed out. Gloria and Lucia had very dilated pupils as they watched Billy flowing with the waves and could not take their eyes off his buff body. They invited us to spend the night, and Billy replied, "Sounds like fun to me."

And it was a fun-filled night for us all. After many times they finally fell asleep. Billy silently stood up with his pants in one hand and the keys in the other and motioned with his head towards Van.

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I hopped in and we were off. At sunrise he stopped on a cliff overlooking the Pacific and we sat together silent for a good long while. Billybro broke the silence and declared, "No need to be coy, Boy, just get yourself free”."

I watched a *Urosaurus nigricauda* and admired its simple beauty.

***Urosaurus nigricauda* by Gerardo Marrón**

***Urosaurus nigricauda* by hectormarquez.**

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© Fetch Films

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41 *Xantasia sherbrookei* (Sherbrooke's Night Lizard).

As Billy and I headed north on the sandy road up the Peninsula we could see the Llano de Magdalena was gradually morphing into Gulf Coast Sonoran Desert. An extraordinarily rich cactus flora was emerging, and the short simple *Yucca capensis* (Cape Yuccas) were giving way to the many-trunked *Yucca valida* (Datilillos).

"This is Night Lizard habitat if I ever saw it. These Datilillos look just like Joshua Trees (*Yucca brevifolia*). Let's stop and have a look," I proposed.

Bro found a track far out into the desert with a good stand of Datilillos. We hopped out of Van excited by the *Xantusia* habitat. Billy and I liked to search together, he flipping and I grabbing. Hours later, our arms and hands thoroughly lacerated, we had seen lots of *Coleonyx variegatus* (Western Banded Geckos), but not one *Xantusia*.

"Billybro, there is always a mystery surrounding Night Lizards. They march to their own drummer. You remember how many Joshua Trees we searched up by the Date Creek Mountains and never found a *Xantusia*? I just don't get it. But someday I will solve the mysteries of xantusiid biogeography."

"Well, Bro, about twenty miles north of here there is a road to the Pacific. Unlike your Night Lizard fantasies, the sea is real. Lets go have fun in the real world." And off we went to Playa San Jorge. We dove in, but I did not last long in the cold Pacific and hauled out to lay on the warm sand of the playa enjoying the afternoon rays on my body. Just then a pickup arrived with an entire family to spend the afternoon at the playa.

The family included a herper kid , Tomas, and of course I immediately struck up a conversation. He recognized my description of Night Lizards and declared, "Hay bastante aqui en los Cardones muertos." He marched us off to the nearest decaying Cardon (*Pachycereus pringlei*), flipped it, and there was *Xantasia sherbrookei* (UAZ 17339).

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***Xantusia sherbrookei* by M. Kathleen Bezy**

***Coleonyx variegatus* by Winifred Frick**

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Yucca capensis

Yucca valida

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42. *Xantusia* musing.

Xantusia sherbrookei turned out to be an important key in my musings about evolution and biogeography of Night Lizards. So here on the Llano de Magdalena is a pocket of Sherbrooke's Night Lizards living in decaying Datilillos and Cardons.

How far does this pocket extend? Are the lizards present wherever these two plant species grow? Is this association of the Night Lizards with these plants just a happenstance of overlapping environmental tolerances? Are the plants actually an ecological necessity of the lizards? Is the presence or absence of either or both of these plant species the determining factor here in the distribution of the lizards? Do the lizards also live in other habitats and these plants just convenient places to find them?" So many questions, and so few ways of addressing them.

Even though Billy was not deeply interested in these questions, he was a real bro and gave his all to help me pursue my musings.

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We radiated out in all directions from the little town of La Poza Grande, searching the Cardons and Datilillos. But in every direction we soon ran out of Night Lizards, even though both plants were present and the habitat appeared the same to us. It was very much like what we had observed with *Xantusia jaycolei* living in Cardons on the Sonoran coast near Desemboque.

What caused such sudden presence or absence of Night Lizards?

"Billy, I want to understand if it is the occurrence of datilillos and cardons that actually limits the distribution of Night Lizards. Are these plants essential to the lizards' life ? There are just way too many factors to consider, and without sophisticated statistical analyses, just how can I ever evaluate which plausible hypothesis is most correct?"

"Well, Bobbybro, I have known you your whole life. You have a really rich imagination that brings you lots of pleasure. Maybe you should just forget the rigors of hypothesis-testing science and enjoy your musings, the Night Lizards, the Yuccas, and the Cardons that make you happy."

"I hear ya talking loud and clear, Billybro. I need to think more about what actually brings me happiness. You are a mesomorph and get your rocks off enjoying your muscles while driving, flipping, rowing, surfing, humping, and all manner of physical activity. But I am an endomorph, all skin and neurons. I like feeling and imagining. Musing and hypothesizing are a part of that for me."

Billy and I liked finding Night Lizards together. Flipping and musing we discovered that the Night Lizards are most active mid morning. This also was when we observed termites under the branches.

Billy suggested that the termites may be an important part of the decay cycle of a newly fallen branch. The Night Lizards likely forage for the soft-bodied insects under and within the decaying yucca branch and thus the plant provides the lizards with nourishment, as well as protection from predators, high temperatures, and dehydration.

"You're right on, Billybro." As usual Billy had a good grasp of the actual life of the lizards and that yields answers to my questions, whereas I muse about things that are largely untestable.

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But I mused on, anyway. I began to ponder the role of fog in the distribution of Night Lizards and yuccas on the Peninsula. "*Xantusia sherbrookei* occurs very near the southern limit of the cold California current sweeping down from the arctic along the Pacific coast of North America. The turning of this current away from the coast at mid-peninsula results in increased upwelling and thus cool moist air and fog.

"This of course is also near the southern limit of the zone in which precipitation in winter rather summer dominates the climate, and most species of *Xantusia* seem tied to winter rainfall climates. And who knows how these zones may shifted up and down the peninsula during the various episodes of the Pleistocene, leaving scattered pockets of Night Lizards here and there like this one.

"The philopatry, love of place, by these habitat-specialists may result in a very stationary species range with gaps that accurately mark the precise location of historic sea ways across the peninsula. But a seaway across the Sierra de la Giganta certainly does not seem plausible to me," I conjectured.

After a long fun day of flipping and musing, bro and I just sat together a good long while enjoying puesta del sol and letting our bro feelings comingle. We enjoyed a balmy night herp walk with headlamps and then laid down gazing up at a the spikes of the datilillos silhouetted against the star-studded sky of the forgotten peninsula, and my heart sang.

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Bezy, R. L., K. B. Bezy, K. Bolles, and W. C. Sherbrooke. 2019. Night lizards (Xantusia) and their discoverers on the Baja California Peninsula. Sonoran Herpetologist 32(2):25-33. https://www.researchgate.net/.../333393530_Night_lizards...

Garcillan, P.P., C.G. Abraham, and E. Ezcurra. 2012. Phytogeography, vegetation, and ecological regions. Pp. 23-37, In Rebman, J.P. and N. C. Roberts. Baja California plant field guide. San Diego Natural History Museum.

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***Xantusia sherbrookei* by Wade Sherbrooke**

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***Yucca valida* by M. Kathleen Bezy**

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Wade Sherbrooke and Robert Bezy, 1964, Saguaro National Park archives

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By M. Kathleen Bezy

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By M. Kathleen Bezy

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By M. Kathleen Bezy

M. Kathleen Bezy and Robert Bezy by Mike Rogers

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By M. Kathleen Bezy

By M. Kathleen Bezy

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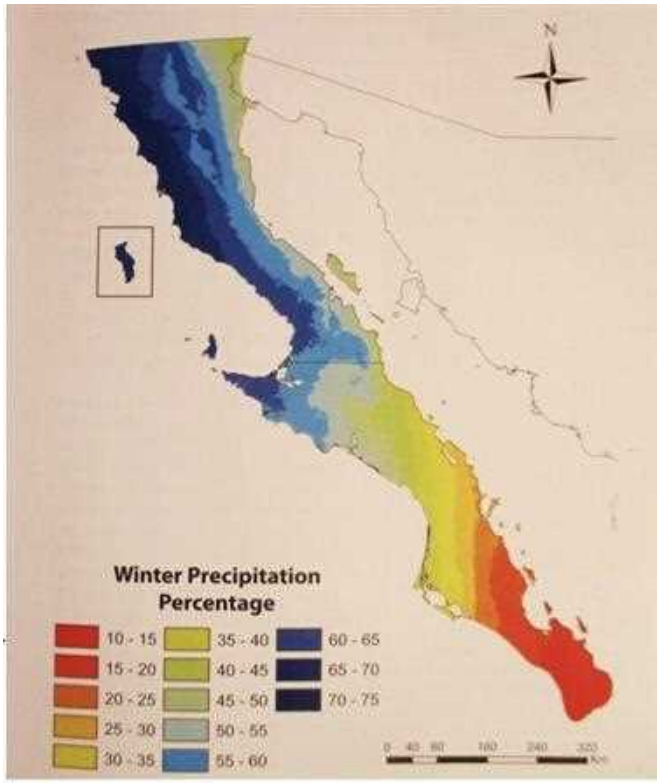
By Mike Rogers



From Garcillan et al 2012

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3. Agua Verde

We decided to take a day off from herping and just enjoy the Gulf of California. Was there anywhere the old ways of life still exist on the peninsula ? The story of the people isolated on the gulf with no roads and with the fishermen trying to hang on with declining catches is well-told in the wonderful Baja California novel, "King of the Moon," by Gene Kira.

Billybro knew just such a place, Agua Verde. We headed there and, even though there now is a road, we were the only visitors and enjoyed a beguiling remnant of the forgotten peninsula.

Photos by M. Kathleen Bezy, Mike Rogers, and Alex Ristity

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CANADA

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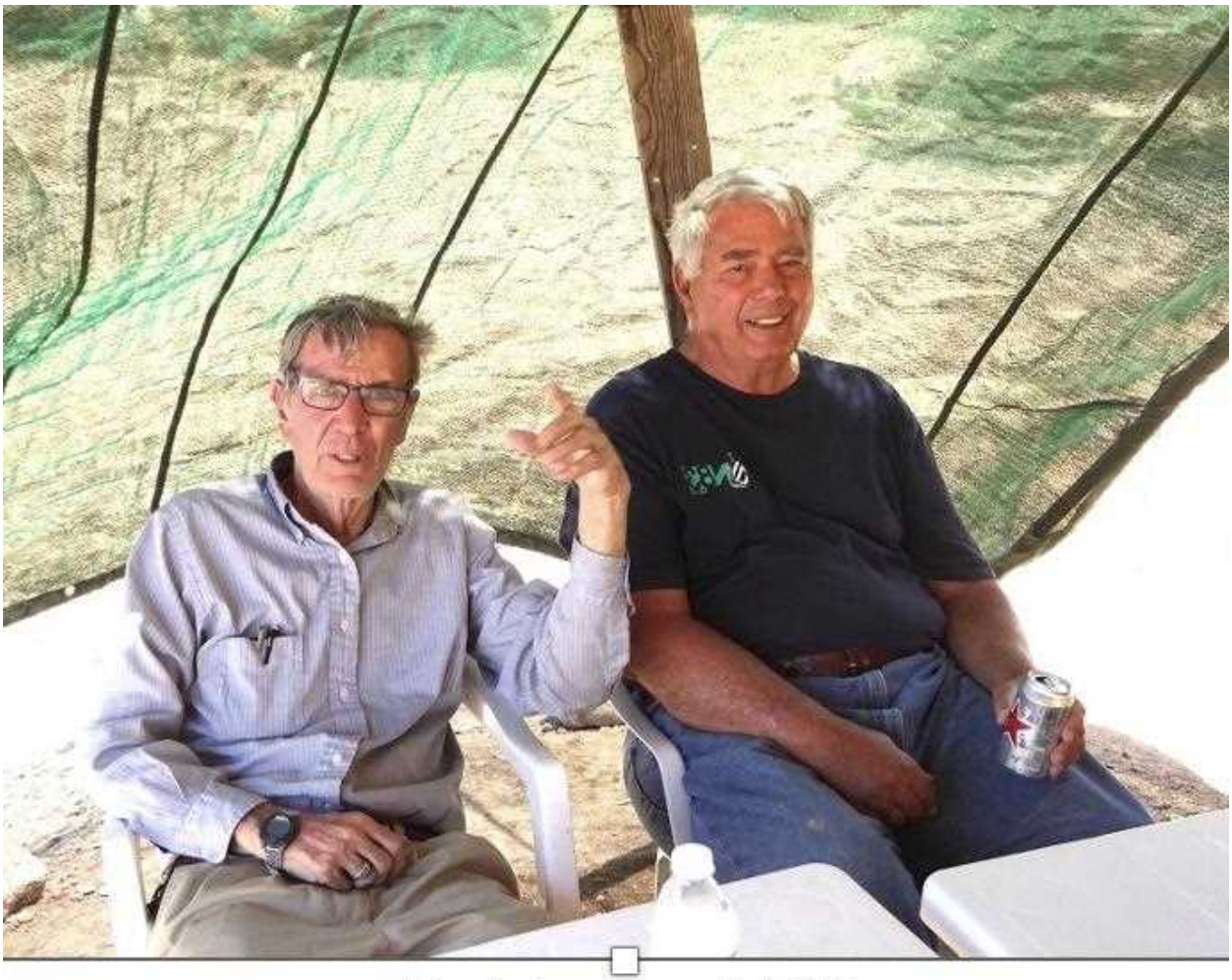

Bobby and Billy

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44 *Trachemys nebulosa* (Baja California Slider).

Bro really liked the Sierra de la Giganta and wanted to explore the range some more. Heading eastward from La Poza Grande, the tracks back into the Sierra were very rocky and Billy always enjoyed driving Van up and over the boulders.

I was surprised by the widespread evidence of volcanic activity along this western flank of the Sierra. In Arizona I had noticed the absence of Night Lizards in volcanic regions and wondered if this was a factor in their absence in the Sierra Giganta.

While the old Peninsula ways of life had all but disappeared along the coasts, they were very much alive here in the ranchos deep in the Sierra. I liked pozos even with a rancho nestled beneath the date and fan palm groves. Bro stopped often for

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me to ask directions from the rancheros and I enjoyed interacting with the kids, many of whom had never seen a gringo before.

"Billy, I like this particular oasis and it does not have a rancho. Lets stop and herp and then spend the night."

"You're on, Bobbybro."

We dove into the pozo with our snorkels and masks to observe the *Trachemys nebulosa* (Baja California Sliders).

"They are very interesting. Sliders do not naturally occur in the Sonoran Desert and it has been speculated that they were brought to the Peninsula by the Padres who established the missions. But its hard to imagine that is the case when they live in so many pozos all along the Sierra Laguna and Sierra Giganta. The DNA evidence indicates these Sliders (*Trachemys n. nebulosa*) are closely related to the ones in southern Sonora (*Trachemys n. hiltoni*). But of course that does not really speak to whether or not they were introduced here. We need to know how divergent the DNA sequences are among the many oases."

During our puesta bro time we were shocked when two teens came walking up. Carlos and Kit with their goat Mikey had been goat packing for 2 weeks in the Sierra going from pozo to pozo.

They joined us in our night headlamp walk and found a great *Crotalus ruber lucasensis* (San Lucan Rattlesnake).

Parham, J. F., Papenfuss, T. J., Buskirk, J. R., Parra-Olea, G., Chen, J. Y., & Simison, W. B. (2015). Trachemys ornata or not ornata: reassessment of a taxonomic revision for Mexican Trachemys. Proceedings of the California Academy of Science, 62, 359-367. https://www.researchgate.net/publication/280947159_Trachemys_ornata_or_not_ornata_Reassessment_of_a_Taxonomic_Revision_for_Mexican_Trachemys

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Crotalus ruber lucasensis by **By Samuel De Jesus Lucero**

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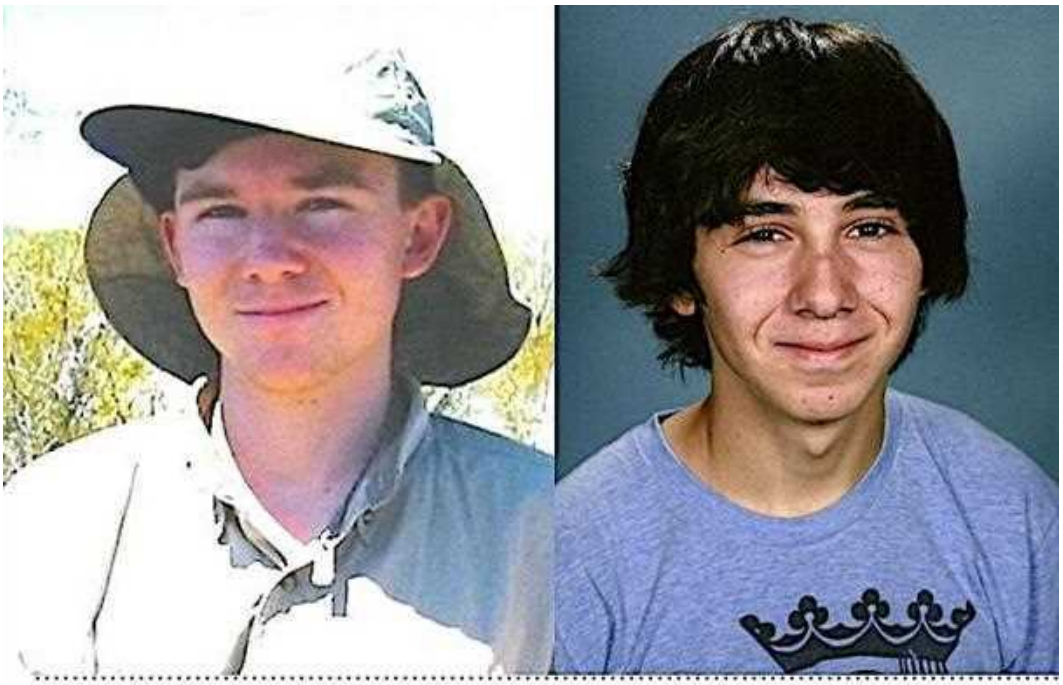

Trachemys nebulosa by Gerardo Marrón

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45. Palmar Escondido.

We topped over a rise and Billy slammed on the brakes, grabbed his mask, and dove into the Rio Purisima and came up with the largest Slider we had ever seen. I donned my mask and dove in to join him and we spent a good long while swimming with the turtles.

From this vista we could see that the palm oasis was immense, stretching along the Purisima as far as the eye could see. A kid came along on a bike and Billy asked him a lot of questions about the palms. He said there were two biologas studying them far back in a palmar where there is no road, but we could rent a kayak to visit them.

Our youthful spirits soared as Billy shoved off at dawn paddling the two-person kayak deep into the palmar. We had been told it would be a very long paddle through Canyon de Purisima before the river opens into the roadless Palmar Escondido where the biologas lived.

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In the canyon Billy decided to rest a spell and we dove into the Purisima for an invigorating dip, followed by tortillas with peanut butter, and bro time in the cool air of a cave in the canyon wall.

We eventually emerged from the canyon and Palmar Escondido was magnificent with palms so thick they almost hid the small thatched-roof huts. We were shocked by the sight of an eerie mud and algae sculpture in the lagoon.

A gringo boy came out of one of the huts, "Hi, I am Scott, welcome to Campo Escondido."

He led us to a larger casita where we met Natalia and Adrienne. They were both biologists as well as artists and they spoke French, Spanish, and English. They explained that Escondido was an internationally recognized school specializing in Natural History and art, particularly oasis ecology, mud sculpture, and body painting.

Nat and Adri had earned their doctorates in botany from Kew and had studied mud sculpture in France under Sophie Prestigiacomo. Working with the kids they had a long term project studying the ecological relationships of the invasive Date Palms (*Phoenix dactilifera*) and the endemic Fan Palms, *Wahingtonia filifera* and *Brahea brandeegi* as well as the entire oasis biota.

Nat explained that the Date Palms were introduced by the Padres when the missions were established and now dominate most of the Peninsula's oases. There was very little genetic diversity within each palmar, but the endemic palms had considerable divergence among the oases.

They were ecstatic to hear that we were herpetologists. Scott and his bud Andre were avid herpers and volunteered to show us some of the Palmar reptiles. They particularly liked cascabeles and took us a rocky spot at the edge of the oasis where they showed us a *Crotalus mitchellii* (Speckled Rattlesnake) and a *Crotalus enyo* (Baja California Rattlesnake). They also found a *Plestidon lagunensis* (Laguna Skink), a species shared by these oases with the Sierra Laguna on the Cape.

"We have found the Skink deep in the palmar but never the cascabeles." Scott declared.

When we returned to the camp the boys were engaged in body painting. Adrienne

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asked Billy and me if she could paint us. We really enjoyed the experience. Afterwards the four of us had all manner of fun together for a good long while. I was very pleased when Adrienne said, "Billy has the body, but Bobbyboy, you definitely have the timing and the moves, and when it comes to la cama we French know whereof we speak."

"Kleptogamy happens a lot with bro and me," I responded.

After many rounds Nat and Addie eventually fell asleep and Billy stood up and silently motioned with his head towards the kayak. As we paddled off, Billy sang "No need to be coy, Boy, just get yourself free.” his smudged body paint glowing in the moonlight of Palmar Escondido.

Minnich, R. A., Franco-Vizcaíno, E., & Salazar-Ceseña, M. (2011). Distribution and regional ecology of Californian palm oases interpreted from Google earth images. Aliso: A Journal of Systematic and Floristic Botany, 29(1), 1-12. https://www.researchgate.net/publication/284857189_Distribution_and_Regional_Ecology_of_Californian_Palm_Oases_Interpreted_from_Google_Earth_Images?fbclid=IwAR2m8fRVGXRx2EtmgjlDAnGSaCJi9uISjzaj3XY3a2oOoIEN4nQh0FXQBIg

Sophia Prestigiacomo

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***Crotalus mitchellii* by timoteo_b**

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***Crotalus enyo* by Eric Centenero Alcalá**

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Sculpture by Sophie Prestigiacomo.

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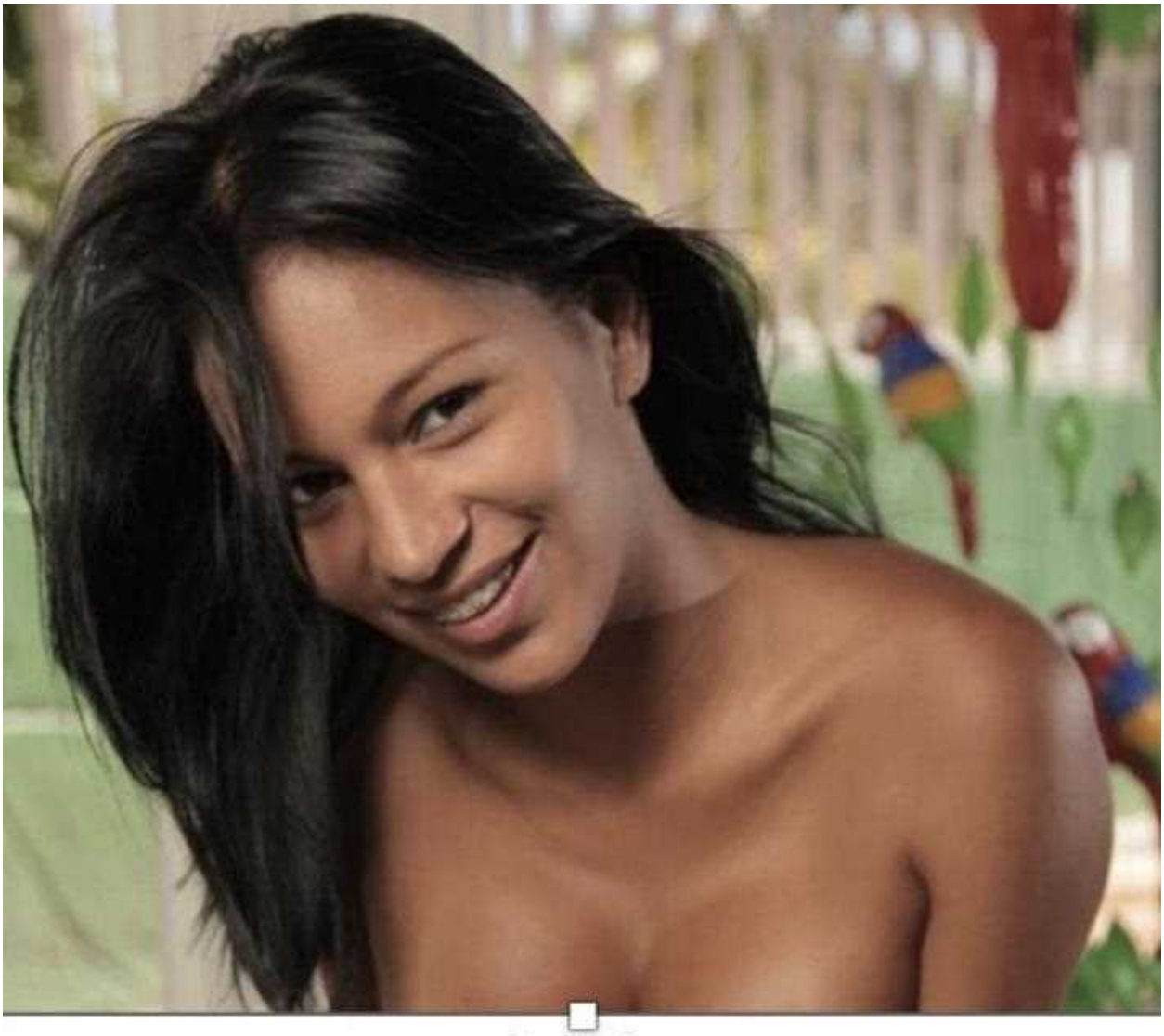
Adrienne

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Natalia

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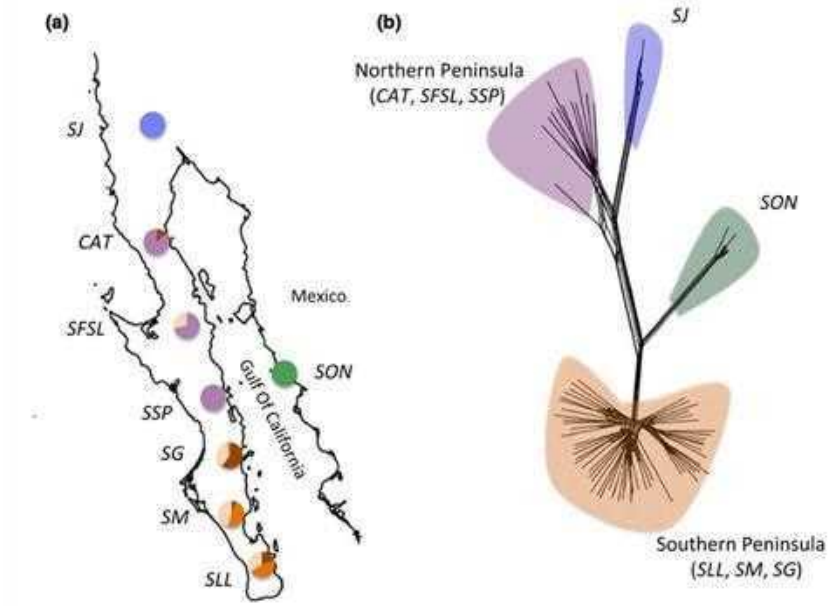

FIGURE 3 Population structure of *Washingtonia* palms. Panel (a) shows the results of cluster analysis within sNMF, with pie charts indicating the geographic distribution of six inferred genetic clusters (each coded by a different color). Panel (b) shows a phylogenetic network generated by SPLITSTREE

Andre

Scott

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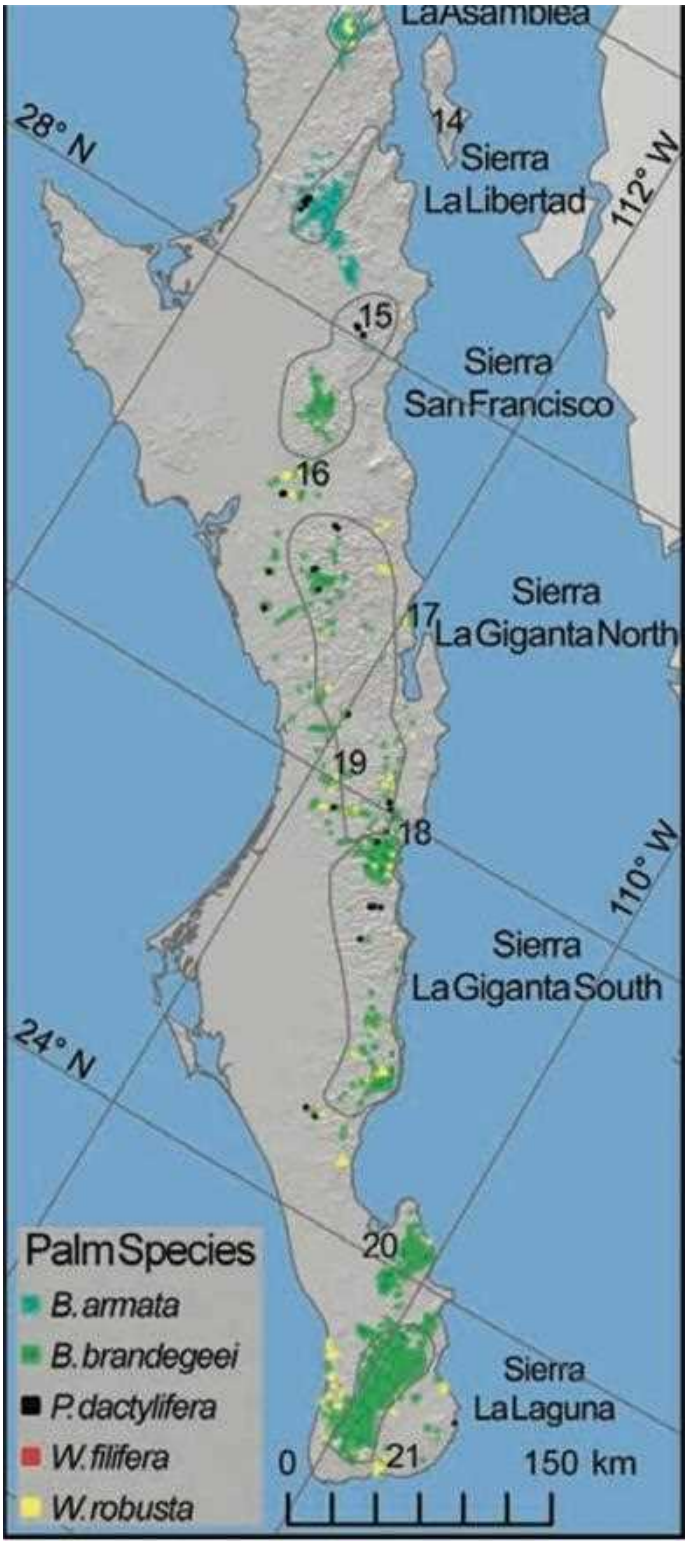
La Asamblea
28° N
14
Sierra
La Libertad
112° W
15
Sierra
San Francisco
16
17
Sierra
La Giganta North
19
18
110° W
Sierra
La Giganta South
24° N
20
Sierra
La Laguna
21
0
150 km
Palm Species
B. armata
B. brandegeei
P. dactylifera
W. filifera
W. robusta

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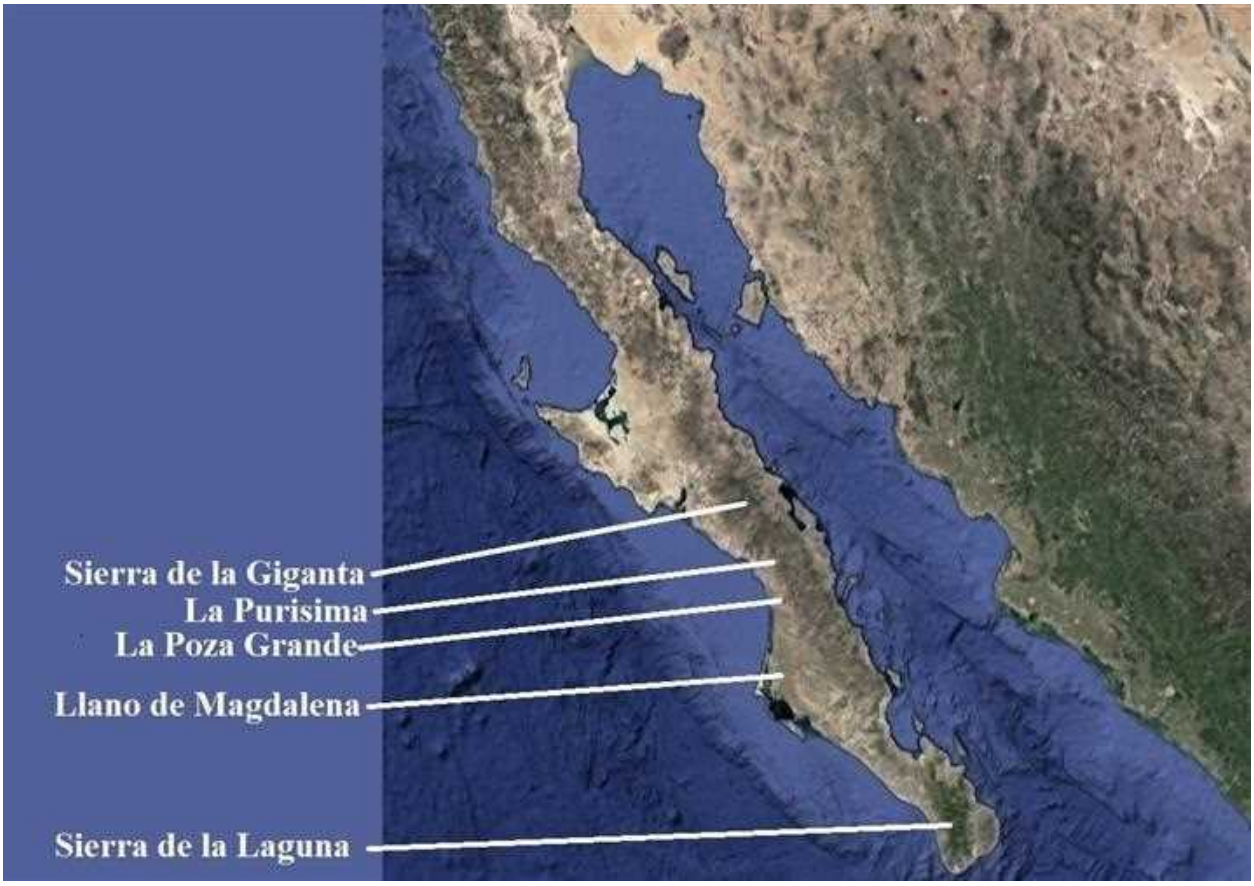

46 San Ignacio

The road had deteriorated something horrendous but Billybro still liked the physical challenge of driving. That soon changed as the sharp rocks shredded our tires and we had a flat several times a day.

Bro jumped out, jacked up Van, took the wheel off, pulled the inner tube out, located the break with spit, cut a piece of rubber and glued it over the hole, inflated the tube with our rickety old hand pump, and remounted the wheel.

I was of no help as I had developed severe dysentery and while bro was slaving away in the hot sun, I was hunkered down behind a paloverde crapping my guts out. I lost a lot of water and blood and was becoming severely dehydrated and anemic.

I needed medical help, and began to wonder if there was a doctor anywhere on the entire peninsula. We eventually arrived in San Ignacio and I asked people around

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the plaza if there was a medico. They said there was none but pointed out the door of the farmacia.

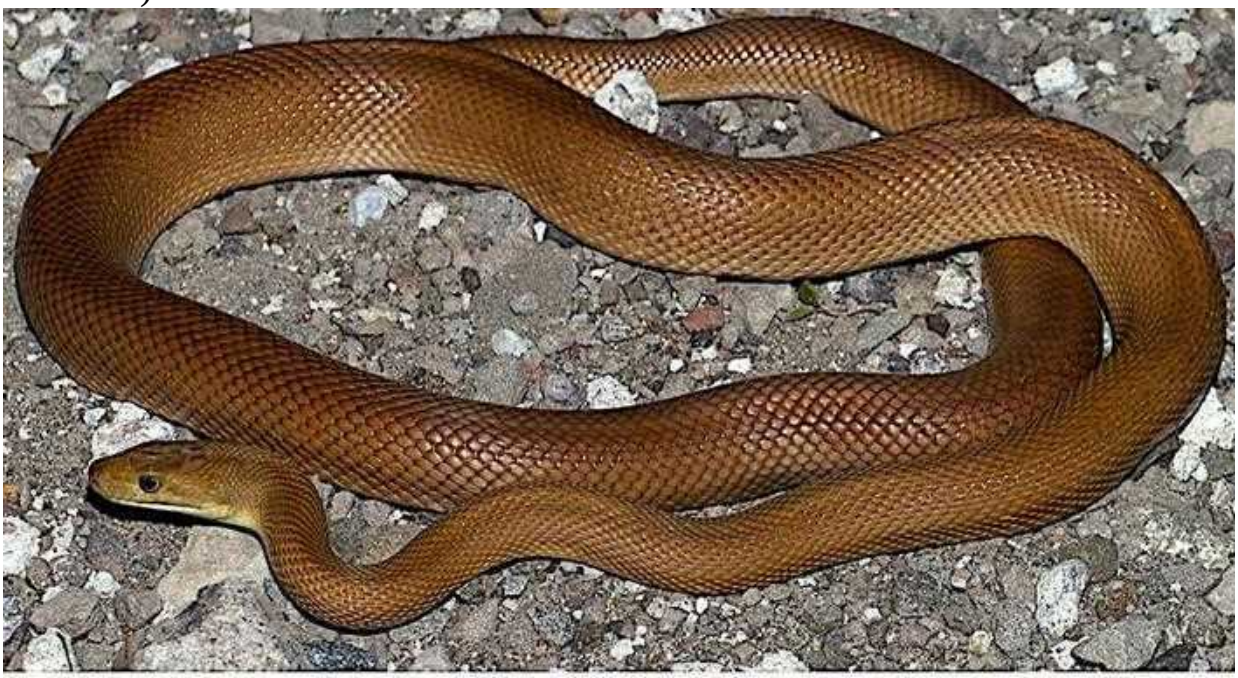
I explained my problem to the man inside the little one room farmacia and he was quite sympathetic. He listed the foods that I was not supposed to eat and it was everything we had, including peanut butter and tortillas. He grabbed a bottle off the shelf, opened it, took out some pieces of charcoal, and asked me to step behind the curtain and bend over so he could insert them in my rectum.

"Gracias, señor, pero lo haré por me mismo." I paid him and quickly left. I kept the charcoal in a bottle on my dresser for many years and just the sight of it did keep dysentery away.

A circus had arrived in San Ignacio and the plaza was filled with jugglers, clowns, and even an elephant.

Everyone fell silent as a ten-year-old boy got up in the center of the plaza and sang "Ave Maria" with the most beautiful soprano voice I have ever heard. My dysentery was cured.

After puesta del sol we drove the road north of San Ignacio looking for snakes and we were delighted to find another beautiful *Bogertophis rosalie* (Baja California Ratsnake).



***Bogertophis rosaliae* by coweyow**

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LAST GREAT ROAD TRIP

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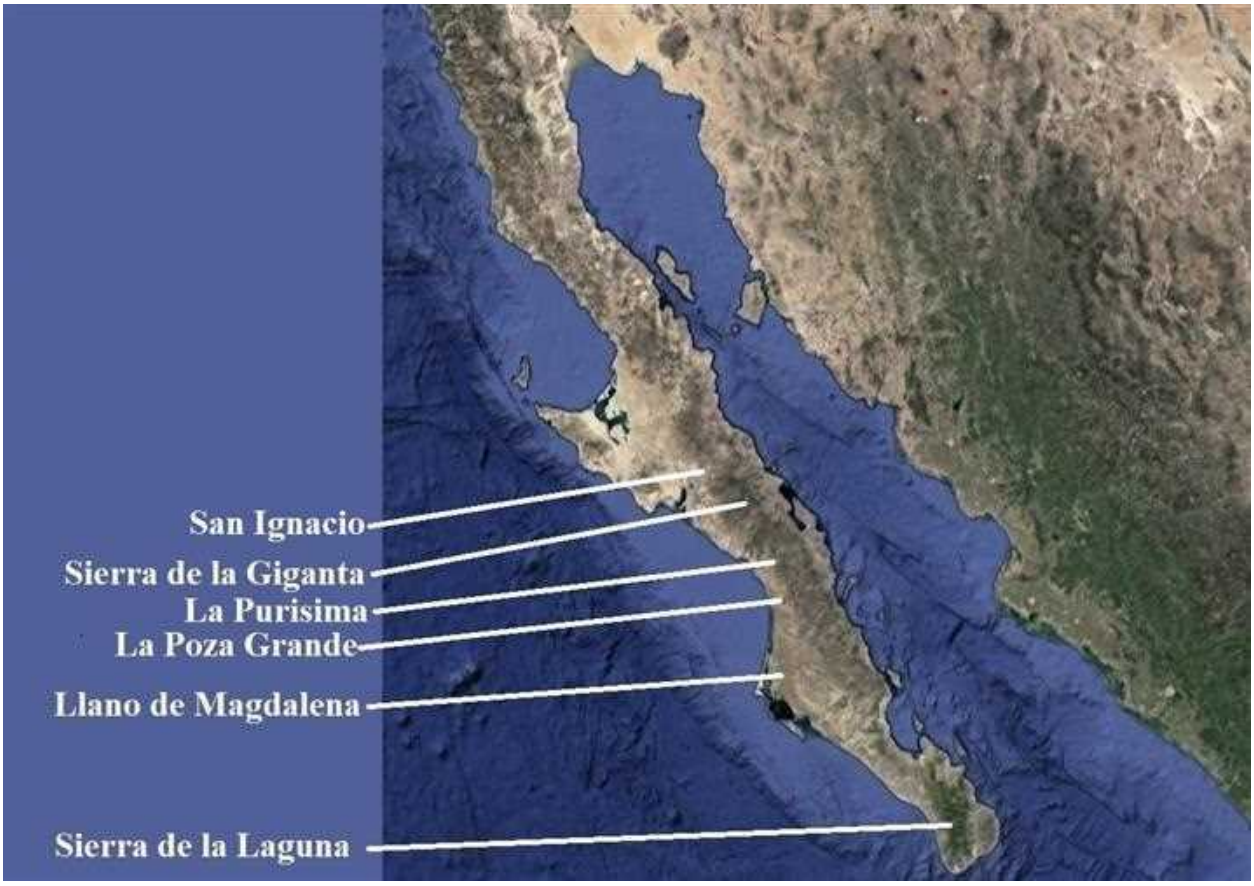

47 *Xantusia wigginsi* (Wiggins' Night Lizard).

"Billy, I just cant seem to figure these Night Lizards out. We have searched the Datilillos and Cardons and ever since La Poza Grande we've found none. I just don't get it."

"Bobby, I'll stop where the habitat looks good to me and we can have one last look."

We got out and Billy flipped a downed Datilillo branch and I grabbed the *Xantusia wigginsi*. (Wiggins Night Lizard).

"Billybro, you are absolutely amazing. How do you do it?"

"Well, Bobby, the world belongs to those with muscles and instincts as well as to those with brains, and together we got 'em all, that's what makes us bros."

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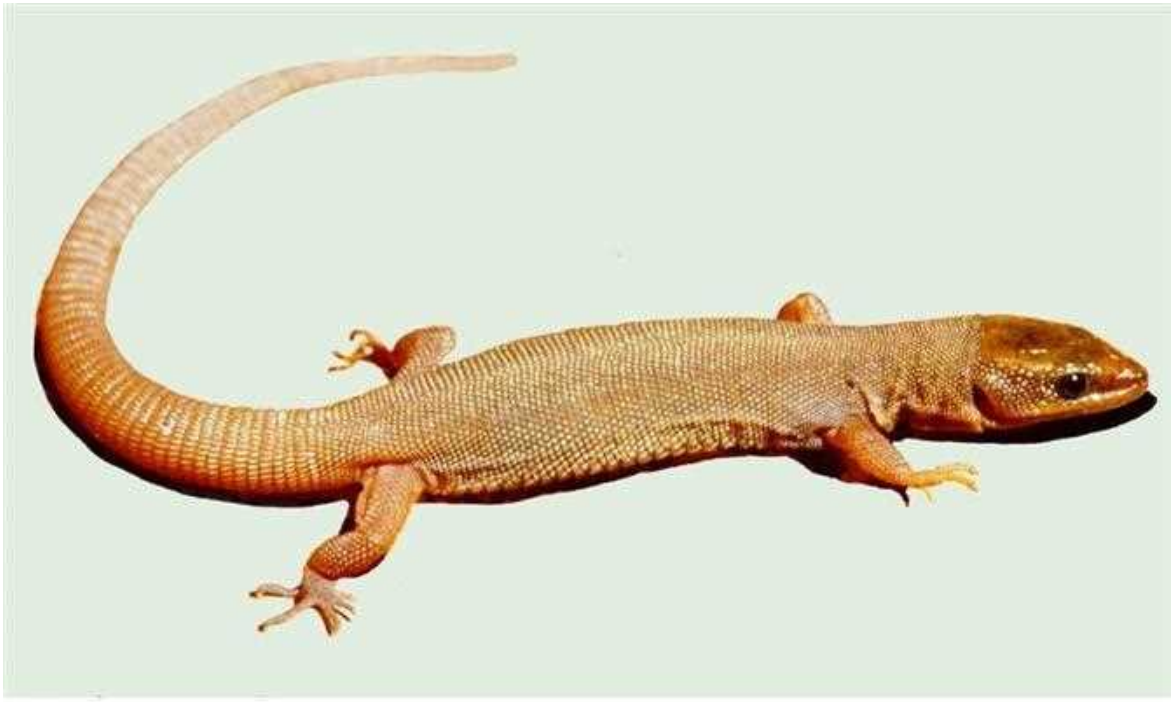

***Xantusia wigginsi* by Kathryn Bolles**

***Xantusia wigginsi* by William Flaxington**

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48. **Vizcaino bound**.

"Billy, I am working on formulating a hypothesis about Night Lizard biogeography for the entire Baja California Peninsula. To test it I need to know if *Xantusia wigginsi* (Wiggins' Night Lizard) occurs on the Vizcaino Peninsula and Isla Cedros. The roads are very bad out there. Do you think you could drive us all the way to the tip of the Vizcaino?"

"Bobby, for shit's sake you are baiting me again. I could get us there even if there were no roads at all. That is how I get my rocks off. Lesgobro."

We set out on our adventure to discover the the herpetofauna of the Vizcaino Peninsula, our spirits soaring to heights known only to youths.

Bezy, R. L., K. B. Bezy, K. Bolles, and W. C. Sherbrooke. 2019. Night lizards (Xantusia) and their discoverers on the Baja California Peninsula. Sonoran Herpetologist 32(2):25-33. https://www.researchgate.net/publication/333393530_Night_lizards_Xantusia_and_their_discoverers_on_the_Baja_California_Peninsula?fbclid=IwAR06P31-VubLvuPlMJ8G8l72U0BV62

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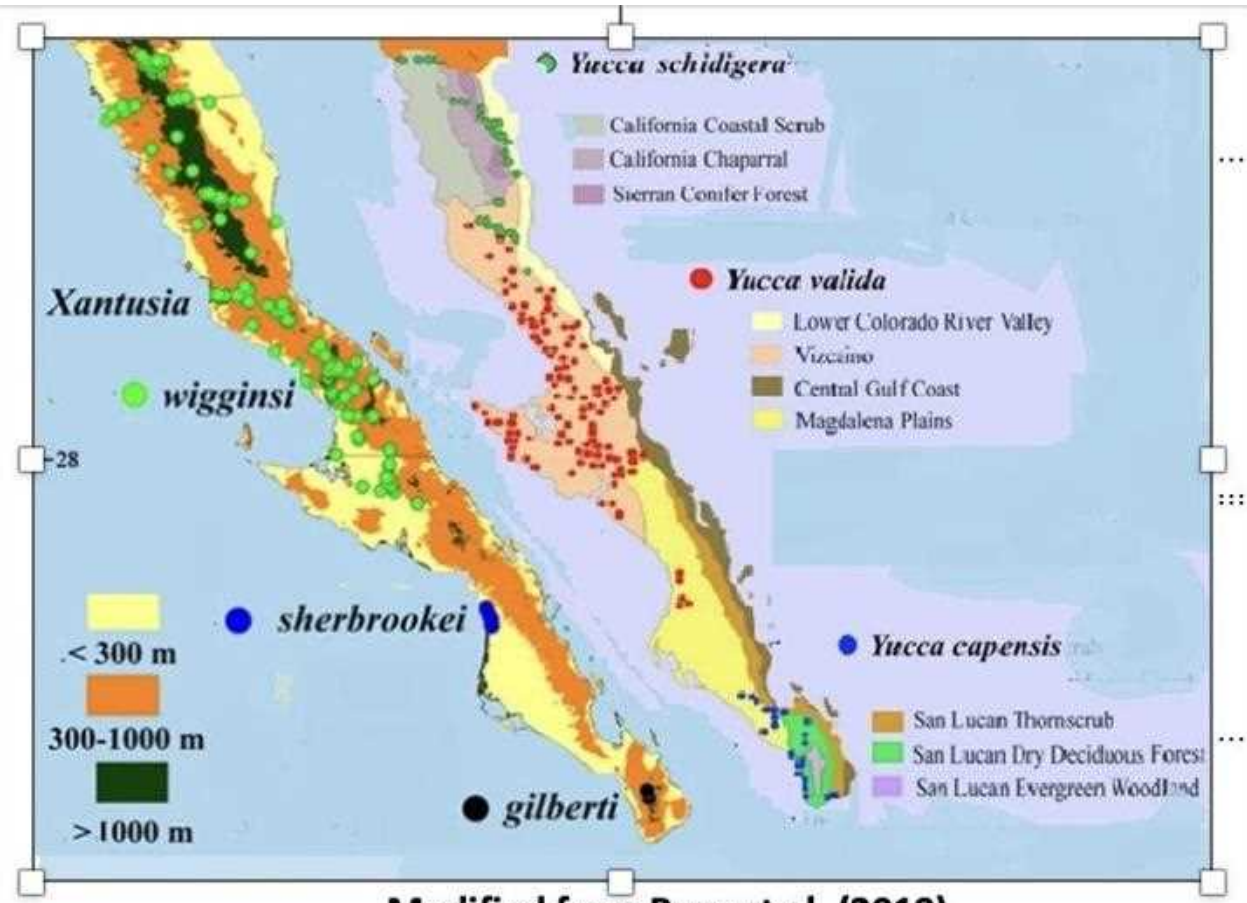
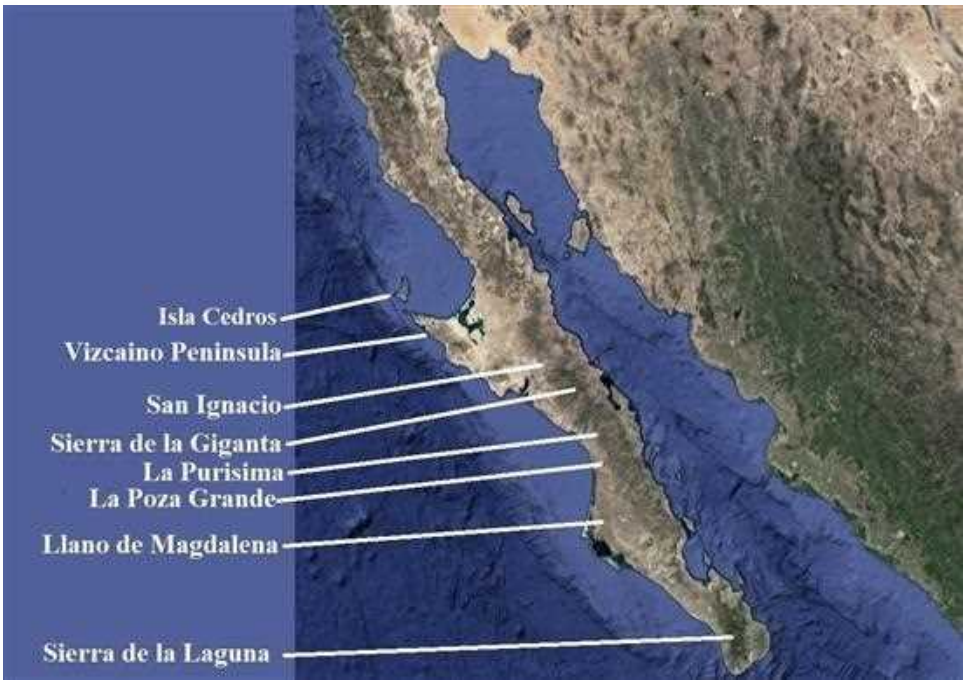


Modified from Bezy et al. (2019)



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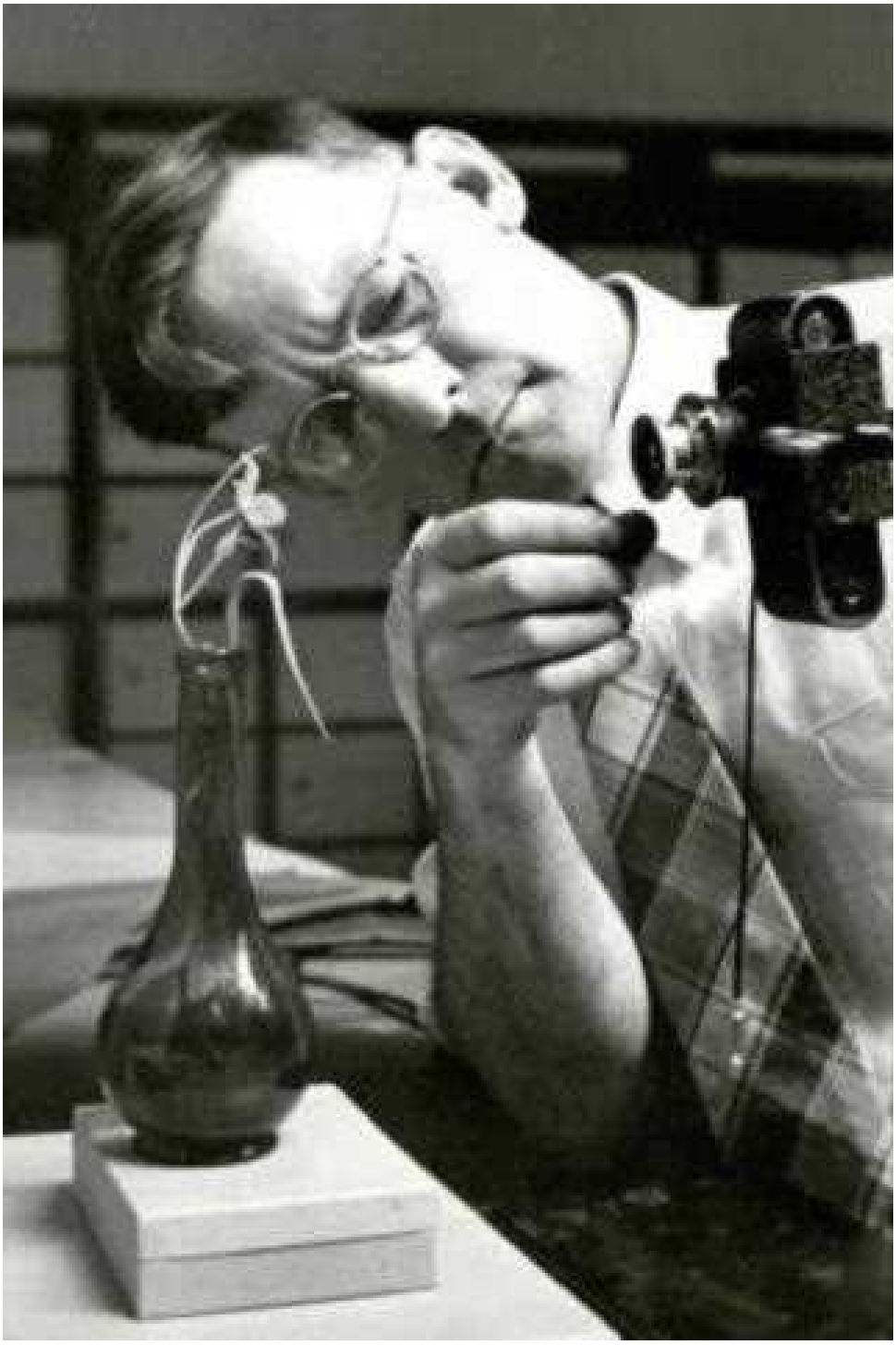

Ira Wiggins, 1940, Stanford University Archives

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49 *Crotalus enyo* (Baja California Rattlesnake).

We had reached a turning point in our Peninsular adventure and things were starting to look up again. A gringo cashed a check for us and we were able to buy recapped tires, so Billy was again thoroughly enjoying driving Van without having to deal with tire repairs. The boy's singing in the San Ignacio plaza had cured me of dysentery and I was regaining my strength. And Bro and I were both very excited to be heading out to explore the Vizcaino.

"Billy, the Vizcaino Peninsula is really important to me if I am ever to make any sense of Night Lizard biogeography. Lets start at the base in the Sierra Santa Clara and then work our way to the tip."

"You're on Bobbybro."

Billy slammed on the brakes for a *Crotalus enyo* in the road. Attempting to help me position the snake get a good photo of the cascabel he strayed too close to the sand it struck his hand. Predictably he tried to just shrug the bite off as nothing.

"Billy, I can see your hand is swelling. For shit's sake, this is no time for you to try to prove you are an indestructible macho."

We knew there was absolutely no way we could get any medical help here. At that time there were no doctors, hospitals, or antivenin in the Vizcaino.

"Billy, this is a relatively small snake and it is not likely the effects of the bite will be life-threatening or fatal. I think we should avoid cutting or using a tourniquet as that would increase the chances of necrosis. Let’s camp right here and you can rest quietly until you start to recover."

Bro of course did not want to listen to me. But, I stood my ground and just refused to get back into Van. As his pain increased, he started to take the envenomation more seriously. We laid down in the shade of a paloverde and I gave him a hug, the only treatment I had, and he smiled through his pain and declared, "Bros are forever."

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Crotalus enyo by blueag9

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50 Picacho El Gato.

I had never even contemplated that I might need to take care of Billy. He was my big bro who had always been there for me. But the *Crotalus enyo* (Baja California Rattlesnake) bite turned out to be more serious than either of us had expected and Billy lay in pain under the paloverde for three days. At dawn on the fourth day he sat up and declared, "Lesgobro."

We were off to the Sierra Santa Clara on our Vizcaino Night Lizard adventure. To prove that he had fully recovered Billy would not let me drive, although he consented to stopping and resting a couple of times. The road back into Sierra was absolutely grueling, pura piedra. Hours later we reached road's end at a rancho, and two boys came out to greet us.

Chulo and Chico lived alone at the rancho with their goats. Their parents had died in a tragic car accident and they refused to leave the rancho. Chulo said that he knew the Picachos like the back of his hand and he would be happy to guide us in the morning.

The Sierra Santa Clara was fascinating. It consisted of a a series of fog-shrouded picahos situated along the coast. There were many Datilillos and Cardons on the bajada and the four of us flipped away all day, but found no Night Lizards.

In desperation I suggested that we head higher up and look in the agaves. The steep climb up Picacho El Gato was difficult for me but I just kept putting one foot in front of the other. On top there were many decaying *Agave azurea*, a Vizcaino endemic. We flipped like maniacs and struck out on *Xantusia* again, but were delighted to find a *Lichanura trivirgata* (Three-lined Boa).

When we got back to the rancho I asked Chulo if he would accept the case of Dinty Moore beef stew that we had and I could not stand to eat anymore. His eyes lit up big time and he happily accepted the much needed food. He fixed a can with chilis and frijoles added and I enjoyed the frijoles.

Chulo and Chico fell asleep with Billy and me, four bros gazing up at a billion stars and pondering the mysteries of Picacho El Gato.

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Grismer, L. L., McGuire, J. A., & Hollingsworth, B. D. (1994). A report on the herpetofauna of the Vizcaino Peninsula, Baja California, Mexico, with a discussion of its biogeographic and taxonomic implications. *Bulletin of the Southern California Academy of Sciences*, *93*(2), 45-80 https://www.researchgate.net/profile/Bradford-Hollingsworth-3/publication/265847578_A_report_on_the_herpetofauna_of_the_Vizcaino_Peninsula_Baja_California_Mexico_with_a_discussion_of_its_biogeographic_and_taxonomic_implications/links/55df81ce08aecb1a7cc1a31a/A-report-on-the-herpetofauna-of-the-Vizcaino-Peninsula-Baja-California-Mexico-with-a-discussion-of-its-biogeographic-and-taxonomic-implications.pdf

Webb, R. H., & Starr, G. (2014). Agave azurea (Agavaceae), a new species from Baja California Sur, México, with notes on other agaves on the Vizcaíno Peninsula. *Haseltonia*, *2014*(19), 89-96.

***Lichanura trivirgata* by naturegirlkh**

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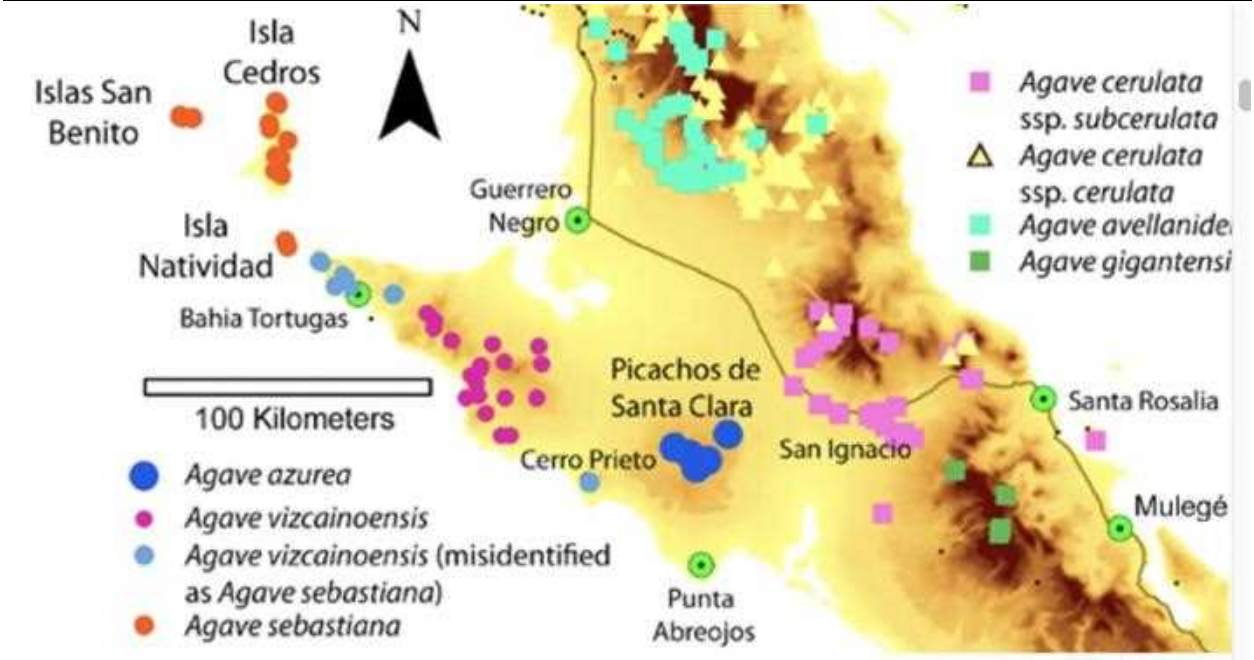

Modified from Webb and Starr (2014)

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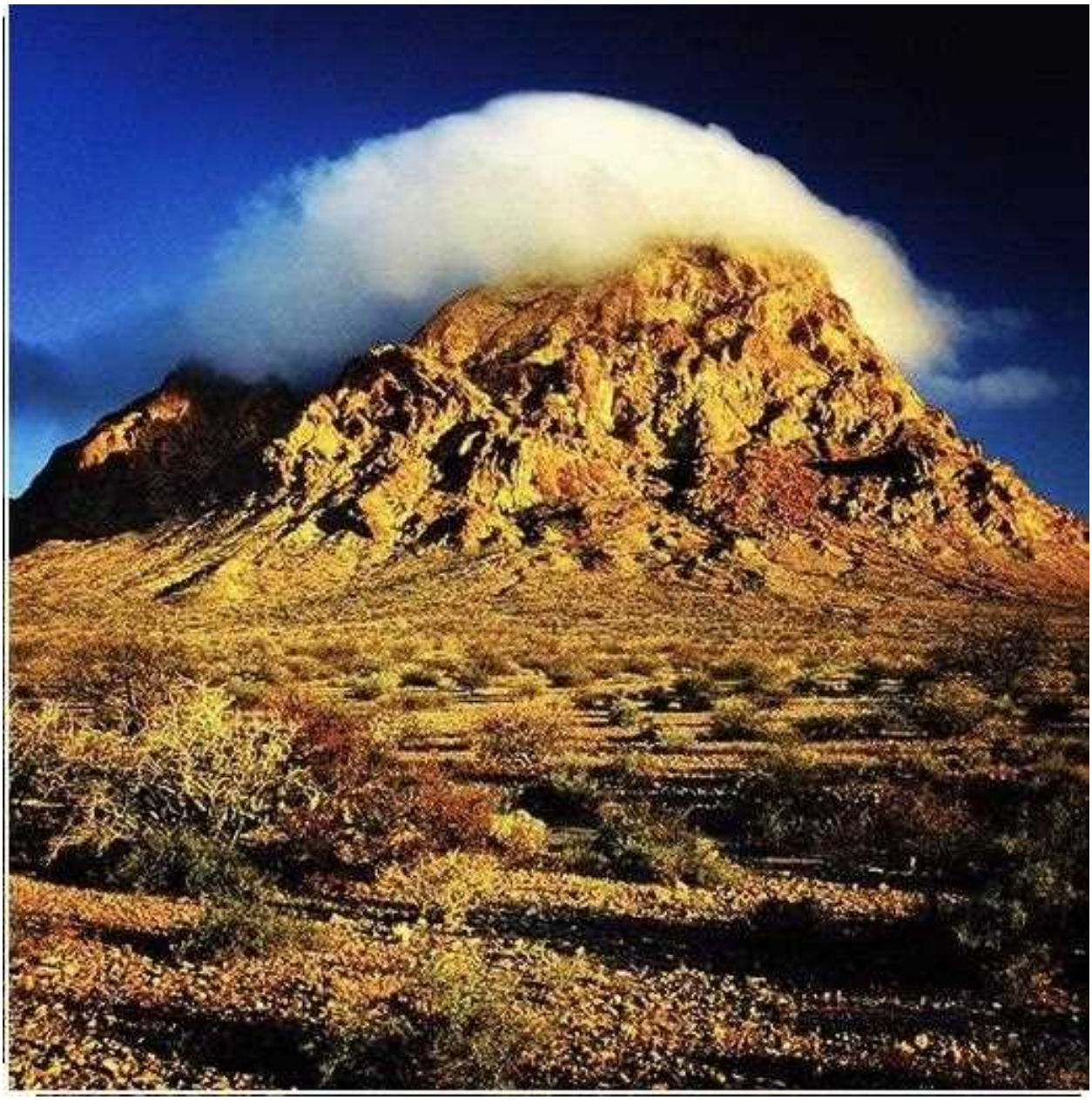

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***Agave azurea* from Webb and Starr (2014)**

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51 *Pituophis insulanus* (Isla Cedros Gophersnake).
Billy changed after surviving the *Crotalus enyo* (Baja California Rattlesnake). He had stared death in the face and began to appreciate life more deeply. Strangely, rather than becoming more cautious, he became more of a wild horse and I just enjoyed watching him run free.

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"Bobbybro, I like these Picachos, and Chulo told me about one right on the coast called Cerro Prieta. Maybe the peak has just the right combination of fog and desert to harbor a relictual pocket of Night Lizards. Would you climb it with me?"

"I will if I possibly can."

On previous difficult climbs Billy just zoomed up to the top and waited for me on the peak. But on Prieta a new bro emerged and, even though he was now a wild horse, he stayed with me, encouraging each step, and sitting with me on the frequent rests I needed.

Up top there were many decaying *Agave vizcainoensis* and we flipped like maniacs, finding no Night Lizards, but instead a Night Snake (*Hypsiglena ochrorhyncha*).

From the top of Prieta we could see Islas Natividad, Cedros, and all the way to the three San Benitos. That got Billy's juices flowing, "Let's explore them all, as they are as far west as we will get in this adventure."

Billy wanted nothing to do with any whale-watching boats and found two bros with a canoe to take us to the islas. The old canoe worried me a lot, but I could see that it was what Wild Billy wanted.

Carlos and Diego were very skilled at maneuvering their old canoe and knew an isolated bay on each island where we could go put ashore without encountering any other humans.

I became totally enchanted with the beautiful short-stalked *Agave sebastiana* that is endemic to these islands.

On Cedros we turned up the endemic *Pituophis insulanus* (Isla Cedros Gophersnake) and *Hypsiglena ochrorhyncha baueri* (Isla Cedros Night Snake). I could easily see the Gopher Snakes has a unique color pattern. Comparing the *baueri* to the *ochrorhyncha* we saw on Prieta, I was not sure of the color pattern differences Zweifel saw in 1958.

"Wow, Billy, there is *Sceloporus occidentalis* (Western Fence Lizard) isolated out here way south of its distribution on the Peninsula. This tells me a lot about past climate and why there are no Night Lizards in the Vizcaino.

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On San Benito de Oeste we found the putative endemic *Uta stansburiana* "*stellata*".

To give us a thrill at the far western end of our adventure, Diego dove off a very high cliff. I was terrified by his dangerous stunt and very grateful Wild Billy did not try to follow suit.

Zweifel, R. G. (1958). Results of the Puritan-American Museum of Natural History Expedition to Western Mexico. 2, Notes on reptiles and amphibians from the Pacific coastal islands of Baja California. American Museum Novitates; no. 1895. https://digitallibrary.amnh.org/handle/2246/4569

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***Sceloporus occidentalis* by Robert Bezy**

Distribution of *Sceloporus occidentalis* (modified from Hollingsworth)

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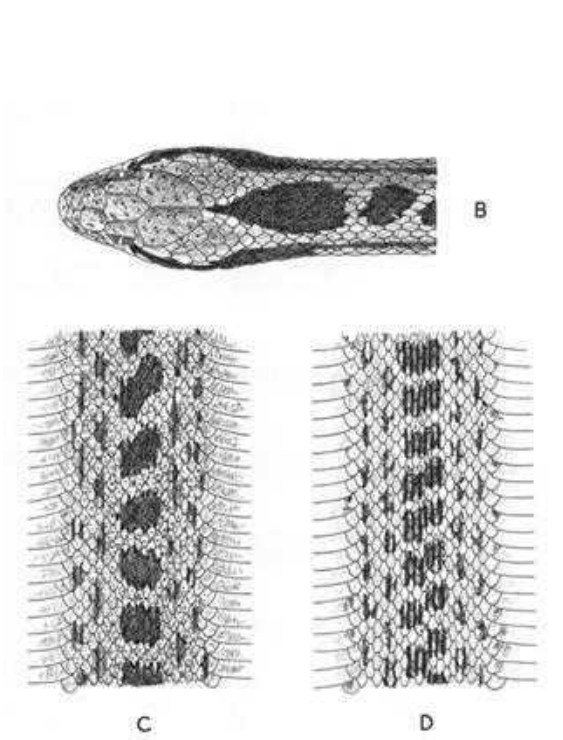
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Uta stansburiana "stellata" by Liz Leyden

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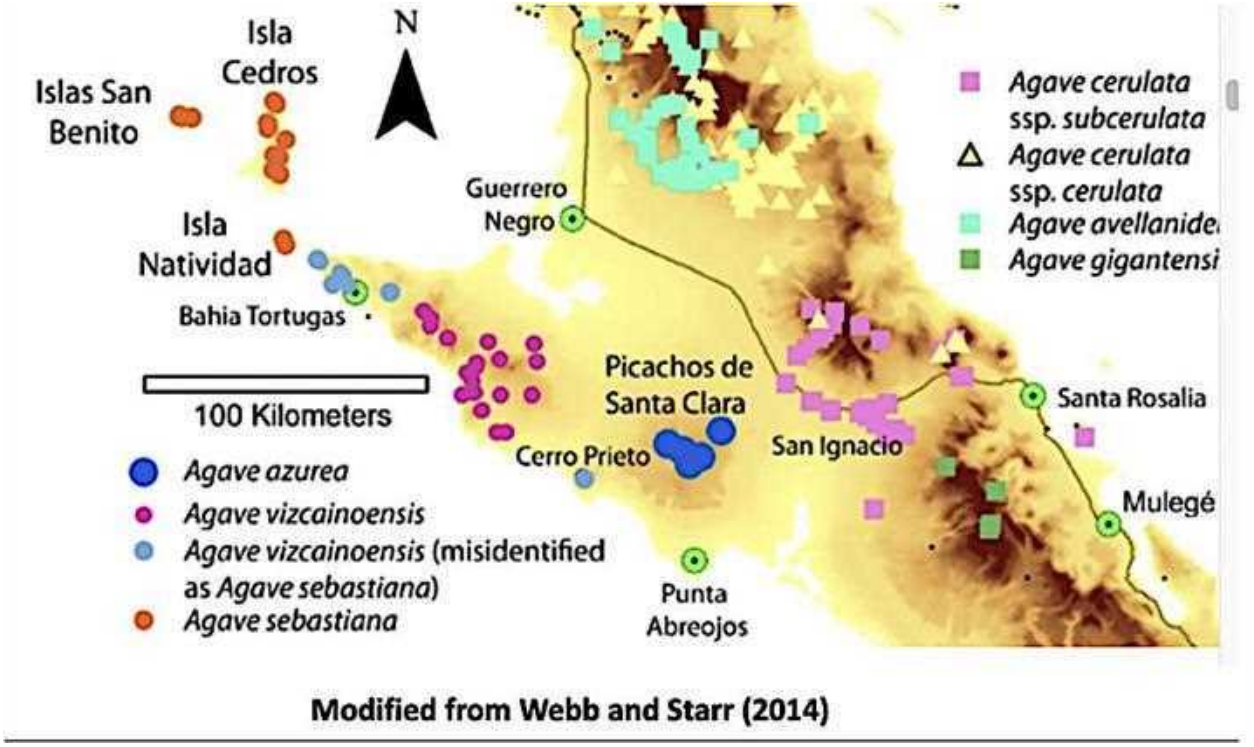

Modified from Webb and Starr (2014)

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52 *Callisaurus* [*draconoides*] *crinitis* (Vizcaino Zebra-tailed Lizard). The Vizcaino Desert is an incredible fog-shrouded sand-erg and we headed to the Dunas de Soledad to see its arenicolous reptiles. The fog was too heavy near the coast and poet Bobby declared,. :"Lesgobro inland a ways to catch some rays."

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52 *Callisaurus* [*draconoides*] *crinitis* (Vizcaino Zebra-tailed Lizard). Away from the coast the fog soon burned off and the *Callisaurus* [*draconides*] *crinitis* came out running across the dunes. Billy caught one and I examined the toes.
"Wow look at how well-developed the fringes are. I just cannot imagine that *crinitis* is genetically connected to *draconoides*. I guess the strength of natural selection for sand adaptations is so strong that it can overcome the cohesive force of gene exchange," I pontificated.

Wild Billy wanted to dive off the top of the steepest dune and he helped me work up the courage to do it with him. We ended up tangled in each other at the bottom.

After Puesta del Sol bro time and tortillas with peanut butter, we donned our headlights and headed out on a dune walk. We were delighted to find a *Coleonyx variegatus* (Western Banded Gecko) and marveled how here it looked more like *C. v. abbotti* to the north than *C. v. peninsularis* to the south. Our dune walk was capped off by a *Chilomeniscus* [*stramineus*] *cinctus* (Banded Sand snake) swimming in the sand.

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***Callisaurus [draconoides] crinitis* by Sara Alcalá Jiménez**

***Chilomeniscus [straminaeus] cinctus* by shaggz86**

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***Coleonyx variegatus* by timoteo_b**

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53 ***Aspidoscelis labialis (**Baja California Whiptail**).

I was not all that enamored with the Vizcaino as I prefer hot sunny deserts to cold foggy ones. But Billy loved the Vizcaino and was raring to have another fog and sand adventure:

"There is a long track to Playa Malarrimo and we just might be able to drive the coast all the way to Desembarcadero de Miller. Lets do it."

"Billy, I know how much you like playa driving and Miller's Landing is the type locality of *Xantusia wigginsi*. I would love to see a topotype."

The track was indeed difficult and Billy loved every minute of the three hours it took to reach Playa Malarrimo where there were no other humans to be seen.

The sun came out and we had a dip and then tortillas and peanut butter. "Now, lets see if we can get to Miller's, and have a high life, Billy said as he hopped into Van.

He drove just above the tide until we came to the mouth of a large arroyo. "We will just have to head inland a ways to cross it."

And, of course, wild Billy did succeed in getting us across. On the other side we were shocked to see a jeep stuck in the sand and two gals trying to extricate it. Bros to the rescue.

Liliana joined Billy and me in pushing while Isabella gunned the engine and we got their vehicle out.

It turned out they were studying the distribution of *Aspidoscelis labialis* and Bella explained,

"The DNA tree places labialis as sister to the entire *sexlineatus* group. It seems to be an ancient Peninsula endemic with a narrow and very spotty distribution right along the Pacific coast. We have gotten them here at the edge of the Vizcaino but no farther south."

Billy succeeded in catching two of the whiptails and I was amazed to see that they had a strange split vertebral stripe.

Under an agave we got a topotype of *Xantusia wigginsi* (Wiggins' Night Lizard)

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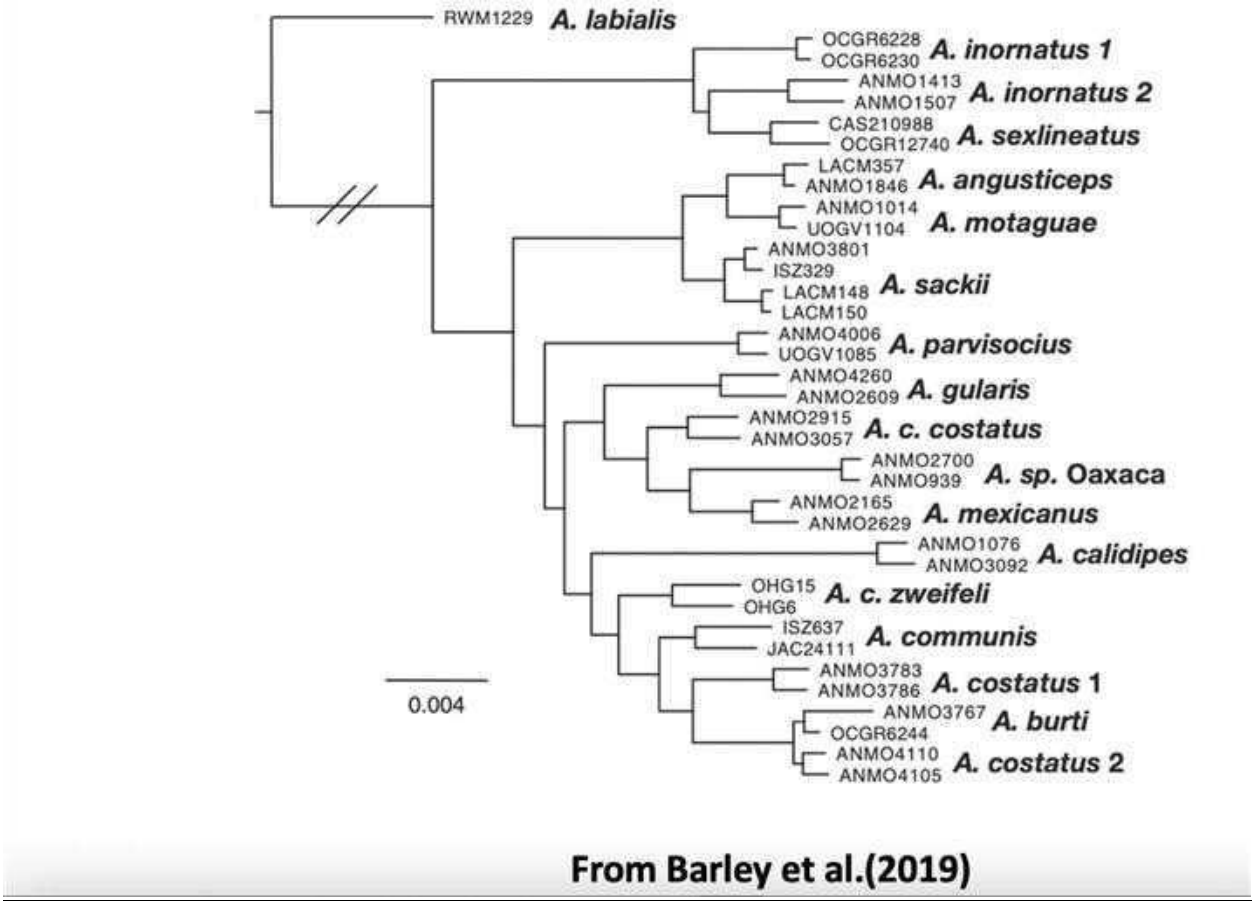
for photos and tissues.

Afterwards, Isabela announced, "Last one in is rotten egg," and we all stripped and dove into the cold Pacific.

As the moon rose Lili announced, "Bella and I like to frolic on the dunes in the moonlight. Would you two like to join us?"

I did not hesitate, "You bet your sweet labialis," and a fun time was had by all.

Barley, A. J., de Oca, A. N. M., Reeder, T. W., Manríquez-Morán, N. L., Monroy, J. C. A., Hernández-Gallegos, O., & Thomson, R. C. (2019). Complex patterns of hybridization and introgression across evolutionary timescales in Mexican whiptail lizards (Aspidoscelis). Molecular Phylogenetics and Evolution, 132, 284-295. https://par.nsf.gov/servlets/purl/10112215



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***Aspidoscelis labialis* by Laura Ibarra**

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Miller's Landing
Isla Cedros
Vizcaino Peninsula
San Ignacio
Sierra de la Giganta
La Purisima
La Poza Grande
Llano de Magdalena
Sierra de la Laguna

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Isabella **Liliana**

Xantusia wgginsi **by Kathryn Bolles**

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54 Into the sun.

Even Billy was tired of the cold foggy Vizcaino and we headed inland savoring the heat and sun. As the mountains loomed on the horizon and the ranchos became few, our hearts began to sing.

"This is the old Baja California that time has forgotten. Let's explore all of it,." Billy entreated.

"Billy, yes this is magnificent country and it also is a crucial transition zone in the biota. By exploring La Purissima and the Vizcaino we missed seeing some great places on the Gulf side of the Peninsula. Lets drop back south a ways to enjoy what we missed."

"You're on, Bobby."

"Billy, I really love your free spirit and enthusiasm for adventure. and exploration of the unknown. You are the light of my life."

Bro gave me a hug that said it so much better than my words.

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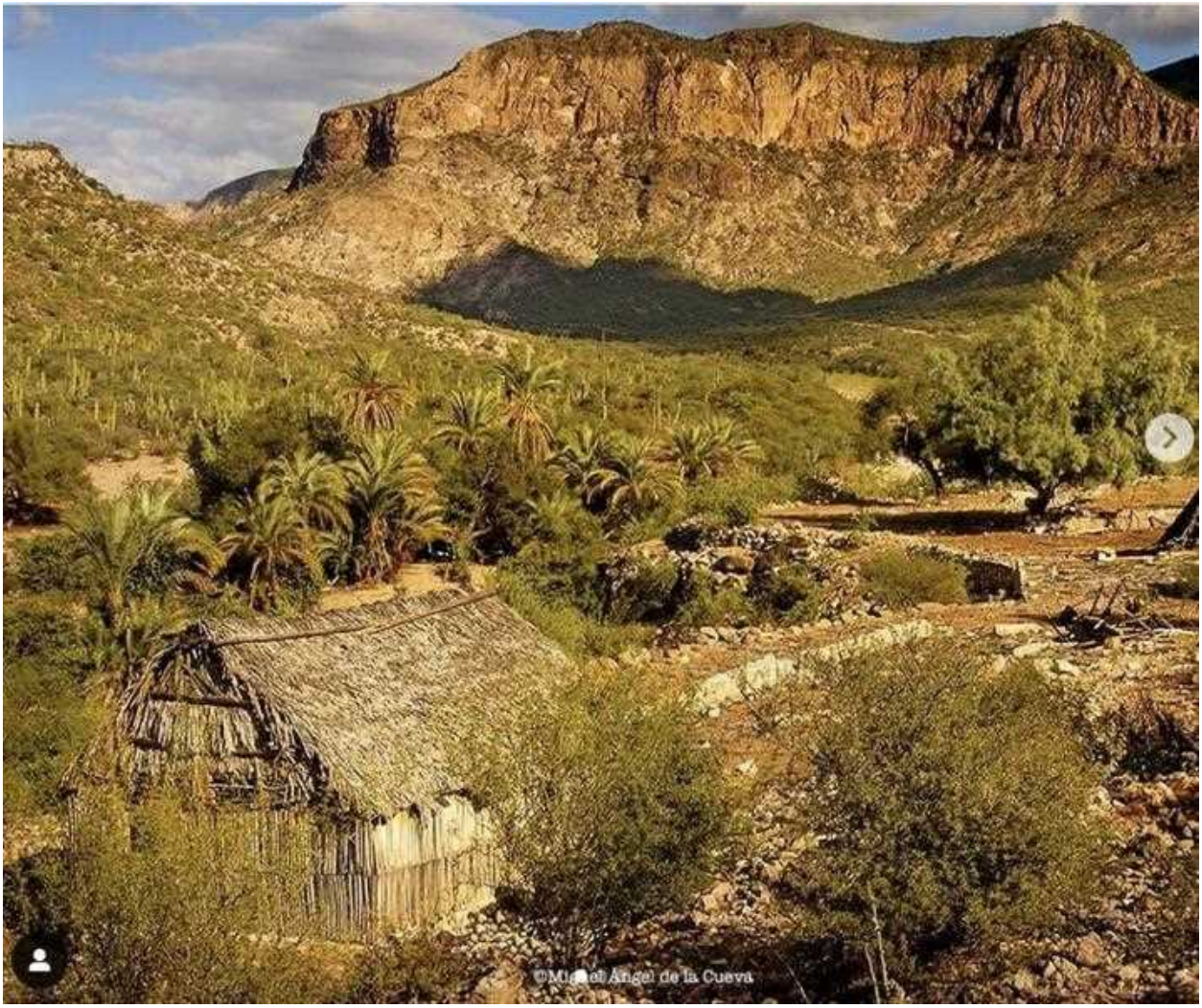

55 *Masticophis fuliginosis* (Baja California Coachwhip).

Billy drove south along the Gulf all the way to Bahia Concepcion. "Let's explore the Sierra Gavilanes, a peninsula on the outer side of the Bahia.

And of course Wildbro enjoyed getting his rocks off driving the difficult track out to Punta El Gato at the tip, where there was absolutely nobody.

"Bobby, I think this is the most beautiful bay on the whole peninsula and I want to stay here for a few days. I can get us all the fish we can eat and the water can is full. We can lizard walk in the mornings, snorkel in the afternoon, and night walk after our puesta bro sit."

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"You got it. The place and the bro can't get any better than this, Billy. I could spend the rest of my life right here at Bahia Concepcion with you."

We dove in with our snorkels and masks and were pleasantly surprised that there were no pica pica stings that we had experienced elsewhere on the Gulf, particularly in back bays. Billy speared and grilled a sea bass and it was delicious. We rigged a little shade awning to Van and took a nap. At puesta del sol we had a long deep bro talk about our life together.

The night was balmy and our headlamp walk yielded another *Crotalus enyo* (Baja California Rattlesnake).

We awoke as the Gulf sun rose like a fireball out of hell, and we enjoyed a quick dip to cool off before setting out on our morning walk.

Billy ran down a large black Nastycophis (*Masticophis fuliginosis*). Wow its looks just like a black *piceus*.

I was particularly interested in the *Apidoscelis* [*tigris*] *rubidus*were running everywhere. "I wonder whether they are or are not a different species from the *Apidoscelis* [*tigris*] *maximus* (San Lucas Giant whiptail) on the Cape."

"Well no one has actually studied whether any of these so called species exchange genes across the Isthmus of La Pax. That could be your life's fun project, Bobby."

"I hear you talken bro. And I hope we have the fun together."

"You betcha, Bobbybro, we'll make it so."

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***Masticophis fuliginosus* by chanceologist**

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***Aspidoscelis [tigris] maximus* by Bill Levine**

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***Aspidoscelis tigris* [*rubidus*] by Jorge H. Valdez**

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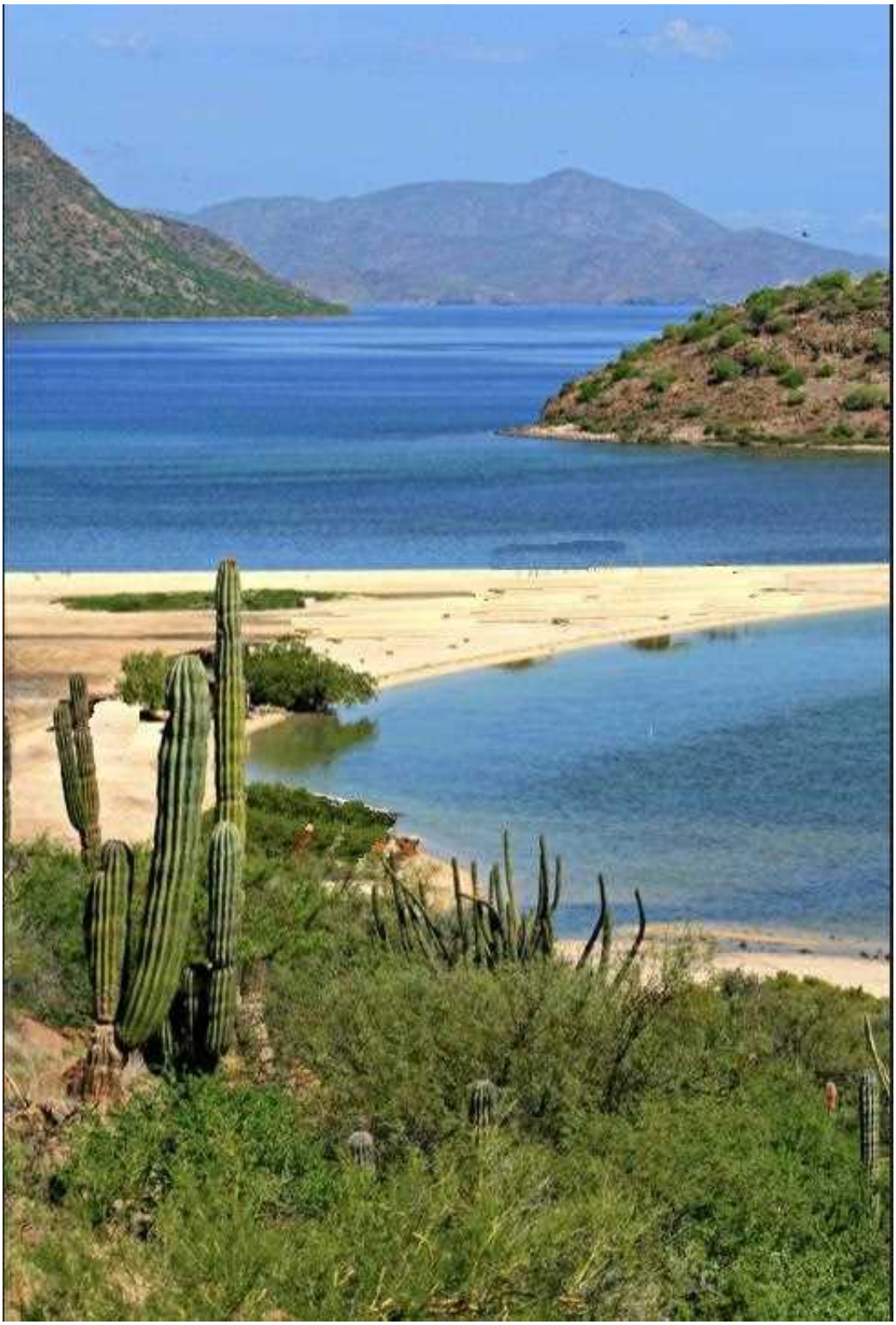

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Miller's Landing
Isla Cedros
Vizcaino Peninsula
San Ignacio
Sierra de la Giganta
La Purisima
La Poza Grande
Llano de Magdalena
Istmo de La Paz
Sierra de la Laguna
Bahia Concepcion
Sierra de los Gavilanes
Isla San Jose
Isla Espiritu Santo
Isla Cerralvo

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***Crotalus enyo* by by Eric Centenero Alcalá**

56 Sierra Guadaupe.
Even a paradise like Bahia Concepcion eventually becomes boring and we started itching to move on.

"Billy, we have not seen a single *Xantusia wigginsi* (Wiggins' Night Lizard) south of Miller's on the Pacific or south of San Ignacio down the center of the Peninsula, and we have never found one along the Gulf. I think we need to switch to a "baby step" approach. Let's return to where we found them near San Ignacio and then search every few miles in all directions and see just how far they go."

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I liked San Ignacio, a peaceful pueblecito nestled in an enormous palmar, and this plaza had cured my dysentery. We had grown tired of Billy's Sea Bass and my tortillas with peanut butter and decided to stop in a restaurant. The costillos de cerdo a la barbacoa were absolutely sabroso and we each had many servings of them. And of course the meal was topped with several helpings of flan.

Afterwards we sat in the plaza and I was delighted that a boy arrived and got up and sang.

Heading out from San Ignacio, our searches for *Xantusia wigginsi* did not yield any additional localities. I concluded this was probably the southern limit of the species.

"Billy, I want to explore the Sierra Guadalupe. No one ever goes there. Maybe we will find an isolated southern *Xantusia wigginsi* population that might represent an undiscovered species of Night Lizard."

"You’re on Bro. I love exploring the unknown. I am sure the roads are bad there and I definitely need some fun."

And indeed the four hour drive brought bro a big smile.

"Billy, this canyon is wonderful and there is an oasis over there. Let's camp here under the palms.

We dove into the pool and were absolutely blown away to see a *Bogertophis rosaliae* (Baja California Ratsnake) on a rock ledge along the water.

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***Bogertophis rosaliae* by coweyow**

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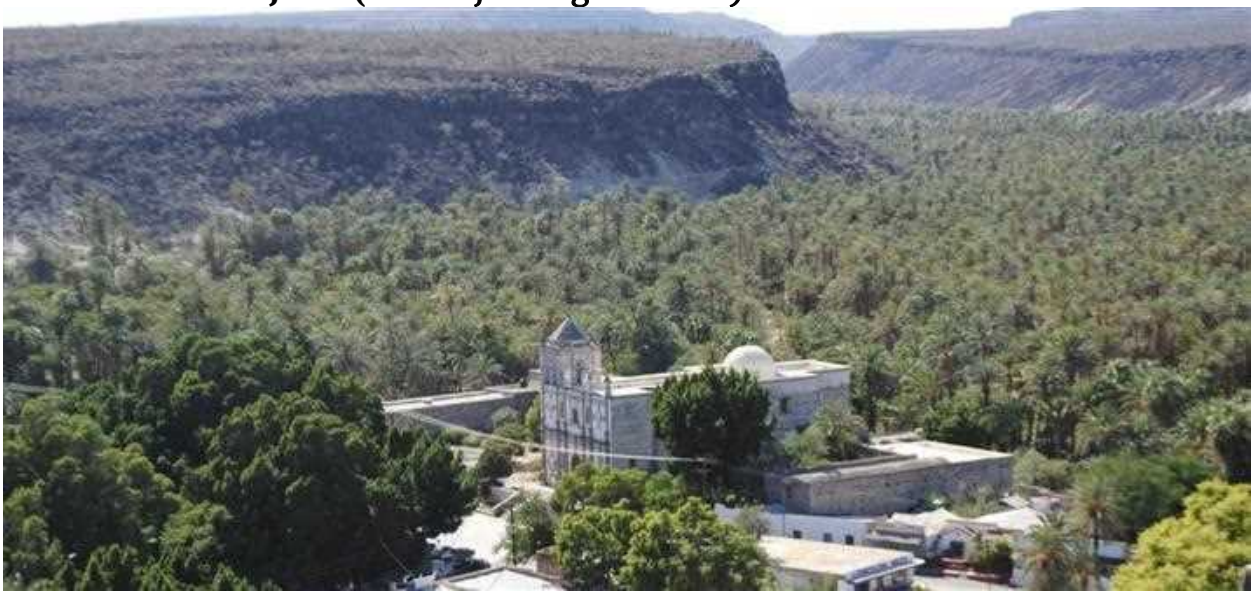
57 *Xantuia* "rojito" (Pelirrojo's Night Lizard)



At dawn we were awakened by two boys on a burro clomping to the oasis. Juanito and Chico lived at the nearby rancho and came to to fill their buckets with water. Billy of course struck up a conversation with the kids. They said there were no Datilillos in this range, but magueys (Agaves) grew up top of Cerro de Chile and their friend Rojito had seen a strange Lagartija under one.

Off we went to talk to Rojito at the adjacent rancho. Billy was shocked by Rojito's red hair.

"I have never seen a pelirrojo before in Mexico. Where did you come from?" Billy brashly asked.

"De Cabo San Lucas. Soy una Xanthus, la familia de naturalisto Xantus,"

We were blown away meeting a red-haired genetic trickle-down of the many wild seeds that el patron de Xantusia, Janos Xantus, had sowed in the Cape Region long ago.

Rojito, Juanito, and Chico loaded up their burro Jacobo with water and we headed out to climb Cerro del Chile and search for Night Lizards under the agaves.

As always it was a very difficult climb for me. But I was pleasantly surprised that the new Billy did not zoom ahead with the boys, but lagged behind with me to encourage me to keep putting on foot in front of the other.

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The boys rested with us a long while when we reached the summit of Cerro del Chile. When Rojito pointed out the agaves I was quite dubious as the dead plants seemed way to scrawny to harbor a Night Lizard.

We flipped decaying *Agave sobria* like maniacs for many hours finding a magnificent large *Hypsiglena slevini* (Big-headed Night Snake) but no Night Lizards. We were about to give up and descend to the oasis when Rojito yelled, "Aqui esta!" I couldn’t believe my eyes."

"If it proves to be a new species I will name it *Xantusia* rojita.

Madden, H. M. (1949). Xántus, Hungarian naturalist in the pioneer West.

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Agave sobria

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***Xantusia* "rojito" by Kathryn Bolles**

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Chico and Juanito on Jacobo

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***Hypsiglena slevini* by F.Valle**

Rojito

Janos Xantus from Madden (1949)

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58 Field Instincts

"Bobby, we need to have a deep brotalk. I feel you appreciate my physical abilities, but not my instincts, as they work in a way you do not understand. In finding Night Lizards, my muscles for flipping are half the story, but you do not see the other half. The habitat at each place where we have found Xantusia is logged and stored in my subconscious. Then, that part of my mind analyses the stored impressions to formulate likely habitats. When we arrive at a new locality my subconscious compares the habitat we observe with those it has stored and then estimates the probability that this is good for *Xantusia*.

"For example, back there on top Cerro El Chile, my subconscious intuition told me that the agaves would harbor Night Lizards, but they would not be common. But, you, did not ask my opinion, and that hurt. If we are gunna be real herp bros you need to let me contribute, not just my muscles, but this instinct and intuitive powers."

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"Yes, Billybro I have noticed the edges of this habitat intuition of yours , but since I do not fully understand it, I have never given you the credit you deserve nor the opportunity to uses it more directly. I will mend my ways and put you more in the driver's seat, not just of Van, but of our *Xantusia* explorations/"

"Bobbybro, that would make me very happy." And he gave me a big hug.

"So, Billy, where do you think we should go next to look for Night Lizards?"

"I think that we need to look between the Sierra Guadalupe and the Pacific. There is a road out there that looks bad enough for me to get my rocks off. Lesgobro."

"You're on Billybro."

Life is like that. Sometimes the only way to understand even a bro is for him to lay all his cards on the table and draw you a picture. Billy's near-death from the *enyo* envenomation had not only released him from his inhibitions, it had increased his drive to talk with me at a deeper level, and that makes my heart sing.

"Billy, I have never told you how much I like watching you use your muscles while you drive. They are in total command of Van and you have the physical ability to make just the right movements to get us over these bad roads. I understand how you get your rocks off from physical movements, having observed you in our frolicking. For you, a mesomorph, it is muscular, whereas for me, an ectomorph, it is very tactual, all nerve endings and skin."

After a few hours Billy stopped the Van and declared, "This looks good for Night Lizards." On his first flip he uncovered a *Xantusia wigginsi* (Wiggins' Night Lizard) and I caught it. We found many more of them and were ecstatic also to find a *Bipes biporus* (Axolote).

"You are absolutely incredible, Billy."

"Glad to be of service Bobbybro. Lets go on over to Bahia Ignacio and swim with the Gray Whales."

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***Bipes biporus* by Adam Clause**

***Bipes biporus* by Marlin Harms**

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59 *Hydrophis platurus* (Yellow-bellied Sea Snake).
We were on a roll in our Mid-Peninsula Night Lizard adventure. Billy loved to drive Van with new tires on the horrendous roads and he was now free to utilize his incredible instincts for recognizing good Night Lizard habitat.

"Billy, you are phenomenal and I am beginning to wonder just what I have to offer in our explorations."

"Well, Bobby, you are the reason for the season. Your daydreaming about the unsolved mysteries of Night Lizard biogeography are what motivates me. What fun would it be driving and flipping and catching without your dreams? We are complementary, this is what makes us bros."

"Billy, I think we should take a day off from herping, snorkel in the gulf, admire the marine diversity, eat a sea bass, and just be two bros hanging out together."

"Wow, Bobbybro, I am very happy you are coming around to my view of life, bros having fun together with no need for anything else."

Billy found a totally isolated bay on the Gulf and we had the happiest day of our life together, capped off with a *Hydrophis platurus* on our midnight

swim.

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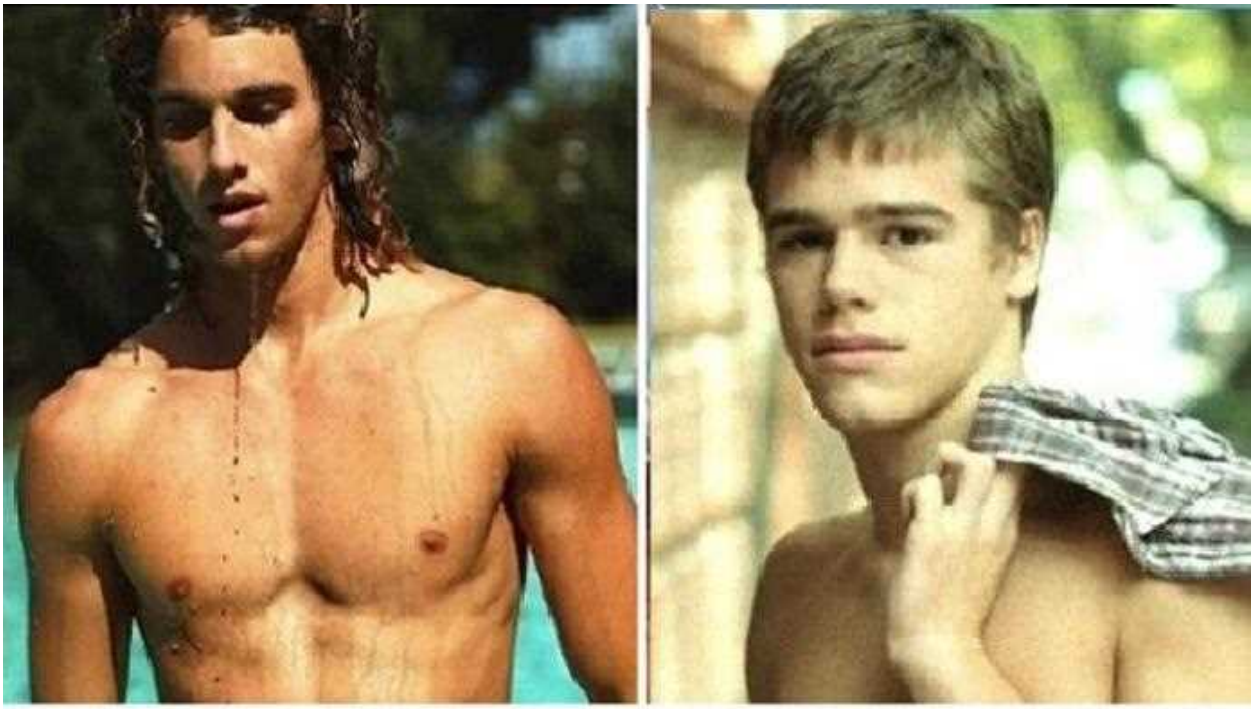

Billy **Bobby**

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60 La Mina de Cascabeles.
Heading north we drove into Santa Rosalia. Much to my surprise Billy took a great interest in the town. Its French influence was clearly in evidence and he liked it. The ruins of Bolero, the old French copper and gold works, dominated the entire town and gave it a somewhat eerie surreal appearance.

"Gee Bobby this place is really something. Lets stop and have some French cuisine."

"I doubt if they have frog legs and snails here on the Gulf"

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I was wrong and Billy ordered escargot and cuisses de grenouille, and he relished them. I hoped to escape a Francobomba by ordering a hamburguesa. But when Jacques the waiter set down the plate of very rare ground beef topped with a raw egg I almost lost my cookies. Fortunately Jacques was a Mexican-French kid. not a surly Paris waiter, and he happily took the plate back, scraped off the egg, and thoroughly cooked the meat.

The abandoned El Bolero mine works thoroughly infected Billy and he developed a fondness for ghost towns and abandoned mines.

"Jacques mentioned that the El Arco area has mine ruins that no one ever visits. Lets go for it," Billy entreated.

We stopped in San Ignacio long enough for me to get one last dose of the boy singing in the plaza and then Billy took the old road that went through El Arco. The track was horrendous and really got his juices flowing, and the sight of the mining relicts at Pozo was the climax. "Wow, this is wonderful."

"Billy, why do you like these old mines so much?"

"Well, they are like an epitaph for the human species made of feces.. Places that were founded on greed and then depleted and abandoned . Its what the human feces does all over the Earth, there is no Planet B. The Great Filter will end it all in a bang or a whimper, or both."

A boy walked up who looked for all the world like an indigenous kid. Indio said he lived with his brother at the pozo and was a Yaqui. His great grandfather had been rounded up in Sonora and brought to work the mines. When Indio heard we were herpers he said he knew a mine where nobody goes that has "tres tipos de cascabeles."

We grabbed our headlamps and eagerly followed Indio to La Mina de Cascabels. It was a steep drop off into a vertical shaft, but Indio had rigged a rope for the descent. Billy of course loved using his muscles to descend the rope and follow Indio into the mine pit. I elected to remain safe up at the mouth.

Indio explained that the cascabeles enter la boca de la mina seeking the cool air and the packrats, but often fall into the pit where they are trapped.

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Billy was ecstatic to find all three species, *Crotalus mitchellii* (Speckled Rattlesnake) *C. ruber* (Red Diamond Rattlesnake) and *C. enyo* (Baja California Rattlesnake). He brought them up the rope one by one for me to photo and tissue sample.

***Crotalus enyo* by Andrew Gottscho**

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Crotalus ruber by unknown photographer

Crotalus mitchellii by Alfredo Gutiérrez

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PLUS

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Jacques

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Indio

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61 Do Night Lizards have a life?

Billy and I decided to stay a couple of days near Pozo Aleman and El Arco exploring abandoned mines with Indio and enjoying the rich flora that included ***Fouquieria columnaris*** (Cirios)

"Bobby, do you ever wonder about the lives of Night Lizards, not just their biogeography?"

"No, I don't."

"Well Bobby, it is really their lives that control their occurrences and thus their geographic distribution, present and past. I have noticed that the lizards are up where we can find them at mid morning. That is the same time that I see lots of termites in the litter. While we are at Pozo Aleman where Night Lizards are abundant, lets gather data to examine this."

Billy and I had fun together flipping and recording the frequency of termites and *Xantusia wigginsi* (Wiggins' Night Lizard) activity. We plotted the frequencies over time of day and the data supported bro's casual observations, suggesting that the Night Lizards are most active when they can easily find termite prey in the

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decaying plants. The next day billy came up with a question that I found much more interesting.

"Bobby, in order to understand the biogeography of Night Lizards we need to better document their habitat preferences. There are three main "host" plants here: Datilillos (*Yucca valida*), Cardons (*Pachycereus pringlei*) and Maguey (*Agave cerulata*). We should start keeping track of the frequency of the lizards in each of these three plants. From what I have seen I am guessing they are actually most common in Cardons."

And our tabulations strongly indicated the Night Lizards were most frequent in Cardons.

"This blows me away, Billy. The preferred habitat here is like that of *Xantusia jaycolei* in Sonora which lives entirely in Cardons. But the DNA data do not indicate X. wigginsi and X. jaycolei are particularly closely related."

"Well, Bobby, Cardons take much longer to decay and support many more termites than a fallen Datilillo branch."

Quite honestly I was becoming jealous of the new Billybro who had not only muscles but instincts and had turned into a scientist not a day-dreamer like me.. During our puesta bro sit I confided my feelings and Billy was totally understanding.

"Bobbybro, just savor the experience of us having fun together in our own different ways. You enjoy your daydreams and musings. For me my muscles and instincts bring me pleasure. This science thing is ok, but it is not where I get my kicks. Lets just each enjoy what we like to do, have fun together, and experience a wider spectrum of life vicariously though each other."

And bro gave me hug that said it much better than words.

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***Xantusia wigginsi* by Isaac Krone**

62 *Coleonyx switaki* (Switak's Banded Gecko).

"Billy, you may claim that you do not get your kicks from science, but you have definitely infected me with an addiction to hypothesis testing. I am thinking that to test your termite hypothesis we need to visit the Gulf at this latitude and count termites and Night Lizards in that hot arid habitat to compare with the numbers we found here. There is a very bad road from here to the Gulf, but it would probably be too hard for you."

"Bobbybro, you are baiting me, but I like it, and I know you are a very experienced baiter, a master, really."

And the rock-strewn road from El Arco towards San Francisquito on the Gulf was by far the worst we had experienced on the entire trip. Billy had to stop every few minutes. He would hop out declaring, "I need to get the rocks off again." Bro strained his muscles lifting the boulders, but had a delightful smile all the while.

After five hours we reached a rancho and the track seemed to end. A kid came out and we asked him about the road to San Francisquito. Ramon said that it was not

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possible to drive any farther, but he and hermano Paco could take us there tomorrow morning with a pack animal.

Ramon led us to a pozo where we could camp. When we told him we were herpers he volunteered to show us a very special lagartija after dark.

We had our puesta bro time, scarfed down our tortillas with peanut butter, and grabbed our headlamps for the walk with Ramon.

We were about to give up when Ramon yelled, "Aqui esta uno!",

"Santa mierda!, it's a *Coleonyx switaki*, I declared, grabbing the gecko and giving the kid a big hug.

***Coleonyx switaki* by naturenate**

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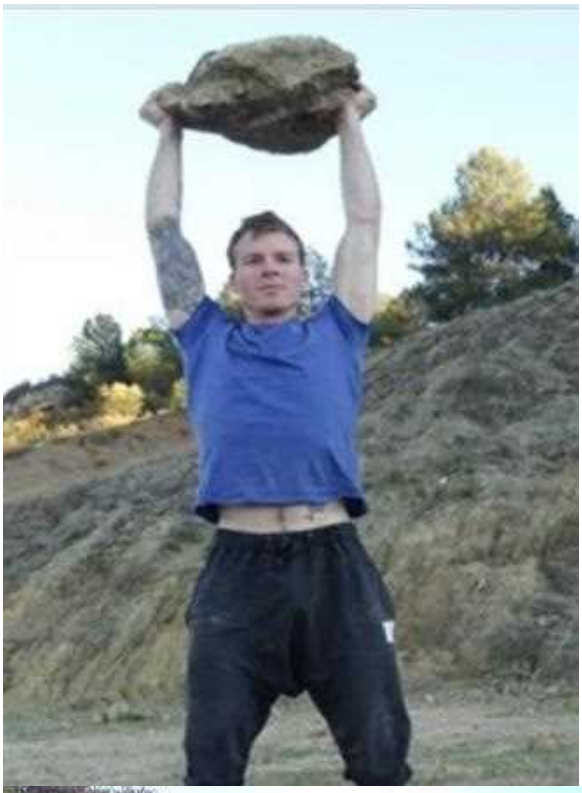

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63 *Crotaphytus vestigum* (Baja California Collared Lizard).

At dawn Ramon and Paco loaded their burro, Terco, and we set out on our grand adventure to walk from their rancho to the Gulf, our spirits soaring like eagles. As usual I lagged behind the boys but was delighted that the new Billybro walked along with me. After four hours we came to a pozo and Paco called a halt to water Terco.

There ware lots of boulders near the pozo and Billy and I set out to look for herps. We were ecstatic to find our first ever *Crotaphytus vestigum*, together with the peninsular stalwarts *Sceloporus orcutti* (Granite Spiny Lizards) and *Petrosaurus repens* (Short-nosed Rock Lizards).

After tortillas and peanut butter we set out again on our march to the sea. Three hours later we reached Punta San Francisquito jutting into the placid Gulf. We were delighted to see the thick Cardon forest, but decided to wait until morning to start systematically gathering data on the frequency and time of activity of Night Lizards and termites.

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***Sceloporus orcutti* by Mark Chappell**

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***Petrosaurus repens* by Brad Hollingsworth**

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Miller's Landing
Isla Cedros
Vizcaino Peninsula
San Ignacio
Sierra de la Giganta
La Purisima
La Poza Grande
Llano de Magdalena
Istmo de La Paz
Sierra de la Laguna
Punta San Francisquito
Pozo Aleman
Santa Rosalia
Sierra Guadalupe
Bahia Concepcion
Sierra de los Gavilanes
Dolores
Isla San Jose
Isla Espiritu Santo
Isla Cerralvo

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64 Punta Adriana

During our puesta del sol bro time we were shocked to hear a guitar and singing coming from far down the playa. We ran to investigate and there sat a youth and his mom singing to the *Chelonia mydas* (Green Sea Turtles).

The sun rose above the Gulf like a fireball out of hell and Bro and I and began carefully flipping pieces of dead Cardon. We continued non-stop for 10 hours but found no Night Lizards and very few termites.

"Billybro, this supports your hypothesis. The Cardons are thicker than thieves with plenty of dead branches and trunks, but no termites, the presumed main prey of *Xantusia wigginsi* (Wiggins' Night Lizard). It's just too hot and arid here."

"But Bobbybro, Is it too hot and arid for the lizards as well. Also there are no Datilillos (*Yucca valida*). How can you separate these factors?"

***Chelonia mydas* by Hannes Leonard**

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65. Punta Santa Rosarito

"Billy, I think we need to get some data from along Pacific coast to test your hypothesis. Do you think you could possibly drive on the playa all the way up to Punta Santa Rosarito?"

.You're on, Bobby.

"Wow, look at these *Agave shawi*. Lets stop and get some data here," I proposed. Every dead agave Billy flipped had a *Xantusia wigginsi* (Wiggins' Night Lizard) and lots of termites. And there were many decaying plants.

We were delighted to also find three Night Snakes. "I guess they are *Hypsiglena ochrorhyncha venusta,* but Mulcahy found a complex picture for Night Snake DNA on the peninsula. And this close association of Night Snakes with Night Lizards in the field is hard to reconcile with the findings of Javier Rodriguez and co-workers on the diet of the snakes.

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"So Billy we have determined that along the Pacific coast, agaves comprise very good habitat and neither Datilillos nor Cardons are present. I think it is not the 'habitat plants' but the climatic conditions that determine whether *Xantusia* are present and in what numbers. Clearly, the cool Pacific with its fog is conducive to both *Xantusia wigginsi* and its termite prey. But how can we get a better handle on the relative importance of climate alone and of the termites alone?"

"I am not sure we can solve this mystery without a complex analysis of variance," ever-practical Billy remarked.

Billy noticed that most of the Night Lizards here had a spotted color pattern like that of *Xantusia vigilis* (Desert Night Lizards) rather than either the striped or the unicolor pattern we had seen in *Xantusia wigginsi* and other species.

"I think we should head inland where there are Datilillos and Cardons to see if the other two Night Lizard color patterns are there. Maybe we are dealing with cryptic species," Billy suggested.

"Billy, you are incredible. By being so spontaneous and observant you notice things that I completely miss." And I gave Billy a big hug.

We had our puesta bro sit and Billy speared and grilled a sea bass. As we prepared to spend the night at the tip of Punta Santa Rosarito we were shocked to discover a youth sleeping alone at this remote spot.

Mulcahy, D. G. (2008). Phylogeography and species boundaries of the western North American Nightsnake (Hypsiglena torquata): revisiting the subspecies concept. Molecular phylogenetics and evolution, 46(3), 1095-1115. https://webapps.fhsu.edu/ksherp/bibFiles/186.pdf

Rodríguez-Robles, J. A., Mulcahy, D. G., & Greene, H. W. (1999). Feeding ecology of the desert nightsnake, Hypsiglena torquata (Colubridae). Copeia, 93-100. http://jrodriguez.faculty.unlv.edu/15.pdf

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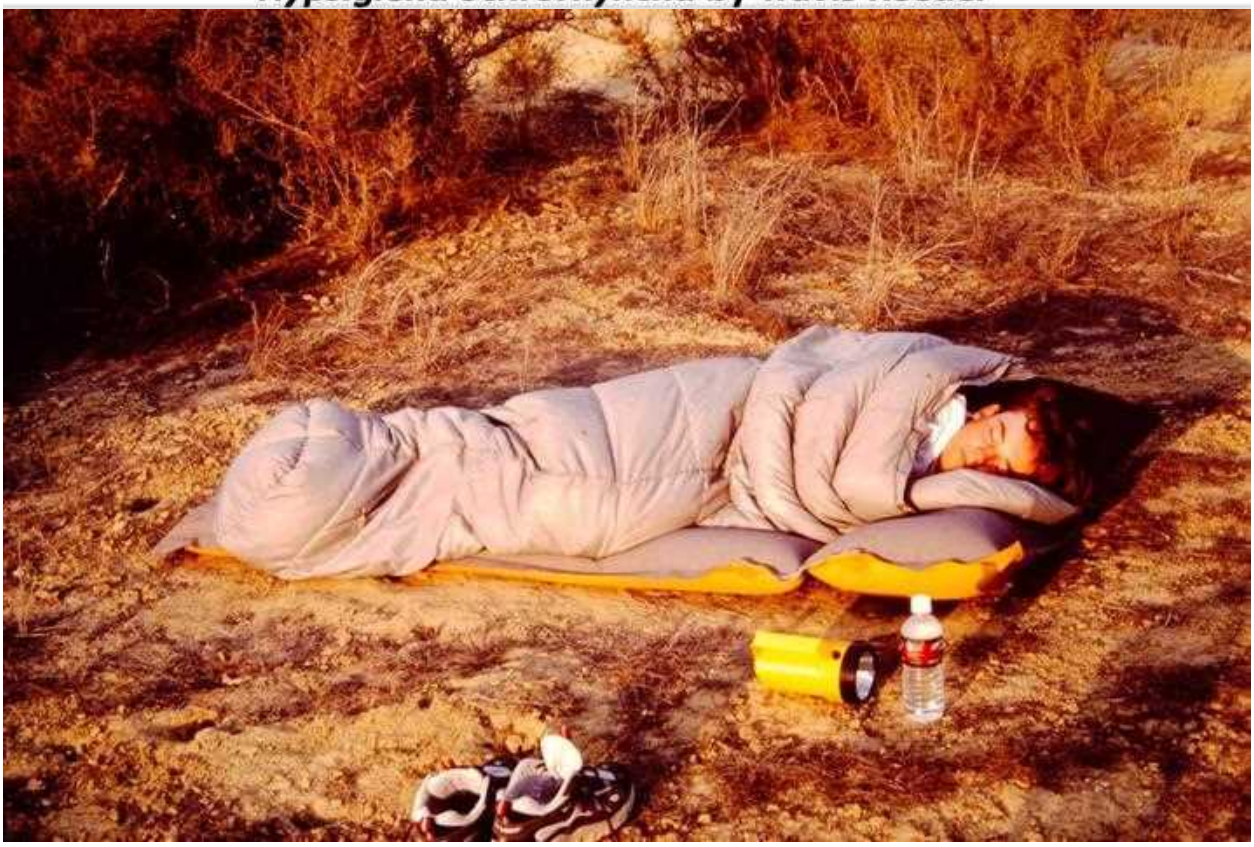
***Hypsiglena ochrorhyncha* by Travis Reeder**



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66. Calamajue

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At our puesta del sol time Billy launched into a very deep bro talk.

Bobby, we need to rebalance a bit. We both share the fun of herping and you like your Night Lizard investigations and testing ecological and biogeographic hypotheses. But I don't get my kicks testing hypotheses, they are mental, not physical. Blank spots on the knowledge map do not grab me, blank spots on the topographic map definitely do. I live in the physical world of muscles, surfing, ro ping, diving, spear fishing, lifting road rocks, and climbing mountains.

"I love exploring the rugged unknown roadless ranges here on this wonderful Peninsula that time has forgotten. I had lots of fun in the Sierras Laguna and Giganta, and north of the Giganta are series of ranges that are completely unexplored, the Sierras Guadalupe, San Francisco, Libertad, and Asamblea. Let's go explore them.

"And along the way you could get tissue samples from selected species of herps to do DNA analyses to determine just how long the populations in these ranges have

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been genetically isolated. That may answer a lot of your biogeographic questions."

"I hear ya talkin, Billybro. You are indeed a well-endowed mesomorph and using your muscles is how you get your rocks off. As an ectomorph I tend to shy away from the very activities that turn you on. I will make more of an effort to help you fill this deep-seated need of yours. And I think it would help both of us do that if we connect more deeply during our puesta bro sits, like we are doing now. This will make sure we always are both on the same emotional page. The longest journey begins with the first step. What would that be bro?"

"Since we are this far up the peninsula, let’s start in the north and explore the Sierra Asamblea. There is a delightfully bad-looking road into Valle Calamajue on the western bajada of the range. It would be a fun place to start our Asamblea adventure and there are abandoned mines there that I would love to explore."

Billy drove for nine hours, stopping often the get the rocks off the "road." We arrived at the Calamajue mines just at puesta del sol. As we sat together gazing at the last rays of the sun lighting up the Sierra Asamblea bajada we heard a guitar and went to investigate. There in the mouth of Mina la Josefina sat a guy with his guitar.

He introduced himself as Diego Cascabelero and showed us his *Crotalus mitchellii* (Speckled Rattlesnake).

Meik, J. M., Schaack, Sarrah, Ingrasci, M. J., Lawing, A. M., Setser, K. I. R. K., Mociño-Deloya, Estrella., & Flores-Villela, Oscar (2012). Notes on activity, body size variation, and diet in insular speckled rattlesnakes from the western Sea of Cortés, Mexico. Herpetological Review, 43(4), 556-560. https://www.researchgate.net/.../Notes-on-activity-body...

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***Crotalus mitchellii* by Rafael Paredes Montesinos**

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Diego Cascabelero

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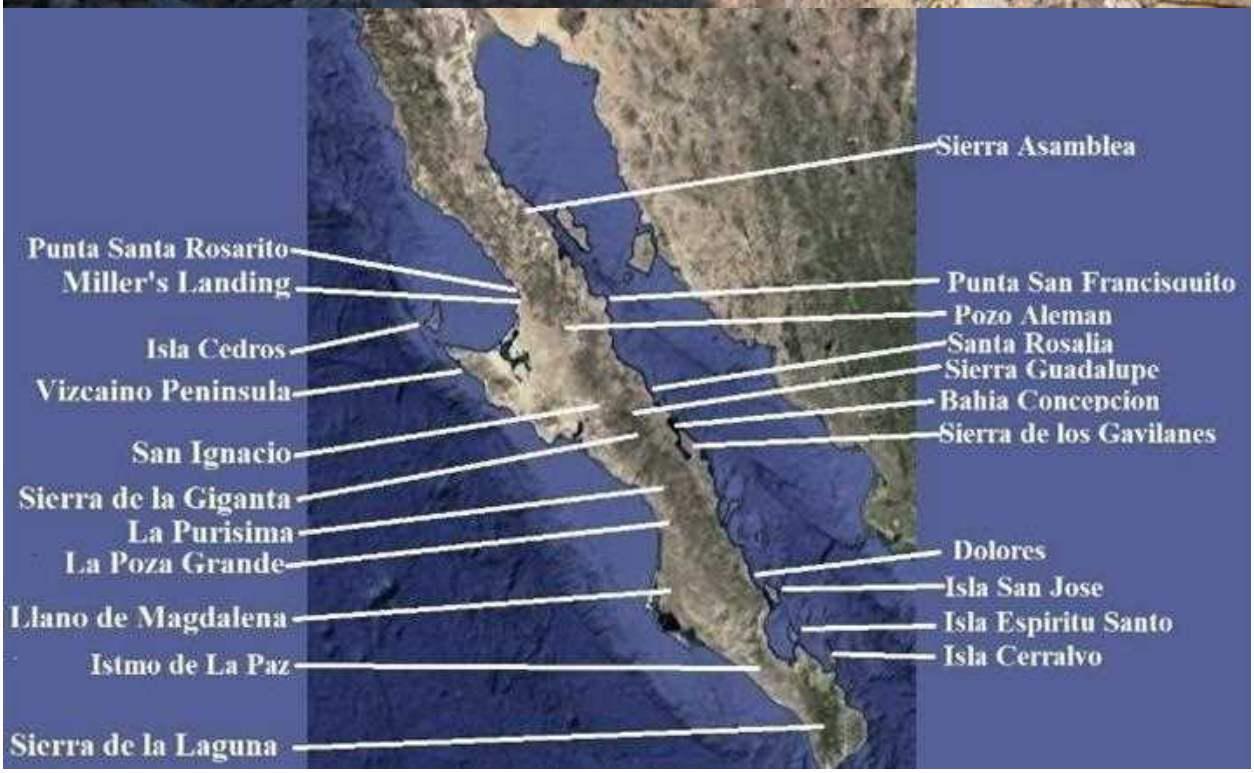
Sierra Asamblea
Punta Santa Rosarito
Miller's Landing
Isla Cedros
Vizcaino Peninsula
San Ignacio
Sierra de la Giganta
La Purisima
La Poza Grande
Llano de Magdalena
Istmo de La Paz
Sierra de la Laguna
Punta San Francisquito
Pozo Aleman
Santa Rosalia
Sierra Guadalupe
Bahia Concepcion
Sierra de los Gavilanes
Dolores
Isla San Jose
Isla Espiritu Santo
Isla Cerralvo

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67 Diego.

The totally unexpected twists and turns in the road of life are what make it such a grand adventure. Diego's sudden entry into our life was just such an advent. He had a sweet personality that reached both Billy and me and we soon whole-heartedly accepted him as a new bro. He seemed attracted to Billy's strength and my introspection. Struggling up the canyon to his casita I became fond of his heart-felt encouragement and pats on my back.

He joined us in our puesta del sol bro time and sat silently with one arm draped over Billy's shoulders and the other around e. Afterwards he played his guitar and sang.

We were delighted to see the shady palm grove near Diego's casita. He used the structure mainly for storage and lived and slept under the palms. He had one pack goat for carrying water on his frequent trips into the various sierras.

Diego relayed that digging in one of the abandoned minas far back in the Asamblea he had discovered a vein of gold. He showed us an impressive collection of nuggets that he kept in a tin box buried behind his casita. To avoid suspicion he took only one or two at a time to buy things in El Rosario. His extraordinarily detailed knowledge of the ranges were the result of his frequent searches for other lost veins of gold.

Newbro Diego reported that there was a strange lizard that he had seen atop some of the ranges including Cerro Blanco and he could take us there.

The day was a scorcher and he suggested we wait until midnight to set out for Blanco. He knew all the pozos but said that they often dry up this time of year so we would need to take Chivo to carry calabazas with water. After dark we went to the pozo to fill the calabazas, have a dip, and share our tortillas with peanut butter. It was full moon and we set out at midnight and immediately encountered a *Crotalus ruber* (Red Diamond Rattlesnake). His admiration for the magnificent snake was very evident.

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***Crotalus ruber* by Matt Gruen**

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68 *Petrosaurus diegoi*

Our new bro was having a profound affect on Billy and me. Diego's sweet peaceful disposition calmed Billy's compulsion to use his muscles. And I no longer had to test hypotheses. We were quite content to sit with arms around newbro as he played his guitar and sang.

We slowly made our way up Canyon Las Palmas to Canyon Higuera. We were delighted to find that the oasis still had water and we stopped to spend the afternoon, We filled the calabasas, watered Chivo, stripped, and spent the afternoon floating in the pool.

Even with our language limitations we were able to communicate, quite well "Diego, how did you come to be so peaceful and happy?" I made brave to ask.

"Well Bobby it comes from loving the Sierra. I have spent most of my life alone in these rugged mountains and they bring peace and joy to my heart. They have given me gold to buy food and they enjoy my guitar playing and singing. The canyons, the palmas, and the cascabeles, they are my hermanos and we love one another."

As we fell asleep gazing up at the moon and stars newbro's peace settled deep into my heart.

The sun rose like a fireball out of hell and Diego led us to the summit. There, basking on the boulders, was his mystery lizard. It appeared to be a *Petrosaurus* with a unique color pattern and a collar that is yellow rather than black.

"Santa mierda, Diego, this]]may be a new species! Have you seen it in other Sierras?"

"Yes they are in most of the big ranges but they live only on the highest peaks."

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Petrosaurus diegoi

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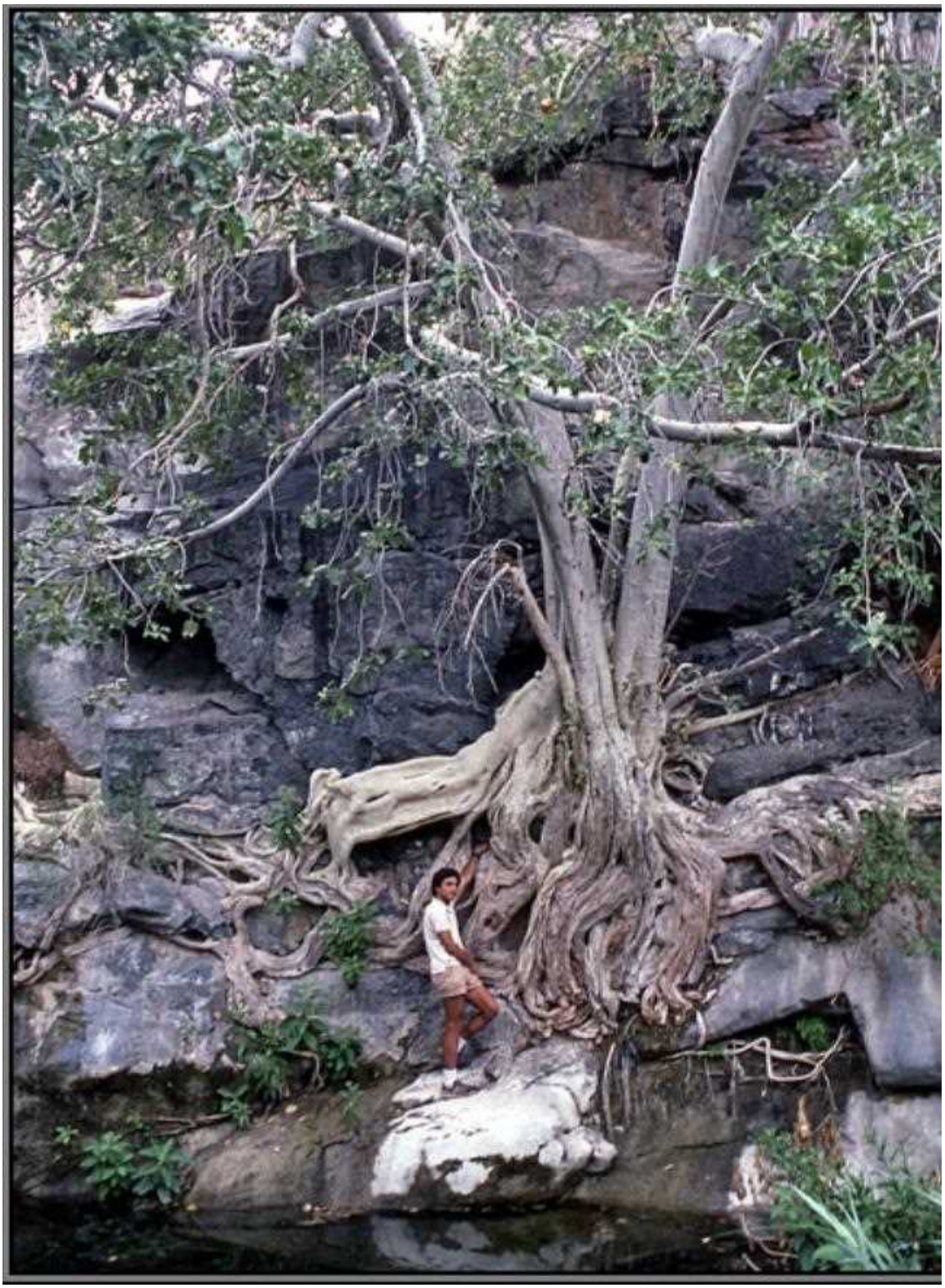

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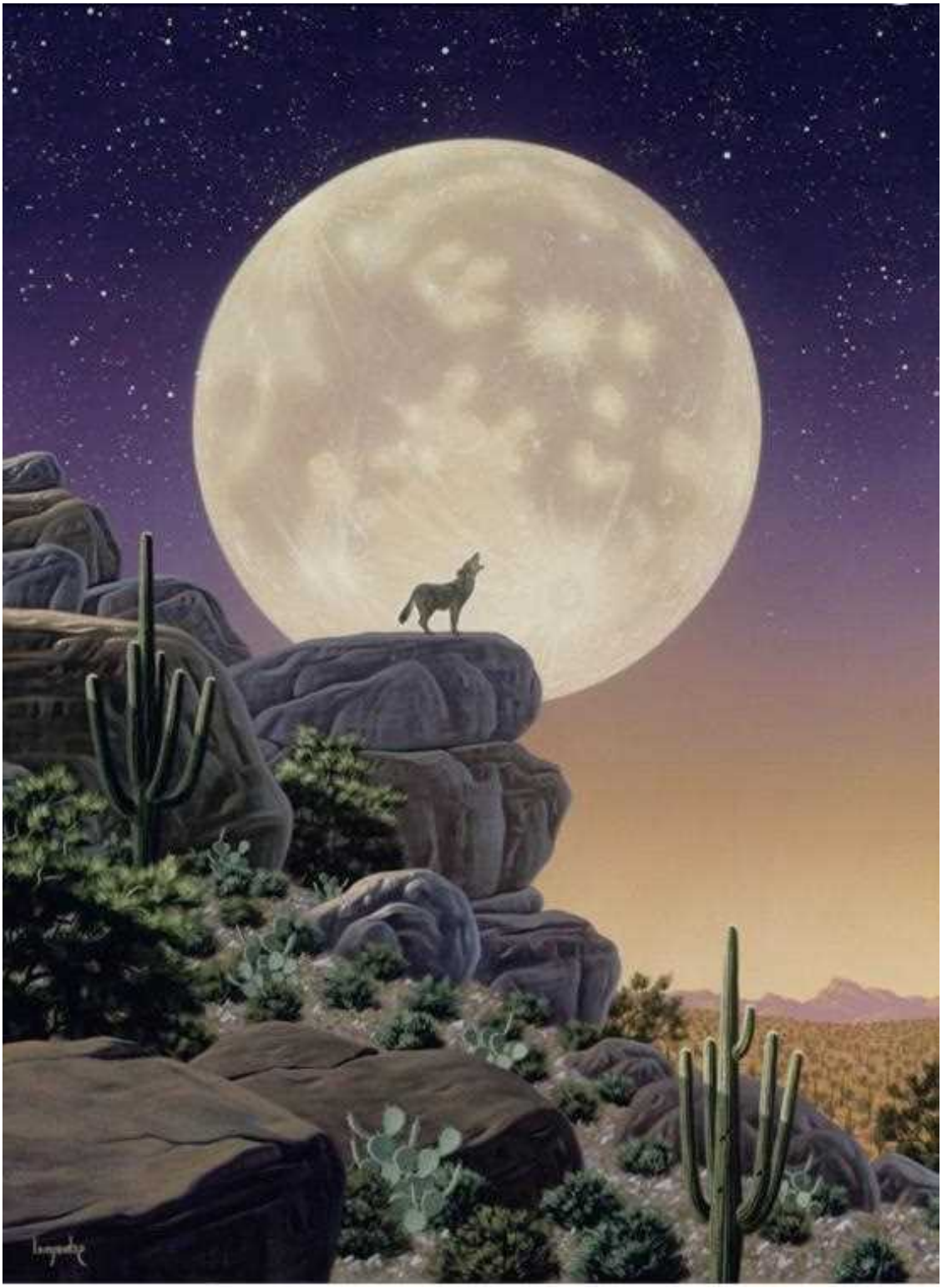

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69 ***Elgaria multicarinata*** (**Southern Alligator Lizard**).

I got photographs and tissue samples of Diego's strange *Petrosaurus* (Rock Lizard) and we started our descent from the summit of the Sierra Asamblea. I was delighted to see a large patch of agaves and my addiction to hypothesis-testing emerged anew. It was an inner struggle for my core being, a duel between peace and drive, between meditation and action. But this conflict is the very nature of the human species and I listened to my heart:

"Gaddam it, Bobbyboy, you gots to know if Night Lizards are or are not here. And Billybro is itching to use his muscles. Even peaceful Diego goes searching all over these sierras looking for gold."

I made the decision to continue down my hypothesis-testing road and search the agaves. I was pleasantly surprised that Diego loved flipping and working close to Billy and me. Newbro screamed, "Axolote" as he lifted a huge dead agave, and Billy made the catch. I could not believe my eyes. It was an *Elgaria multicarinata* isolated here in the Asamblea way south of its range.

"This, like *Sceloporus occidentalis* (Fence Lizards) on Isla Cedros, is a clear relict from the Pleistocene. It is not surprising in view of the piñons on the Asamblea summit. These range expansions and contractions must be how *Elgaria* species 'captured' mitochondrial genes that Leavitt and his coworkers discovered," I pontificated.

We had our first threesome hug and I loved it.

We found no Night Lizards under the agaves but on our descent we encountered two biologists studying the unique fauna and flora of the Asamblea.

Sierra La Asamblea, un Isla de Montaña
https://www.youtube.com/watch?v=SOcm7aPe2t4

Leavitt, D. H., Marion, A. B., Hollingsworth, B. D., & Reeder, T. W. (2017). Multilocus phylogeny of alligator lizards (Elgaria, Anguidae): testing mtDNA introgression as the source of discordant molecular phylogenetic hypotheses. Molecular Phylogenetics and Evolution, 110, 104-121.

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Wehncke, E. V., Rebman, J., López-Medellín, X., & Ezcurra, E. (2012). Sierra de la Libertad: A major transition between two desert regions in Baja California, Mexico. Botanical Sciences, 90(3), 239-2
https://www.scielo.org.mx/scielo.php...

***Elgaria multicarinata,* Baja Califonia, by Alán Palacios**

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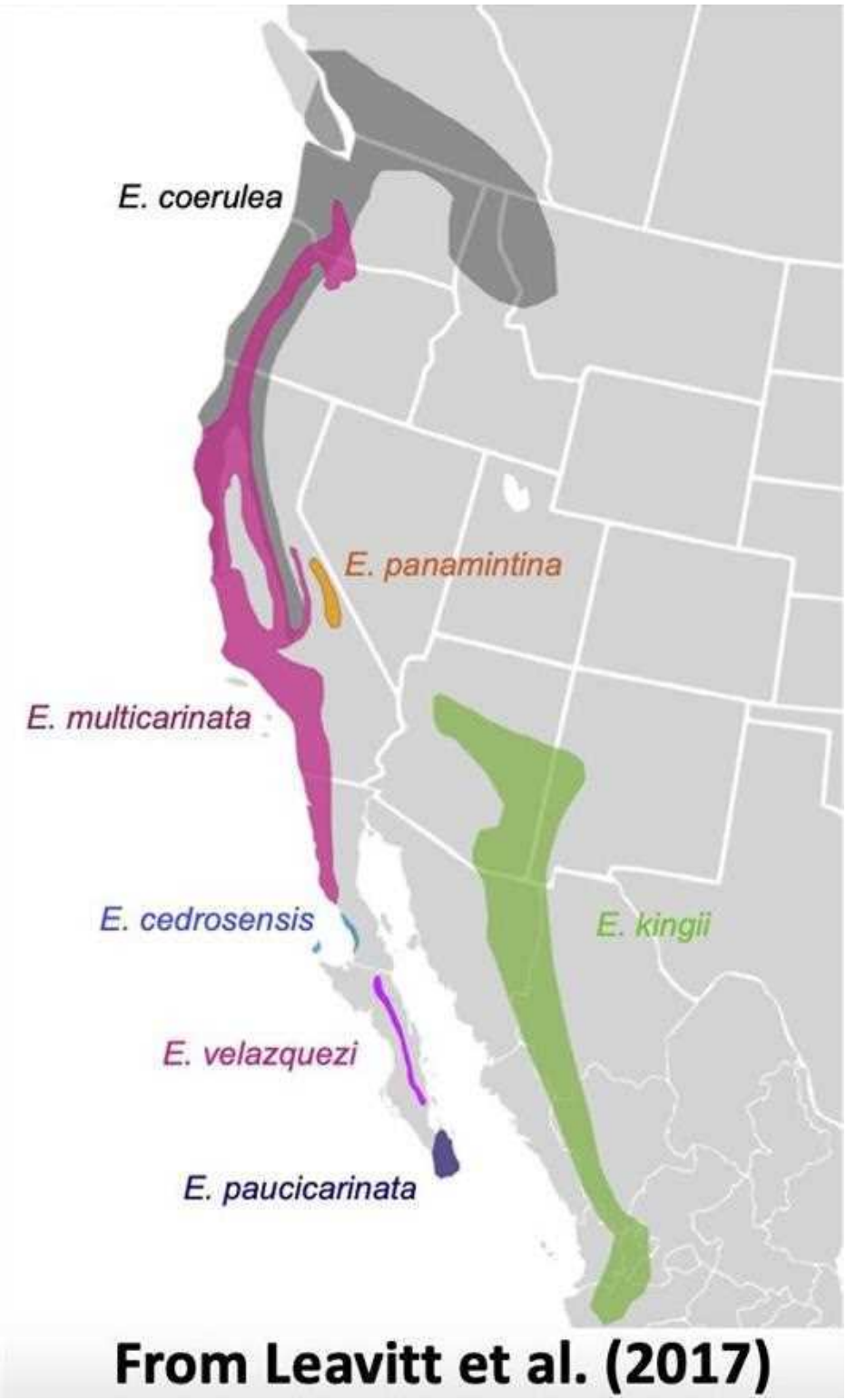
E. coerulea
E. panamintina
E. multicarinata
E. cedrosensis
E. kingii
E. velazquezi
E. paucicarinata
From Leavitt et al. (2017)

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70 Sierra Libertad

Diego Cascabelero injected us with new enthusiasm for exploration. This was totally unexpected considering his gentle peaceful demeanor. But with his go slow approach, his intimate knowledge of these sierras and their oases, and his Chivo carrying the calabazas full of water, we felt confident we could easily explore the sierras in this important transition area of the peninsula. And when I had trouble putting one foot in front of the other, Newbro would put his arm around me as say, "Bobbybro, tu puedes hacerlo," and that made all the difference in the world to me.

Billy had lots of fun driving Van and me, Newbro, and Chivo into Tres Palmas on the Gulf side of Sierra Libertad. There we rested for the afternoon floating together in the cool water, followed by our three bros time, tortillas with peanut butter, and a headlamp walk after dark. We were about to give up looking when Diego yelled, "Solquate!" It was a beautiful *Lichanura trivirgata* (Three-lined Boa), and we took turns holding the magnificent serpent.

The Sierra Libertad was certainly different from any other ranges we had explored so far. It was a jumble of boulders, canyons, and mesas. and Diego knew the terrain well. We walked up Cañón de Tinajas deep into the range and then climbed the 1600 m summit where we spent the night gazing up at a billion stars.

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We greeted amanacer and soon the *Petrosaurus diegoi* (Diego's Rock Lizards) were basking on the boulders. We got many photos and tissues samples for analyses of the DNA divergences among the populations in these transitional ranges.

Wehncke, E. V., Rebman, J., López-Medellín, X., & Ezcurra, E. (2012). Sierra de la Libertad: A major transition between two desert regions in Baja California, Mexico. Botanical Sciences, 90(3), 239-261. https://www.researchgate.net/.../263702276_Sierra_de_La...

***Lichanura trivirgata* by Winifred Frick**

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Bobby Billy Diego

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71 Sierra San Francisco

Billy, Diego, and I were three bros in love with each other and with our explorations of these rugged mountains that were inhabited by Newbro's undescribed *Petrosaurus* (Rock Lizard) species. And I had come to fully accept my attraction to hypothesis-testing supported by Billy's flipping and his uncanny power to evaluate a habitat's suitability for Night lizards. His instincts told him that these central Peninsular ranges harbored *Xantusia wigginsi* (Wiggins' Night Lizard), but the lizards were sparse. Flipping agaves Billy and Diego worked their fingers to the bone and all they got were bonny fingers, except for one Night Lizard in each of the sierras.

Billy got his rocks off driving Van to Mesa San Pablo at the north end of Sierra San Francisco. We hopped out, loaded Chivo with the water calabazas, and were off, soaring like eagles into the unexplored wildness of the range. By late afternoon we reached an oasis, and enjoyed our usual routine: stripping, floating, sitting during puesta bro time, wolfing down tortillas with peanut butter, and herp-walking with headlamps after dark. It was an all-gecko night with *Phyllodactylus nocticolus* (Peninsular Leaf-toed Gecko), *Colonyx variegatus*, (Western

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Banded Geckos) and an absolutely stunning *Coleonyx switaki* (Switak's Banded Gecko).

We fell asleep, three happy bros gazing at a billion stars.

***Coleonyx switaki* Mike Pingelton**

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***Coleonyx variegatus* by Jesus Gordolomi Butterball RC.**

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***Phyllodactylus nocticolus* by Hugo Moreno Prado**

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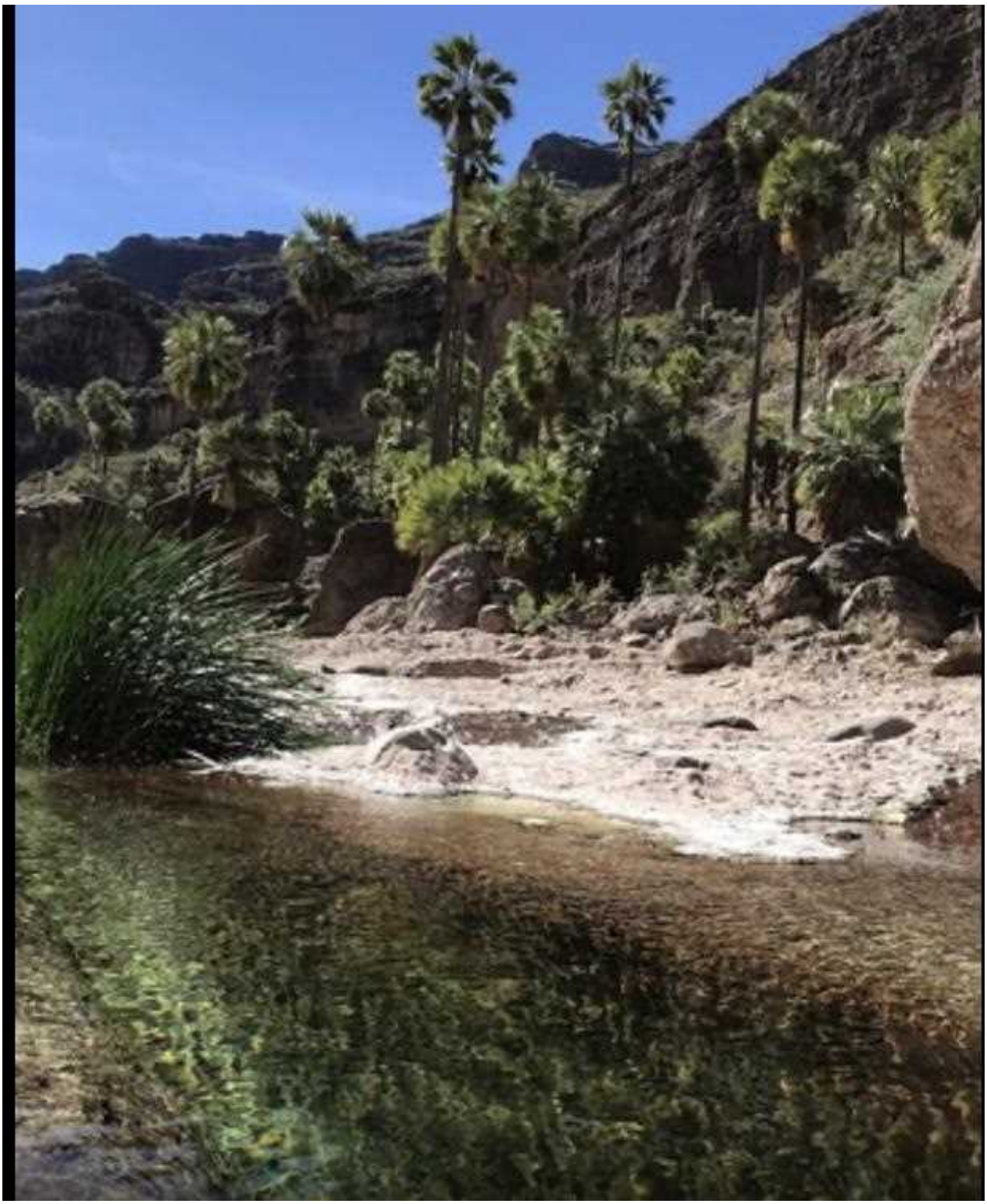

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72 The Nugget

The Sierra San Francisco reaches only 800 m elevation so we were surprised Diego said his *Petrosaurus* lived on the peak. But Newbro pointed out that it was high enough to jut above the fog zone and that was the critical factor for the presence of the species. Above the fog we found the lizards basking in the morning rays and it was a cinch to noose several to get tissue samples. They all had the golden collar diagnostic of the new species/

On the way down Diego wanted to visit a canyon he had not previously explored. There high on the wall he spotted a mine. "It may have oro and cascabeles, but I can get up there without help," Newbro declared."

"That is what a muscle-bro is for," Billy responded.

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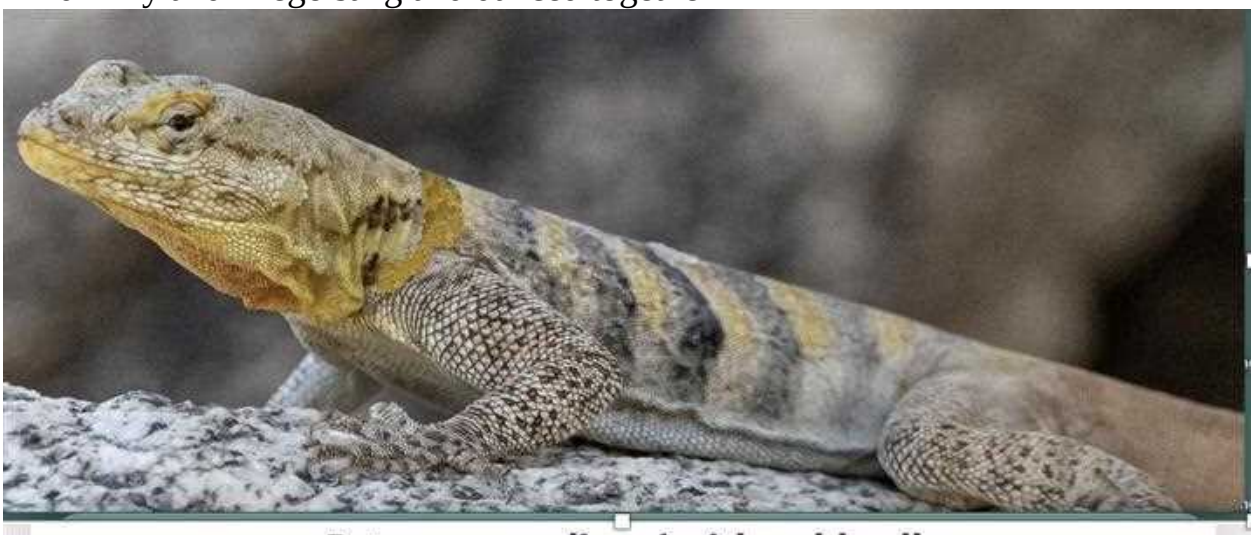
They both took off their shoes and slowly scaled the wall gripping the crevices. Billy went first and then enjoyed using his muscles to pull Diego up to his ledge and help him stand on his broad shoulders. Ledge after ledge they eventually reached the mine and went in with their headlight. Soon I heard loud whooping emanating from the tunnel.

After they safely worked their way back down, Diego showed us a hand full of gold nuggets." And we saw a magnificent *Crotalus mitchellii* coiled on a huge nugget. I want to leave the gold buried in the mine for now so no one will find it. It will bring us enough money to meet our needs for the rest of our lives. This must be the reason that the new *Petrosaurus* has a gold collar.

And Billy and Diego sang and danced together



***Petrosaurus diegoi* with gold collar**

all afternoon.

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Bobby Billy Diego

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*****73 Sierra de Guadalupe**

We were excited to be heading into the Sierra de Guadalupe, the southernmost range in this transition zone from desert to semi-tropics. We stopped at a rancho near Uña de Gato where Diego visited some of his primos. Billy enjoyed driving Van to the end of the road at La Ventana where we spent the night at an oasis.

At dawn Diego loaded the water calabazas onto Chivo and we were off to climb to the peak. On the way up we saw our first Peninsula Bighorns (*Ovis canadensis nelsoni*). Basking on the summit boulders were *Petrosaurus repens* (Short-nosed Rock Lizards) with their black collars rather then *Petrosaurus diegoi* (Diego's Rock izards) with gold collars.

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After noosing and tissue sampling the Rock Lizards, Billy and Diego started flipping agaves. No Night Lizards turned up but we were delighted find two southern species, *Plestiodon lagunensis* (Sierra Laguna Skink) and *Elgaria velazquezi* (Velazquez' Alligator Lizard).

"We have determined that along the Gulf the transition between desert and thorn-scrub runs approximately between the Sierra San Francisco and the Sierra Guadalupe which is a northern outlier of the Giganta," I declare

***Elgaria velazquezi* by Wouter Beukema**

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***Plestiodon lagunensis* by Victor Hugo Luja**

***Ovis canadensis nelsoni* by Miguel Angel de la Cueva**

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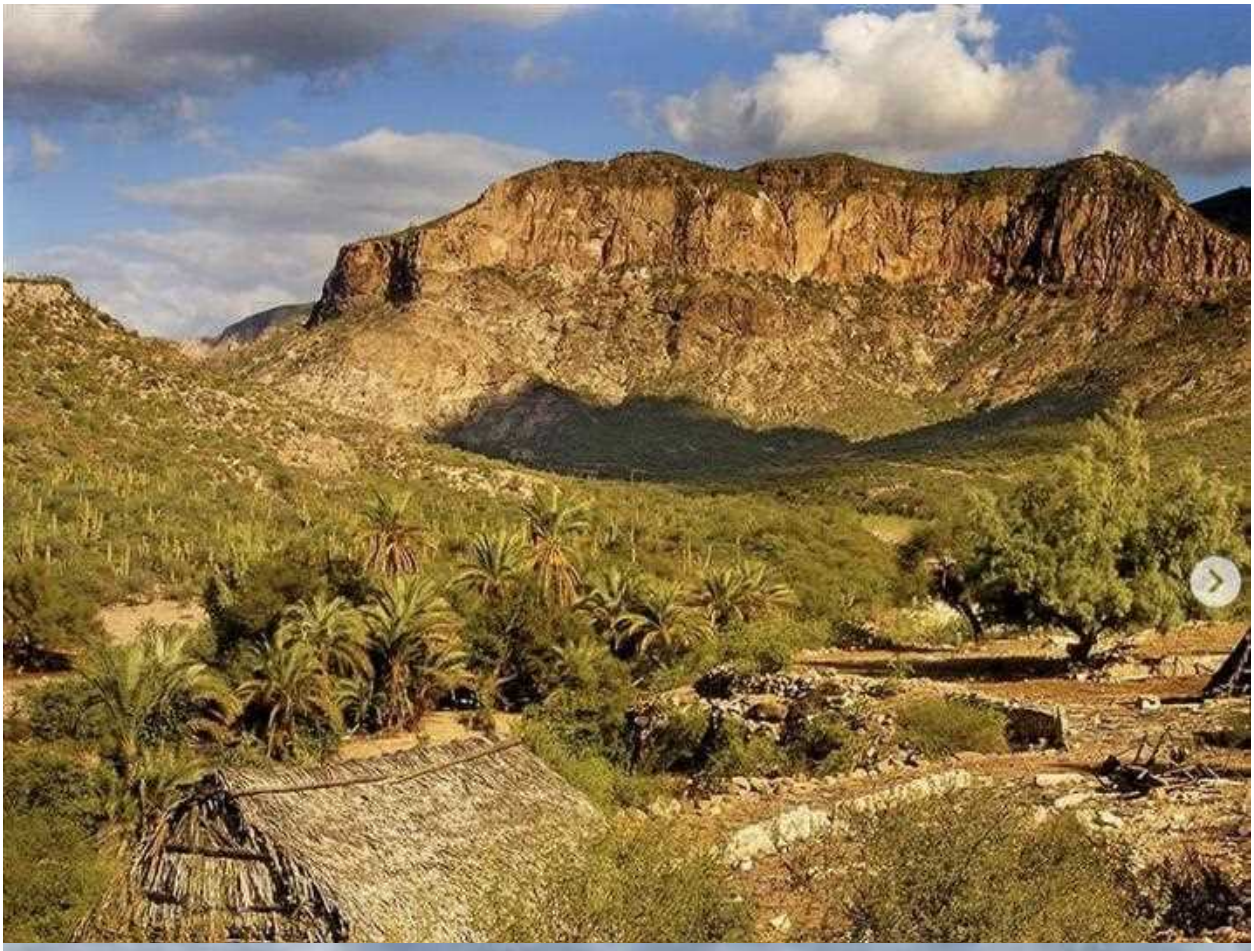


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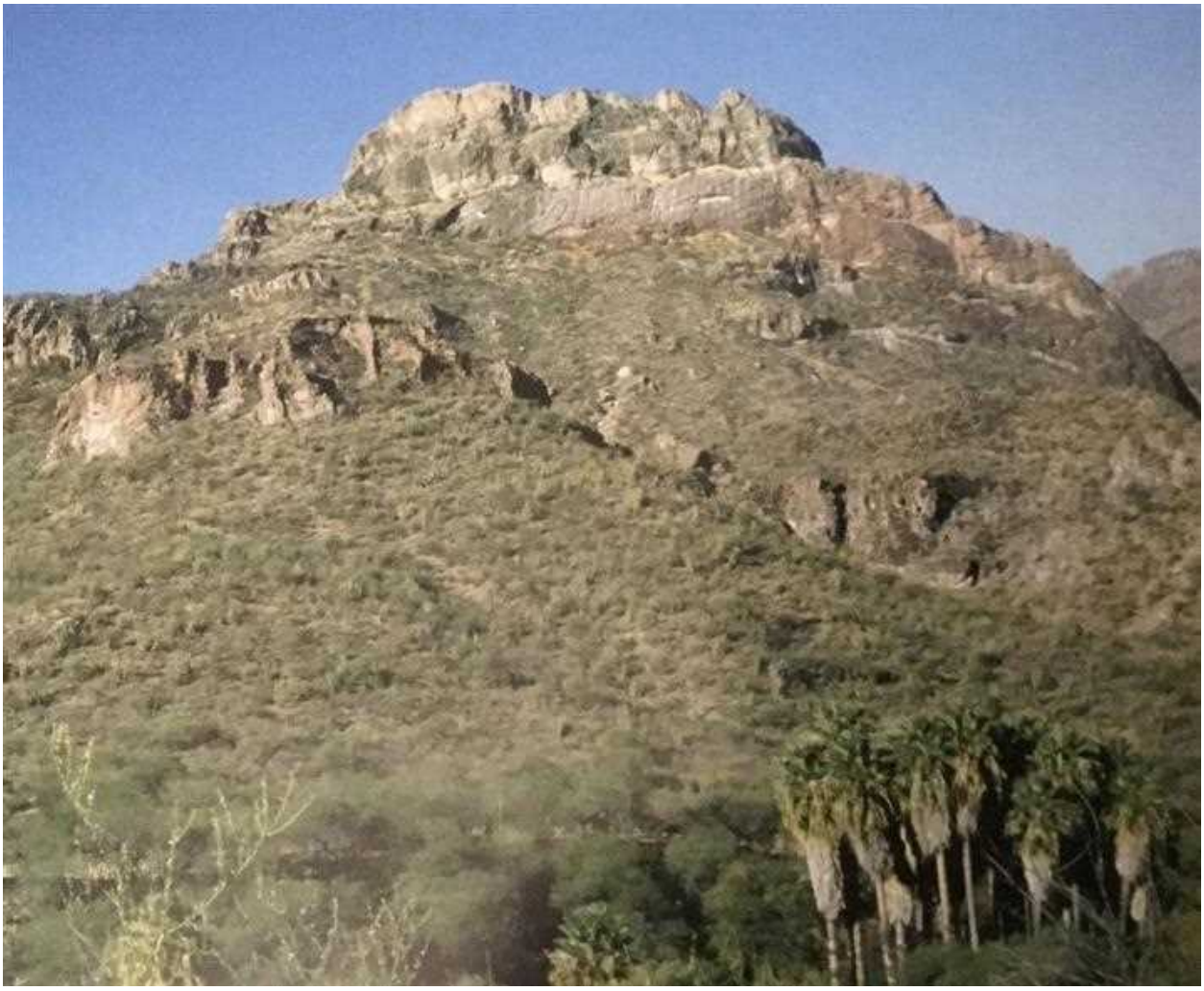

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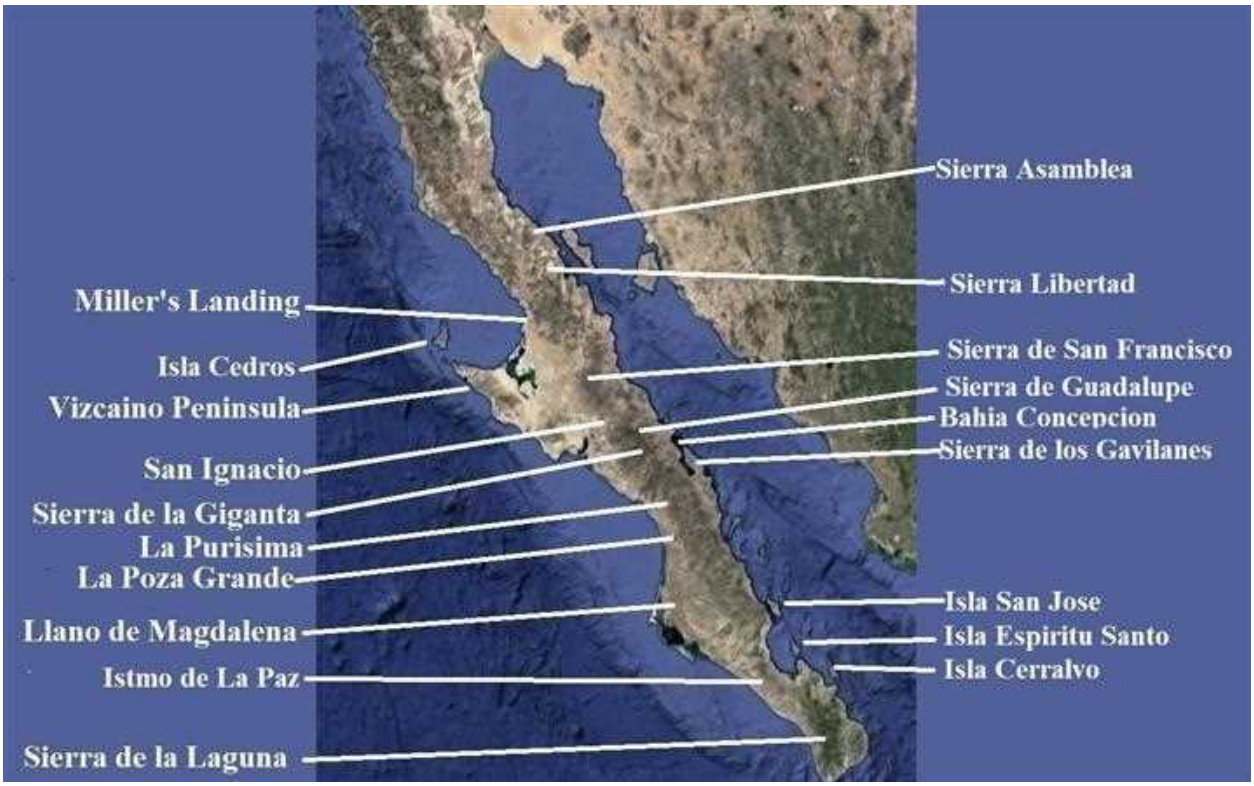
Sierra Asamblea
Sierra Libertad
Miller's Landing
Isla Cedros
Vizcaino Peninsula
Sierra de San Francisco
Sierra de Guadalupe
Bahia Concepcion
Sierra de los Gavilanes
San Ignacio
Sierra de la Giganta
La Purisima
La Poza Grande
Isla San Jose
Isla Espiritu Santo
Isla Cerralvo
Llano de Magdalena
Istmo de La Paz
Sierra de la Laguna

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©Miguel Ángel de la Cueva

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Petrosaurus repens by Brad Hollingsworth

The Mexico Herp Adventures of Bobby and Billy. 74 Bahia de los Angeles.

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We returned to Diego's oasis in the Sierra Asamblea to rest up and plan our next adventure. Billy and I had become so attached to Newbro that the thought of separating brought tears to all three of us.

At puesta del sol we had a very long, deep three-bro talk. Billy and I made a firm decision to live in Baja California and never step foot in Gringolandia again. And Diego was interested in exploring the northern part of the peninsula with us.

So we formulated a plan for us to stay together. We three would explore north to the Frontera and then return to the Asamblea where Billy and I would build a thatched adobe in the canyon near Diego's casita.

Newbro asked me if I would teach him photography. Giving him this gift made my heart sing and we practiced all day photographing the *Urosaurus nigricaudus* (Black-tailed Brush Lizards) on the rocks in the canyon. I could clearly see he had a natural talent for capturing stunning images. I handed him the Nikon, and said. "Its all yours, Photobro."

Our next adventure was to Bahia de Los Angeles and out to Isla Angel de Guarda to see its endemic herps. We were disappointed with Bahia de los Angeles as there were gringos there, but Billy to the rescue. At low tide he was able to drive all the way to Bahia de las Animas where there was absolutely no one. We spent a day there just snorkeling and relaxing on the playa. Billy speared and cooked a delicious sea bass.

After dark we headed out for a herp walk and were surprised to encounter two youths searching the boulders with headlamps. Lucas and Jaden were avid herpers and wanted in the worst way to get out to Isla Angel to see the endemics.

The next morning Diego found two pangueros, Santiago and son Miguel, to take us out to Angel and camp with us for five days. We needed to take only a large water supply as Santiago, Miguel, and Billy could easily supply all the fish we could eat.

Santiago beached the panga at Punta Colorado on the south tip of the Isla. Miguel soon joined Jaden and Lucas, and the three formed an incredible herp squad.

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The stunning endemic *Petrosaurus slevini* (Slevin's Rock Lizard) were very adept at sprawling over the boulders, even clinging upside down. The three herper kids soon had several in hand for Billy to get photos and me to obtain tissue samples.

Another magnificent endemic *Crotaphytus insularis* (Angel de la Guarda Collared Lizard) soon emerged and were basking in the morning sun atop boulders. Bill captured images with the telephoto lens and the kids noosed three lizards for tissue samples.

It got hotter than hell and out came the endemic huge *Sauromalus hispidus* (Black Chuckwalla). After photographs and tissues samples were obtained , I declared, "Last one in is a rotten egg, and we all stripped and dove in.

Billy and Miguel brought in big mess of fish and barbequed them to perfection and we all had a long siesta in the afternoon heat.

***Petrosaurus slevini* by jrebman**

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***Crotaphytus insularis* by Andrew Gotscho**

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***Urosaurus nigricaudus* by Bill Levine**

***Sauromalus hisbidus* by Liu, Yu (Luke)**

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Sauromalus hisbidus* by *Majo Monteverde Suarez

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Sierra Asamblea
Isla Angel de Guardia
Sierra Libertad
Bahia de Los Angeles
Sierra de San Francisco
Sierra de Guadalupe
Bahia Concepcion
Sierra de los Gavilanes
Isla San Jose
Isla Espiritu Santo
Isla Cerralvo
Miller's Landing
Isla Cedros
Vizcaino Peninsula
San Ignacio
Sierra de la Giganta
La Purisima
La Poza Grande
Llano de Magdalena
Istmo de La Paz
Sierra de la Laguna

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Lucas

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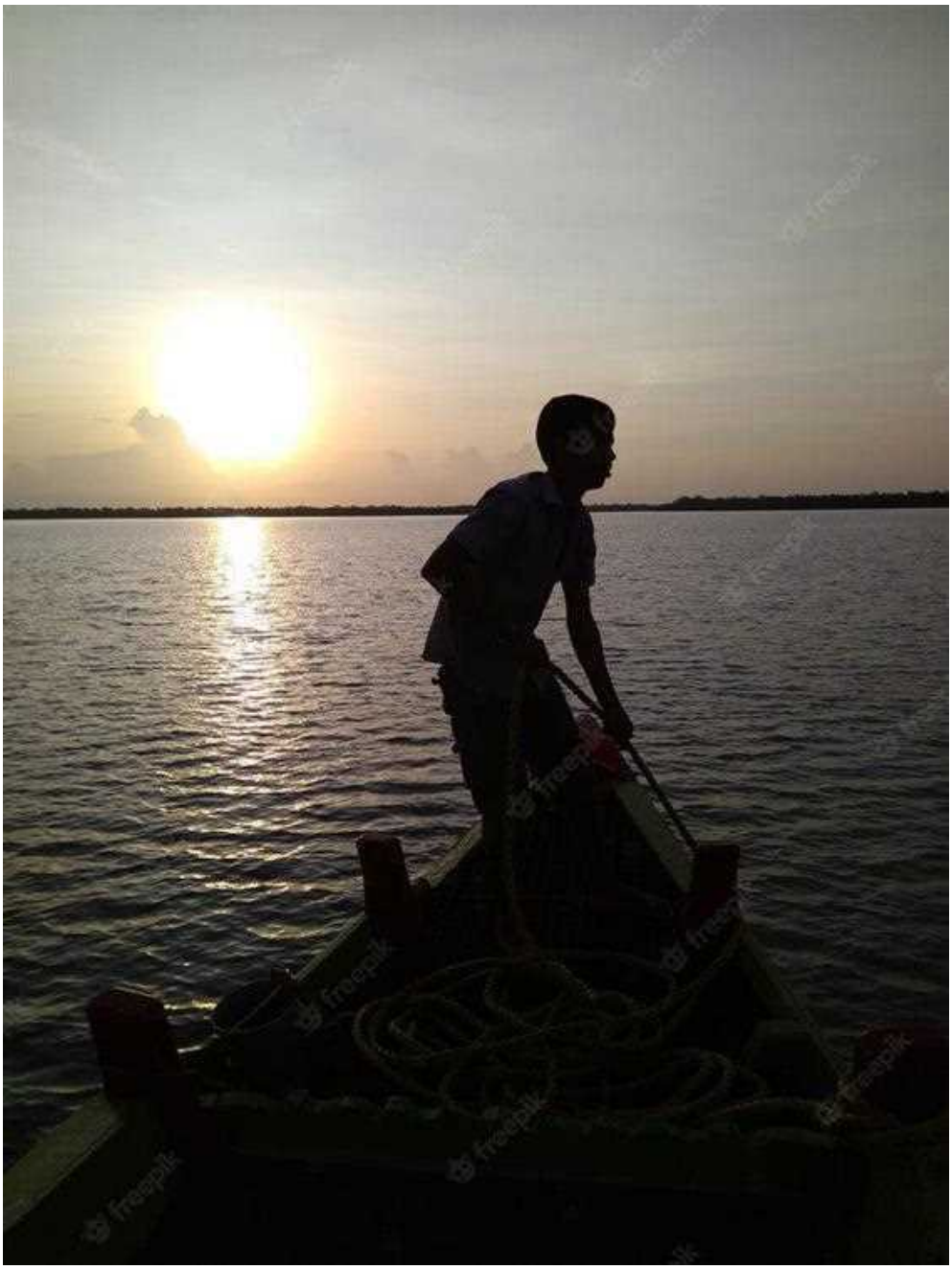

The Mexico Herp Adventures of Bobby and Billy. 75 Isla Angel de Guarda

Diego had high hopes of seeing the endemic rattlesnakes on Isla Angel de Guarda. His hopes were met in surprising way by a youth who arrived in a kayak at our camp on the island.
Kit was studying the species of *Crotalus* on the islands and he knew the best spots for them. The kid was an ace Cascabelero and it took him no time to

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locate a *Crotalus ruber* (Red Diamond Rattlesnake) and *Crotalus angelensis* (Angel de Guarda Rattlesnake) for Diego to photograph on Angel.

Kit got in his kayak and we hopped in our boat and he led us to Isla Cabeza de Caballo to photograph *Crotalus polosi*, to Isla Pojo for *Crotalus thalassoporus*, and Isla Smith for *Crotalus pyrrhus*.

"Jessie Meik and co-researchers have found amazing patterns of DNA genetics among these diminutive Speckled Rattlesnakes on the different islands. The data suggest that introgression and rapid evolution has occurred," Kit explained.

Meik, J. M., Schaack, S., Flores-Villela, O., & Streicher, J. W. (2018). Integrative taxonomy at the nexus of population divergence and speciation in insular speckled rattlesnakes. Journal of Natural History, 52(13-16), 989-1016

Crotalus polisi **by Brandon La Forest and Chris Rodriguez, Herp.Mx**

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***Crotalus angelensis* by Andrew Gottscho**

***Crotalus thalissoporus* by Andrew Dubois**

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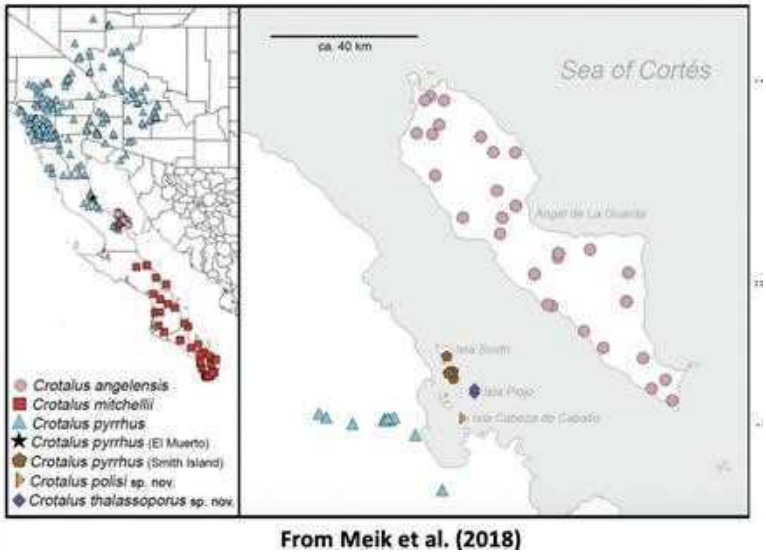
***Crotalus pyrrhus* by Rafael Paredes Montesinos**



From Meik et al. (2018)

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***Crotalus ruber,* Baja Califonia, by Gerardo Marrón**

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Kit

76 Agua de Higuera

After exploring the herps on Isla Angel de la Guarda and its satellites we returned to Diego's oasis in the Sierra Asamblea to rest and plan our northward adventures. We all agreed that we should avoid the Pacific coast of the Peninsula in the far north as it had been Gringo-fornicated. We decided to have our northern-most contact with the Pacific in the general region of El Rosario where the Sonoran Desert yields the stage to chaparral and other northern coastal biomes. From there we would return to the desert on the Gulf side from which we would set out on foot

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on exciting adventures exploring the largely roadless eastern flanks of the Sierra San Pedro Martir and the Sierra Juarez.

Billy liked the plan because the route meant he would get to drive many very challenging roads. Diego was looking forward to the walking explorations and suggested we take Chivo with us in Van to carry water on our hikes. We would be walking far into the sierras, and oases are scarce on their arid Gulf flanks. And Newbro was excited as this would be his first visit to the Pacific coast.

Our young spirits soared like eagles as we set out on this grand adventure to explore the northern Peninsula and its high sierras.

Billy planed to first drive across the peninsula from the Asamblea to the Pacific and then up the coast to El Rosario. I like this as it would give me an opportunity to do another Gulf to Pacific transect across the Peninsula to gather more data on the differences in frequencies of Night Lizards and termites.

I decided to gather data to address three questions. Do Night Lizards occur in greater frequencies in yuccas, agaves, or cardons across the Peninsula? Is there a correlation between numbers of termite observations and numbers of *Xantusia* seen at different times and in different habitats? Can Billy's ecological instincts accurately predict Night Lizard habitat suitability for individual decaying plants as well as for the general area?

With the addition of Diego we needed to work out a new team dynamic. It turned out that as a guitar player he was very skillful with fine hand movements. This ability allowed him to delicately capture even baby *Xantusia* without harming them or breaking their tails.

Billy's flipping and Diego's catching freed me to become a full-time data-collecting, hypothesis-testing biologist. Out with the clip-board, I recorded time, Billy's original habitat estimate, plant species, estimated numbers of termites, and the number and size of Night Lizards.

Diego Cascabelero was thrilled that under the fallen Datilillo branches we found a *Crotalus helleri*, our first.

I was excited, "I never knew this chaparral species occurred so far south. This is another remnant of Pleistocene vegetation change," I announced.

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Billy found a horrendous road to Agua de Higuera, an oasis that probably had never before seen outside visitors in its entire history. We thoroughly enjoyed our Peninsula afternoon routine: oasis dip, bro sit, Diego's guitar and singing, tortillas with peanut butter, headlamp walk yielding a *Crotalus enyo* (Baja California Rattlesnake), and falling asleep under a billion stars.

Davis, M. A., Douglas, M. R., Collyer, M. L., & Douglas, M. E. (2016). Deconstructing a species-complex: geometric morphometric and molecular analyses define species in the Western Rattlesnake (Crotalus viridis). *PloS one*, *11*(1), e0146166.

***Crotalus enyo* by cowyeow**

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Bobby **Billy** **Diego**

Crotalus helleri, Baja California Sur, **by buzzworms**

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77 Desembarcadero de Miller

For our exploration north along the Pacific coast Billy proposed to start near Miller's Landing. I was interested in observing the transition near Miller's from the herpetofauna of the fog-shrouded sandy Vizcaino Desert to that of the warmer, more sunny northern subdivisions of the Sonoran Desert. And what's more, Miller's is near the type locality of *Xantusia wigginsi* (Wiggins' Night Lizards).

A few kilometers south of Miller's we stopped to gather Night Lizard data at a coastal hill thick with *Agave shawi*. As was now our routine, Billy flipped, Diego captured , and I recorded the data. Billy had given the locality an A+ rating before we started and we found over 50 *Xantusia wigginsi* in our two hour search. Termites were seen under nearly every plant. It was not possible at thus locality to test Billy's intuition about the suitability of individual plants as virtually every decaying agave yielded a Night Lizard. But my data from the previous locality supported his incredible ability to predict which individual plants would yield Night Lizards.

My overall conclusion was that the Pacific coast with its fog and its dense stands of agaves is the best habitat for Night Lizards at this latitude. The Gulf coast appears to be simply too hot and arid to support many *Xantusia* in this region. Midway between the two coasts, Cardons yielded greater numbers of Night Lizards and termites than did either agaves or Datilillos. I speculated that in the inland deserts, the long decay cycle of a dead cardon allowed a build up of termites and *Xantusia*.

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Billy noosed a *Callisaurus draconoides* (Zebra-tailed Lizard) and I was interested to see it lacked the toe fringes of *Callisaurus* [*draconoides*] *crinitis* (Vizcaino Zebra-tailed Lizard) indicating we were north of the Vizcaino. We were delighted to once again see *Aspidoscelis labialis* (Baja California Whiptail), a Peninsula endemic near its southern limit. In the sand under an agave we found a *Bipes biporus* (Axolote), another Peninsula endemic, here near its northern limit.

***Bipes biporus* by René Villanueva**

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Agave shawi

***Aspidoscelis labialis* by Laura Ibarra**

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***Callisaurus draconoides,* Baja California, Manuel Nevárez**

78 *Rhinocheilus lecontei* (Long-nosed Snakes).

Billy enjoyed driving along the surf line as we headed north up the Pacific coast of the Peninsula. It was smooth going until we hit the mouth of arroyos with deep sand. At Arroyo Arenoso we bogged seriously. Diego liked working close to Billy extricating the vehicle. He and Billy jacked up Van, filled in the hole beneath each wheel, and inserted boards we always carried. I got in and gunned the engine while Billy and Diego pushed like hell. After a few rounds we we reached the firm ground on the other side of the Arenoso and celebrated with bro hugs.

Beyond the arroyo we stopped for a *Xantusia wigginsi* (Wiggins' Night Lizards) station on an cerro overlooking the sea. The agaves and Night Lizards were not nearly as dense as back at Miller's and it was a good opportunity for me to gather data on Billy's ability to predict whether *Xantusia* occurred in individual plants. When we came on a decaying agave Billy gave it a score of A+ thru F- as habitat.

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Then he and Diego did a flip and catch. The data I gathered strongly supported his ability to predict the habitat for Night Lizards.

"Billybro, how the hell do you do it?" I asked.

"Well, Bobby, I just rely on my instincts. A guy like you places too much emphasis on neurons and thinking. My body rules me and my instincts and muscles are life to me and tell me what to do. Diego has a bit of that too and I am having fun helping him develop his muscles and instincts."

There was a part of me that was jealous of this blossoming relationship between Billy and Diego. But I felt it was a good bromance and it released me from trying to be a physical bud with Billybro, and I was now more free to explore my natural inclination towards thinking and hypothesis-testing science. The road of life is like that, you never know what is around the next bend.

After our *Xantusia* data collecting we decided to spend the afternoon on the cerro. We had a dip but I did not last long in the icy water of the Pacific that was here dominated by the cold California current down from the Arctic.

As I sat on the knoll enjoying the warm afternoon rays on my body, watching Billy teaching Diego how to spear fish, I came to a deeper appreciation of the nature of bromance. There is absolutely no reason one cannot have more than one bro. That moment I came to love Diego as deeply as Billy.

We decided to spend the night on this hill. Diego built a fire and Billy coached him on preparing an orange sauce and grilling the fish. After puesta bro time and Diego's guitar and singing we went on a snake walk. I was pleasantly surprised by when my headlamp revealed a *Rhinocheilus lecontei* stretched out between two agaves.

"Long-nosed snakes are really interesting. They range down to this area then they abruptly stop and are absent from the rest of the peninsula except for the *Rhinocheilus etheridgei* on Isla Cerralvo. It must be a relict dating from the development of the Gulf as the Peninsula rifted away from the mainland."

Diego diplomatically asked how I would test that hypothesis.

"We just have to look at the DNA divergences in the genus. We have a sample from Isla Cerralvo to compare with this *Rhinocheilus* I am holding."

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Manier, M. K. (2004). Geographic variation in the long-nosed snake, Rhinocheilus lecontei (Colubridae): beyond the subspecies debate. *Biological Journal of the Linnean Society*, *83*(1), 65-85.

***Rhinocheilus lecontei*. Baja California, by Jorge Valdez**

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***Rhinocheilus lecontei* by Noah Michaeli**

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79 *Pituophis catenifer* (Pacific Gophersnake).

Billy really liked driving up the Pacific coast. To avoid rocks he often drove Van right along the edge of the surf. He bogged down twice at the mouths of arroyos, but he and Diego had become a well coordinated excavation team and got Van up on the boards in no time flat. Billy coached Newbro on using his muscles effectively and they had fun together like two kids in a candy store.

When Billy intuited it was good habitat we made a station for *Xantusia wigginsi* (Wiggins' Night Lizards). The data I gathered were quite interesting. As we proceeded northward the habitat scores Billy awarded gradually declined and so did the actual numbers of Night Lizards that Diego caught. "Que esta pasando?" I wondered.

About an hour before puesta Billy would stop on a hill overlooking the Pacific and we would cool off with a dip in the sea. I did not last long in the icy water, but enjoyed sitting and watching my two bros playing in the surf. They speared a fish for dinner and I put it on the fire to cook while we had bro time at puesta del sol.

Diego was a very perceptive guy and intuited that I had an undeveloped talent. While he strummed his guitar and sang he encouraged me to join in. He had a beautiful voice and gradually helped me find my own. We eventually became a duet.

At first Billy was jealous of this new bond between Diego and me. But we uninhibitedly discussed these feelings during our deep bro talks and we all learned to enjoy watching each other develop new facets of our relationships.

After the pescado feast we donned our headlights and stepped out into the inky night. We were about to give up when Diego yelled, "Ratonera!" Billy and I rushed over to see what snake he applied that name to and were delighted to see a beautiful *Pituophis catenifer*, and declared,

"Wow is this ever different from the *Pituophis vertebralis* we saw back in the Vizcaino. As we head up the Peninsula some of the endemics merge with their northern relatives, but some retain their species identity where their ranges meet."

Bezy, R.L. and J.L. Patton. 2021. Of Gophersnakes and Gophers: Thoughts about *Pituophis*, *Thomomys*, and subspecies. Sonoran Herpetologist 34(4):111-122. https://www.researchgate.net/publication/356428238_Of_Gophersnakes_and_Gop

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hers_Thoughts_about_Pituophis_Thomomys_and_Subspecies_Thoughts_on_Gophersnakes?fbclid=IwAR2rwJNpLK9eRY3xHo5scxdxLLmAonqygwkH5RiTjpfRC601gAs5Bmxcyd0/

Grismer, L. L. (2001). Comments on the taxonomy of gopher snakes from Baja California, México: a reply to Rodríguez-Robles and de Jesús-Escobar. *Herpetological Review*, *32*(2), 81.

Rodríguez-Robles, J. A., & De Jesús-Escobar, J. M. (2000). Molecular systematics of New World gopher, bull, and pinesnakes (Pituophis: Colubridae), a transcontinental species complex. *Molecular Phylogenetics and Evolution*, *14*(1), 35-50

Pituophis catenifer, **Baja California, by Adam Taylor**

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***Pituophis catenifer,* Baja California, by Rafa Lara**

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Pituophis vertebralis by Brad Hollingsworth

Pituophis vertebralis, Baja California Sur, by Mario Fernando

80. Phrynosoma Blainville (coast Horned Lizards).

Billy was able to drive the coastline north until we reached the Mesa Catarina where the cliffs extended into sea. He of course did not want to relinquish his objective of driving the coast all the way to El Rosario and did not want to head inland. Newbro to the rescue. Diego's sweet personality was able to reach Billy at his core and gently persuade him to seek happiness rather than blindly perusing such a goal.

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It can be very difficult to find a balance between peaceful happiness and hard-driven action, but Diego had the balance and he was able to help Billy and me achieve ourselves.

With gentle persuasion from Newbro, Billy took the road inland around Mesa Santa Catarina and Mesa San Carlos. And I really enjoyed the hot sunny interior and asked Billy to scope out good looking habitat to do a *Xantusia* station. He picked a place that had the big three habitat plants: Datilillos, Cardons, and Agaves.

That mesa station was really an eye opener for me. The numbers of *Xantusia wigginsi* (Wiggins' Night lizards) here in the interior were increasing as we headed north whereas in the agaves along the Pacific coast they were declining northward. I needed to think about this for a while. Of course I knew that *Xantusia wigginsi* and *Xantusia vigilis* (Desert Night Lizards) were totally absent from the immediate coast north of the El Rosario io area so this decline the may reflect that Night Lizards are reaching the northern limits of their tolerance of the coastal climate. But, what about Xantusia riversiana living on the California Channel Islands?

North of the mesas Billy was able to return to the coast and we found another *Aspidoscelis labialis* (Baja California Whiptail). We were delighted to also find a *Phrynosoma blainvillii* (Coast Horned Lizard) and spent the afternoon watching it snap up *Pogonomyrmex* ants.

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***Phrynosoma blainvillii,* Baja California, by John Sullivan**

***Phrynosoma blainvillii,* Baja California, by Robert Ivens**

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***Aspidoscelis labialis,* Baja California, by Grigory Heaton**

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81 *Petrosaurus mearnsi* (Mearns' Rock Lizard).

Our adventure along the Pacific coast came to an abrupt end when we reached El Rosario. It was infested with gringos that nauseated us. But it re-affirmed our commitment to never step foot in Gringolandia again.

We gassed up Van and filled the red can with gasoline and the green can with water. Diego suggested we walk to the plaza and find a small restaurant where the gringos would never eat. He found a delightful little place with a thatched roof and metal tables and chairs. We ordered costillos de cerdo a la barbacoa. They were delicious and we topped them off off with flan.

Happiness is El Rosario in the rear view mirror. Billy found the old road along the Rio El Rosario and we located the northernmost *Yucca valida*. It had one downed branch. Billy did the flip, Diego gently caught the Night Lizard, and I secured the photos and tissue sample.

Billy wanted to drive us deep into the Sierra San Pedro Martir to set out on foot with Chivo to explore the range. He found a horrendous road that billy thoroughly enjoyed and three hours later we arrived at its terminus at Rancho La Suerte.

When we arrived, the ranchero, Pedro, welcomed us. He said he knew the Sierra like the back of his hand and could guide us to the south side of Picacho Diablo via a route where we would contact no other humans. It would be three days each way with overnight camps at oases. If we took Chivo to carry the calabazas with water, Pedro would not need to take his mule. We planned to leave at dawn tomorrow.

We did not want to sleep at the Rancho, and Pedro gave us directions to a magnificent camp site overlooking the East side of the Sierra. It was our first glimpse of the hyper-arid Lower Colorado Sonoran Desert and I was totally awestruck.

Diego sighted a *Petrosaurus mearnsi* basking in the last rays of the sun. I handed him my telescoping rod and he managed to noose the lizard as it sprawled over the boulder. This was the fifth and last member of the genus for us to sample and the DNA sequences from the lizard would help determine if Diego's *Petrosaurus* was indeed a new species.

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***Petrosaurus mearnsi,* Baja California, by Andrew Gottscho**

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***Petrosaurus mearnsi,* Baja California, by hectormarquez**

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Petrosaurus mearnsi,* Baja California, *by vcorona

Yucca valida

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82 *Actinemys pallida* (Southwestern Pond Turtle).
Before dawn Billy, Diego, Chivo and I walked back to Rancho La Suerte. Pedro was up and raring to head out with us on our grand adventure. It was to be a 30 mile wilds hike to Picacho El Diablo at 3000 m high atop the Sierra San Pedro Martir. He had wandered this Sierra his entire life and knew every square kilometer of it and never went anywhere there are tourists.

We needed to develop a plan for the hike. Pedro and Chivo set a fast pace and Wild Billy wanted to stretch his legs and stay up with them. Fortunately Diego was quite content to walk along with me at my slow rate. Considering the large distance we had to cover to reach Diablo and the absence of a clearly defined trail, we agreed to meet up and rest together every few hours.

It started out as a gentle uphill grade, but that soon changed as we hiked towards Diablo. California Live Oaks (*Quercus agrifolia*) began to dot the landscape and soon were joined by Single Needle Pinyons (*Pinus monophylla*).

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Pedro led us to our first camp. Native Spanish-speakers Diego and Pedro talked together non-stop. While we all were sitting together enjoying puesta del sol, Pedro mentioned “las tortugas.”

That got me excited, and Diego asked him if he could show them to us. He led us to a delightful pond. The water was much too cold for me, but intrepid Billybro dove in to swim with the *Actinemys pallida*, one of many Alta California species extending into the the Sierra San Pedro Martir.

Germano, D. J., & Bury, R. B. (2009). Variation in body size, growth, and population structure of Actinemys marmorata from lentic and lotic habitats in southern Oregon. Journal of Herpetology, 43(3), 510-520.

Holmgren, C. A., Betancourt, J. L., & Rylander, K. A. (2011). Vegetation history along the eastern, desert escarpment of the Sierra San Pedro Mártir, Baja California, Mexico. Quaternary Research, 75(3), 647-657.

Spinks, P. Q., Thomson, R. C., & Bradley Shaffer, H. (2010). Nuclear gene phylogeography reveals the historical legacy of an ancient inland sea on lineages of the western pond turtle, Emys marmorata in California. Molecular Ecology,19.19(3), 542-556.

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***Actinemys pallida,* Baja California, by Rafa Lara**

Pedro

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***Actinemys pallida,* Baja California, by Rafa Lara**

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Pinus monophylla

Quercus agrifolia

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83 ***Lampropeltis zonata*** **(California Mountain Kingsnake).**

These high elevation forests of the Sierra San Pedro Martir are not just Alta California forests that happen to extend across the Frontera into the state of Baja California. These forests are truly a part of the Peninsula as much as the woodlands of the Sierra Laguna are part of the Cape. The tectonic forces that produce the rifting of the Peninsula from the mainland also produce the uplift of these Sierras near the "hinge" of that sliver of land.

I was becoming overwhelmed by the relentless up-hill climbing. There was a big part of me that wanted to just lay down and let the others go on to Diablo without me. It was the same feeling I experienced when I collapsed on the very steep trail up to La Laguna on the Cape. I simply had reached my physical limits.

Fortunately Diego had come to know me me better than I understood myself. "Bobbybro, if you mount the courage to make it to Diablo you will cherish the experience for the rest of your life. Although you seem totally neuronal to others, I can see the wolf hidden inside of you that is attracted to the physical world. That is a big part of the bonding between you and Billy.

"And to really understand the Peninsula and its herpetofauna you should personally experience the high forest of the Picacho. If you try to meet this challenge, I will help you every step of the way. Let Pedro and Billy zoom far ahead with Chivo, but, Bobbybro, you and I will make it together, paso por paso."

I knew that Diego was correct. I wanted to reach Diablo to personally experience and understand the high elevation forests of the Peninsula's "tectonic hinge." So I just harkened back to the story of "The Little Engine That Could" my mother read me over and over again as a young child: "I think I can, I think I can." And with the help of Newbro Diego Cascabelero I will do it..

These experiences are the very essence of what it means to be a bro. Whenever I reach my limits and think I will give up, I realize I have a bro who will help me and who understands and accepts everything, I mean to tell you absolutely everything, about me, even my faults and weaknesses.

By definition bros accept and love each other no matter what. And I was fortunate to now have two intimate bros, Billy and Diego, to accompany me on the twists and turns of the road of life.

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As I struggled up the Diablo slope, new species of trees began to make their appearance and the robles and piñónes were gradually replaced. Soon there were forests with *Pinus jeffreyi* (Jeffrey Pine), *Calocedrus decurrens* (California Incense Cedar), *Abies concolor* (White Fir), and *Populus tremuloides* (Quaking Aspen). I began to ponder just how far south this vegetation extended during glacial maxima.

Thanks to a lot of help and encouragement from Diego, he and I made it to the top and joined Pedro, Billy, and Chivo. We rested for the afternoon and at puesta del sol the Four Diablo Bros and their pack goat became forever bonded.

We arose at dawn for a full day of herping atop the Sierra San Pedro Martir. We found many species that on the Peninsula occur only in this range. We were thrilled to see *Rana draytoni* (California Red-legged Frog) in the stream; *Sceloporus occidentalis* (Western Fence Lizard) on the boulders, and in our flipping we encountered *Ensatina eschscholtzii* (Ensatina), *Elgaria multicarinata* (Southern Alligator Lizard), *Plestiodon skiltoneanus* (Western Skink), *Lampropeltis zonata* (California Mountain Kingsnake), and *Crtotalus helleri* (Southern Pacific Rattlesnake).

For a very interesting and well-written account of an adventure with this herpetofauna, I highly recommend the HERP.MX article, A Tale of Two Kings http://www.herp.mx/field.../2018/04/001/baja-california.php.

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***Lampropeltis zonata,* Baja California, by Brandon La Forest, Herp.Mx**

***Crotalus helleri,* Baja California, by Manuel Nevárez**

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***Plestiodon skiltoneanus,* Baja California, by Jorge H. Valdez**

***Elgaria multicarinata,* Baja California, by Sarah Teck**

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Populus tremuloides

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Sceloporus occidentalis, Baja California, by Pedro E. Nahuat-Cervera

Rana draytonii, Baja California, by Mike Jones

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Pinus jeffreyi

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Calocedrus decurrens

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Abies concolor

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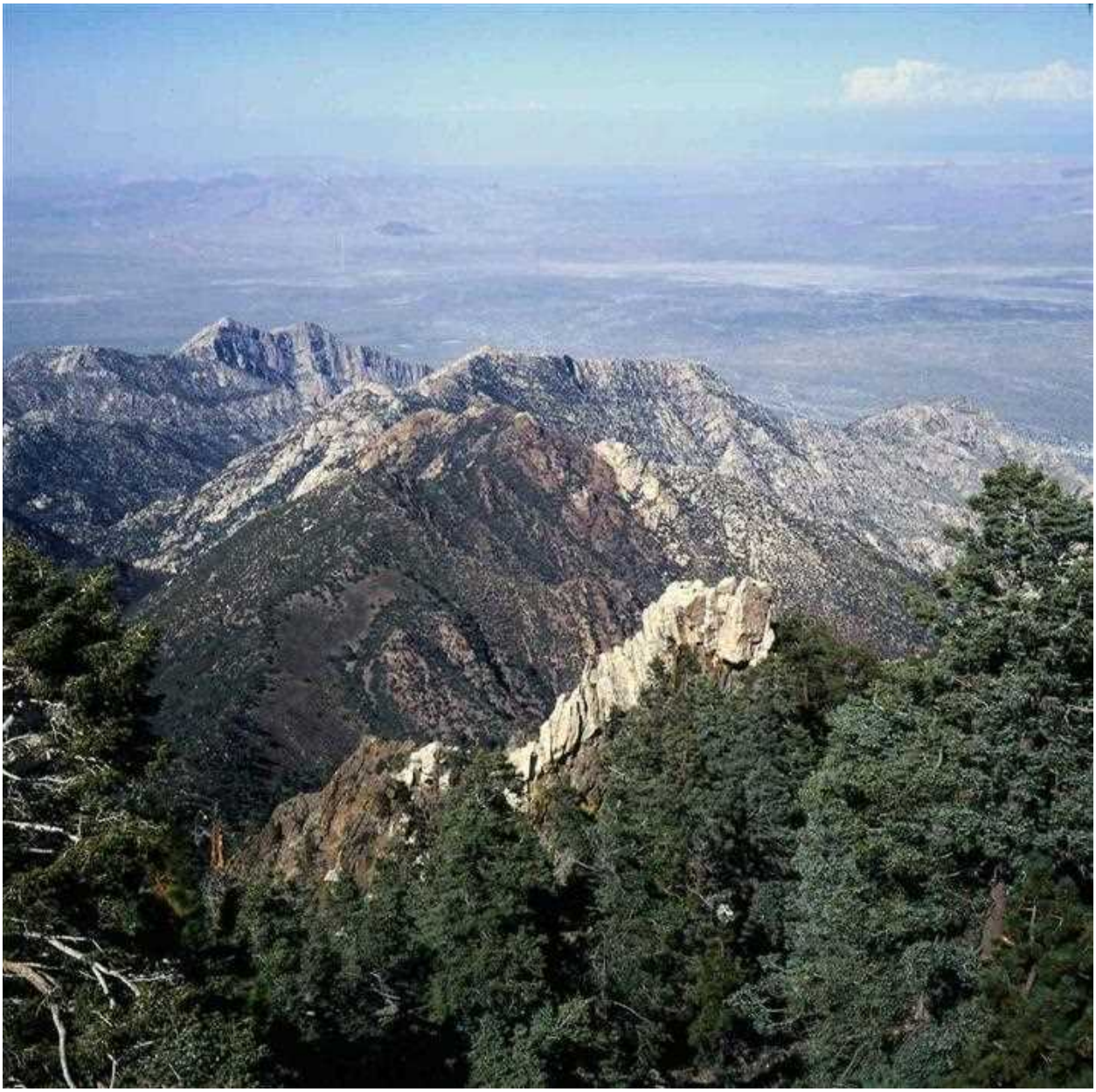

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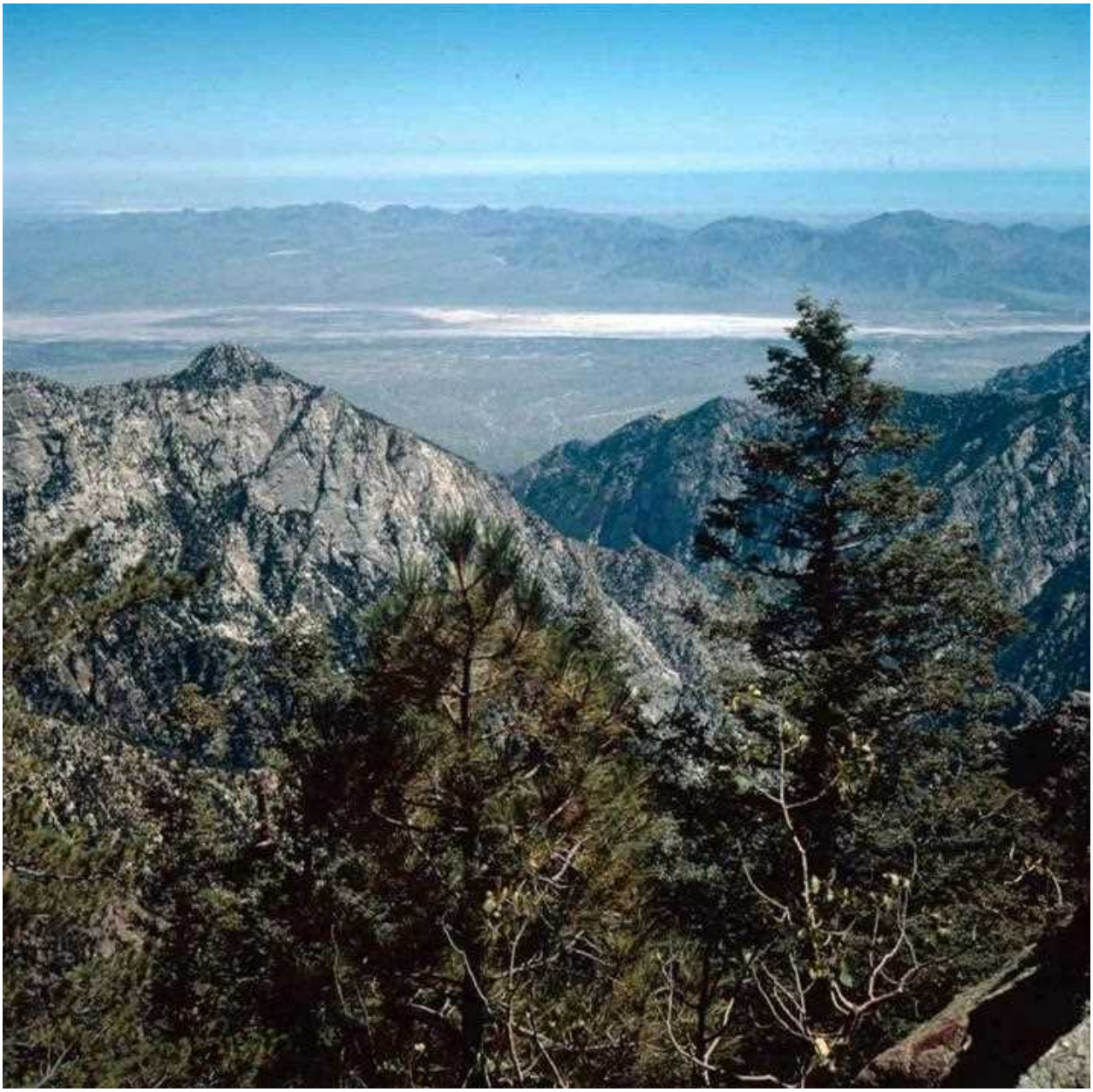

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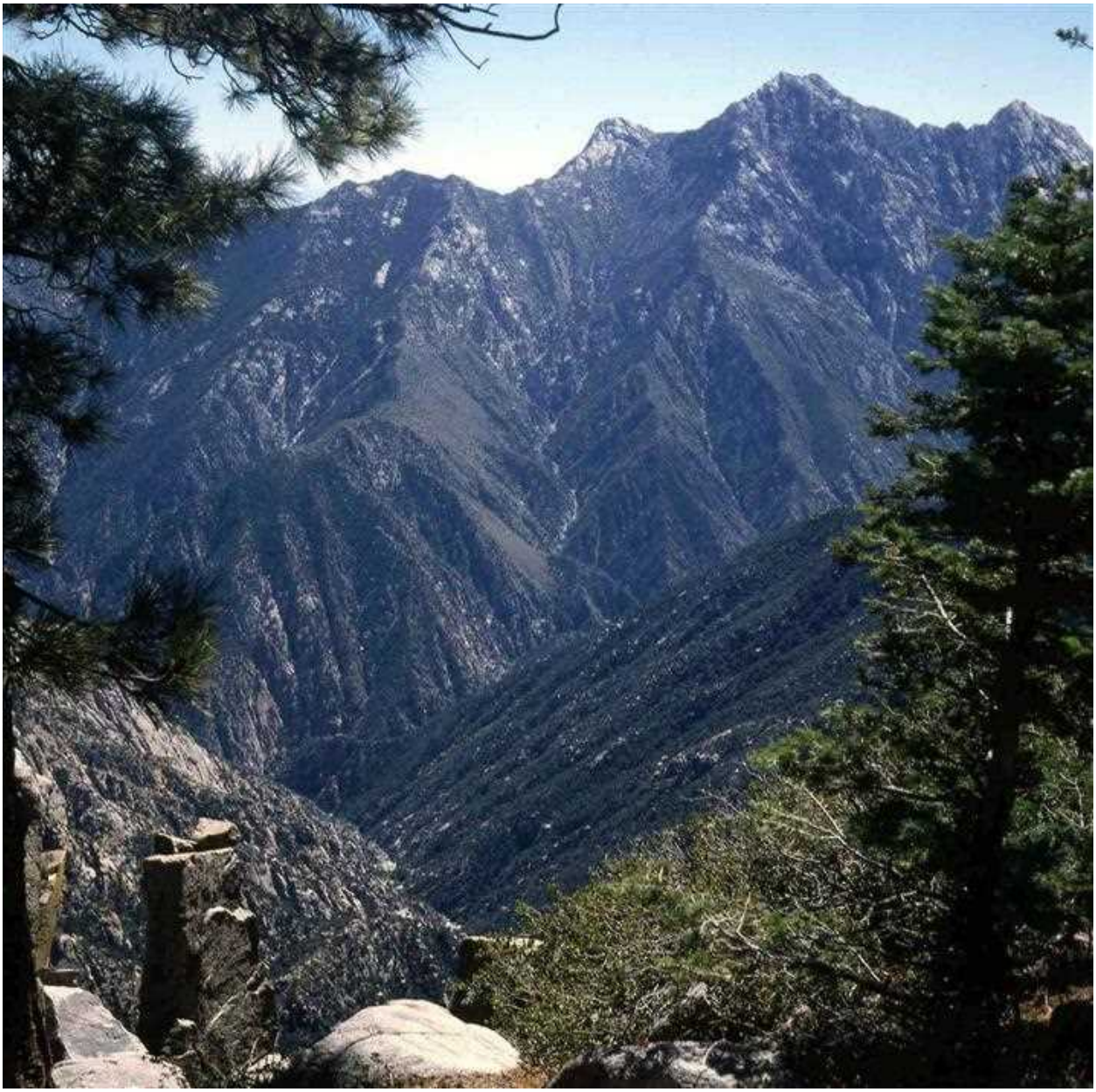

84 Sierra San Felipe

We returned to Rancho La Suerte and said a sad goodbye to Pedro and he promised to visit us in the Sierra Asamblea. Such promises are often made to ease the pain of separation, but this was one we knew in our heart of hearts would come to pass and it was not long until bro Pedro joined us at Diego's oasis in the Asamblea.

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But for now Billy, Diego, and I were off to explore the Sierra Juarez with trusty Chivo. Baja California is a Peninsula that fortunately time has forgotten, and it is composed of literally hundreds of sierras that remain unexplored.

The eastern flank of the Sierra Juarez is dominated by the hot hyper-arid Gran Desierto that surrounds the head of the warm Gulf of California. The range stands in stark contrast to the Sierra San Pedro Martir whose western flank is clothed in coastal scrub associated with the cold Pacific. And the high point of the Juarez is a thousand meters lower than that of the San Pedro Martir.

To savor the differences between the ranges, Billy wanted to explore Juarez from the Gulf side. He was delighted to be back in the driver's seat and negotiating the “roads” along the Gulf side of the ranges. He found a horrendous track up Valle Chico situated between the the Sierra San Pedro Martir and the Sierra San Felipe.

The vastness of the hyper-arid Gran Desierto commanded my spirit. The valleys, bajadas, and ranges were enormous and the oases were much smaller and farther apart than at mid-peninsula. And the sand rules supreme.

"Billy, before we set out to explore the Sierra Juarez I want to pause a day or two and allow this totally uninhabited desert landscape to seep into my bones."

"Ah Bobbybro, your every wish is my command. I see a pocket of palms over in that canyon of the Sierra San Felipe. I will see if I get us there."

I should have known Billy would somehow turn my suggestion into a driving challenge. But the track ended far below the palms.

"Well, bros, this is why we brought Chivo," Diego declared, and we filled the calabazas and we were off on foot to an oasis absolutely no one had visited since the Kiliwa.

There was something magical about that little fan palm grove set in this hot barren landscape of the Sierra San Felipe. We had a puesta del sol three-bro-time watching the shadows lengthen and Diego strummed his guitar while he and Billy sang their hearts out. I pondered the fate of the Kiliwa, the only remnants of which were the petroglyphs like those at the spring.

Billy suggested we climb the canyon with Chivo in the moonlight.

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It was an all-gecko desert night with *Phyllodactylus nocticolus* (Peninsular Leaf-toed Gecko), *Coleonyx variegatus* (Western Banded Gecko), and *Coleonyx switaki* (Switak's Barefoot Gecko).

As I lay staring up at a billion stars, a hot breeze flowing over my body, I fell deeply in love with the desert.

***Coleonyx switaki* by nathan**

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***Phyllodactylus nocticolus,* Baja California, by gibbins**

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***Coleonyx variegatus,* Baja California, by Ricardo Rivera**

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85 *Xantusia henshawi* (Granite Night Lizards).

We departed the Sierra San Felipe and headed to the Sierra Juarez, the northernmost high profile range on the Peninsula. A park is located near the Gringolandia border, so we planned confine our explorations to the southern part of the range.

Billy spotted a difficult looking road on the map to Rancho La Mora. He and Diego planned that we would walk with Chivo in a loop from the Rancho to Cañón La Mora and then turn south to Vegas Negras and El Calabaza.

When we finally reached Rancho La Mora, a ranchero kid came out and welcomed us. Diego detailed the walk we planned. Tomas said we would probably get lost in the Sierra and there were only two reliable water sources on that loop and they were difficult to find. But he could go with us in the mourning.

Tomas showed us the path to his oasis where we could camp.

Billy noticed the *Yucca schidigera* (Mohave Yucca) and gave them a high rating as Night Lizard habitat. The team swung into action, strong Billy flipping, Diego delicately catching and I recording the data. In no time we found many *Xantusia wigginsi* including all three color pattern morphs (striped, spotted, unicolor). I was thrilled.

"We are way north of the last *Yucca valida* and this Night Lizard abundance in *Yucca schidigera* convinces me more than ever that the crucial factor for

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Xantusia wigginsi is not the presence of a particular habitat plant, but of a favorable climate. Here at the top of this long peninsula, *Xantusia wigginsi* has abandoned the Cardons of the hot Gulf coast and the Agaves along the cold Pacific, but abounds in the Mohave Yuccas."

After puesta and tortillas with peanut butter we donned our headlamps and headed to the boulders. Atop the first one Billy yelled, "*Xantusia henshawi*!" Sympatric occurrences of species of Night Lizards are extremely rare. I was ecstatic.

***Xantusia henshawi,* Baja California, by Annie Peralta**

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***Xantusia henshawi,* Baja California, by Ricardo Rivera**

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***Xantusia wigginsi,* Baja California, by Ricardo Rivera**

Yucca schidigera

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Tomás

86 The conclusion.

The Chivo walk in the Sierra Juarez with Tomas was very pleasant, a delightful change from our "assault" on Picacho del Diablo. We headed down into the Gran Desierto and I needed a longer than usual puesta del sol time with Billy and Diego to re-center.

We donned our headlamps and headed out into the sand, turning up *Crotalus cerastes* (Sidewinder), *Crotalus atrox* (Western Diamond-backed Rattlesnake), and *Chionactis annulata* (Resplendent Shovel-nosed Snake).

The sun came up like a fireball out of hell and we headed back into the dunes and caught *Uma notata* (Colorado Desert Fringe-toed Lizard), *Urosaurus graciosus* (Long-tailed Brush Lizard), *Phrynosoma platyrhinos* (Desert Horned Lizard), and *Dipsosaurus dorsalis* (Desert Iguana).

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At mid-day we retreated deep into a shady canyon in the Sierra Cucapah for *Crotaphytus grismeri* (Grismer's Collared Lizard). We loved experiencing this Gran Desierto herpetofauna. In the oasis we enjoyed our northernmost dip of the adventure and then Billy drove us all the way back to Diego's oasis and gold nugget in the Sierra Asamblea where we lived happily ever after.

Welsh, H.H., and R.B. Bury. 1984. Additions to the herpetofauna of the south Colorado Desert, Baja California.

***Crotalus cerastes,* Baja California, by Manuel Nevárez**

Herpetological Review 15(2):53-56

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***Crotaphytus grismeri,* Baja California, by Andrew Gottscho**

***Crotalus atrox,* Baja California, by Selene Gonzalez**

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***Phrynosoma platyrhinos,* Baja Californis, by Daniel Navarro**

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***Uma notata,* Baja California, by Andrew Gottscho**

***Urosaurus graciosus,* Baja California, by kilawea**

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***Dipsosaurus dorsalis,* Baja Californis by Manuel Nevárez**

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Chionactis annulata, Baja California, by Tim Warfel

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THE END

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