

## Guancaste “Mammal Blitz”

After a successful visit to Costa Rica in March 2022, I was keen to make the short trip back in search of more mammals. It really is a fantastic country for mammal watching: travel is stress-free and the mammals are varied, abundant, and easy to find. Although many people might disagree, for me the major highlight of Costa Rica’s mammal fauna is its bats. The country is a mecca for bat fans: not only is the diversity staggering (121 sp. & counting!!), but there are literally dozens of seriously cool species on offer, many of which I would place among the top bats of the Americas. Costa Rican bat biologist Vino de Backer (vino.monteverde@gmail.com / WhatsApp +506 8502 7056) had done well to find me several of them last year, but there were still many remaining that I wanted to see.



Underwood's Bonneted Bat (*Eumops underwoodi*), the largest molossid in Mesoamerica, is endemic to the Pacific dry forests



This Broad-eared Free-tailed Bat (*Nyctinomops laticaudatus*) represents only the third record of its species for Costa Rica

While I usually take a very active role in trip planning, many of my targets were so rare that it soon became clear that it would be hard to choose sites where we could explicitly seek them. You can't really target a mammal with 2 country records! So instead, Vino recommended we try an intense survey-style trip to Guanacaste – the part of CR where most of them occur, and something he had long wanted to do for his own research program. I immediately agreed: for reasons that remain unclear to me, Guanacaste is rarely visited by mammal watchers despite having excellent wildlife (large & small), and I was keen to explore the region.

Vino doesn't work in Guanacaste that much so he enlisted the help of Eduardo Artavia, a friend of his and one of the top bat biologists in the region. Eduardo settled on 4 hotspots where, based on his research, he felt we'd find the highest diversity of species. He and Vino also arranged scientific permits for each protected area; the mammals of Guanacaste are poorly known and therefore, publishing unusual records was a key objective for the two biologists.



Gray Short-tailed Bat (*Carollia subrufa*) is a common endemic of the Mesoamerican Pacific dry forests

## II. Day-by-day summary

### March 29

Vino, Jim Wolfe, and the two of us met in Liberia airport, and we went for lunch at an open-air restaurant just up the Interamericana with Dave Johnston. It was remarkably windy, and we had to eat our salads quickly as components of them were steadily blowing away! We linked up with Eduardo, continued on to Cuajiniquil, and dropped our things off at Santa Elena lodge, an excellent spot with an on-site restaurant and minimart next door. We rested for an hour and watched a **Variiegated Squirrel** (grayish-yellow ssp. *underwoodi*) in the garden.

We netted at a small private property adjacent to the Rio Cuajiniquil, which was reduced to a few small pools on an otherwise dry riverbed. The owners were burning small piles of garbage when we arrived, which combined with the scrappy habitat and wind gusts, made me pessimistic about the night's netting. I should've known better, as between 6-10PM we caught 58 bats of 13 species.

Topping the list were 2 amazing **Underwood's Bonneted Bats**, Costa Rica's 3<sup>rd</sup> and 4<sup>th</sup> records of **Broad-eared Free-tailed Bat**, and a gorgeous **Southern Yellow Bat**, but we also enjoyed **Lesser Mustached Bat**,

**Greater Fishing Bat**, **Gray Short-tailed Bat**, **Intermediate Fruit-eating Bat**, and **Little** and **Sinaloan Mastiff Bats**. We also captured a small, dark brown *Molossus* (FA 36.7) that was probably *M. molossus* but it is difficult to exclude *M. coibensis* with certainty as there is so much overlap in ID characters & call. We all returned to bed at midnight (the earliest night of the trip) exhausted but thrilled.

### March 30

We set off for PN Rincon de la Vieja after breakfast and ran some random errands before arriving at Rinconcito Lodge in the afternoon. After another too-short rest period, we drove to the ranger station at Hacienda Santa Maria, encountering Great Curassow and a stunning Central American Rattlesnake en route. We walked about 2km up the trail and set up nets in a nice patch of tall mid-elevation forest where Eduardo had caught bat rarities like *Chrotopterus*, *Vampyrum*, and *Bauerus*. While waiting for nightfall, we went to the hot springs and saw a large Terciopelo (Fer-de-lance).



Greater Fishing Bat (*Noctilio leporinus*) is easily one of the most spectacular and recognizable bats in the Americas

Despite a bright moon and wind, we still caught a good number of bats (72 bats of 11 species) including the very cool **Hairy Big-eared Bat**, **Aztec** (quite rare in CR) and **Toltec Fruit-eating Bats**, and 2 pretty **Heller's Broad-nosed Bats**. But on this night, the non-bat mammals truly stole the show. While waiting quietly with the lights off, some snuffling alerted us to a **Striped Hog-nosed Skunk**, which gave great, close views. Even better though was a huge **Baird's Tapir** that Vino found by his net which briefly sniffed us, then slowly walked off into the forest, leaving us spellbound. Back at the clearing by the ranger base, we saw a **Vesper Rat** very well and Eduardo found a **White-tailed Deer**. Another great night of mammal watching.



The uncommon & rather distinctive Hairy Big-eared Bat (*Microonycteris hirsuta*) has a crest of hairs between its ears

### March 31

Jim, who wasn't feeling well, returned to Monteverde with Dave. Meanwhile, the attractive striped ssp. *dorsalis* of Variegated Squirrel entertained in the garden. The rest of us met a colleague of Eduardo's who studies Emballonurids near Liberia (who showed us **Proboscis** and **Greater** and **Lesser White-lined Bats**), then went to PN Diria near Santa Cruz, one of the least-visited parks in the country. This is a really beautiful, remote spot where primary transitional forests border several small rivers, reduced to trickles this late in the dry season. Importantly for us, limited prior surveys had caught an amazing 10 species of Molossid here, probably the highest diversity for a single site anywhere in Mesoamerica. A large troop of **Mantled Howlers** was hanging out at the park guard station when we arrived.



Vesper Rat (*Nyctomys sumichrasti*) is an attractive arboreal rodent of Mesoamerican forests



The striking 'Dorsal' Squirrel (*Sciurus variegatoides dorsalis*) is endemic to SW Nicaragua and NW Costa Rica

We set nets over pools of the drying Rio Enmedio, but a very bright moon and tall forest limited success somewhat. I think this place would be incredible on a new moon, with high nets.



Sanborn's Bonneted Bat (*Eumops hansae*) is striking and very rare, known from only a handful of records across a large distribution

#### April 1

We took a long, very sweaty walk through some tall forest in Barra Honda NP in the morning, seeing Spectacled Owl but no mammals save for a few **Jamaican Fruit-eating Bats** (some prior roosts of *Miconycteris schmidtorum* were sadly unoccupied). The dry travertine terraces were very interesting, despite the lack of mammals.

All of us were pretty wiped out by the extreme heat (such "death marches" seem to be a recurring theme of mammal watching trips...) so we had an excellent lunch in the village and rested through the afternoon. After admiring a group of **Mantled Howlers** with several infants, we caught bats from 6-9PM over some shallow pools along the Rio Nacaome just outside the park, a spot that had been consistently productive for Eduardo for a range of species. Despite not catching a Wrinkle-faced Bat, the netting was excellent, with 19 species recorded including the

Nonetheless, we caught Costa Rica's 3<sup>rd</sup> record of the amazing **Sanborn's Bonneted Bat**, a small, skinny *Eumops* with sweeping ears – very different from the hulking *E. underwoodi* we caught 2 days prior. **Pygmy Fruit-eating Bat**, Heller's Broad-nosed Bat, and **Northern Yellow-shouldered Bat** were also appreciated, and we saw a probable **Alfaro's Rice Rat** while walking near the river at night. Thanks to Fiona Reid for help with identifying this rodent. After closing the nets at 9PM, we drove on through the night to La Casita, our simple, lovely accommodation just outside Barra Honda NP. We saw **Salvin's Spiny Pocket Mouse**, 2 **Kinkajous**, and a probable **Common Opossum** on a short night walk before going to sleep.



The gorgeous Northern Big-eared Bat (*Miconycteris tresamici*) is a rare find and was actually a new species for Barra Honda NP

beautiful **Northern Big-eared Bat** and rare **Godman's Long-tailed Bat**. We also enjoyed **Bickham's Yellow Bat**, **Gray's Long-tongued Bat**, **Davy's** and **Greater Naked-backed Bats**, and **Pacific Tent-making Bat**, as well as many species seen previously on the trip. **Salvin's Spiny Pocket Mouse**, **Coues' Rice Rat**, and **Southern Cotton Rats** were all seen well feeding on fallen mangoes and other seeds near the netting site. Amusingly, one cotton rat successfully dragged off an entire mango, a remarkable accomplishment considering its weight. A long walk along the river and through nearby pastures afterward proved great for medium-sized mammals (despite the annoyance of many barking dogs), with both **Common** (probable) and **Virginia Opossums**, **Lowland Paca**, **2 Mexican Porcupines**, **Gray Sac-winged Bat**, **Pygmy Fruit-eating Bat**, **Hooded Skunk**, and a pack of **4 Coyotes** seen, but sadly no Southern Spotted Skunk (often common here). An outstanding night of mammal watching to wrap up a lovely, if short trip.



Gray's Long-tongued Bat (*Glossophaga leachii*) is yet another localized endemic of the Pacific dry forests, ranging from south-central Mexico to Guanacaste



We saw 2 Mexican Porcupines feeding on mangoes at Barra Honda – always a fun mammal to observe



We had unusually good views of Southern Cotton Rats (*Sigmodon hirsutus*) feeding on fallen mangoes near Barra Honda



The rather strange Davy's Naked-backed Bat (*Pteronotus davyi*) is reliant on large caves



Virginia Opossum is much less common than Common Opossum in Costa Rica, so we were surprised to see this individual which showed all the key field marks



Kinkajou, always fun to watch, was yet another medium-sized species seen well near Barra Honda



Shaggy, noisy Coues's Rice Rats (*Oryzomys couesi*) were easy to see along stream lines



A troop of Mantled Howlers, with many tiny infants, was a highlight at Barra Honda

#### IV. Acknowledgements

A big thank you to Vino and Eduardo for an epic 4 days of mammal watching. We wouldn't have seen even a fifth of these mammals without their knowledge, skill, energy, and enthusiasm. Thanks are also due to Dave Johnston for joining us at the nets for a couple of nights. For me, this was one of those special trips where the rare and unexpected just came one after another. My only regret was that we didn't stay longer.

#### IV. Species list (CJ = Cuajiniquil, RV = Rincon de la Vieja, DI = Diria, BH = Barra Honda)

53 SPECIES TOTAL

| Species                      | Common Name          | Site(s)    | Notes  |
|------------------------------|----------------------|------------|--|
| <i>Didelphis marsupialis</i> | Common Opossum       | BH         | Probable   |
| <i>Didelphis virginiana</i>  | Virginia Opossum     | BH         | Clear ID by white cheeks & whiskers                      |
| <i>Alouatta palliata</i>     | Mantled Howler       | DI, BH     |  |
| <i>Cuniculus paca</i>        | Lowland Paca         | BH         |  |
| <i>Coendou mexicanus</i>     | Mexican Porcupine    | BH         |  |
| <i>Sciurus variegatus</i>    | Variiegated Squirrel | CJ, RV, BH | ssp. <i>underwoodi</i> at CJ, <i>dorsalis</i> at RV, and |

|                                  |                             |                 |  |
|----------------------------------|-----------------------------|-----------------|--|
|                                  |                             |                 | <i>atrirufus x dorsalis</i> at BH              |
| <i>Heteromys salvini</i>         | Salvin's Spiny Pocket Mouse | BH              | Mesoamerican dry forest endemic                |
| <i>Handleyomys alfaroi</i>       | Alfaro's Rice Rat           | DI              | Possible                                       |
| <i>Oryzomys couesi</i>           | Coues's Rice Rat            | BH              |  |
| <i>Sigmodon hirsutus</i>         | Southern Cotton Rat         | BH              |  |
| <i>Nyctomys sumichrasti</i>      | Vesper Rat                  | RV              |  |
| <i>Balantiopteryx plicata</i>    | Gray Sac-winged Bat         | BH              | Mesoamerican dry forest endemic                |
| <i>Rhynchonycteris naso</i>      | Proboscis Bat               | CJ, Liberia, BH |  |
| <i>Saccopteryx bilineata</i>     | Greater White-lined Bat     | Liberia, DI, BH |  |
| <i>Saccopteryx leptura</i>       | Lesser White-lined Bat      | Liberia, BH     |  |
| <i>Pteronotus davyi</i>          | Davy's Naked-backed Bat     | BH              |  |
| <i>Pteronotus gymnotus</i>       | Big Naked-backed Bat        | BH              |  |
| <i>Pteronotus mesoamericanus</i> | Mesoamerican Mustached Bat  | RV, BH          |  |
| <i>Pteronotus personatus</i>     | Lesser Mustached Bat        | CJ              |  |
| <i>Noctilio leporinus</i>        | Greater Fishing Bat         | CJ, BH          |  |
| <i>Carollia castanea</i>         | Chestnut Short-tailed Bat   | RV              |  |
| <i>Carollia perspicillata</i>    | Seba's Short-tailed Bat     | DI, BH          |  |
| <i>Carollia sowelli</i>          | Sowell's Short-tailed Bat   | RV              |  |
| <i>Carollia subrufa</i>          | Gray Short-tailed Bat       | CJ, DI, BH      | Mesoamerican dry forest endemic                |
| <i>Choeroniscus godmani</i>      | Godman's Long-tailed Bat    | BH              | Rare species                                   |
| <i>Glossophaga leachii</i>       | Gray's Long-tongued Bat     | BH              | Mesoamerican dry forest endemic                |
| <i>Glossophaga mutica</i>        | Merriam's Long-tongued Bat  | DI, BH          | Split from <i>G. soricina</i>                  |
| <i>Micronycteris hirsuta</i>     | Hairy Big-eared Bat         | RV              | Rare species                                   |
| <i>Micronycteris tresamici</i>   | Northern Big-eared Bat      | BH              | Rare species + Mesoamerican dry forest endemic |



|                                 |                                |                |   |
|---------------------------------|--------------------------------|----------------|---|
| <i>Artibeus intermedius</i>     | Intermediate Fruit-eating Bat  | CJ             | Mesoamerican dry forest endemic; re-split from <i>A. lituratus</i>            |
| <i>Artibeus jamaicensis</i>     | Jamaican Fruit-eating Bat      | CJ, RV, DI, BH |   |
| <i>Artibeus lituratus</i>       | Great Fruit-eating Bat         | CJ, RV, DI, BH |   |
| <i>Dermanura azteca</i>         | Aztec Fruit-eating Bat         | RV             | Rare ssp. <i>major</i> , potential split                                      |
| <i>Dermanura phaeotis</i>       | Pygmy Fruit-eating Bat         | DI, BH         |   |
| <i>Dermanura tolteca</i>        | Toltec Fruit-eating Bat        | RV             |   |
| <i>Dermanura watsoni</i>        | Thomas's Fruit-eating Bat      | CJ, RV, DI, BH |   |
| <i>Platyrrhinus helleri</i>     | Heller's Broad-nosed Bat       | DI, BH         |   |
| <i>Uroderma convexum</i>        | Pacific Tent-making Bat        | BH             |   |
| <i>Sturnira parvidens</i>       | Northern Yellow-shouldered Bat | DI             | Split from <i>S. liliium</i>  |
| <i>Eumops hansae</i>            | Sanborn's Bonneted Bat         | DI             | Rare species; 4 <sup>th</sup> record for CR                                   |
| <i>Eumops underwoodi</i>        | Underwood's Bonneted Bat       | CJ             | Rare species + Mesoamerican dry forest endemic; 3 <sup>rd</sup> record for CR |
| <i>Molossus molossus</i>        | Little Mastiff Bat             | CJ             |   |
| <i>Molossus sinaloae</i>        | Sinaloan Mastiff Bat           | CJ             | Mesoamerican dry forest endemic   |
| <i>Nyctinomops laticaudatus</i> | Broad-eared Free-tailed Bat    | CJ             | 3 <sup>rd</sup> record for CR   |
| <i>Myotis nigricans</i>         | Common Black Myotis            | RV             |   |
| <i>Rhogeessa bickhami</i>       | Bickham's Yellow Bat           | RV             | Mesoamerican dry forest endemic; split from <i>R. tumida</i>                  |
| <i>Lasiurus ega</i>             | Southern Yellow Bat            | CJ             |   |
| <i>Conepatus semistriatus</i>   | Striped Hog-nosed Skunk        | RV             |   |
| <i>Mephitis macroura</i>        | Hooded Skunk                   | BH             |   |
| <i>Potos flavus</i>             | Kinkajou                       | BH             |   |
| <i>Canis latrans</i>            | Coyote                         | BH             |   |

|                               |                   |    |                     |
|-------------------------------|-------------------|----|---------------------|
| <i>Tapirus bairdii</i>        | Baird's Tapir     | RV |                     |
| <i>Odocoileus virginianus</i> | White-tailed Deer | RV | Eduardo & Vino only |

### III. Notable species we missed – in short, very little!

The only species I was sad to miss were the marvelous Wrinkle-faced Bat and Southern Spotted Skunk, for which our best chances were at Barra Honda. Honestly though, time was always going to be an issue, as we only had 1 night, and the very bright moon didn't help. Besides, the Wrinkle-faced Bats, being nomadic, may not have even been in the area at all when we were there. We were surprised to miss Miller's Mastiff Bat and Honduran Cottontail, both of which we expected to be pretty easy at various sites. It would've been nice to see a Salvin's Big-eyed Bat or Slender Harvest Mouse at Rincon de la Vieja, a Mexican Dog-faced Bat in Diria, and an Orange-throated Bat or Schmidts' Big-eared Bat in Barra Honda, but none of these species are easy to see and finding any of them would've been a solid stroke of luck. Besides, we saw so many rarities I wasn't expecting, so their absence wasn't really felt. Finally, missing Fierce Bonneted Bat was unfortunate: we couldn't visit a known roost near Hojancha as the owner of the house they lived in was away.

### IV. Other sites

If you do a longer trip to Guanacaste (highly recommended), I'd consider spending more time at Barra Honda if you're into bats and adding the following sites:

- Palo Verde: per Vino & Eduardo, the best place for large mammals in CR, excluding Corcovado. Great for Tamandua, Honduran Cottontail, skunks, Tayra, Gray Fox, Jaguarundi, Ocelot, Collared Peccary, etc. Once, while driving out of the park at night after netting, Eduardo saw 2 Ocelots and a Puma within an hour or two! Ojo de agua Guayacan is also an excellent site for netting bats. Lots of mosquitos though!
- PN Santa Rosa: reliable for Wrinkle-faced Bat in Dec, good river sites to catch molossids (*Molossus pretiosus*, potentially *Eumops*) and *Lasiurus*, and regular records of Schmidts' Big-eared Bat and Orange-throated Bat. Great for general mammal watching too, with Central American Woolly Opossum, Northern Tamandua, Central American Spider Monkey, Honduran Cottontail, Big-eared Climbing Rat, Hooded & Southern Spotted Skunks, Gray Fox, Baird's Tapir, etc. Has a robust Jaguar population, but you need to visit difficult-to-access beaches during turtle season to have a good chance of seeing one.
- Estacion Biologica Caribe: actually, in the province of Alajuela, but I include it as it's on the Caribbean slope of the Cordillera de Guanacaste. This is the closest site for wet forest bats like Shaggy Bat, Honduran White Bat, *Tonatia bakeri* etc. Also, good large mammals (Baird's Tapir, Ocelot seen regularly) and there's a cave with Hairy-legged Vampire Bat & Sword-nosed Bat in the area but it's hard to access.
- RN Cabo Blanco: potentially great bats (Dave got Woolly False Vampire Bat, Northern Ghost Bat, and Desert Red Bat in 1 night) + decent large mammals (Northern Tamandua, Jaguarundi seen by Vino) and some caves.