

Bennett Gardner

SULAWESI MAMMAL ADVENTURE

November 15th-20th, 2024



Introduction

I'm a third-culture kid raised on wildlife adventures in exotic locations. Since moving to Shanghai, China, at the age of seven, I've had countless marvelous opportunities to explore the natural wonders of the Far East with my family. I am incredibly grateful to my parents for

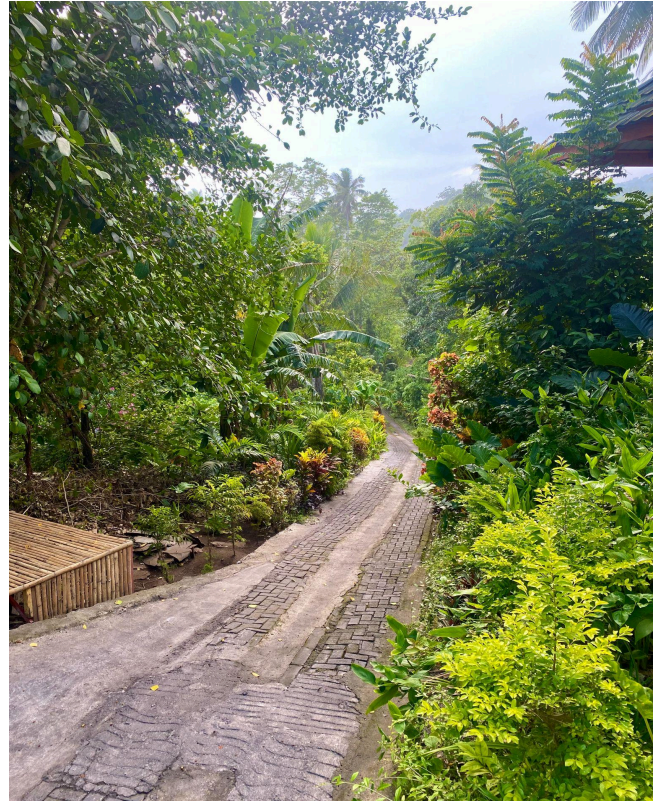
fostering my passion for animals and nature throughout my childhood and for allowing me to experience the magic of Earth's wildlife through our trips.

Now, as an 18-year-old nature enthusiast based in Singapore, with several months to kill before starting university in Australia and a bit of pocket cash saved from a summer job, I've embarked on a series of wildlife (specifically mammal-focused) dashes around Southeast Asia. I'm fulfilling a long-standing dream of mine—one that has been eating away at me since I moved to Asia over a decade ago—to embark on solo wildlife adventures, aiming to encounter the animals that shaped who I am today. And man, is it awesome! Check out my [Way Kambas National Park, Sumatra](#) trip report, covering my first-ever solo wildlife adventure.

This time, I set my sights on the mysterious, peninsula-clad island of Sulawesi in eastern Indonesia. The enigmatic mammals of Sulawesi first piqued my interest when I read Coke Smith's excellent [2012 trip report](#) at the age of ten. Later, after learning about Sulawesi's famously high levels of endemism—62% of its mammals and 31% of its birds are found nowhere else—along with its expansive swathes of intact rainforest, I became determined to experience the island's mammals and other natural wonders firsthand. At the time, however, Sulawesi felt like an appealing yet unattainable destination.

Years later, my fascination with Sulawesi's mammals hadn't faded in the slightest. Thoughts of encountering wild Celebes Crested Macaques, Sulawesi Bear Cuscus, Gursky's Spectral Tarsiers, and the elusive Babirusa (the holy grail of Sulawesi mammals) filled my mind to an excessive degree. I even sketched out a rough itinerary for a future trip, following Coke Smith and Jon Hall's original route, which covered Tangkoko Nature Reserve and Nantu Forest.

Finally, in the fall of 2024, I had a window of opportunity and just enough savings to plan and execute a five-night Sulawesi wildlife adventure. While Nantu Forest (home to the last wild Babirusas) seemed too challenging & expensive to visit on such a short trip, I decided to focus my attention on Tangkoko Nature Reserve. I planned to stay at the lovely [Tangkoko Sanctuary Villa](#) for all five nights. It's one of the nicest accommodation options in the Tangkoko area and a true hidden gem!



Tangkoko Sanctuary Villa

On my very first afternoon at Tangkoko Sanctuary Villa, the exceptional hostess Linda went out of her way to contact a highly-rated local guide who could bring me to Nantu Forest Reserve from Tangkoko! This was after I mentioned my interest in seeing a wild Babirusa.

The guide she contacted was the fabulous Ono Tinungki of [Bird Tour Manado](#). I met Ono that afternoon to discuss potential Nantu and Tangkoko tour options to maximize my mammal species count. Unfortunately, Ono informed me that the once-abundant Babirusas at Nantu were gone. I'll explain why these iconic pigs disappeared from their last reliable stronghold [later in this report](#).

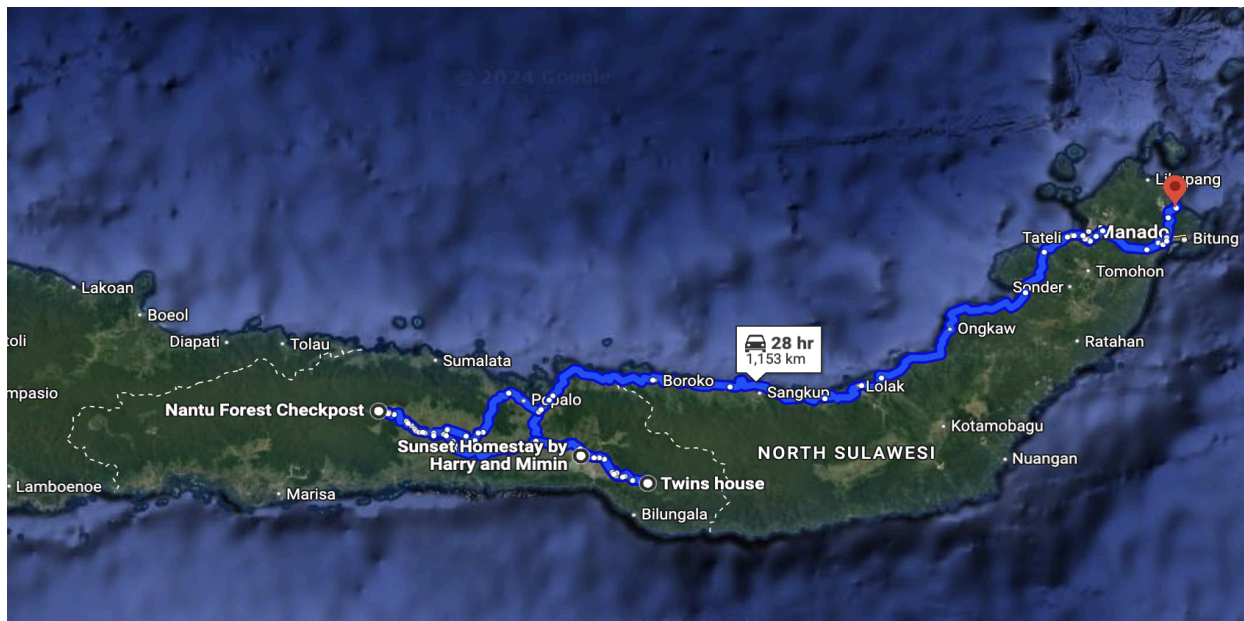
Still, my interest in exploring the nature reserves of Gorontalo (including Nantu) and spotting endemic mammals remained strong. Ono proposed a three-day wildlife-watching trip in Gorontalo Province and offered to take me mammal-watching around Tangkoko Nature Reserve the following day (Day 2).

I swiftly agreed to his proposition—I'd traveled to Sulawesi for a mammal adventure, and come hell or high water I would get what I came for!

Ono hired his friend Taufik as our driver, who proved to be a true champion behind the wheel. He drove Ono and I across northern Sulawesi on the night of November 16th to our first Gorontalo reserve so we'd have the whole day to explore. 12 straight hours on rough roads in the middle of the night—what an absolute legend!

Ono himself was a fantastic guide throughout my trip—funny, hardworking, knowledgeable about Sulawesi's wildlife, a skilled animal spotter, and very flexible with his schedule. He also speaks good English, so communication was never an issue. With him at my aid, I racked up twelve mammal species over the course of four full days and a night, along with nearly 40 bird species as icing on the cake (even though I wasn't after birds!).

I highly recommend Ono for mammalwatching/birding jaunts around northern Sulawesi. He's one of the best local guides in the region.



My round-trip drive from Tangkoko (red pin) to the reserves of Gorontalo & back.....brutal is one way of putting it



Ono (left) and Taufik (right)

I began this trip report with a rather long introduction, so I'll spare you further details in this section of the report. Below is my [trip itinerary](#), [detailed descriptions](#) of the reserves I visited, [a section](#) on conservation/environmental issues in Nantu Forest Reserve & greater Sulawesi that I witnessed, and lastly [a log](#) of all the mammals I saw on my trip with [record shots](#) included.

Trip Itinerary

Day 1 (November 15th): [Tangkoko Nature Reserve](#)/Overnight at Tangkoko Sanctuary Villa

Day 2 (November 16th): [Tangkoko Nature Reserve](#) /Overnight drive to Gorontalo

Day 3 (November 17th): [Hungayono Forest](#)/Overnight at Sunset Homestay in Gorontalo City

Day 4 (November 18th): [Nantu Forest Reserve](#)/Overnight in Nantu Village

Day 5 (November 19th): [Nantu Forest Reserve](#)/Afternoon drive back to Tangkoko/Overnight at Tangkoko Sanctuary Villa

Day 6 (November 20th): Depart Tangkoko Sanctuary Villa/ Afternoon flight back to Singapore

Areas Visited

TANGKOKO BATUANGUS NATURE RESERVE:



The single best spot for wildlife-watching in Sulawesi has to be the 87 km² Tangkoko Batuangus Nature Reserve near Manado city. What the park lacks in size, it more than makes up for with its large and conspicuous populations of many iconic Wallacean mammal & bird species. I spent one half and one full day of my trip (Days 1 & 2) exploring this splendid and easily-accessible reserve, and saw seven mammal species, including **Sulawesi Bear Cuscus**, **Celebes Crested Macaque**, **Gursky's Spectral Tarsier**, and **Long-tailed Taeromys**.

Tangkoko is touristy (I usually dislike touristy places), but my guide Ono brought me into the rainforest, away from everyone else, to look for mammals on Day 2 which was great. Overtourism is an issue in Indonesia (I'm looking at you, Bali), but for the sake of all the incredible endemic wildlife in Tangkoko, I hope tourists continue to flock there. Tourism is the main incentive for locals to keep the park & its wildlife around for future generations.

My first expedition into Tangkoko took place on the afternoon of Day 1, after I'd arranged my dizzying dash around northern Sulawesi with Ono. For my Day 1 jaunt into the reserve, I used hotel-contracted guides Ober and Fabio as I hadn't booked Ono that day (he was unavailable).

Ober and Fabio were solid guides, if not at the same calibre as Ono. They tried to find me everything I wanted to see, though I could tell they weren't used to dealing with specialist clients looking for specific groups of organisms.

We entered the reserve at 5:00pm, and meandered from the parking lot down the main tourist track toward the roosting trees of the local tarsiers. I kept an eye out for squirrels and other wildlife, but apart from a few distant birds nothing was around. I was also grouped with some European tourists for this particular outing who didn't care much about what we saw, so I had to specify to the guides that I wanted to see mammals.

At 5:30pm, just before sunset, we arrived at a cluster of tourists & guides surrounding a strangler fig. Weak torchlight illuminated a family of three **Gursky's Spectral Tarsiers** on the tree that called to each other using a series of chirps and squeaks. Despite the crowd, it was a very enjoyable encounter.

On the way back, I noted some endemic frogs & millipedes along the trail, and Ober pointed out several Sulawesi Black Tarantulas (*Lampropelma carpenteri*) on different trees we passed. This huge, arboreal spider species was a treat to see in the wild.

Besides the tarsiers, the walk produced no further mammals beyond some fluttering fruit bats I couldn't ID.



Sulawesi Black Tarantula



Tarsier tree

I returned from my first Tangkoko walk at 7:00pm, wolfed down a quick dinner at the hotel, and then embarked on my second expedition of the night with Ober and Fabio. This time, we were alone and were strictly looking for mammals—specifically Dwarf Cuscus, bats and rats.

The first location they took me to was an Areng Palm plantation behind Tangkoko Sanctuary Villa that borders the nature reserve. They explained that it was a reliable area for rats and sometimes Dwarf Cuscus, but two hours of spotlighting there produced only one mammal species—a **Long-tailed Taeromys**—which I saw for a mere five seconds before it bolted away. The taeromys was in fact the only mammal species I saw all night, as the full moon sent most of Tangkoko's nocturnal mammals into hiding.

The Areng Palm plantation we visited was an awful, overgrown, mess that had no trails leading through it, and was overrun with biting & stinging insects. Thrice during our two-hour spotlighting session I was nearly stung by angry bees whose hive we'd gotten too close to by accident. To couple this, there were also billions of aggressive, biting ants carpeting the forest floor. Even though I was wearing leech socks and long pants, the ants found ingenious ways to cause me nonstop annoyance & pain throughout my walk. Oh yeah, and Ober and Fabio got us lost in a thorny thicket while trying to find a way out of the hellhole plantation. Terrible place.

The next session of spotlighting—an hour in Tangkoko Nature Reserve proper—was far, far more enjoyable, even though I saw no mammals. We checked fruiting trees along the main track for arboreal rats & cuscus, but no luck due to the moon. Ober spotted a *Maxomys* rat in the brush along the main track but I was too late to see it before it disappeared. We returned to the hotel around midnight and I crashed from exhaustion.

Day 2 was a superb, full day of mammalwatching in Tangkoko Nature Reserve, this time with Ono. It fully compensated for Day 1's disastrous spotlighting session.

Ono and I veered off the tourist trails in Tangkoko and spent most of the day deep in the rainforest searching for mammals. He is very familiar with Tangkoko and knows the haunts for all the reserve's wildlife. The first few hours of our walk produced **Sulawesi Bear Cuscus** (poor views), a large troop of **Celebes Crested Macaques** that we followed through the rainforest for 45 minutes, and two bats: **Sulawesi Rousettes** & **Lesser False Vampire Bats**. There was a single colony of each bat species in two separate hollowed-out trees we searched. We also encountered three separate pairs of spectacular **Knobbed Hornbills** in the same stretch of

forest, and obtained outstanding, close-up views of two endemic kingfishers—**Sulawesi Lilac** & **Green-backed Kingfishers**. Great finds!



'Red-butt' monkeys! AKA Celebes Crested Macaques. Awesome primates.



Beautiful male Green-backed Kingfisher in Tangkoko



The male Knobbed Hornbill—one of Sulawesi's most charismatic animals

At 12:00pm, as we hiked toward the reserve's main beach for lunch, I got my first, rather poor views of two **Whitish Dwarf Squirrels**. During lunchtime, we saw more macaques from a different troop foraging along the beach. After lunch, Ono brought me to a spot to hopefully get better views of a bear cuscus....and we were in luck! He spotted a family of three dozing cuscuses in a tree, which provided nice photos and great, extended views. As we walked back to the parking lot, we encountered more Whitish Dwarf Squirrels, and I got much better views this time including a decent record shot. We checked all the abandoned buildings and pavilions along the main track for more bats, but none were spotted.

Holistically, Day 2 was an excellent day, with five mammal species recorded including all my targets (barring the Celebes Dwarf Squirrel).

As a wildlife-watching destination, Tangkoko Nature Reserve stands out from most other reserves in Asia that I've visited, in the sense that you only need to walk a short distance to obtain quality encounters with various threatened mammals/birds. There aren't many places left on Earth, especially here in Southeast Asia, where one can see all (or most) of the iconic mammals in a nature reserve in a single outing on foot. I personally haven't experienced this anywhere else outside Costa Rica or South Africa.

I'm glad I dedicated a good portion of my trip to exploring Tangkoko Nature Reserve, and I will definitely be back!



Huge Dao Tree (Dracontomelon dao) in Tangkoko. Its fruits are food for the local macaques and hornbills.

HUNGAYONO FOREST:

(BOGANI NANI WARTABONE NATIONAL PARK)



Out of the three reserves I visited on my 2024 Sulawesi mammal adventure, my favorite by far was Hungayono Forest. This rarely-traversed but spectacular expanse of hilly primary rainforest, hot springs, and limestone caves constitutes part of the western section of 2,871 km² Bogani Nani Wartabone National Park, and is a paradise for Sulawesi's endemic wildlife. I spent one full day in Hungayono on my Sulawesi trip (Day 3) and saw five mammal species, including **Celebes & Whitish Dwarf Squirrels**, **Gursky's Spectral Tarsier**, **Sulawesi Horseshoe Bat**, and my main target species, the **Gorontalo Macaque**.

Hungayono Forest boasts stunning scenery, is a world-class birding destination, and is also surprisingly good for mammal-watching. With very few foreign visitors to the reserve, Ono, myself, and our mandatory park ranger guide, Upan, had the place entirely to ourselves!

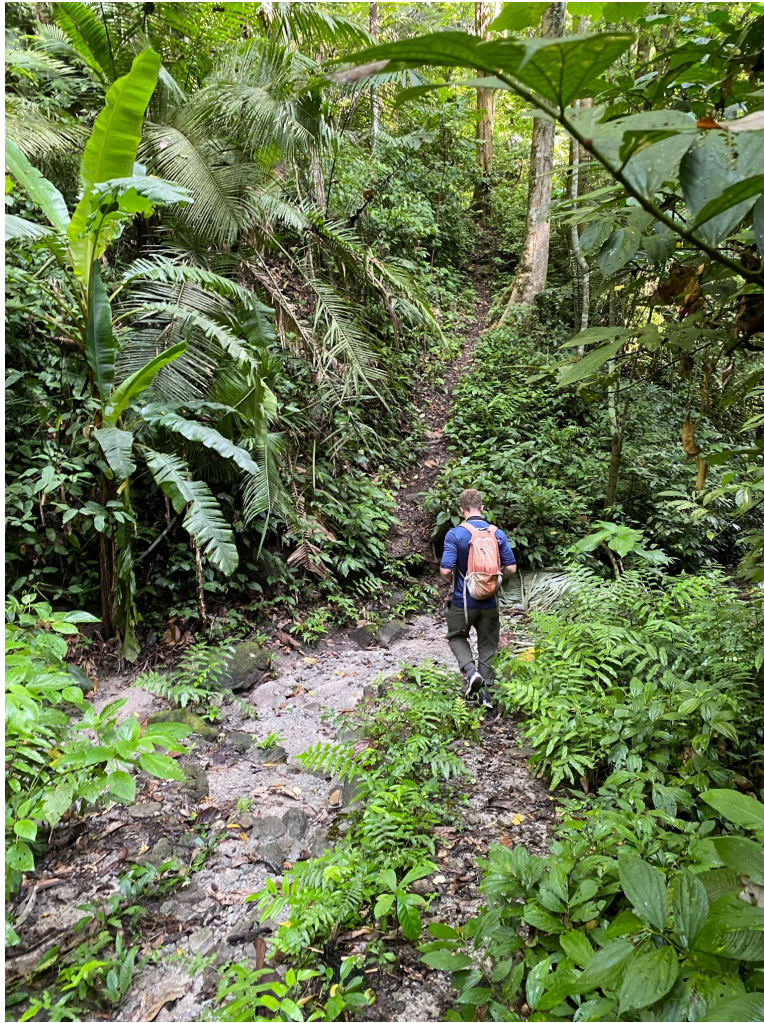
It was an adventure just getting to Hungayono Forest from Tangkoko—first a twelve-hour overnight drive to the village outside the park, followed by a ten-minute motorbike ride across a rickety suspension bridge over a roaring river, and lastly a muddy, three-kilometer trek up and down lush hills to the ‘official’ entrance to the forest (marked by a large ranger station building).

I was very grateful to have Ono with me to translate for the Hungayono portion of the trip, as my local ranger-guide Upan spoke barely any English (though surprisingly he knew all of the English common names for the birds we saw).

Upan was an attentive and competent guide, eager to find everything I wanted to see in Hungayono—and he largely succeeded. My only real criticisms were his limited English, which made communication challenging, and his tendency to light a cigarette every time we stopped for more than two minutes. I have nothing against smokers, but my main gripe was trying to spot a bird or mammal while being blasted with industrial-strength secondhand smoke.....



Motorbike ride to the entrance of Hungayono Forest! (And the sketchiest bridge I've ever driven across)



Upan and I at the Hungayono overlook (right), and me walking toward the ranger station (left)

Ono, Upan and I started our trek toward the Hungayono ranger station at 7:00am, and the first hour of hiking alone produced large numbers of **Gorontalo Macaques & Whitish Dwarf Squirrels**, along with great views of two **Celebes Dwarf Squirrels**. Hungayono is undoubtedly one of the most reliable places on Earth to see Gorontalo Macaques—I saw a troop of 30 individuals just minutes after entering the reserve, as well as several other troops of various sizes throughout the day.

At 9:00am, as we neared the ranger station, Upan brought me off-trail into the rainforest to a tarsier roost. He halted just before a bamboo grove, pointed at something in front of us, and whispered to me in broken English, "Tarsius climb, look!"

Sure enough, there was a **Gursky's Spectral Tarsier** climbing a bamboo stem, not four meters away from us! We were able to watch this particular individual for several minutes before it scampered away.



Gursky's Spectral Tarsier at Hungayono



Hungayono Ranger Station

We ate breakfast between 9:15-10:00am at the ranger station, and afterwards Upan took me bathing & squirreling in the forest. Ono was feeling unwell, and sat most of the day out at the ranger station.

Between 10:00am-1:00pm, Upan and I checked six hollowed-out trees and one small cave for bats, also scanning the surrounding forest for squirrels.

I spotted and photographed a roosting Sulawesi Horseshoe Bat in the largest hollowed-out tree we checked & another one in the small cave. I wasn't expecting to find any chiropterans in the cave as its interior is heated to over 40° by nearby hot springs!



Batting in Hungayono....lots and lots of sweating and sliding down hillsides

At around 11:00am, between our bathing sessions, Upan took me to the **Maleo** (Volcano Bird) nesting grounds near the Hungayono Hot Springs to demonstrate the local conservation efforts geared toward this critically endangered bird.

Maleos bury & incubate their eggs in geothermally-heated patches of sand—a feature Hungayono has in abundance due to its hot springs. Park rangers like Upan excavate the buried eggs and transfer them to caged hatcheries, later releasing the chicks into the wild.

Conservation efforts undertaken by rangers like Upan are globally important for the long-term survival of Maleos, especially since Hungayono Forest possesses one of the largest remaining wild nesting colonies.

During my visit, I watched Upan excavate four Maleo eggs and transfer them to the hatchery. To my delight, I even had the unexpected opportunity to release a captive-born Maleo chick into the wild! It was thrilling to play a small part in conserving such a unique and threatened species.



Upan with two freshly-dug Maleo eggs (left) and me releasing a Maleo chick into the wild (right).

In addition, I had several excellent encounters with wild Maleos at Hungayono later in the day.....and this was despite prioritizing mammals over birds!



Wild Maleo in Hungayono Forest!

Aside from bats and Maleos, we saw many Whitish Dwarf Squirrels, and (possibly) a few Celebes Dwarf Squirrels in the forest, though I took no record shots of either species. We also stumbled across a couple very nice endemic birds while mammalwatching, including **Sulawesi & Knobbed Hornbills**, **Ivory-backed Woodswallow**, **Sulawesi Ground Dove** and **Sulawesi Dwarf Kingfisher**.



Sulawesi Dwarf Kingfisher at Hungayono



Hungayono Hot Spring—a trickle of boiling water atop scorching-hot mud that I kept stepping into....

Upan and I concluded our intense, off-trail expedition at around 2:00pm. At this point, I was sweating out enough salty water to fill a small ocean, and I'd seen most everything I'd wanted to, so we trekked back to the ranger station. The freshwater tap there was a lifesaver—the well water in Hungayono is surprisingly safe to drink without filtration.

On the hike back to the park entrance, between 2:30-4:00pm, I did some additional mammalwatching with Upan. We noted some more Whitish Dwarf Squirrels—and this time I got good record shots—along with a large troop of Gorontalo Macaques.

We also had good views of a Maleo just off the side of the trail, along with a flock of 40 Knobbed Hornbills clustered around a fruiting tree.

I looked around for Sulawesi Giant Squirrels, which are present in Hungayono, but had no luck. We checked some hollowed-out trees and undersides of palm fronds along the trail for more bats, but couldn't find any. At 4:15pm, I bid farewell to Upan and journeyed back to the village outside the park on a different rangers' motorbike. From the village, Ono and I drove off to the nearby city of Gorontalo for the night before heading to Nantu Forest Reserve in the morning.

All in all, I loved every second of my sweaty, muddy, buggy, thorny thrill-ride through the pristine, wildlife-filled Hungayono Forest. It was absolutely worth popping over to Hungayono on my Sulawesi trip, and I really wish I'd spent the night. Overnight mammal/birding trips to the forest are definitely possible, and can be organized through my guide, Ono. Had I stayed overnight, I'm almost certain I would've nailed a couple more bats, some rats, and possibly Dwarf Cuscus or Sulawesi Warty Pig.



A handsome Gorontalo Macaque in Hungayono Forest



NANTU FOREST RESERVE:



I spent two days and one night (Days 4 & 5) of my Sulawesi trip exploring the verdant, 520 km² Nantu Forest Reserve, where I obtained a total of one hundred million bug bites, mud-soaked shoes, and zero sightings of Babirusa, Sulawesi Warty Pig, or Lowland Anoa.

Prior to my trip, I had read many mammalwatching reports (some even as recent as 2023) about this legendary reserve; once the best (only?) spot on Earth to reliably see wild North Sulawesi Babirusas. I was extremely keen on visiting Nantu for the possibility of seeing Sulawesi's endemic ungulates, even after hearing from Ono that it was a thirteen-hour drive from Tangkoko on rough roads out into the middle of nowhere and was no longer a good spot for my targets.

I probably should've listened to Ono. In retrospect, my visit to Nantu Forest was mainly a series of upsets & disappointments. The main upset was witnessing the damage that the gold mining and palm oil industries are causing to the local ecosystem.

It was also dissatisfying to see very few mammals in the reserve besides a single bat and some extremely shy Heck's Macaques after reading about the 'Babirusa paradise' described in past trip reports.

To add to my bad experience, the permanent hide at the Nantu Salt Lick (the former congregation site of Babirusas), a favorite of mammalwatchers for over a decade, had been crushed by a fallen tree in a recent flood. Ono and the park ranger we were with had to build me a makeshift hide out of palm fronds that was about as comfortable as sitting in a cramped, mosquito-filled steambath for hours on end. Oh yeah, and it was raining half the time too....



My Nantu hide! I graciously bought Ono a Bintang for building this masterpiece from scratch



Nantu Salt Lick

The worst part was seeing no mammals at the lick in seven combined hours of sitting in my hot, leafy hide, with the exception of a single **Heck's Macaque** at 7:40am on Day 5. The monkey bolted into the forest as soon as it saw me peeping my mug out of the hide, and never returned. I tried to stay hopeful— there were a couple Anoa tracks scattered across the muddy section of the salt lick—but by my second day at the lick it felt like I was staring at a mud puddle and praying a Unicorn would manifest itself. Copious but beautiful **White-faced Cuckoo-Doves** & **Stephan's Emerald Doves** at the lick alleviated some of my frustrations about the lack of mammals there, but not all of them.



White-faced Cuckoo-Dove at the Nantu Salt Lick

There are a couple endemic primate specialities in Nantu that can still be spotted with some effort—those being Jatna's Tarsiers and Heck's Macaques. Ono knew a spot for **Heck's Macaques** along the riverbank, and we saw a troop very briefly crashing through the forest at 3:00pm on Day 4. I got no good views or record shots of the primates.

Ono and I also spent an hour and a half spotlighting for Jatna's Tarsiers on the evening of Day 4, in an area where the rangers apparently see them frequently, but no luck. I did have a nice sighting of a **Hardwicke's Woolly Bat** hanging on a liana from 2m away, though. And also a close-up view of a beautiful **Sulawesi Scops Owl**.



Sulawesi Scops Owl at Nantu

Honestly, my best memories of Nantu weren't of the wildlife I saw, but of traversing the forest itself.

Fording the river that separates nearby agricultural land from the forest reserve was a thrilling experience for me. Especially when Ono and I crossed the river at night in the pouring rain with only rattan canes for balance! The muddy 'trails' in Nantu were also exciting to wander, especially the freshly bushwhacked tracks courtesy of my machete-wielding park ranger-guide.

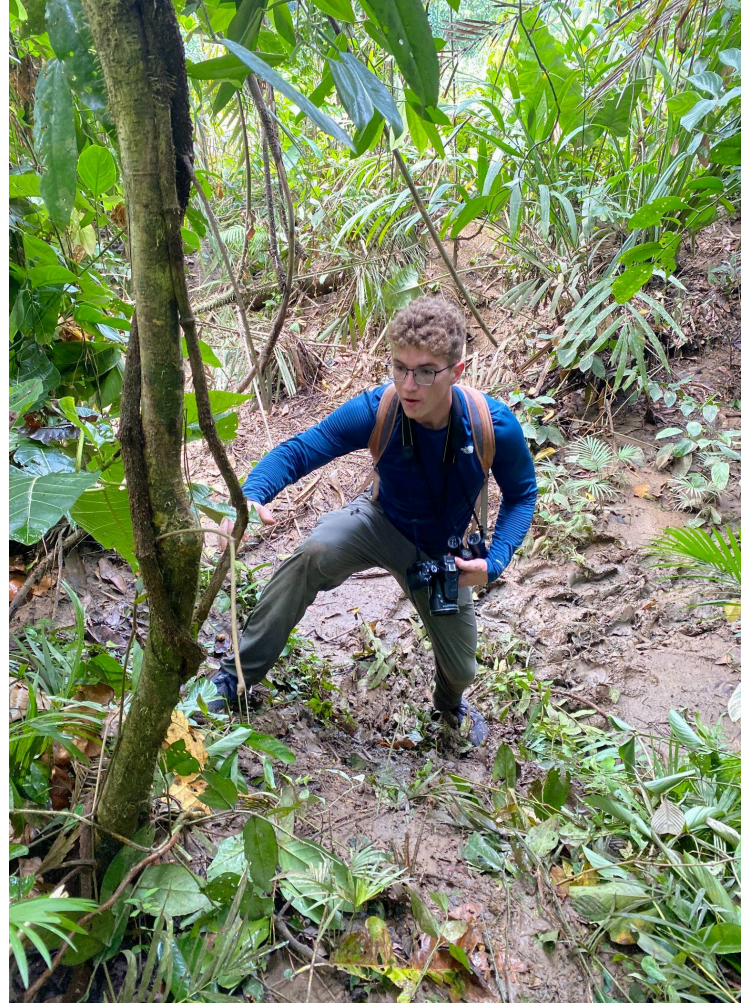
I stayed at a cute little homestay about a thirty-minute walk from the river bordering the reserve. The accommodation was basic, but I'm not a stickler for luxury as long as I can see wildlife!



Team Babirusa!



Macaque spotting in Nantu



River fordin' and trailblazin'

Overall, I walked away from Nantu with mixed emotions. On the one hand, it is still a magnificent, pristine block of rainforest with good populations of endemic primates and birds, but on the other hand I cannot recommend that mammalwatchers make the trek out there anymore.

The destruction caused by illegal gold mining in the past year in Nantu is very upsetting. There is almost no chance of spotting a wild Babirusa anymore, and Lowland Anoa's & Sulawesi Warty Pigs are also rare nowadays. There is additionally no permanent wildlife hide at the lick anymore, and I don't have a clue if or when the park rangers will build a new one.

Basically, unless you have a similar interest as I did in spotting the two specialty primates, with the slim off-chance of encountering an anoa or warty pig, I wouldn't visit Nantu. It's not worth the time or money anymore.

The Fate of Nantu's Babirusas (And Other Wildlife)

Unfortunately, I must break some bad news to the mammalwatching community.....

There are no longer wild Babirusas to be seen in Nantu Forest Reserve.

Over this past year, Nantu's famously conspicuous wild Babirusa population has completely disappeared from the forest area surrounding the Nantu Salt Lick. No park ranger has seen them on camera traps or in person for over four months (as of my visit). Their tracks, foraging trails, and other signs of presence have gone missing inside the forest.

And the reason why?

A massive, illegal gold mining operation INSIDE Nantu Forest Reserve, that blocks all previous foraging routes used by the Babirusas, has scattered the pigs deep into the forest. And who knows how many have been poached by the gold miners.....

What's worse, far worse, about this already upsetting situation is that the Indonesian government does NOTHING to shut down the mine! In fact, the Nantu park rangers mentioned that government officials are getting payouts by the mine operators as extra incentive to leave them be. It proves how egregiously corrupt the local government is there, and they should be totally ashamed about letting one of the last intact Wallacean ecosystems be destroyed in the name of capitalism.

On that note, the broader gold mining industry in Sulawesi and its environmental misdeeds are appalling. All three forest reserves I visited were either in the process of being destroyed by gold mining or were under dire threat of being encroached upon by mining companies. Tangkoko Nature Reserve was an example of the latter— the huge Toka Tindung Gold Mine stretches right up to the border of the park.

In Nantu Forest Reserve, the gold mining situation has reached new heights. Not only is there the huge mine inside the forest, but also plenty of smaller illegal mines operating on the fringes of the reserve. I walked past one of these mines on my way into the reserve on Day 4

(November 18th), and though we reported it to the park rangers it wasn't shut down until the next day.....



Illegal gold mine on the border of Nantu Forest Reserve; November 18th, 2024.

As if the illegal gold mining wasn't bad enough news for Nantu's wildlife, oil palm monocultures are taking over the forests on the fringes of the reserve. And god damn do I hate the palm oil industry—the leading cause of the 'ecocide' currently plaguing Southeast Asia's remaining rainforests. The islands of Borneo and Sumatra have borne the worst of forest conversion to palm oil over the past 50 years, but it seems like this environmental curse is now spreading to remote regions of Sulawesi too.



Palm oil encroachment into the hilly rainforests of Nantu Forest Reserve; November 18th, 2024.

My 2024 visit to Nantu Forest Reserve was the first time in my life that I'd experienced a 'protected' ecosystem stripped of its iconic wild mammals by humans before I could have a chance to see them for myself. It was a sobering experience for an eighteen-year-old aspiring zoologist.

Right now, the future of Nantu's Babirusas and other wildlife hangs by a thread. If nothing is done to halt the expansion of gold mines or palm oil plantations inside the reserve, the ecosystem might well be destroyed or completely altered within a couple decades.

I hope there is something the mammalwatching community could do to address this issue.

Mammal Species by Day

<u>Common Name:</u>	<u>Scientific Name:</u>	<u>Seen on Day 1:</u> (Tangkoko NR)	<u>Seen on Day 2:</u> (Tangkoko NR)	<u>Seen on Day 3:</u> (Hungayono Forest)	<u>Seen on Day 4:</u> (Nantu FR)	<u>Seen on Day 5:</u> (Nantu FR)	<u>Seen on Day 6:</u> (Tangkoko NR)
1. Sulawesi Bear Cuscus	<i>Ailurops ursinus</i>						
2. Celebes Crested Macaque	<i>Macaca nigra</i>						
3. Gorontalo Macaque	<i>Macaca nigrescens</i>						
4. Heck's Macaque	<i>Macaca hecki</i>						
5. Gursky's Spectral Tarsier	<i>Tarsius spectrumgurskyae</i>						
6. Long-tailed Taeromys (Celebes Rat)	<i>Taeromys celebensis</i>						
7. Celebes Dwarf Squirrel	<i>Prosciurillus murinus</i>						

8. Whitish Dwarf Squirrel	<i>Prosciurillus leucomus</i>						
9. Sulawesi Horseshoe Bat	<i>Rhinolophus celebensis</i>						
10. Sulawesi Rousette	<i>Ptilonycteris celebensis</i>						
11. Hardwicke's Woolly Bat	<i>Kerivoula hardwickii</i>						
12. Lesser False Vampire Bat	<i>Megaderma spasma</i>						

Mammal Species Log

Sulawesi Mammals: 12 total, 11 **lifers**

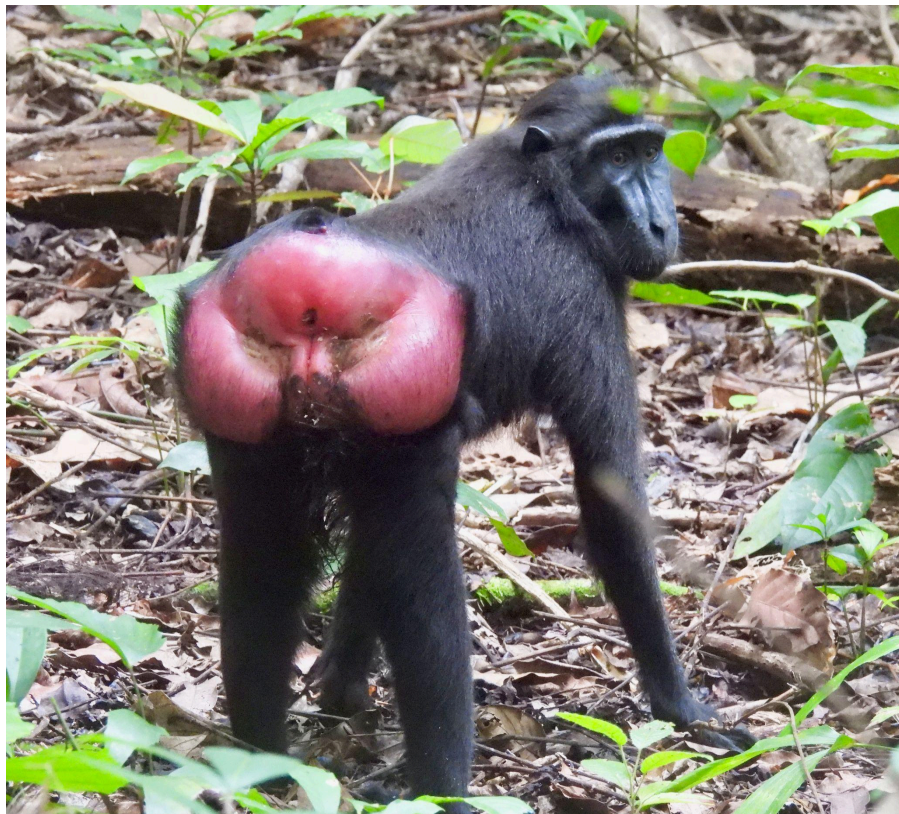
1. **Sulawesi Bear Cuscus**- Formerly one of my bucket-list mammal species. I was delighted to see four individuals of this bizarre-looking and iconic marsupial in Tangkoko on Day 2. First sighting was an okay view of a single individual in a midstory tree at 10:35am. The second sighting, of a family of three cuscuses spotted by Ono at 1:30pm, was much better than the first. Partially concealed full-body views of the marsupials lounging for twenty minutes! The bear cuscuses we saw were much more lethargic than I was expecting, probably owing to their nutrient-poor folivorous diet (similar to the Koala).





2. Celebes Crested Macaque - Ono and I first encountered the Rambo 1 troop (80 individuals total) of crested macaques at 8:10am on Day 2 in Tangkoko. His friend, a researcher who studies the macaques and follows them around the nature reserve, gave him the location of the troop. We tailed the monkeys on foot through the rainforest for 50 minutes, and were provided with stellar views of dozens of members of the troop. What a privilege to be able to tag along on a jungle stroll with these critically endangered and beautiful primates on their daily foraging route! Later in the afternoon on Day 2, we also saw a couple macaques from the Rambo 3 troop by the beach where we had lunch, and on the way back to the parking lot. On the morning of Day 6, before heading to the airport, I took a walk down the Tangkoko beach and saw two more macaques.





3. **Gorontalo Macaque**- My main mammal target for Hungayono Forest on Day 3. This visually striking, range-restricted macaque species is common in Hungayono, especially in the abandoned plantation/secondary rainforest along the first two kilometers of the trail. Much shyer than the Celebes Crested Macaque, and stays a fair distance away from humans, but good views are possible. I got a distant but clear sighting of a troop of 30 near the entrance of Hungayono Forest at 7am; a stellar start to the day. Additional good views of two more in a tree next to the trail at 7:35am and of three in the plantation forest on our way out of the park at around 3pm.





4. **Heck's Macaque**- The only one of my Nantu targets that I saw, and my third Sulawesi-endemic macaque species! I had several sightings of Heck's Macaques on Day 4 and Day 5, though species on These monkeys Gorontalo Macaques in Hungayono were in

5. **Gursky's Spectral Tarsier**- Fabulous encounter with a family of 3 of these adorable primates on a strangler fig in Tangkoko reserve at sunset on Day 1. The local guides know exactly which tree this particular tarsier family roosts in, and brought us to the spot. A bunch of other tourists and guides had formed a semicircle around the tree. The tarsiers were sitting and moving about in plain sight, and were illuminated by torchlight. I watched for over ten minutes as each of the three individuals called out to one another with distinctive songs, and was able to get some nice photographs as well. Great encounter and great lifer mammal, despite all the people around. In addition, I had an amazing sighting of a pair of this tarsier species on Day 3 in a bamboo grove in Hungayono Forest that Upan brought me to.



6. **Long-tailed Taeromys** (Celebes Rat)- Gotta hand it to myself for spotting this beautiful rat walking into a thicket of brush in the Areng Palm plantation on the evening of Day 1. Got clear but very brief views of this species, enough for my guides Ober and Fabio to give me a positive ID on it. We searched the area for ten minutes after the rat

disappeared but couldn't find it again. The only mammal species I saw while spotlighting with Ober and Fabio on the evening of Day 1, barring some unidentified fruit bats.

7. **Celebes Dwarf Squirrel**- This species was more common in Hungayono Forest than in Tangkoko. My first and only confirmed sighting of this squirrel was a great sighting of two individuals scampering along a fallen tree on the Hungayono main trail at 8:25am. This was followed by possible unconfirmed singles throughout the day. I missed this species in Tangkoko and was happy to get excellent views of it in Gorontalo!



8. **Whitish Dwarf Squirrel**- Common in Tangkoko; the most commonly-seen rodent in the reserve. First encounter was 3 singles at 11:50am on Day 2 in the same thicket of saplings and vines, that were pinpointed by listening for their shrill calls. No good views. Second encounter was at 2:10pm along the main track; saw four singles including a nice, extended view of one.

In Hungayono Forest, as in Tangkoko, this was the most common squirrel species present. The Gorontalo specimens have less prominent white napes than those in Tangkoko, and were hard to tell apart from Celebes Dwarf Squirrels. In fact, most of the squirrels I thought were Celebes Dwarf Squirrels in Hungayono actually turned out to be Whitish Dwarf Squirrels upon checking through my record shots! A good way to tell the two species apart is the prominent black ear tufts on the Whitish Dwarf Squirrel which are absent in the Celebes Dwarf Squirrel.



9. **Sulawesi Horseshoe Bat**- There was a roosting individual in the sixth hollowed-out tree Upan and I checked on the morning of Day 3 in Hungayono Forest. Later on, I got great views and a couple record shots of another single in the geothermally-heated 'Sauna Cave'.



10. Sulawesi Rousette- Group of 5-7 in the second hollowed-out tree Ono brought me to at around 10:55am in Tangkoko. Distant but clear enough views for record shots, and later identified as rousettes due to their elongated snouts and gray coat.



11. Hardwicke's Woolly Bat- Ono spotted one hanging on a liana less than 2 meters away from us in Nantu while spotlighting for Jatna's Tarsier. I later confirmed it was a woolly bat species that I saw on iNaturalist; almost certainly a Hardwicke's Woolly Bat. One of only two mammal species recorded in Nantu during my visit.



12. Lesser False Vampire Bat- Roosting colony of 6 in a hollowed-out tree Ono brought me to at 10:50am. Good views from a moderate distance.



Mammal Species I Missed

1. **North Sulawesi Babirusa**- I mention why I missed this species in Nantu [here](#). In Hungayono they were also around until a recent African Swine Fever outbreak wiped most of their population out.

Below is a Babirusa tusk that the Hungayono rangers found in the forest after the swine fever epidemic:



2. **Lowland Anoa**- Anoa have always been somewhat uncommon in Nantu Forest Reserve, but they are now more rare than ever. I did see some anoa tracks around the salt lick—a glimmer of hope for this species' long-term survival in Nantu:



3. **Sulawesi Warty Pig**- They used to be common in Hungayono Forest but the African Swine Fever epidemic took its toll on this species. Upan doesn't see them regularly anymore. In Nantu, warty pigs used to frequent the salt lick but [not anymore](#).
4. **Jatna's Tarsier**- Possible in Nantu Forest Reserve; I tried for this species but no luck
5. **Dwarf Cuscus**- I spotlighted for this species on my first & fifth nights in Sulawesi but they are difficult to locate, especially since I didn't have a thermal scope. Rare in Tangkoko & Nantu but apparently regular in Hungayono Forest. Upan showed me a great, recent photo he'd taken of a Dwarf Cuscus there.
6. **Stripe-faced Fruit Bat**- They are around; I might've seen one at Hungayono had I spent the night. Upan knows how to locate active roosts of different bat species at night (presumably via thermal scope?), and showed me photos he'd taken of roosting sheath-tailed and woolly bats (*Emballonura* & *Kerivoula* sp.) He said there are also Stripe-faced Fruit Bats and Pallas's Tube-nosed Bats in the forest after I showed him photos of the two species for his reference.
7. **Sulawesi Giant Squirrel**- Possible in Hungayono Forest, Nantu, & possibly Tangkoko. Upan sometimes sees them in Hungayono but not on my visit.
8. **Javan Rusa**- There is a large, introduced herd in Nantu whose tracks I saw on the riverbank. This is a nocturnal species and I didn't find any while spotlighting.
9. **Sulawesi Palm Civet**- Ono has seen only one Sulawesi Palm Civet in his entire life—a roadkilled individual near Tangkoko. I didn't try for this species, but they are presumably around.