

Sulawesi and Molucca Islands



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1. Introduction

In July 2026 my fiancé (Jasmine) and I spent 3 weeks in Sulawesi and the Molucca Islands. This trip was primarily a mammal photography trip, with herping and a smidge of bird watching in between. Not only was this trip heavily focused on mammal photography but my partner and I are quite bat obsessed - and we specialize in bat inflight photography. So, lots of our time was spent exploring caves, focusing on photography rather than looking for bulk mammal species.

The locations and guides were heavily influenced by Jon Hall, Carlos Bocos and my friend Colin Smallwood. These are summarised in Table 1.

Table 1: Locations, nights guides and contact information.

Location	Nights	Guide	Contact
Melenge Island Togian archipelago	3 nights	Self guided	N/A
Luwuk	2 nights	Amransyah M Satali (Amran)	@amransyahm.satali
Tomohon	3 nights	Herping Sulawesi	@herpingsulawesi
Tangkoko National Park	3 nights	Tangkoko Ranger Homestay	+62 813-1198-3561
Ternate	2 nights (total)	Self guided	N/A
Aketajawe-Lolobata National Park, Halmahera	5 nights	Angi from Halmahera Tour & Travel Maluku Utara	+62 812 3523 8957
Singapore	1 night	Self guided	N/A

Our itinerary changed somewhat during the planning stage. We were meant to head to Peleng Island, where the mega cave described by Jon Hall's Sulawesi report is situated. However, we had some trouble with access and landowners. After a few desperate messages to Jon, we managed to change our trip, travelling to Malenge Island that harboured another insane cave.

Our itinerary, accommodation, guides and approximate costs are summarized in Table 2. Be aware that sometimes our route wasn't the most straight forward or logical, due to a number of cancelled flights.

Table 3 outlines the trip on a day by day and our specific targets.

Figure 1 illustrates the locations and route.

Section 2 breaks down the trip.

Section 3 is a species photo break down.

Section 4 provides an overview of each location, advice on guides and travel etc.

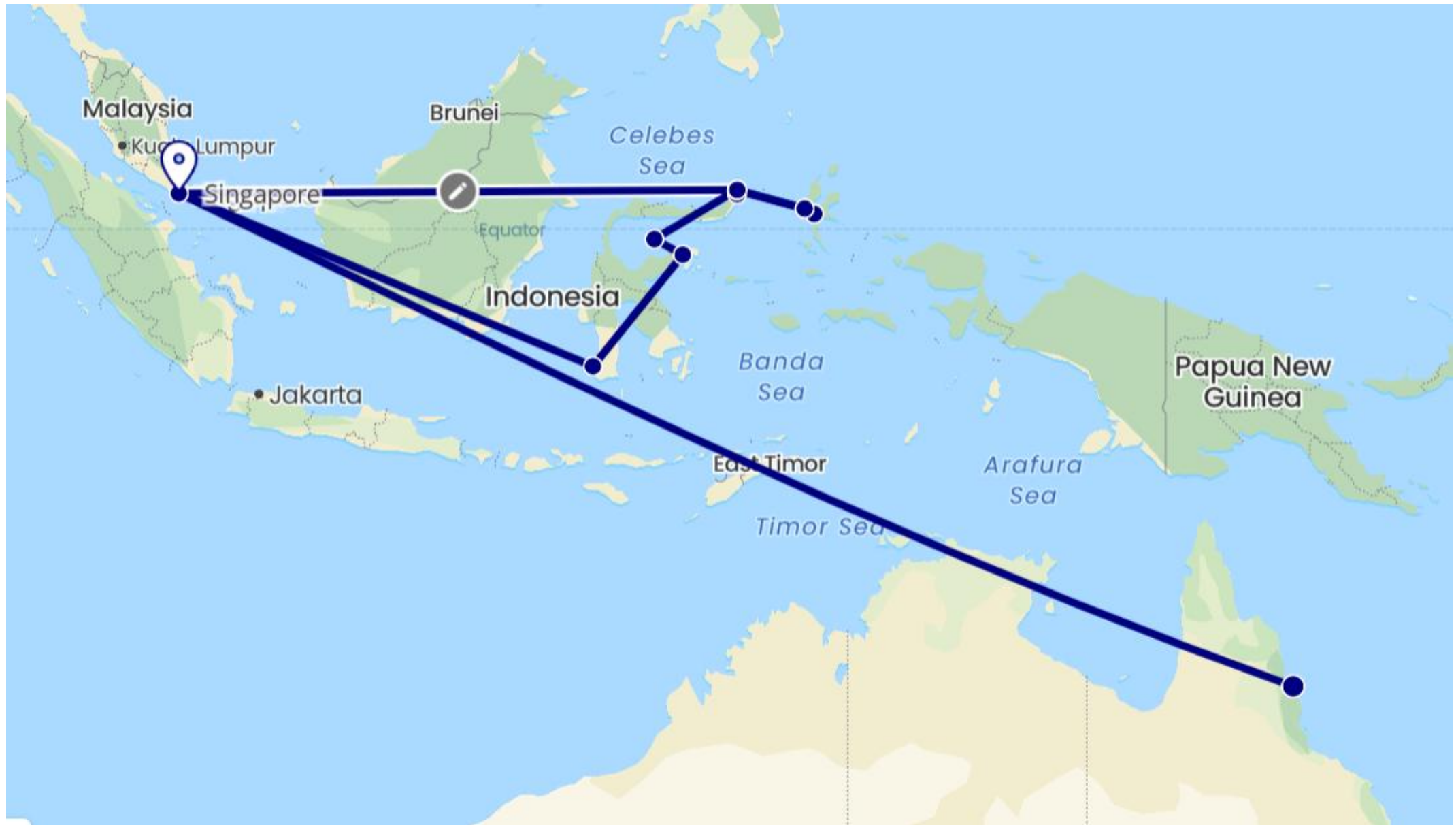


Figure 1: Locations and route.

Table 2: Itinerary, accommodation guides and approximate costs.

Location		Transport	Accomodation	Guide	Cost			Notes
Start	End				AUD	USD	IDR	
Cairns	Singapore	Flight	N/A	N/A	\$1,350	\$972	Rp17200000	Flight
Singapore	Makassar	Flight	N/A	N/A	-	-	-	Paid (connecting)
Makassar	Luwuk	Flight	Swiss Belinn	N/A	\$184	\$133	Rp2350000	Flight + Accom.
Luwuk	Bunta	Car (Taxi)	N/A	N/A	\$31	\$22	Rp400000	Car
Bunta	Malenge Island	Ferry	Sera Beach	N/A	\$156	\$112	Rp6000000	Ferry + Accom.
Malenge Island	Bunta	Ferry	N/A	N/A	\$195	\$140	Rp2500000	Ferry
Bunta	Luwuk	Car (Taxi)	RedDoorz	Amran	\$259	\$257	Rp3300000	Car + Accom + Guide
Luwuk	Makassar	Flight	N/A	N/A	-	-	-	Paid (return flight)
Makassar	Manado	Flight	N/A	N/A	\$127	\$91	Rp1630000	Flight
Manado	Tomohon	Car	Herping Sulawesi Homestay	Herping Sulawesi Homestay	\$433	\$312	Rp5550000	Transfer +Guides + Accom. inclusive
Tomohon	Manado	Car	N/A	N/A	-	-	-	Paid (all inclusive)
Manado	Ternate	Flight	Villa Ma Rasai	N/A	\$194	\$140	Rp2500000	Flight + Accom.
Ternate	Aketajawe-Lolobata NP Halmahera	Ferry + Car	Homestay	Angi	\$1,560	\$1,123	Rp20000000	Ferry + Guide + Accom. inclusive
Aketajawe-Lolobata NP Halmahera	Ternate	Ferry + Car	Villa Ma Rasai	N/A	\$65	\$47	Rp830000	Accom.
Ternate	Manado	Flight	N/A	N/A	-	-	-	Paid (all inclusive)
Manado	Tangkoko NP	Car (taxi)	Tangkoko Ranger Homestay	Tangkoko Ranger Homestay	\$260	\$187	Rp3330000	Taxi + Accom. + Guides
Tangkoko NP	Manado	Car (taxi)	N/A	N/A	\$31	\$22	Rp400000	Taxi
Manado	Singapore	Flight	D'Resort	N/A	\$140	\$101	Rp1800000	Accom.
Singapore	Cairns	Flight	Home!	N/A	-	-	-	Paid (return flight)

Table 3: Day by day break down, location, accommodation and target species.

Date	Location	Accommodation	Target Species
8/06/2026	Cairns	Home	N/A
9/06/2026	Luwuk	Swiss-Belinn	N/A
10/06/2026	Malenge	Sera Beach Resort	Pallas tube-nosed bat
11/06/2026	Malenge		Lesser false vampire bat
12/06/2026	Malenge		Sulawesi naked-backed fruit bat
			Sulawesi rousette
			Geoffreys rousette
			Lesser sheath-tailed bat
			Sulawesi harpy fruit bat
			Manado fruit bat
			Togian baburisa
			Niemitz's tarsier
13/06/2026	Luwuk	RedDoorz	Wallace’s stripe-faced flying fox
14/06/2026	Luwuk		Tompatika tarsier
			Small sulawesi cuscus
			Sulawesi bear cuscus
15/06/2026	Tomohon	Herping Sulawesi Homestay	Sulawesi broad banded temple viper
16/06/2026	Tomohon		Bornean keeled pit viper
17/06/2026	Tomohon		Sulawesi rat snake
			Sulawesi flying frog
			Gursky’s spectral tarsier
18/06/2026	Ternate	Villa Ma’ Rasai	Masked flying fox
			Blue eye cuscus
			Ashy headed flying fox
			Variable flying fox
19/06/2026	Halmahera	Agi’s Homestay	Common tube-nosed fruit bat

20/06/2026	Halmahera		Raffray's sheat-tailed bat
21/06/2026	Halmahera		Biak leaf-nosed bat
22/06/2026	Halmahera		Island flying fox
23/06/2026	Halmahera		Halmahera blossom bat
			Common blossom bat
			Halmahera naked-backed fruit bat
			Broad-eared horseshoe bat
			Wallaces standardwing
			Weber's sailfin lizard
			Halmahera python
			Tricolour monitor
24/06/2026	Ternate	Villa Ma' Rasai	See above
25/06/2026	Tangkoko	Tangkoko Ranger Homestay	Gursky's spectral tarsier
26/06/2026	Tangkoko		Celebes crested macaque
27/06/2026	Tangkoko		Sulawesy bear cuscus
			Lesser false vampire bat
			Small Sulawesi cuscus
			Sulawesi naked-backed fruit bat
			Peters fruit bat
28/06/2026	Singapore	D'Resort	Lesser short-nosed fruit bat
29/06/2026	Cairns	Home	N/A

2. Trip Overview

2.1 Cairns – Luwuk

Our trip from Cairns to Luwuk via Singapore and Makassar went smoothy. We stayed at the Swiss Belinn hotel, one of the nicer hotels in Luwuk with a great selection of Sulawesi and Western cuisine. The gym and pool was a welcome surprise after a long 24 hours of travel. We hit the hay quite early; we were exhausted and had another big day ahead of us.



Luwuk bay.

2.2 Malenge Island – Sera’s Beach and Malenge Bat Cave

We left Luwuk at 0600 via private taxi. Jasmine had organised a lot of our ground and local sea travel using the Sulawesi Tourism Information Facebook group. This group has plenty of operators, if you post looking for transport one of the many drivers and captains will help you get around Sulawesi. There’s also the chance to share transport with other tourists to save some dollars.



Boat ride to Sera Beach



Sera beach cat

Our taxi from Luwuk to Bunta took approximately 3-3.5 hours. Once arriving in Bunta we quickly jumped onto a private speedboat that Jasmine had organised earlier. The trip was smooth sailing (pun fully intended) with plenty of flying fish spotted from the boat. Another 3.5 hours later we landed at Sera Beach Dive Resort. An idyllic beautiful and relaxing beach resort with rooms a few metres from the reef.

We had three nights on Malenge Island. Our main targets consisted of:

- Plethora of bats in Malenge cave
- Togian babirusa (*Babirusa togeanensis*)
- Niemitz's tarsier (*Tarsius niemitzi*).



Sera beach

It was a short amount of time, but I was quite confident we could get some decent images of our targets, particularly inflight images of small fruit bats.

The bat cave is well known and requires a 10 min boat ride from Sera's Beach (refer to Section 4). We organised this with the manager of the resort. Each afternoon we were dropped off at a small rocky beach and picked up again at around 10pm. The walk to the cave is about 30 minutes. While the path is not maintained, the walk is very easy.

I've spent quite a lot of time in bat caves the last few years, but nothing in Australia prepared me for the intensity of Malenge Cave. It's hard to explain the sheer amount of bats in this cave. We identified at least nine species and there's bound to be more hiding in there. We noted the following:

- Sulawesi naked-backed fruit bat (*Dobsonia exolata*)
- Lesser dawn bat (*Eonycteris spelaea*)
- Sulawesi rousette (*Pilonycteris celebensis*)
- Geoffroy's rousette (*Rousettus amplexicaudatus*)
- Sulawesi horseshoe bat (*Rhinolophus celebensis*)
- Tatar horseshoe bat (*Rhinolophus tatar*)
- Crested roundleaf bat (*Hipposideros inexpectatus*)
- Dusky leaf-nosed bat (*Hipposideros ater*)
- Intermediate long-fingered bat (*Miniopterus medius*).



Path to Malenge Cave



Malenge Cave

The walk from the cave to the beach was quite productive. We found several Niemitz's tarsier using our thermals and via eyeshine. Similarly, we found sleeping Elegant pitta, Sulawesi pitta and kingfishers. Additionally, a Togian

babirusa ran out in front of us and scared the hell out of me. There's an intersection about halfway through, most nights we found a large *Hipposideros* hanging from vines, ambushing insects.

While our nights were quite intense photographing bats, days were very relaxed, spending half the day snorkelling around the reef and waiting for the babirusa. Reportedly, the babirusa shows up most days looking for thrown out food scraps. We had a fantastic few hours with an individual.

We managed to find all our targets here, so we left extremely satisfied with Malenge Island.

2.3 Luwuk

This part of the trip was the least organised prior to leaving Australia. Originally, we had planned to go to Peleng Island, however, as mentioned earlier, we had a few issues with land access. Nevertheless, Amran (guide) was great at finding new locations and the species we were targeting. Amran is primarily a bird guide, specialising on the endemics of Peleng and local birds of Luwuk. However, he's quite skilled at finding new bat caves and has his own trails where you can find tarsiers with ease. Our primary target species in order of importance consisted of:

- Wallace's striped flying fox (*Styloctenium wallacei*)
- Tompotika tarsier (*Tarsius* sp.)
- Bat caves.

We had two nights in Luwuk over two locations. The first night was situated in the southern side of the uplands that runs down the spine of Sulawesi. After driving about 90 mins from Luwuk, we parked at the edge of the forest. A quick 20 minute walk took us to a small farm hut where we had tea and coffee waiting for the sun to go down. As we waited to see a troop of Tonkean macaques (*Macaca tonkeana*) in the far far distance and noticed squirrels in the canopy of a small thicket bamboo.

Not long after sunset, we found the undescribed Tompotika tarsier. At least 3 individuals lived at the edge of the forest and we spent quite a lot of time with them. Afterwards we hiked through the forest, primarily using our thermal readers to spot rat after rat after rat. It was actually incredible how abundant rodents were in Sulawesi. We also spotted plenty of small fruit bats, but most flew away before we could identify.

Jasmine was VERY excited to spot a Wallace's striped flying fox, roosting 10 m up a fig tree. We also came across multiple *Dobsonia exoleta*. and several yellow tailed rats (*Rattus xanthurus*).

Jasmine at one stage yelled out "cuscus". However, once we got a better eye on it, we realised that it was a rat, a very large slow moving rat. I've spoken to Jon Hall and Carlos Bocos about this fellow as I thought it might be something special. I originally leaned towards Meyer's Giant Rat (*Lenomys meyeri*), an aptly two coloured giant rodent that is found throughout the entire island of Sulawesi. Carlos generally agreed but mentioned it has some small morphological differences and that *Lenomys meyeri* he has seen across Sulawesi are somewhat different. Leading him to believing that it's likely a species complex. Putting my ecologist hat on, this makes a lot of sense to me due to its large size and distribution over areas that generally have promoted speciation.

The rest of the night was fairly relaxed after we find out big ticket items. We managed to find a few more Tompotika tarsier during the walk back to the car.

The second night in Luwuk was spent primarily in a cave. Amran organised a day for us to investigate two caves at an adventure park (one of those parks where you ride quad bikes). While we only looked at two caves, from what we were told there are many more to see!

Cave 1 – was giant with several chambers, however the primary entrance and chamber was used to parties or events, evident from lights and cables strewn about the place. Subsequently, there was only a few bats in main entrance. These included:

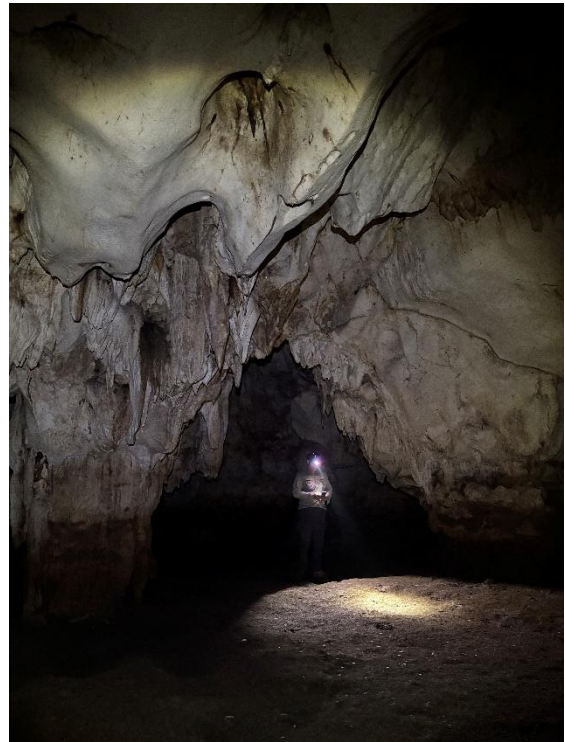
- Lesser false vampire bats (*Megaderma spasma*)
- Tatar horseshoe bat (*Rhinolophus tatar*)
- Fawn round-leaf bat (*Hipposideros cervinus*)
- *Myotis* sp. (was unable to get a forearm length)
- *Miniopterus* sp. (47.87mm forearm).

As we went further into the cave, there was a section we had to crawl through for about 40m. It opened up to massive chamber where there was very little signs of humans. And there was thousands of microbats, mostly huge numbers of horseshoes and round leaf nosed bats. We were also very lucky to find a small colony of very large diadem like bats. These were brown and did not have any spots on their fur, ruling out *Hipposideros diadema* and *Hipposideros inexpectus*. After a few chats with Juliana Senawi.

Cave 2 – was much smaller but FULL of Lesser dawn bats (*Eonycteris spelaea*). Since we had quite a lot of photos from Malenge Cave, we decided to take photos in Cave 1.

Unfortunately, Cave 1 was a bit of failure photography-wise. We set up our camera traps on the main entrance thinking it would be used for the fly out. Which was a bit of a silly thing to think in hindsight considering the distance and disturbance levels at the primary entrance. Very few of the bats flew out past our cameras, and they clearly had another small entrance hidden elsewhere.

After we packed up our camera gear, we spent an hour or so spotlighting in the forest. There are no trails here so you're basically limited to the cave entrance and nearby. Even so, we managed to find 2-3 Sulawesi dwarf cuscus (*Strigocuscus celebensis*), which were very shy and did not sit for a half decent photo. As per the forest in the highlands there was plenty of rodents around! We also found a masked owl, likely hunting the obscene amount of rodents on the forest edge.



Cave 1



Jasmine and Amran in Cave 2

2.4 Tomohon

The following morning, we flew out to Manado and were met at the airport by Herping Sulawesi. This portion of the trip report will be herp heavy (sorry).

We had three nights in Tomohon to find a viper. The Sulawesi broad banded temple viper (*Tropidolaemus laticinctus*) is easily one of the most attractive snakes in SE Asia. Superficially similar to Bornean keeled vipers (*T. subannulatus*), but with much better colours, consisting of broad bands of red, brown, white and green, they really are a stunning snake. Over the last few years, Herping Sulawesi has made a name for themselves finding this extremely attractive snake, so I wasn't leaving until we had seen one. Typically, before Herping Sulawesi, most people searched for this species at Tangkoko National Park, where they are present although in much lower densities. After spending time in Tomohon and reading the available literature, Sulawesi broad banded temple viper (*Tropidolaemus laticinctus*) are likely a mid-elevation animal that potentially require cooler temperatures than those you'd find in the lowland forest.



Herping Sulawesi Homestay

Herping Sulawesi is run by Roy and his wife, whom I never got to meet as she had just given birth (congrats!). Roy is an ex hunter who is herp obsessed and has spent most of his life finding animals for one reason or another. He's also an extremely talented chef. Easily the best food we had while in Indonesia.

Day 1 – we arrived late and only had a few hours of spotlighting in us. Despite this, we managed to find three species of snakes, one frog that we were targeting and a Tarsier:

- Günther's keelback (*Rhabdophis chrysargoides*)
- Checkered keelback (*Fowlea piscator*)
- Vine snake (*Ahaetulla prasina*)
- Bornean keeled viper (*T. subannulatus*)
- Celebes flying Frog (*Rhacophorus edentulus*)
- Gursky's spectral tarsier (*Tarsius spectrumgurskyae*).

Day 2 - was extremely windy and cold, to the point I put a jacket on! We spent the day visiting a number of caves. One was a large cave that had was once used as a church. We only found a handful of Geoffreys rousettes (*Rousettus amplexicaudatus*) and we didn't spend much time with them. Roy took us to the "Japanese Caves", a relic from World War II when the Japanese military forced Minahasa people to tunnel into the tough volcanic rock through gruelling manual labour. These were used as military bunkers to hide ammunition and troops from the Allied forces. Portions of this particular bunker have been shut off to the public due to a murder that occurred only a few years previous. There wasn't a large amount of bats here, but Jasmine did manage to "pluck" a Horsfield's Myotis (*Myotis horsfieldii*) from a ventilation hole. We also saw a number of *Rhinolophus tartar*.



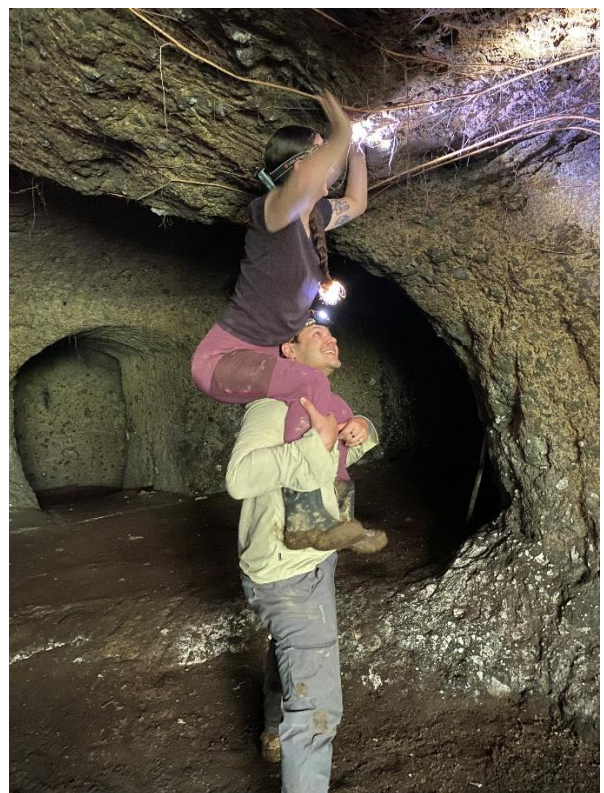
Chuch Cave



Church Cave



Japaense Caves



Teamwork

Due to the cold day temperature, spotlighting was very quiet with only a handful of Vine snakes (*Ahaetulla prasina*) found sleeping during our walk. We saw a handful of bats fly off and that was about it. These nights are often good for spending time taking photos of your common species. So, we made the most of it and photographed Vine snake (*Ahaetulla prasina*).

Day 3 - was great! We caught up on sleep, started editing some photos and noticed that the temps were boiling! Our hopes were up and fingers crossed as the conditions seemed perfect. High temps, low wind and building cloud cover. Our spotlighting started off with a kick finding the following:

- Celebes black-tailed ratsnake (*Gonyosoma janseni*)
- Vine snake (*Ahaetulla prasina*)
- Maren's bronzeback (*Dendrelaphis marenae*)
- Mock viper (*Psammodynastes pulverulentus*)
- Bornean keeled viper (*Tropidolaemus subannulatus*)
- Gursky's spectral tarsier (*Tarsius spectrumgurskyae*).

There's those moments that are just perfect - when you're enthusiasm is fading, everyone is starting to get less confident, and the head torches are facing down more than they are up. And then you spot a beautiful viper only a few metres from the ground - Sulawesi broad banded temple viper (*Tropidolaemus laticinctus*)! A stunning species that I had been dreaming of for most of my adult life! I remember seeing a small over-exposed photo of this species in *Venomous Snakes of South East Asia* by Gernot Vogel in 2015. Back then it was known as Celebensis morph 2 of *Tropidolaemus subannulatus*. In that decade it occupied a small part of my mind and was granted full species status. This was a very satisfying three days of herping.

2.5 Ternate

We left Manado after some great herping and changed gears hard back into mammals. Flying to Ternate, we quickly jumped into a taxi and made a beeline for Villa Ma' Rasai. After a nice dinner, we headed to the hotel gardens as per Jon's report. Within a few minutes we managed to find a Blue-eyed cuscus (*Phalanger matabiru*). Showing this stunning little creature to a young French family staying at the same hotel was quite a wholesome moment as well.

From there, Jasmine and I walked east along the road looking for fruit trees. Unlike Jon's visit, we had not timed this with fruiting jack fruit trees, so we only had a few sightings, consisting of:

- Masked flying fox (*Pteropus personatus*) – a truly delightful species. Extremely cute and unlike any other *Pteropus* I've seen.
- Halmahera Naked-backed Fruit Bat (*Dobsonia crenulata*)
- Variable flying fox (*Pteropus hypomelanus*).

We had another early morning so we kicked the bucket at about midnight.



Danau Ngade

2.6 Halmahera - Aketajawe-Lolobata National Park

Our trip to Halmahera was organised with Angie from Halmahera Tour & Travel Maluku Utara. Angie is a busy guy, so make sure to organise a few months in advance. Angie picked us up from the hotel in Ternate, from there we jumped into a ferry that took us to Halmahera. We then jumped into a car for 2-3 hours and arrived at his homestay, just outside Aketajawe-Lolobata National Park. It is really a small world, turns out Angie's father Roji, is a good friend of Roy's from Herping Sulawesi and have spent quite a lot of time together in the forest.

We had five full nights in Halmahera, and we made the most of it! During these five nights Jasmine and I really dialled in our bat inflight shots. I think we took some of our best images here. Our days we primarily based around exploring caves and identifying the best spot to set up a camera trap. Lots of long hikes into tropical rain forest with 20-30kg of camera gear -my favourite type 2 fun.

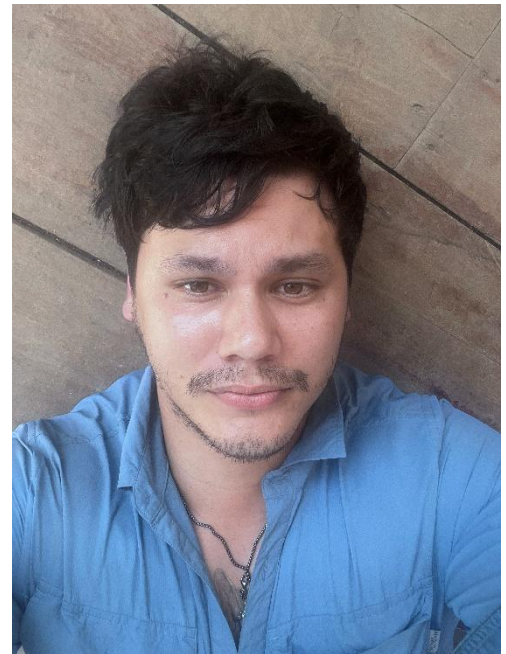
Day 1 – The first day was mostly travel and getting our bearings. We had a quick spotlight from the Homestay into the NP spotlighting/thermaling the track. That evening we found the following:

- Common tube nosed bat (*Nyctimene albiventer*)
- Long-tongued blossom bat (*Macroglossus minimus*)
- Ornate cuscus (*Phalanger ornatus*)
- Dwarf kingfisher (*Ceyx lepidus*)
- Paradise kingfisher (*Tanysiptera galatea*)
- Myotis sp. - flying under Angie house
- Halmahera golden bulbel (*Hypsipetes chloris*).

We finished up early, as we had a 0330 start the following day to find the Standardwing bird of paradise (*Semioptera wallacii*).

Day 2 – up at 0300, a quick coffee. At 0330 we started a long (and quiet) walk through the forest, crossing through several creeks, past small caves, spotting a small group of Black sheath-tail bats (*Mosia nigrescens*) and up and down a number of hills until we came across a large bird hide. This particular hide has been used by multiple film crews and you can see why. It's built in front of and only a few metres from lekking trees where male birds of paradise dance for love. This would've been a massive endeavour – so thanks to Angie and Roji who built this over the years.

We sat in the top story, 20 m from the ground, in the dark, waiting for the sun to break through the rainforest. As sweat steam hazed from our khaki hiking shirts, we set up our cameras in silence and waited quietly as the morning chorus started. It's a beautiful moment to witness. One of those few moments I had a camera in front of me with no ability to take photos because of the low light. You really take in the morning chorus and the fact that this has happened for generations. Then as soon as the light streams through the leaves it's a waiting game, hoping for a male to display on the right branch. It was absolutely worth throwing my herp and mammal brain out the window for a morning to experience this.



Enjoying type 2 fun

After we finished up with the bird of paradise, we spent a few hours investigating caves that Angi had found prior to us arriving. One cave not far from the hide was basically empty and not really worth our time. However, the small cave – named Mellisa Cave, was full of:

- Biak roundleaf bats (*Hipposideros papua*)
- Raffray's sheath-tailed bat (*Emballonura raffrayana*)
- Broad-eared horseshoe bat (*Rhinolophus euryotis*).

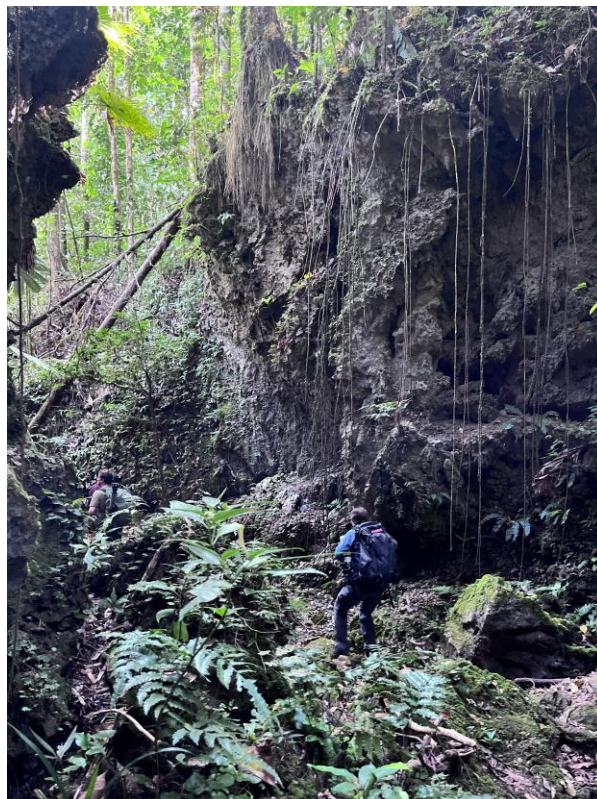
We decided that tonight we'd use Mellisa Cave for our camera trap. Walking back to the Homestay we managed to spot a tricolour monitor (*Varanus yuwonoi*), a stunning and aptly named monitor separated into three main colours, black, yellow and blue.

After a quick lunch and a gear check, we hiked back to Mellisa cave and set up our camera traps. We were very lucky to get great photos Biak roundleaf bats (*Hipposideros papua*) and Broad-eared horseshoe bat (*Rhinolophus euryotis*).

One the walk back to the Homestay we managed to spot several ornate cuscus!

Day 3, now that Angie realised what sort of cave entrance we needed to take photos, he mentioned the “river cave”. Angie mentioned it was full of “big bats”. Immediately Jasmine and I got excited, thinking of Dobsonia!

Organising a porter to help with some of the gear, we walked several kilometers up a river, which was a beautiful way to spend an afternoon. We peeled off to the north, through a limestone valley, up a steep hill and into a massive cave opening. Inside that cave opening was the river cave that had a small exit 2m in diameter. This cave was dominated by hundreds if not thousands of *Hipposideros diadema* type bats. It wasn't what we were expecting, but honestly it was better. I've never seen this many giant hipposideros in my life. What a treat for a bat nerd. I don't particularly think that this species is *Hipposideros diadema*. It keys out to *Hipposideros pelingensis* (forearm length (89mm and call frequency). However, given they the pelage was different and it was found on another island 300 km away, leaning towards this being an undescribed species. So, for the time being, I'm calling this *Hipposideros C.F pelingensis*.



Jasmine outside Mellisa Cave



Track to the river cave

Day 4 – With a few great cave shots under our belt, we decided to focus on finding Masked flying fox (*Pteropus personatus*). Angie spent some time showing us a tree he's regularly seen a pair feeding on early in the evening. Just after dark we quickly found that pair and spent quite a while taking photos. Now that was ticked off, we decided to spotlight the road. We found the same species of fruit tree along the road and a number of them had Masked flying foxes. By the end of the night we had found 6 individuals feeding on the same species of fruit tree.

We had a quick walk in the national park and came across Halmahera blossom bat (*Syconycteris carolinae*) and Long-tongued blossom bat (*Macroglossus minimus*) feeding on a banana blossom right over the track. Halmahera blossom bats are MASSIVE compared to *Macroglossus minimus*, and will bully them out of the way with force.

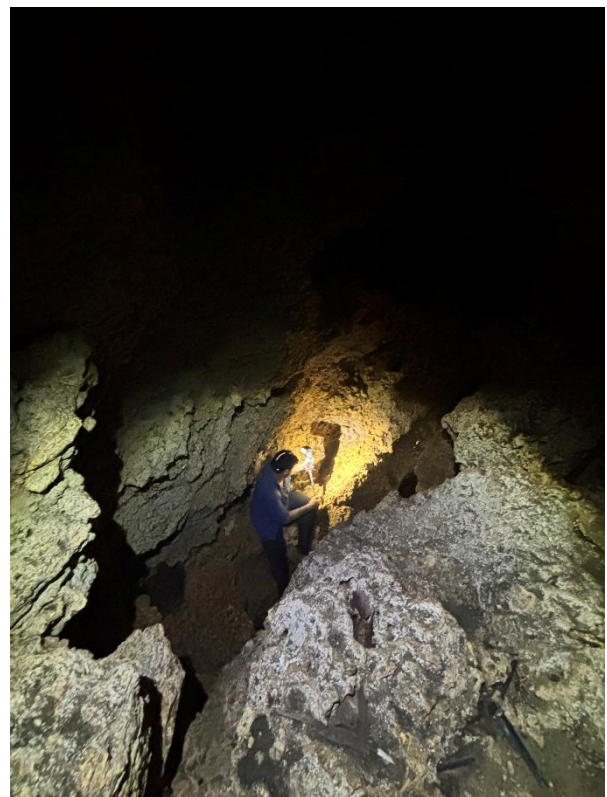
A few metres from the banana tree Jasmine spotted a Maluku Groundsnake (*Stegonotus modestus*). This red and black species is quite striking compared to their drab entirely brown/black cousins in Papua and Australia. Typically, they are considered semi-fossorial and atypically, we found it nearly 2 metres up a tree.

Day 5 After ticking off the Masked flying fox and getting some good photos, we switched back to cave mode. Jasmine was hell bent on photographing Dobsonia exiting a cave. Angie had one more cave he wanted to show us, strangely enough called the “bat cave”. A few hours of walking led as past the hide and up into the hills until we came across a small gorge with a large cave. We didn't have to go far until we could smell fruit bats. Peering in the cave we saw a couple hundred Dobsonia, with more likely in the back. We didn't want to disturb them too much, so we quietly set up our camera trap at the entrance on top of a 2m² rock. The cave entrance was giant, so we needed to get height, and the only bit of rock high enough was this very small platform that we somehow fit a studio worth of gear on.

It didn't take long after dark for exodus bats to arrive and during that time we managed to find a juvenile reticulated python. We took some quick phone snaps and he was quickly on his way to hunt some bats!



Dobsonia cave studio



Setting up the river cave studio

After the bat exodus we packed up our gear and by this point we were exhausted from the long nights and long walks with heavy camera bags. We silently walked back to the homestay. Roy from Herping Sulawesi had spent quite a bit of time in Halmahera and said keep a look out for the Halmahera Keelback (*Tropidonophis punctiventris*). A small “generally” white and black striped semi-aquatic keelback endemic to Halmahera. First collected in 1866, and then again in 1894, it went unseen for 116 years. It was rediscovered in Kao Rahai, east of the Aketajawe-Lolobata National Park.

Later that evening we were trudging back to the homestay when we noticed a bright yellow and black snake sleeping on a palm leaf. I immediately thought it would be some sort of bronzeback (*Dendrelaphis* sp.), but once I had it by the tail, it flared its neck. It took me a few minutes but I thought, “*huh, that’s a keelback. Well it’s not the incredibly rare white and black Halmahera Keelback that was recently rediscovered*”. Being exhausted, we took a few phone photos and let it go.

Day 6 We packed up and started heading back to the port to board a ferry to Ternate. I had some time to doomscroll and I spend some time identifying all the animals we’d found over the last few days. I got stuck on this keelback. I noticed there was another colour morph – yellow and black. My heart sank as I messaged Roy asking, “is this the Halmahera keelback”. His reply “Yes” was exactly what I did and didn’t want to hear. On one hand it was great to find such a rare and beautiful animal. On the other hand, we literally let it slip through our hands without a photo. Not the first time we’ve done that, and it’s likely not the last.

Quite a few of my herp nerd friends are very excited about this and are now looking at Halmahera as a herping destination.

2.7 Ternate

We spent one more night on Ternate before we travelled back to Sulawesi. That evening we spent time searching for flying foxes, where a small colony of Variable flying fox (*Pteropus hypomelanus*) were seen at the southern side of Danau Ngade. We also found more Masked flying foxes as well as a handful of blue-eyed cuscus.

2.8 Tangkoko National Park

It’s hard to travel to Sulawesi on a wildlife trip and not visit Tangkoko. Now I will admit, after arriving in Tangkoko, I didn’t really think much of it. It’s built up, there’s paved paths everywhere, and there’s limited adventure to be had. However, it is seemingly a massive eco-tourism success with plenty of people employed as guides, accommodation ranging from budget to upmarket, restaurants, local small shops and all manner of ancillary industry. Not to mention – tons of tourist who are all guided by locals ensuring that they’re on their best behaviour. Again, it’s not my cup of tea, but it is very cool to see.

While Jasmine and I like to have quite intense holidays, I’ve had enough run ins at biosecurity over the years to budget a day or two to clean your clothes, bags, camera equipment, shoes of mud and seeds. It was quite a good idea that we spent out down time cleaning our gear as we found had a whole ant nest in a gum boot.

We had four main targets at Tangkoko:

- Gursky’s spectral tarsier (*Tarsius spectrumgurskyae*) (of course)
- Sulawesi bear cuscus (*Ailurops ursinus*)
- Celebes crested macaque (*Macaca nigra*)
- Bats (of course) in hollow tree trunks.

Day 1 Our guide Alfred from the Tangkoko Ranger Homestay immediately got the low down from us that we were only interested in mammals, and it didn’t take us long for Alfred to show us a tree with Sulawesi bear cuscus

(*Ailurops ursinus*). Not long after, we were taken to one of the many “Tarsier fig trees” the guides know of. These are tourist attractions and it’s not uncommon to see 20-30 people watching with quietly with a red light as the tiny primates pop off into the forest. We also managed to find a brown tree snake (*Bioga irregularis*) and several *Dobsonia exoleta* that evening.

Day 2 We spent the morning looking up hollow tree trunks for small bat colonies. We were quite invested in finding a tree with lesser false vampire bats (*Megaderma spasma*). After a few hours of walking, we found the perfect tree. A narrow opening close to the ground with a dozen or so lesser false vampire bats. Not far away Alfred also showed us two hollow logs with Sulawesi horseshoe bat (*Rhinolophus celebes*) and another large tree with several Geoffroy's rousette (*Rousettus amplexicaudatus*).

We decided to spend the evening on the Lesser false vampire bats and came back later that afternoon with our mini studio. By this part of the trip we were very efficient at setting the camera trap up and managed to nail a tact sharp image of a lesser false vampire bat and also a Geoffroy's rousette, that was hiding higher up the tree trunk.

Walking back that evening we managed to see more *Dobsonia exoleta*, eyeshine a number of Sulawesi bear cuscus and also thermaled a handful of tarsier.

Day 3 This was our last day in Sulawesi and it was quite a chill day. We spent most of the morning clearing our gear and packing as our taxi would pick us up at 0300am the following morning. We had one small outing to photograph Celebes crested macaque (*Macaca nigra*), we had seen a number of these over the last few days but wanted to spend a couple of hours with them taking photos. As expected, they were quite easy to find, and it was a lovely few hours following a troop along the beach side forest. In hindsight, it was an iconic way to end our time in Sulawesi.



Tree trunk studio

2.9 Singapore

Jasmine and I had 16 hour lay over in Singapore, so we decided we should tick off a few more species while we could. We took a taxi to our accommodation, dropped off excess gear and took another taxi to the Sungei Beloh Wetland Reserve. A small remnant of forest where mangroves meet rainforest. It didn't take us long to find the well-known colony of Lesser short-nosed fruit bat (*Cynopterus brachyotis*). Along our walk we also came across a

- Paradise tree snake (*Chrysopelea paradisi*)
- Clouded monitor (*Varanus nebulosus*)
- Malayan water monitor (*Varanus salvator*)
- Plantain squirrel (*Callosciurus notatus*).

With a handful of new species under the belt, finding out no taxi would pick us up from the wetlands and that there was no bus nearby, we decided to pack it up and walk a few kilometres to the next active bus top.

And that was the trip!

3. Mammals, Herps and Birds

Our trip was not to find bulk species but to get relatively nice photos. As such the number of animals we photographed and listed does not reflect the number of species we actually saw. While I do enjoy rodents, we didn't spend much time photographing them unless they sat, similarly, there was a lot of brown frogs and skinks I ignored. Obviously we mostly ignored birds.

Lastly, we made one critical mistake on this trip. Many of the nights we had out cameras set up as camera traps. Subsequently, we didn't have a third camera to go spotlighting with as the camera traps did their thing. It was a bit of dumb mistake in hindsight that cost us lots of nice photos. Next time, we'll bring a 3rd camera to go spotlighting while our camera traps are set.

3.1 Mammals

Targeted mammals largely consisted of cave bats, a handful of flying foxes, cuscus and tarsiers.

MALENGE MAMMALS



Togian babirusa (*Babyrousa togeanensis*) – seen twice. Once at Malenge Cave and then a great sighting over an hour long at Sera beach.



Togian babirusa (*Babyrousa togeanensis*)



Lesser Dawn Bat (*Eonycteris spelaea*) – thousands of these inhabit the Malenge Cave. Additionally, we saw several on Luwuk.



Sulawesi rousette (*Pilonycteris celebensis*) – Malenge Cave, whilst common, they were far outnumbered by the lesser dawn bats.



Tatar horseshoe bat (*Rhinolophus tatar*) – these were the most common horseshoe bat at Malenge Cave.



Tatar horseshoe bat (*Rhinolophus tatar*) (orange form) - Malenge cave.



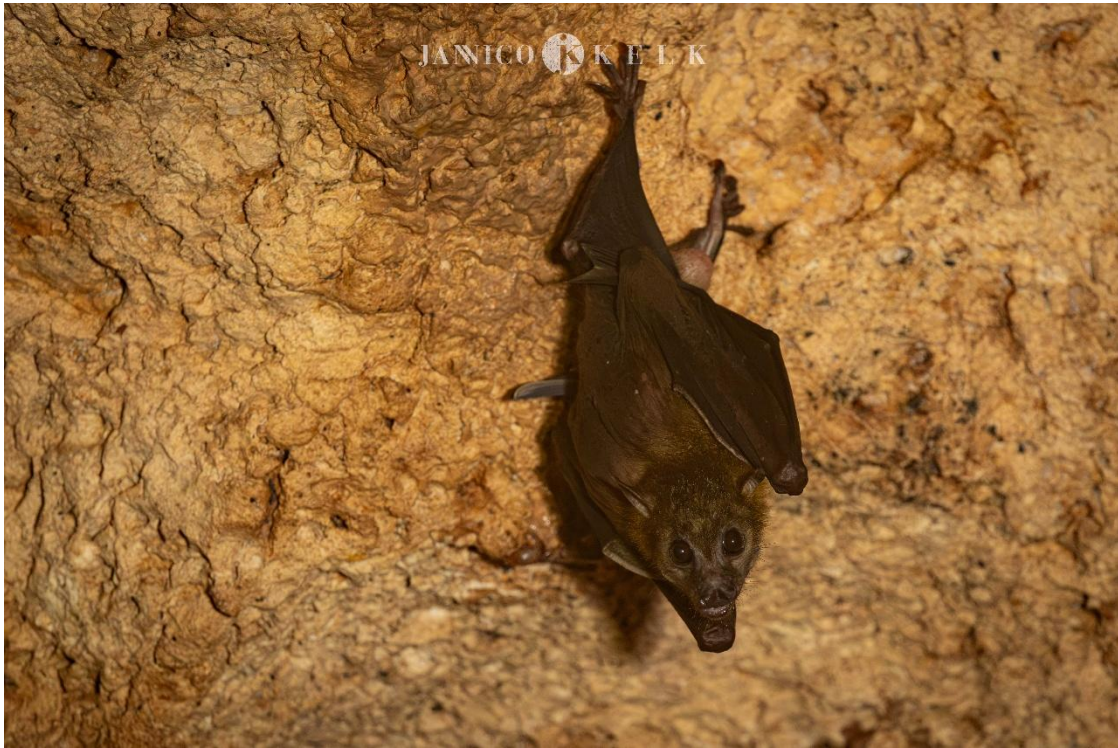
Sulawesi horseshoe bat (*Rhinolophus celebensis*) (orange form) – these were common at Malenge Cave and were some of the first bats to emerge at night. They were also found in large logs and hollow bearing trees in Tangkoko.



Intermediate long-fingered bat (*Miniopterus medius*)– Malenge cave.



Crested roundleaf bat (*Hipposideros inexpectatus*) and Sulawesi rousette (*Pilonycteris celebensis*).



Sulawesi Naked-backed Fruit Bats (*Dobsonia exoleta*) – Malenge cave – also seen on the rocks adjacent to Serra beach.

LUWUK MAMMALS



Wallace's stripe-faced fruit bat (*Styloctenium wallacei*) with Amran on the Luwuk uplands walk.



Sulawesi Naked-backed Fruit Bats (*Dobsonia exoleta*) with Amran on the Luwuk uplands walk.



Tompotika tarsier (*Tarsius* sp.) a group of three seen at the start of the Luwuk uplands walk with multiple other sightings throughout the night.



Tompotika tarsier (*Tarsius* sp.) – Luwuk uplands.



Meyer's Giant Rat (*Lenomys meyeri*) – Luwuk uplands – this was an incredible slow moving giant rat that we spotted eating figs. At first, we thought it was a cuscus due to its size and nature. After speaking to Carlos bocos it is likely that this species is a complex.



Yellow-tailed rat (*Rattus xanthurus*) – these were extremely common during our walk through the Luwuk uplands.



Lesser false vampire bat (*Megaderma spasma*) – Luwuk caves – seen twice – once in Luwuk and then again at Tangkoko.



Miniopterus sp – Luwuk cave. We saw plenty of *Miniopterus* sleeping in small hollows of the cave.



Peleng leaf-nosed bat (*Hipposideros pelingensis*) - Luwuk Cave



Tatar horseshoe bat (*Rhinolophus tatar*) – these were the most common bat in the Luwuk cave.



Fawn leaf-nosed bat (*Hipposideros cervinus*) – these were probably quite common throughout all caves we explored. However, their call is too high to register on the Echometer.



Myotis sp. – we saw several of these in the Luwuk caves.



Sulawesi dwarf cuscus (*Strigocuscus celebensis*) – we found several of these immediately outside the Luwuk caves, however they seemed very afraid of humans.

TOMOHON MAMMALS



Horsfield's Myotis (*Myotis horsfieldii*) – from the Japanese Caves.



Yellow-tailed rat (*Rattus xanthurus*) – these were extremely common during our walk through Tomohon. I've been told that these are a popular food source for people in the Tomohon region.

TERNATE MAMMALS



Blue-eyed Cuscus (*Phalanger matabiru*) – Ternate – seen multiple times along the road and at the accommodation.



Variable flying fox (*Pteropus hypomelanus*) – multiple seen at the southern side of Danau Ngade (lake).

HALMAHERA MAMMALS



Masked flying fox (*Pteropus personatus*) – multiple seen along the road at Angies Homestay. Multiple also seen along the road at Ternate.



Ornate cuscus (*Phalanger ornatus*) -very common along the track in Aketajawe-Lolobata NP.



Long-tongued nectar bat (*Macroglossus minimus*) – found feeding on flowering native banana trees in Aketajawe-Lolobata NP.



Halmahera blossom bat (*Syconycteris carolinae*) – found feeding on flowering native banana trees in Aketajawe-Lolobata NP.



Halmahera blossom bat (*Syconycteris carolinae*) – found feeding on flowering native banana trees in Aketajawe-Lolobata NP.



Common Tube-nosed Fruit Bat (*Nyctimene albiventer*) – found feeding near fig trees and heard often in Aketajawe-Lolobata NP.



Biak roundleaf bat (*Hipposideros papua*) – found at multiple caves at Aketajawe-Lolobata NP.



Biak roundleaf bat (*Hipposideros papua*) – found at multiple caves at Aketajawe-Lolobata NP.



Hipposideros cf. pelingensis – from the river cave.



Hipposideros cf. pelingensis – from the river cave.



Hipposideros cf. pelingensis – from the river cave.



Dark sheath-tailed bat (*Mosia nigrescens*) – found roosting on leaves at night on the track to the Standardwing Birds of Paradise hide.



Raffray's sheath-tailed bat (*Emballonura raffrayana*) – located in most caves within Aketajawe-Lolobata NP.



Broad-eared horseshoe bat (*Rhinolophus euryotis*) – found in all caves in Aketajawe-Lolobata NP.

TANGKOKO MAMMALS



Gursky's spectral tarsier (*Tarsius spectrumgurskyae*) – many found at fig trees during the afternoon and during spotlighting sessions in Tangkoko NP.



Gursky's spectral tarsier (*Tarsius spectrumgurskyae*).



Sulawesi bear phalanger (*Ailurops ursinus*) – several found near the old ranger station and along the track at night.



Sulawesi bear phalanger (*Ailurops ursinus*).



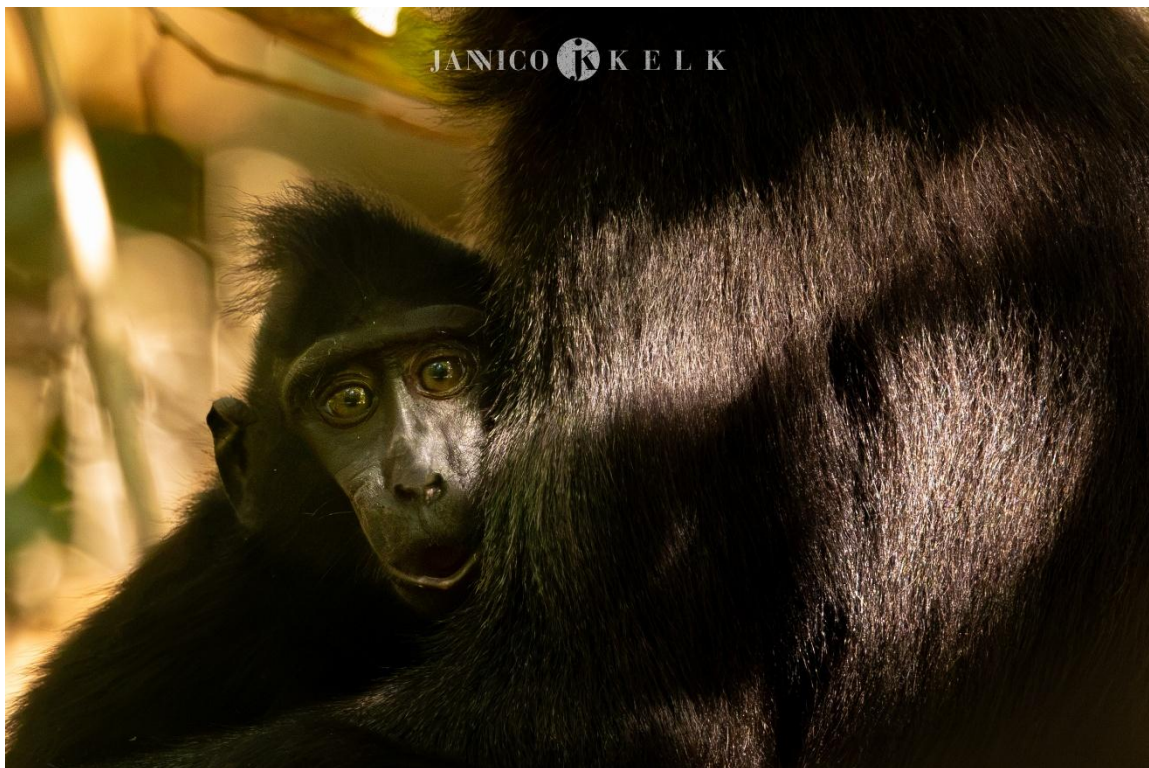
Lesser false vampire bat (*Megaderma spasma*) – Found in a large hollow bearing trees with a number of other bat species. Several found at Luwuk caves as well.



Lesser false vampire bat (*Megaderma spasma*) – Found in a large hollow bearing trees with a number of other bat species.



Geoffroy's rousette (*Rousettus amplexicaudatus*) – in the same hollow tree as the Lesser false vampire bats.

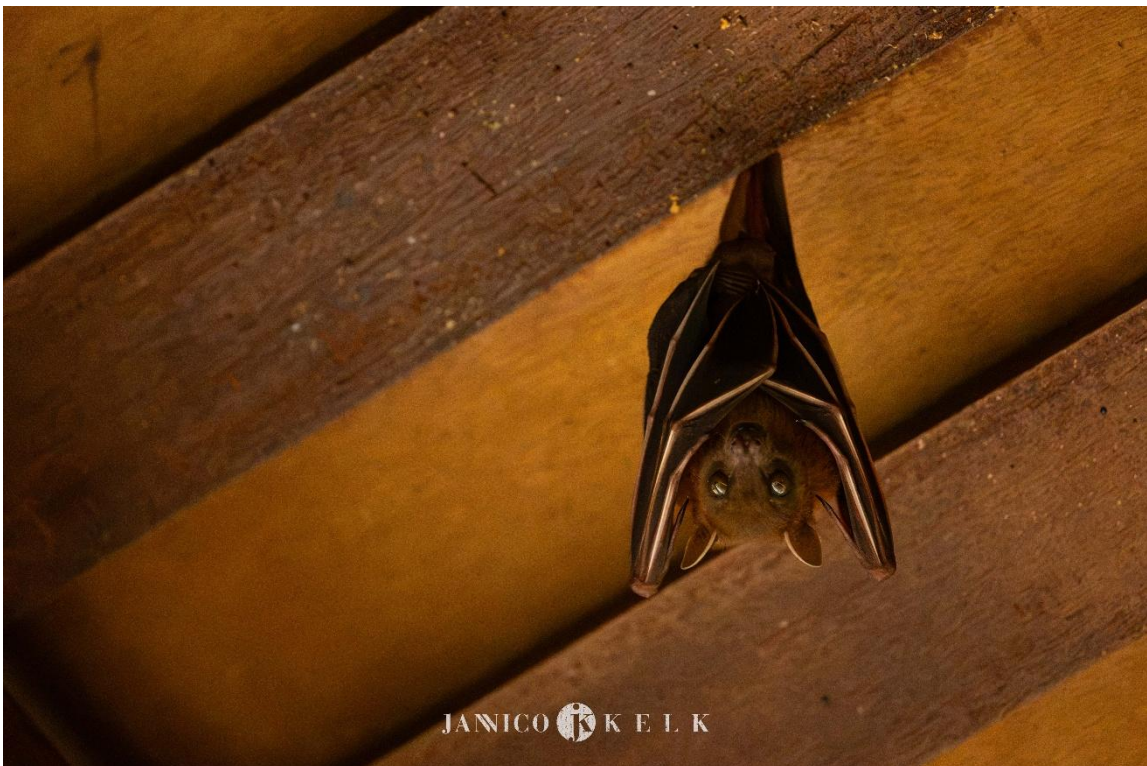


Celebes crested macaque (*Macaca nigra*) – commonly seen in Tangkoko NP.



Celebes crested macaque (*Macaca nigra*) – commonly seen in Tangkoko NP.

SINGAPORE MAMMALS



Lesser short-nosed fruit bat (*Cynopterus brachyotis*).

3.2 Herps

Herps were a minor but important part of this trip. As noted, we spent a few nights tracking down the Sulawesi broad banded temple viper (*Tropidolaemus laticinctus*) in Tomohon. We also managed to get some very nice images of the Maluku Groundsnake (*Stegonotus modestus*) and a handful of awful phone photos of the rare Halmahera Keelback (*Tropidonophis punctiventris*)

TOMOHON HERPS



Rhacophorus edentulus (Celebes flying frog) – Found in commonly along streams.



Sulawesi broad banded temple viper (*Tropidolaemus laticinctus*) – 1 found over three nights of herping.



Sulawesi broad banded temple viper (*Tropidolaemus laticinctus*).



Günther's keelback (*Rhabdophis chrysargoides*) -found sleeping along a creek



Male Bornean keeled viper (*Tropidolaemus subannulatus*) – commonly seen viper within Indonesia, although likely to be a complex.



Female Bornean keeled viper (*Tropidolaemus subannulatus*) – unlike the males, the female specimens are huge and have strongly reticulated scales.



Celebes black-tailed ratsnake (*Gonyosoma janseni*) – a rare rat snakes easily found in Tomohon highlands.



Mock viper (*Psammodynastes pulverulentus*) – a common species, but it's been well over a decade since I've seen on.

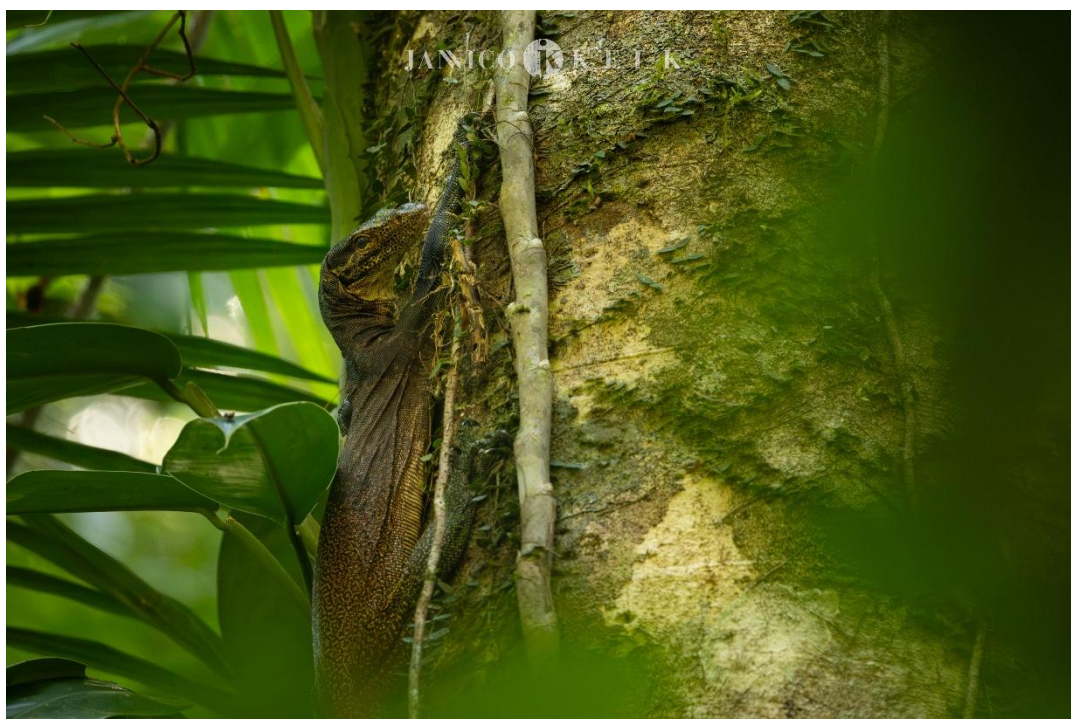


Vine snake (*Ahaetulla prasina*) – this is one of most commonly seen snakes in SE Asia.

HALMAHERA HERPS



Maluku Groundsnake (*Stegonotus modestus*) – an uncommon semi-fossorial species which we found climbing up a tree.



Tricolour monitor (*Varanus yuwonoi*) found not far from the rangers hut in Aketajawe-Lolobata NP. Most likely drawn in by the smell of cooked chicken.



Halmahera Keelback (*Tropidonophis punctiventris*) – a recently rediscovered species – it pains me we only got phone photos. I don't want to talk about it.



Reticulated python (*Malayopython reticulatus*) – a common species in SE Asia. However, Moluccan Islands is the furthest east you'll see this animal.



Juvenile Halmahera sailfin lizard (*Hydrosaurus weberi*) found while walking the river.

3.3 Birds

Birds are typically not something we target. However, it was hard not to photograph a bird of paradise and we also found a handful of sleeping birds at the same time.

MALENGE BIRDS



Ruddy kingfisher (*Halcyon coromanda*) – found sleeping on the track to Malenge Cave.



Elegant pitta (*Pitta elegans*) - found sleeping on the track to Malenge Cave.

HALMAHERA BIRDS



Standardwing bird-of-paradise (*Semioptera wallacii*) -bird of paradise hide in Aketajawe-Lolobata NP.



North Moluccan pitta (*Erythropitta rufiventris*) – photographed at the hide near Angies homestay.



Moluccan dwarf kingfisher (*Ceyx lepidus*) – seen multiple times, primarily at creek crossings.



Halmahera golden bulbul (*Hypsipetes chloris*) - photographed at the hide near Angies homestay.



Black-chinned whistler (*Pachycephala mentalis*) – seen sleeping along the track at Aketajawe-Lolobata NP.

4. Overview and notes for future travellers

Sulawesi and the Moluccan Islands currently seem like a mecca for wildlife watchers – particularly mammal watchers. Carlos and Jon have done an amazing job of bringing both regions to light. One of key reasons I really enjoyed this trip was it was the perfect blend of:

- wildlife watching – a silly amount of new animals that were relatively easy to spot
- adventure – exploring caves and remote forests
- relatively comfortable – each night we got to sleep in a bed and charge all our gear.

That said, if I were to do it again, here are a few things I would change. I must preface this with, none of the trip was bad or disappointing. These are just notes to consider.

MALENGE ISLAND

Malenge island was great, however we had a few time restrictions due to tides and people not wanting to work outside regular hours (understandably). We stayed at Sera Beach Dive Resort – to get to the cave requires a ten minute boat ride. Whilst the manager and boat captains were very helpful getting us to the cave, the tides and hours Jasmine and I wanted go photograph bats, did not align.

So, another option is staying at Malenge Indah. To my understanding, they are within walking distance to the cave and often have babirusa visit their land too. I'm not sure how often they visit, so it might be worth visiting both Malenge Indah and Serra Beach.

<https://malengeindah.com/>

Lastly, you can go spotlighting independently on the track to the cave. But the track is relatively short. So, another option to find the tarsier would be to use Dr Atins as a guide. As he has a number of trails on his property. Further, if you are travelling in a small group - Dr Atin runs a small homestay – the money would go straight back into caring for the environment and local wildlife.

<https://www.dratingfoundation.org/>

LUWUK AND PELENG ISLAND

If you're interested in mammal watching or birding around Luwuk I would recommend getting in touch with Amran. He was very responsive and quite helpful. I contacted him through Instagram (@amransyahm.satali) and Whatsapp. (+62 851 7432 2112).

He is currently looking for more caves on Peleng Island where he lives and has found a number of other caves that are likely to rival the mega caves on Malenge and the river cave on Halmahera!





TOMOHON

Herping Sulawesi run a very tight ship and know how to plan a herping trip. As I mentioned earlier, Roy has spent quite a bit of time in Halmahera searching for reptiles, often accompanying film crews. He also knows the Tomohon region like the back of his hand. If you're looking herp guide for Halmahera or Sulawesi, I recommend getting in touch with Herping Sulawesi.

TERNATE

If you were targeting bulk mammals, I would align any visits to Ternate with fruiting jackfruit trees. We found very little flying foxes due to this and it will be a major consideration for us travelling through the Molucca Islands in the near future.

HALMAHERA

Halmahera, while there is a lack of known endemics if full of caves and I would be very surprised if there wasn't a few undescribed species hiding away. I would be stunned if the large *Hipposideros* from the river cave was not something new. There's also quite a few herps that have not been seen or rarely seen. One being Zuggs Monitor and *Cophixalus montanus* – two lost species. After a few quick desktop searches I found there's only been very few ecological surveys undertaken in Halmahera. Interestingly, I couldn't find anything within the last century on the four mountain chains that intersect Halmahera. These reach up to 1500m which seems prime for endemism. This is emphasised by the aforementioned *Cophixalus montanus*, described in 1895 at 700-800m asl and hasn't been seen since.