



# Birding and Mammalwatching Borneo, Sabah

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Self-organised and with notes on ID

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Yet another trip report on Borneo? Sabah is a very popular destination for birders and mammal watchers alike and both Mammalwatching.com as well as Cloudbirders.com have numerous trip reports about the region. However, we feel like a new report might be very useful, especially as it is self-organised and post-covid Sabah ecotourism has become quite different compared to what we read in pre-covid reports. We will try to give the relevant information per location. Sabah is a fantastic region to see mammals and birds. Do not count too much on going on an adventure though, most areas are very well organised and not too flexible regarding self-driving and access to remoter parts. We did both hardcore birding (277 species) and hardcore mammalwatching (71 species), while we also looked at other animals like insects and a little at herps.

## How to use this report

After the introductory paragraphs, the information about logistics, accommodation, birding and mammalwatching is given per location that we visited, whether or not it is necessary to hire a guide and if you can drive with your own car. Beware that on some locations the policies regarding self-driving, opening hours and guides have changed drastically since covid! After that we give information about the toughest target species, with links to the exact coordinates. After that we included our total mammal list, but you can directly access our [mammal](#) and [bird lists](#) online as well, including links to exact locations and often some more record shots. At the end of the report we've included some of our nicest photos, in case you were not enthusiastic enough yet. However, if you want to take a printed report with you, you'll only need p. 1 - 28. If you have any questions, feel free to send an email to [daandrukker@gmail.com](mailto:daandrukker@gmail.com).

Legend: in **bold** species seen or heard. In underlined species we missed.

## Borneo

Borneo is the largest island of the Sunda shelf, with an extraordinary tropical species diversity. Politically it is divided in a number of parts. Kalimantan, the largest southern region is part of Indonesia. The northern regions consist of the sultanate of Brunei, and the Malaysian regions of Sarawak and Sabah. There are several mountain ranges stretching from north to south through the center of Borneo, with the isolated Meratus mountains in the southeast of Kalimantan. The central mountain range reaches its highest peak at Gunung Kinabalu in Sabah, with 4095 m the highest point of the Sunda shelf. These geographical features have caused a large amount of endemism. For more interesting facts about Borneo we recommend to consult [Phillips's field guide to the mammals of Borneo](#).

## Sabah

Sabah forms the northeastern part of the island of Borneo, and its southern border follows roughly the South Sabah Zoological Boundary. There are quite some species that are endemic or near-endemic to Sabah, often with slightly different counterparts in the rest of Borneo. Examples are **Black-crowned pitta** (vs Garnet pitta), **Sabah partridge** (vs Chestnut-necklaced partridge) and Four-striped ground squirrel (vs Three-striped ground squirrel). Some other Bornean species just do not cross that boundary, such as the Black-eared pygmy squirrel (except for a few intriguing records at Maliau and [Danum](#)). Sabah has the best nature reserves of Borneo and has relatively good intact and accessible rainforests. Poaching is less common compared to Kalimantan apparently and they are trying to reconnect some of the nature reserves. Keep in mind though that you'll have to visit the other areas too when you want to see as many endemics as possible.

## Logistics

The trip came together when Daan joined Jurriën and Chantal on their ten week trip through the tropics. Jurriën and Chantal had first spent four weeks in Uganda and two weeks on Sri Lanka before they went to Borneo. Daan flew from Amsterdam via Doha and Kuala Lumpur to Kota Kinabalu, where Jurriën and Chantal had arrived earlier that day and rented a Perodua Alza seven-seater minivan, bought water, snacks and retrieved some local currency. We tried to drive as much as possible ourselves. Other trips often take the plane from Kota Kinabalu to Sandakan to avoid the drive, but that was not necessary at all for us. The roads in Sabah are generally fine, albeit with some bumpy and rugged parts with degraded tarmac, even though we were just too early for the new road they are replacing between Ranau and Sandakan. A reminder that you have



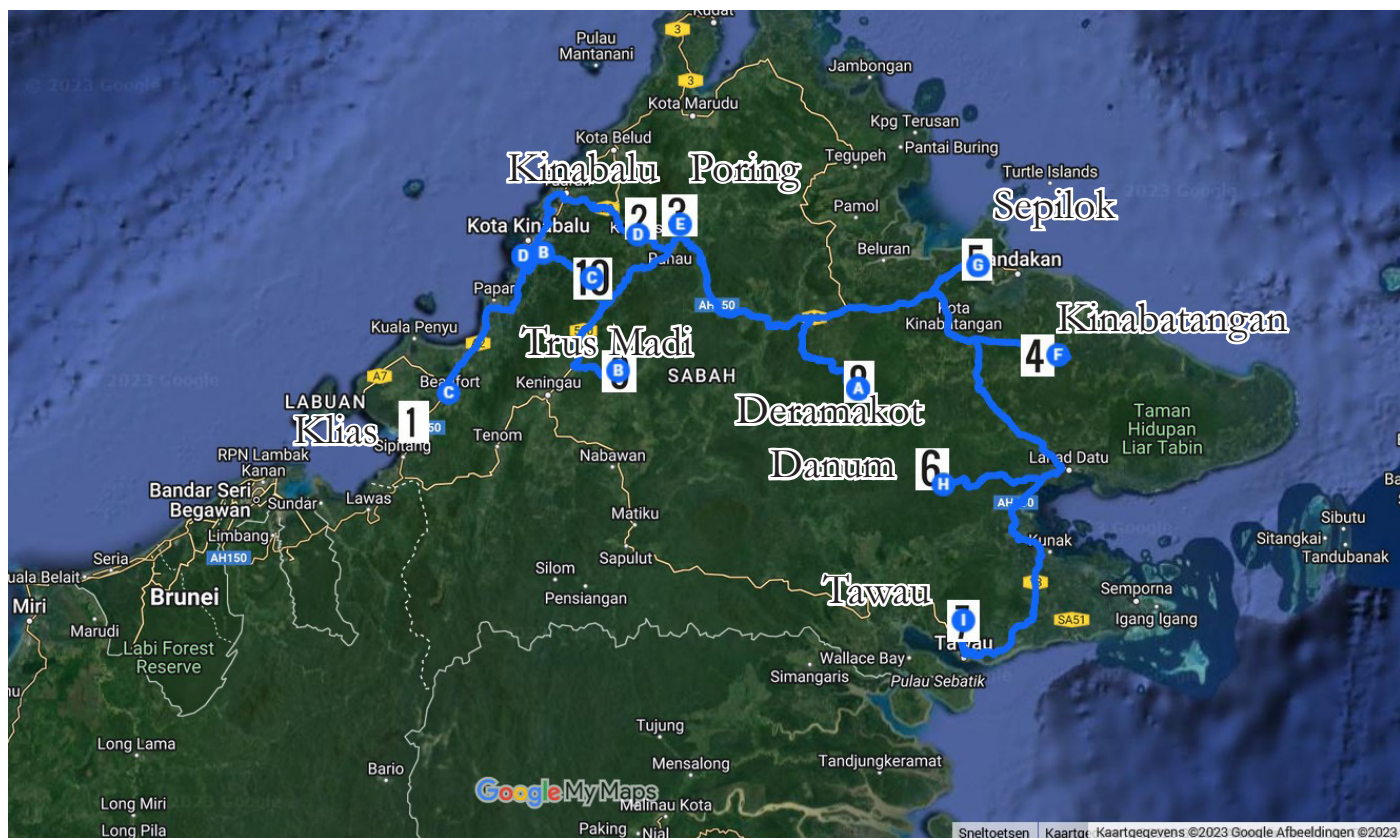
to drive on the left. Some parks require you to follow their package deals including a guide and prohibit you to drive around with your own car. Additionally, accommodation can be fully booked quite early, so if you want the best experience close to or even in the areas you want to visit, we recommend you to book and plan a good time in advance.

The exchange rate when we were in Malaysia was 1 \$ to 4,71 RM and 1 € to 4,96 RM. In the rest of the report we give the prices we paid in RM.

Timing: Borneo is beautiful at every time of year, and the position close to the equator makes yearly seasons hard to discern. From December to February, there is a north-eastern monsoon which makes these months the wettest in Sabah. However, with climate changes it seems that all months, including August (usually the driest), are getting more and more rain. This is what multiple guides told us and coincides well with our experience of showers on many days during the afternoon and/or late at night. Fortunately they usually only lasted a few hours at most so they did not really hamper our activities, as these moments were often when the birds were least active. Keep in mind that a much bigger trigger for life on Borneo is the El Niño cycle that comes around every five to ten years, causing masting events at the mighty dipterocarps and subsequent chain reactions that affect almost everything. 2023 should have been such El Niño, even though we did not really experience the benefits. Apparently, most birds breed after the “classic” yearly rainy season, and bird guides think November to April is probably the best period to visit Borneo. These months coincide with the low season for tourists, and that might be a big advantage. It will mean that more accommodations and guides will be available. Especially July and August are very busy.

## Itinerary

Due to some accommodations already being fully booked more than three months in advance, we were not able to follow the “logical” order. Additionally we visited several places that were not often visited by birders we know or that we read in trip reports (Tawau, Poring and Trus Madi). Of those, Trus Madi Entomology Camp was a real banger and according to us it is a must visit for everyone going to Sabah! Poring could be skipped when visiting Trus Madi and Tawau should only be done when you find a way to get deeper into the hills, which we did not do, or if you would like to get a general excursion about the rain forest. We treat the places we visited in our chronological order. A more logical order would have been: Kinabalu, Deramakot, Sepilok, Kinabatangan, Danum, Tawau, going on the southern road via Maliau to Trus Madi. (Or skipping Tawau and going back west the same way, using e.g. Poring as stopover).



Our route and visited locations in chronological order

With every itinerary you do, a month is still too short to see everything there is. We made choices not to go to Sarawak, Brunei or Kalimantan, nor did we go to Tabin, the Bornean peacock pheasant hide or the mangrove estuaries near Tawau.

There are some very interesting places that you might consider. From our guide Akmal at Danum we heard that Tufted ground squirrel is seen relatively often near his hometown at the Sayap substation on the northside of the Kinabalu. Later I read that Jon Hall et al. (2022) tried them here without success, but also there the rangers told them they see the squirrels regularly. Their trip was triggered by the observation of Sophie and Manuel Baumgartner in 2019. The Maliau basin also looks very interesting, but birding here has to be done on foot during day walks. From our guide Theo at Deramakot we understood that the fact that you have to walk from hut to hut hampers the time you have for birding. Perhaps other solutions are possible. The hills of Maliau and the Imbak canyon are also known to have Tufted ground squirrel and might be very interesting for birds as well.

We did not have time in our itinerary to bird at the Crocker range, despite crossing the pass through it twice. The road to the power station (5.829, 116.341) there is a very good back-up for high altitude species such as Whitehead's spiderhunter, but road 500 was busy with traffic the moments we passed by

Many birders combine a trip to Sabah with northern Sarawak, for Dulit frogmouth, Black oriole and Hose's broadbill in the Ba'kelan. This is mostly done with a domestic flight, but we did not feel like flying more than necessary. Many other target species could also be done at Trus Madi, such as **Rail babbler**, **Bornean frogmouth** and **Blue-banded pitta** and we did not want to rush at the places we were going. Brunei can also be very interesting, as the rainforest is relatively untouched. The bays in Brunei are apparently also good for Irrawady dolphin.



Our route (in blue) and potential other routes and locations (in red)



## Gear and preparation

One of the most useful things we brought to Borneo were our thermal scopes. We had two of them and made excellent use of them. Back home we mainly use them at night, but in the uniformly warm rainforest on cloudy mornings and afternoons it worked remarkably well too! There was no problem getting them through airport security, no-one ever asked for it in Amsterdam, Entebbe, Doha, Dubai, Kuala Lumpur, Colombo or Kota Kinabalu. We kept them in our hand luggage at all times (just in case, Jur and Chantal had theirs completely out of battery).

Torches. We used our Nitecore p30 and p30i torches. During night drives Daan attached it to his thermal scope using a metal plate and a screw from a tripod, but during night walks it is better to have them separated.

Leech socks. Leeches were abundant in Danum, and present on the Kinabalu, Trus Madi, Poring and Deramakot. In Danum the leech socks we bought online came in handy, but you can also buy them at the field center reception shop, even though we would recommend to buy them in advance to be sure to have them. August is usually the dry season and during the wetter season you might need leech socks at the other places mentioned as well.

Telescope. Jurriën brought his telescope and tripod also for their previous trip. On Borneo we found them of little to no use. The tripod only came in handy for photography in the Bulwer's pheasant hide at Trus Madi.

Cameras. Jurriën's new Canon R7 with RF 100-500 mm turned out to be of great use in the dark jungle. Especially for identifying bats and many other species this was the key.

Bat detector. Daan recorded several bat species using his Wildlife Acoustics Echo Meter Touch, which is connected directly to your phone. It was very interesting to record the sounds of both *Rhinolophus acuminatus* and *R. borneensis* at their roost when they flew around.

Tape measure. Something we always forget is to bring measuring tape or something else to compare the size of a bat or mouse. The technique is to use something as a size reference and photograph the exact spot from the same angle where the animal was before, but then with the reference measuring tape.

Car: we hired a Perodua Alza minivan at Suria Car Rental ([www.suriacarrental.com.my](http://www.suriacarrental.com.my)) which did its job on the road and we had no problems with the car rental company. Since nowadays you are not allowed to drive around in your own car at Danum or Deramakot, you would only need a (very) good four wheel drive to drive to Trus Madi (or if you were to do an expedition to the north side of the Kinabalu). We found this not worth it and payed extra at Trus Madi to be picked up from Kota Kinabalu.

Books: we brought the [Phillips's field guide to the mammals of Borneo](#) and the [birds of Malaysia](#). Susan Myers' Helm field guide for the [Birds of Borneo](#) would be more handy because of the smaller size and is also very good. The **mammal book** is the most interesting field guide we have ever read and we fully recommend it to any visitor to Borneo! It is not only very useful for identification, but also a lovely source of biological and ecological information as well as passages from books of earlier researchers and explorers. For birds the Merlin-app was also very useful, as bringing a physical book was quite cumbersome. Merlin is great for checking offline photographs and sounds, although newer updates have much less sounds. Beware that automatic bird sound ID does not work (yet?) on Borneo.

Trip reports. While we were in Sabah, we mainly used Buckens ([2017](#)) for birds and Ben Yehuda ([2019](#)) for mammals. In the meantime, some very good other reports have been published, and in your preparation, we fully recommend the ones by Van den Schoor ([2023](#)), Hall ([2022](#)), Baumgartner ([2019](#)) and Reid ([2022](#)).

Documentation. We tried to document all species of bird, mammal, moth, mayfly, herps and as much other species groups as possible with photographs and/or sound recordings. Daan mainly used his Sony PCM-M10 to record mammal, bird and cicada sounds. We photographed as well and especially Jurriën's Canon R7 with the RF100-500mm lens works very well in dark forests and at close ranges. All our observations can be found on Observation.org. See the following links for [all our observations](#), the [total species list](#), our [mammal list](#), our [bird list](#), and [all our photos](#) (where you can filter per species group), [all Daan's recordings](#) and the best selection on [Xeno-canto](#). We recorded all our observations through the app ObsMapp to Observation.org. Regarding lists and what counts: for birds we follow the IOC/Observation.org, while for mammals we also follow Observation.org which is based on IUCN, but regularly updated. The 277 species of bird and 71 species of mammal we recorded include heard-onlies (14 birds, 1 mammal) and non-native species (4-6 birds and 0-1 mammals). The only heard-only mammal is **Malayan porcupine**. If you have any questions about our identifications, please let us know by sending an email to [daandrukker@gmail.com](mailto:daandrukker@gmail.com).

Sounds and tape. As mentioned before, earlier versions of Merlin have excellent sounds that you can check offline directly in the field. Only very sensitive species were stripped of sounds to prevent bird traders from tape luring. Unfortunately Jurriën and Daan had updated and in the newer version many more sounds were unavailable. We could only use Chantal's app, but fortunately we also had a nice collection of sounds downloaded to our phones.

Internet connection. We bought 30 gig internet sim cards (35RM) from Digi at the airport that came in useful for internet connection, since not everywhere WIFI was available. The connection was generally okay, but deeper land inward it was often very unstable to not present at all (Danum, Deramakot, Trus Madi).

## Klias Peat Swamp

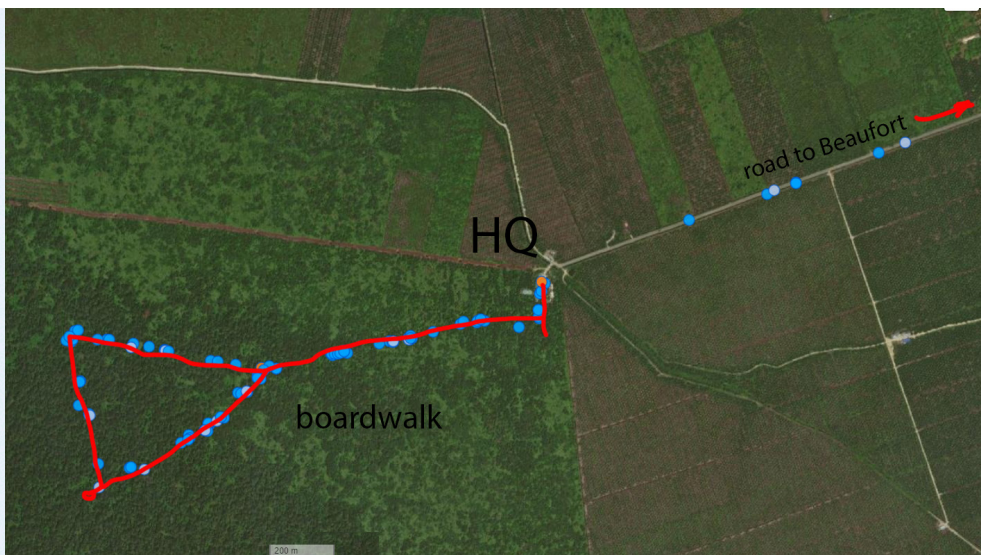
*Logistics* To enter the park you pay 15RM pp at the entrance. The ticket is valid for the whole day and the park seems to be open for 24 hours a day. You can park at the site (5.3254, 115.6731). Birding is done at the boardwalk. No guide is needed.

*Accommodation* Normally you can spend the night at the park itself (20RM pppn) contacting Mr. Sulaiman Abdullah, but when we arrived it turned out that the houses were being renovated, so we took a deluxe family room in the Gem hotel (185RM per night for 3 persons) in the nearby town of Beaufort, which is completely fine too.

The habitat of tropical forested peat swamp is under pressure almost everywhere, and only small scattered patches remain. At Klias, a reasonable forest borders a mangrove estuary and is accessible from the opposite side by a boardwalk. We walked the trail one late afternoon, one evening until after dark and one early morning. We found that interesting birds and mammals can be found all along the trail (not just at the triangle). This experience might differ and is dependent on the availability of fruiting trees and water levels. We had a nice fruiting tree along the trail before the triangle with many of the targeted **Red-crowned barbets** (which could be heard numerously at the rest of the trail too) and in the vicinity we also found a **Brown-backed flowerpecker**. The other peat swamp specialists were harder to find and we did not see Hook-billed bulbul,



Brown-backed flowerpecker (DD)

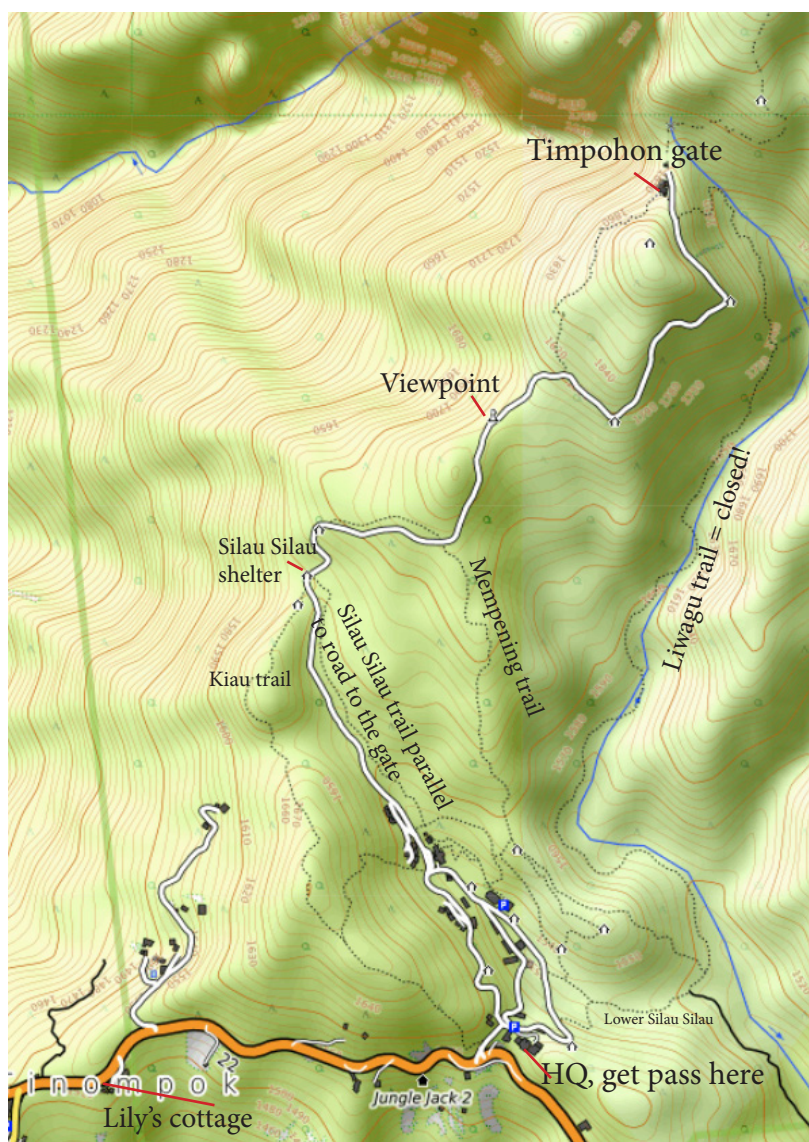




Grey-breasted Babbler or Scarlet-breasted flowerpecker. At night the boardwalk was very amusing. It started at the watch tower at the southeastern corner of the triangle with **Large flying foxes** flying over just after sunset. Walking back with calling **Sunda frogmouth** (which we first confused with Sunda scops owl, compare [this](#) with [this](#)), we saw several sleeping **Red-crowned barbets** in lower tree holes with the thermal, a very quick **Hose's pygmy flying squirrel** (be sure to check the white tail tip and smudgy gray cheeks) and a sleeping **Olive-winged bulbul**. The absolute highlight were two **Western tarsiers** we could view at close range near the boardwalk close to the headquarters. Driving back to the hotel in Beaufort we saw several **Large-tailed nightjars** at an [open gravel crossroad](#) and photographed an [unknown large rat](#) (of which there were many more).



Thermal scoping at night with sleeping Crimson-headed and Red-necked partridge (JvD)



## Kinabalu

*Logistics* The Kinabalu headquarters can be accessed just after the pass from Kota Kinabalu to Ranau. Entrance is 50RM pppd. The opening hours are from 7 am to 10 pm, which is not applicable if your accommodation is inside the park (which was not the case for us). We did not see a barrier though. If you would like to go birding by car along the Timponon access road (e.g. to do a nightdrive) you can get a free permit at the office near the headquarters (20RM pp deposit). That means that the road is in fact not closed to private vehicles (as seemed to be the case in 2022 judging by the report of Jon Hall and Ian Thompson), but you just need a “birding pass” (sorry mammalwatchers ;)). We made good use of our “birding passes” with night drives up and down the road to Timponon, getting back by 9:30 pm and leaving the park by 10 pm.

The summit trail is anno 2023 inaccessible for birders, as you can only go there if you do the two day guided hike towards the summit, which is very expensive and the targets should be much closer to the Timponon gate. A guide for the trails and road between the HQ and the Timponon gate is not necessary. Due to landslides, the Liwagu trail was also closed.



*Accommodation* We stayed at Lily's Cottage and Kitchen situated on a 5 minute drive to the Head Quarters, which was very suitable and much less expensive than staying at the accommodation of the park (287RM per night with 6 available beds in the accommodation).

The legendary Gunung Kinabalu is a popular destination for outdoor tourists from all over the world. The summit can be reached by an expensive guided two day hike, so in the high season loads of tourists are brought to the Timpohon gate to go up, while birders are left mouthwatering at a closed gate drooling over the thought of a Friendly bush warbler... Luckily for the birders that is more or less the only endemic that cannot be seen on the trails and access road below the Timpohon gate, as all other targets should be doable there. Naturalists with a broader interest see their chances on seeing a Kinabalu ferret badger, Kinabalu giant earth worm or Kinabalu giant leech diminish too unfortunately. Apparently there are (payed) excursions from somewhere near Kota Kinabalu that target Friendly bush warbler on a different location, which is something to check!

Target birds and mammals can be found all around the trails and the access road, there are not really fixed spots for each species. We recommend spending at least 4 nights on the Kinabalu (a 5th night would not have been annoying, especially when you do not visit the Crocker range hotspots). Walking the Silau Silau trail, the Mempening trail and the trails to the east where the Liwagu and Silau Silau meet at the river provided us with many good birds and mammals. At the place where the Silau Silau shelter is (crossing with the access road and the Kiau view trail) there was a beautiful relatively open spot where many birds gathered. Targets around the Kinabalu are **Everett's thrush**, **Bornean forktail**, **Whitehead's trogon**, **Whitehead's broadbill**, Whitehead's spiderhunter, Fruithunter (bear in mind the deceptively similar call of **Jentink's squirrel**, see below), **Mountain blackeye**, **Crimson-headed partridge**, **Red-necked partridge**, **Mountain serpent eagle**, **Bornean stubtail**, **Smooth-tailed treeshrew** (arboreal, slender, rat like tail, rare), **Mountain treeshrew** (terrestrial, squirrel like tail, less rare), Kinabalu squirrel, **Jentink's squirrel**, **Borneo mountain ground squirrel**, **Borneo black-banded squirrel**, **Tufted pygmy squirrel** and many more less difficult endemic and cool species.

During the night drive, look for sleeping **partridges**, **Mountain scops owl**, **Spotted giant flying squirrel**, **Jentink's flying squirrel**. On our first night drive we were surprised by the very rare and equally beautiful **Banded linsang**, a slender, white and black cat-like predator of sleeping birds. The Kinabalu seems to become the best place in the world to see this enigmatic species. Other predators at night included a **Masked palm civet**. The bins at the Timpohon gate are somewhat too neat for nice mammals at the moment, and we only saw **Asian house rat** (and no Indomalayan long-tailed rat here, which we only saw crossing the road at Deramakot). In the trees along the road we did find a **Rapit rat**.



Thermal scoping does not only work at night and brought us many unexpected finds on cloudy days, such as this Smooth-tailed treeshrew (JvD)





Least pygmy squirrel (JvD)

Fawn-roundleaf bat (2 lateral leaflets, JvD)

## Poring hot springs

*Logistics* many things have changed here compared to previous trip reports we read: night walks on the canopy walkway are no longer allowed, and neither is it open in early morning for birders. It opens at 8:30 am. What birders and mammalwatchers can do is walk the trail to the waterfall. This is a strenuous trail and you have to get your ticket the day before and ask them to open the gate early (at 6 am for example). Entrance is 50RM pp, the canopy is 10 RM extra.

*Accommodation* We stayed at the Kinabalu Poring Vacation lodge, which was a pleasant and cheap (150RM per night for a family room) accommodation close to the hot springs.

On our way from Kinabalu we saw two **White-fronted falconets** along the road (6.0108, 116.7342). In Poring we spent a day from early morning until the afternoon birding on the trail to the waterfall. This place can be good for Hose's broadbill as one of the only places in Sabah, but you'll need to find some good fruiting trees apparently. The birding along the trail was okay, with for example **Dusky broadbills**, but the show was stolen by the mammals. There is a bat cave where according to the local biologist that Jon Hall spoke to back in 2004, **Fawn roundleaf bats** and **Lesser sheath-tailed bats** can be found, both of which were still present almost 20 years later. We saw many **Least pygmy squirrels** and our first **Low's squirrel** thanks to our thermal scopes. That thermal provided also our first and closest **Colugo**, which we could observe beautifully, and a resting **Trefoil horseshoe bat** under a leaf.

The next morning we did some birding along a gravel road at the edge of the park and when it opened we went to the canopy walkway. There were some interesting birds there, especially just below it, where we saw our first **Rufous piculets** and **Scarlet-rumped trogon** and only **Verditer flycatcher**. All in all we saw almost all bird species on other locations too, and if you are not interested in bats you might want to consider skipping Poring in favour of more days on other locations. It was a nice place however.

## Kinabatangan

*Logistics* To get there you have to drive to the village of Sukau, where we parked at the Lepit Jetty (5RM per day) and were picked up by our guide Romzi (+60 11-3152 1176). A good guide with a boat is a must here, and Romzi is one of the best! If by any chance Romzi is unavailable, you might want to try Robert Chung of whom Romzi speaks fondly. Both work as freelance bird guides on the Kinabatangan river and its tributaries. Romzi charges 400RM pppd (2 cruises, one in the morning from 6 am until 10 am and one in the afternoon from 3 pm until 6 pm) and 60RM pppd extra for the night cruise from 8 pm until 10 pm, which I fully recommend.

*Accommodation* We stayed at the reasonably priced Osman's homestay, operated by Romzi's sister Yanti and her husband Osman. The rooms cost 120RM pppn, and for 60RM pppn you can use the newly installed airconditioning. We did not make use of the AC, as the temperatures were fine (or not too terribly hot to sleep). There are many other homestays along



The Kinabatangan and its tributaries (JvD)

the river between Sukau and Bilit, and you might want to check which one is best situated for seeing some extra wildlife. A reminder that Osman does not allow alcohol in his homestay and that you should take off your shoes at the house, which is also normal everywhere else on Borneo. We would recommend a lodge around Sukau, because this is where most of the side streams are.

Birding and mammalwatching on the Kinabatangan was very nice. It is well known for its large numbers of primates. The **Proboscis monkeys** are amazing and common, while **Silvered leaf monkeys** and **Maroon leaf monkeys** are less common. We looked hard for the **Bornean ground cuckoo** which is harder these days as they like to follow Bearded pigs. During the pandemic however, the pigs had their own pandemic of African swine flu and they almost completely vanished from Borneo. There are some signs of recovery and we found some tracks and might have even smelled them at Deramakot, where our guide had also seen one this year. Eventually we found **ground cuckoo** singing and even got some short views of it. Furthermore, the Kinabatangan is a **hornbill** feast. We saw all but helmeted here. They regularly fly over the river. At the oxbow lake we saw a well-known **Black-crowned pitta**, while on a tributary we earlier saw **Hooded pitta**, **Straw-headed bulbul** and **Sabah partridge**. Other noteworthy species we saw during the day cruises were **Smooth-coated otter**, **Malay weasel**, **Storm's stork**, **many babblers** and a known vagrant **Rainbow bee-eater** from the other side of Wallace's line.

At our first night we directly struck gold when Romzi spotted the eyeshine of a **Flat-headed cat**! This is one of the hardest mammal species to see, so we were very lucky, especially because it stayed put for a long time and we had very good views! Other night cruises produced **Oriental bay owls**, **Gould's frogmouth**, **Large frogmouth**, **Reddish** and **Sunda scops owl** and **Phillipine slow loris**.

On our last day we decided to go look for **Bornean pygmy elephants** one village further upstream. It was a new species for Daan and you can never be sure if you will see them elsewhere at Danum or Deramakot. They are a well-known part of the tourist-big-five here, so many boats were looking for them. It turned out that the group had just left the river banks when we arrived, to go into a palm oil plantation. We decided to hang around for just a bit, while the other boats were going to other places. Suddenly Daan saw a very big warm blob in the thermal scope, which soon produced a trunk! And indeed, three elephants, including a youngster, had not been in a hurry to follow the herd and followed the river bank. Within no time ten other boats had noticed we saw the elephants and we saw them disappearing into the plantation too. It keeps being remarkable how well these big elephants can hide themselves, almost going unnoticed through the vegetation.



## Gomantong

*Logistics* The Gomantong caves are closed anno 2023 due to renovation of a bridge. The road towards the caves is open from 8 am to 5 pm. Make sure you are out by then, because the gate will be locked, sometimes even earlier, and you will be trapped. We did two visits to this road. One afternoon with Romzi, who arranged with the gatekeeper that we could stay until 6 pm (just in time to see some of the bat and bird of prey spectacle). On the morning we left the Kinabatangan, we also did some birding along the road, that indeed opened punctually at five past 8 in the am.

It was lean season along the Kinabatangan, which meant that there were very few **Orangutans** along the river. Luckily Romzi knew that you can often find them along the entrance road to the Gomantong caves. We indeed found two beautiful nest building **Orangutans** (and probably saw the same individual again during our morning visit). Gomantongs main attraction are the Gomantong caves, but as said before, these were inaccessible due to renovations of the bridge. This cost us quite some species, as the swifts and swiftlets are nearly impossible to ID in the field without looking at their nest. The species we missed due to this are: Mossy-nest swiftlet, Black-nest swiftlet, (reliable) Edible-nest swiftlet, Gomantong myotis and Creagh's horseshoe bat. Despite this, we would still recommend birding at the entrance road. Not only because of the spectacular swarm of thousands of **Wrinkle-lipped free-tailed bats** that come from the direction of the cave while being attacked by **Bat hawks** and **Wallace's hawk-eagles**, but also because of birding in general along the road. We had very nice observations of **Rufous-collared kingfisher** and **Ear-spot squirrel**, as well as many other birds including heard-only **Giant pitta** and **Black-crowned pitta**.

## Sepilok

*Logistics* Sepilok consists of a Sun bear rehabilitation centre, an Orangutan rehabilitation center and a Rainforest discovery center. The rainforest discovery centre is the place to be. We only took the canopy walkway, but if you have more time than us here you can access the longer trails from here too. Keep in mind that the ticket counter only opens at 8 am and you officially have to be out at 5.30 pm. You can buy your ticket (20RM pp) the day before, so you can enter as early as you want (beware of the **Pig-tailed Macaques**). Nowadays you are not allowed to do night walks along the canopy trail by yourself anymore, and guided nightwalks can be sold out weeks in advance, so check that. It is possible (though not allowed probably) to linger behind after darkness, and if you do not go on the canopy walkway you do not hamper the official night walkers probably. During weekends and high season the canopy walkway can be annoyingly crowded from around 9 am onward.



Sunda pig-tailed macaques (JvD)

*Accommodation* We stayed at the conveniently located Sepilok B&B (239RM for the three of us per night (double bed + bunk bed)).

The canopy walkway provides excellent opportunities for watching canopy dwellers up close, and tapping white-eyed vireo works well for sunbirds and flowerpeckers (including **Purple-naped sunbird**, **Yellow-rumped** and **Orange-bellied flowerpecker**) as well as many other passerines. A selection of nice species we saw during the day: **East Bornean gray gibbon**, **Pale giant squirrel**, **Orangutan**, a **Red giant flying squirrel** peeking out of its nest box at the trogon tower after 5 pm, **Chestnut-breasted** and **Raffle's malkoha**, **Wallace's hawk eagle**, **Crested honeybuzzard**, several **hornbills** and **barbets**, **Crimson-winged** and **Buff-rumped woodpecker**, obliging **Black-and-yellow broadbills**, **Lesser cuckooshrike**, **Rufous-winged philentoma**, **ioras**, **drongos**, **Bornean black-magpie** and a nice selection of **bulbuls**. Our main target here was Bornean bristlehead, but we did not find it. Later it turned out that it was seen at long distance along the Broadbill tower, a little south of the canopy walkway. We did not know of that place in advance, so at the end of the afternoon we checked it out. It was a nice place without bristleheads, but we had very good views of a **Horse-tailed squirrel** and a **Black-crowned pitta** when dusk fell! On the way back we saw another **Trefoil Horseshoe bat**.

## Danum

Danum was a bit disappointing for us due to a number of circumstances. Our expectations were a bit too high because of the great time Johan Buckens described in his report. However, nowadays you are not free to go wherever you want anymore, but hopefully you can have a better approach than us with our tips on the logistics:

*Logistics and accommodation* When booking the Danum Valley Field Centre (DVCF) accommodation, we encountered two surprises: the guest houses were fully booked, only the hostel had room and we were not allowed to book without booking a guide. The hostel was fine (these are Daan's words, Jurriën strongly disagrees). Fearing we had to go look for pittas with a group of other tourists, we booked a private guide, but it turned out that a guide is something totally different than a bird guide. The guide we got turned out to know most of his birds and places for pitta species, and in consultation with the office of the DVFC in Lahad Datu he joined us for some hard core birding. Despite our guide being very decent and trying very hard for us, the three of us are not a fan of standing behind any bird guide waiting while he tapes pittas endlessly. We heard from



Otter civet (DD)

other birders who went here recently that they booked the “normal” guide that comes included with the package and asked him if they could do birding on their own and not join the standard itinerary. Apparently it takes some convincing, but they managed. No-one asked them why they were unsupervised afterwards, and this approach sounds a lot better! In conclusion I recommend to book a “normal” arrangement and just do your own thing without

You are not allowed to drive to DVCF in your own car, unless with some kind of permit, so we parked at the office in Lahad Datu where we were taken with the shuttle bus for the 2,5 hour drive to the field centre. Internet connection is rare at the DVCF, and we had some connection around the reception building. We spend three nights at the hostel of Danum, which cost us around 717RM pppn and included meals, transfer from and to Lahad Datu and a private guide (but see above). They want you to pay half of the total sum a few weeks in advance and the rest can be done by credit card or cash at the Lahad Datu office. You can book a night drive for 320RM in total, divided by the number of people who wants to join. If you are in the back of the 12 person truck (but 16 fits as well as we have experienced), you might not see much though and doing night walks might be more interesting.

Regarding birds and mammals, we had some frustrating times looking for pittas and wren-babblers. Of the five species of pitta and three species of wren-babbler we heard, we saw none (although Daan had brief views of **Bornean wren-babbler** and Jurriën had equally brief views of **Blue-headed pitta**). We did hear **Giant pitta** (albeit very short), **Blue-headed pitta**, **Bornean banded pitta** (both were very close, but no views), **Hooded pitta**, **Black-crowned pitta** (the two latter we did not bother to get views as we had seen them before), **Bornean wren babbler**, **Black-throated wren babbler** and **Striped wren babbler**. Other head-onlies were **Bornean ground cuckoo** (luckily seen at Kinabatangan), **Banded kingfisher** and **Helmeted hornbill**. Even though we count heard-onlies for our lists, it was a frustrating time, because especially the pittas are just too beautiful not to get views of. We did have several other good observations during the day, the best being multiple observations of **Bornean bristlehead!** They tend to have a fixed routine, and we intercepted them in the afternoons along the trails in the direction of the waterfalls. This was very welcome after our misses at Sepilok and on the first day at Danum. Other goodies were **Green broadbills**, **Bornean crested firebacks**, **Malaysian blue-banded kingfisher**, **Rufous piculet**, **Great slaty woodpeckers**, **Crested jayshrike**, **Cream-eyed bulbul**, **Bornean blue flycatcher**, **Large treeshrew**, **Maroon langur**, **gibbons**, **Orangutans**, **Least pygmy squirrels** and a **Southern red muntjac**. We saw tracks of plundered termite nests by Sunda pangolin along the trails, not older than two days according to our guide Akmal.



At night, Danum has a lot to offer too, and we did two night walks and on our second night an organised night drive. The bus was very full and for Daan, who sat in front, it was quite good, but for Jurriën and Chantal in the back, it was a disappointment, with too many heads that blocked the view and most animals can only be seen from a certain angle, which was not taken into account in the long truck. Our trip provided us with a **Western tarsier** (albeit much further than in Klias), **Diadem roundleaf bat**, **Malay, Small-toothed** and **Island palm civets** and lots of **Sambar**. **Sambar** are common around the DVCF and quite approachable. Our best night by far was our last night walk. Even though we could not find the enigmatic Pen-tailed treeshrews, our walk along the research grid brought us an awesome **Otter civet** that was successfully hunting on a snake in a small stream! Later we saw a **Lesser mousedeer** in the thermal, and when we approached it, a two meter long **Gold-ringed cat snake** slid between us. Very cool experience (in hindsight).

## Tawau

Due to the fact that we had to shuffle in our destinations as some accommodations were already fully booked, we suddenly had two nights to spend somewhere in the eastern part of Sabah. We decided to go to the Tawau hills, but in hindsight we should have done things differently, as the trip from Lahad Datu takes two-and-a-half hours, which has to be done twice if you do not continue to Maliau. Additionally, one full day is a bit too short to explore the Tawau hills. Apparently something also went wrong in the communication with 1stopborneo, causing us not even being able to try deeper into the hills for Hose's civet, Tufted ground squirrel or any of the rarer birds and mammals. For that reason I will not give any info on *logistics and accommodation* as that will not help you. Instead you could perhaps try to ask Tomer Ben Yehuda for his approach as his group seemed to have succeeded in going to the remoter parts of the hill as per his trip report ([Ben Yehuda, 2019](#))

We did see some nice stuff on the trail between the lodge and the waterfall, including a few **Dark-tailed tree rats**, a probable **Whitehead's maxomys**, **Maroon langurs**, **Diadem roundleaf bat** and our only **Chestnut-rumped babbler**.

## Deramakot

*Logistics and accommodation* First of all things when planning a trip where you want to go to Deramakot: book well in advance! Especially in the high season, there might not be too many possibilities. For example, the legendary Mike Gordon was already unavailable when we planned in May, and accommodation was only possible on dates that caused us to make slight changes in our itinerary. If you do have the chance to book on your preferred dates, be sure to check the moon schedule, as especially on our last two nights we had very bright moon, which probably caused the low numbers of animals we saw (the other nights were overcast). We booked our Deramakot tour through AABorneo, which was arranged very well. It was by far our priciest stay of the whole trip. We booked for four nights, which came down to 1108RM pppn, including guide Theodore Dennis and driver One, meals and pick-up and drop-off from the meeting point at Telupid, where we parked our car. Others have booked this trip for up to 10 nights to increase their chances of seeing a Clouded leopard, though even that is by no means guaranteed as it turns out.



Philippine slow loris (DD)



Night safari (CP)

The deal is that you get 7 hours per day with your driver and guide, which you can spend all at once or split it. We can fully recommend doing the whole 7 hours at once during dusk and night, as we did on the last two nights. That way, you'll be able to get to the most interesting points during darkness. The drives are especially good for the nocturnal wildlife, while interesting birds can also be seen by yourself around the Head Quarters. Birding was actually very entertaining along the entrance road, with many bulbul species including **Finch's, Hairy-backed, Grey-cheeked, Black-headed, Grey-bellied, Cream-vented**. Other good birds: **Large green pigeon, Helmeted hornbill, Diard's and Scarlet-rumped trogon, White-fronted falconet, Blue-rumped parrot, many babblers, Yellow-bellied-, Yellow-rumped-, Orange-bellied flowerpecker, Thick-billed, Spectacled, Yellow-cheeked and Bornean spiderhunter** and loads of **Dusky munias**. Mammal-wise those places were good with amongst others the rare **Ear-spot squirrel** and **Horse-tailed squirrel** (both species we had seen before, but still).

However, as mentioned before, the real targets here are the mammals at night. We can already tell you that we did not see Clouded leopard and Marbled cat, two of the three main predator ecotourist attractions. We did get lucky with a **Sun bear!** We disturbed its night time slumber when we found it in our spotlight quite far down the road in the direction of the river. Other ecotourists were very jealous of the herd of around 15 **Asian elephants** we saw running away from us over the road on our way back. Their trumpeter was indeed very impressive when they waited for us to pass in the bushes next to the road. That day might have been the best spotlighting we have done in our entire life, with 18 mammal species. Aside from the bear and the elephants, noteworthy are the **Orangutans, Sunda colugo's, Philippine slow lorises, Black (2), Thomas's (26), and Red Giant Flying Squirrels (8), Trefoil horseshoe bat, Large flying fox, Binturong, Sunda leopard cat** (around 2 each night), plenty of the usual **civets, Samber, Lesser mousedeer** and last but not least a **Sunda skunk** that we smelt 200 m before we saw it.



Red-bearded bee-eater (JvD)

Under our house (the last one coming from the dining area), there was a colony of (smelly, even in the rooms) **Acuminate horseshoe bats** which we could identify thanks to both the [photos](#) as well as [a sound recording](#) of the echolocation.

Other potential Deramakot specialties are Sunda pangolin, Moonrat, Long-tongued nectar bat, Temminck's flying squirrel, Emily's pygmy flying squirrel, **Otter civet**, porcupines, ranece mice, tree rats, Yellow-throated marten, Bornean yellow muntjac. All the more reasons to spend a lot of time here!



## Trus Madi

Trus Madi is only recently becoming well known among naturalists, and none of our friends and trip reports we read had visited the place before. We only knew it was very good for insects (which all three of us like very much) and it can be combined with the Bulwer's-pheasant hide. It turned out to be the best destination of our trip, also because it felt a bit like pioneering, and because of the excellent wildlife and great location. The fact that we were the only tourist at that moment in the camp may also have contributed to the great experience.

*Accommodation* We booked the Trus Madi entomology camp, also known as Borneo jungle girl camp, for three nights. We were in contact with Clara (bjgchong@gmail.com, +60 19-810 4105). The price was around 690RM pppn, including permits, meals and including the 1100RM for the 4x4 transfer from and back to the Kota Kinabalu airport (where we had returned our rental car), but not including the bird hides. They prefer if you pay the permits ahead and the accommodation and transfer in US dollars upon arrival.



*Logistics* The Trus Madi entomology camp is situated at around 1100 m altitude on a southern ridge of Mount Trus Madi. It can only be reached by a very decent

Primates inspecting the moth sheets at the entomology camp (JvD)



4x4. There are two Bulwer's-pheasant-hides, which can be booked through bird guide Calvin Ng for 100US\$ per person. During our stay however, Calvin had to guide a different group on the other side of Sabah, so we were taken there by the very capable mr. Kui, who besides being the manager and cook of the camp is also a bird watcher who likes to stake out **rail babblers** and **pittas**.

First something about the insects, because even though there was a lot of wind (which does not happen often) and a very bright moon, the numbers and species diversity of insects that were attracted to the 10 moth sheets were mind blowing. Phasmids, Mantisses, Beetles, Mayflies, Mantisflies and of course hundreds of Moths in shapes, sizes and colours you cannot even imagine. Our photos and identifications will end up on this [Observation](#) and this [iNaturalist](#) page once we finished all the vertebrate stuff of the trip.

We all had some kind of natural resentment against going into a paid hide, as it might be boring just to sit and wait while nothing happens. However I had noticed that sometimes squirrels got photographed too. It turned out to be a Tupai-walhalla! In the Malaysian language, tupai is the term for both squirrels and treeshrews, and that was exactly the case here. 5 species of treeshrew and 5 species of squirrel profited greatly from the food that was placed there to attract the birds, and after so many weeks of only getting short glimpses of them, it was amazing to be able to observe these species for a longer time too! And it was not only common species that visited the hide! We had **Large, Mountain, Lesser, Long-footed** and **Slender treeshrew**. The latter two were new for us and **Slender** is an incredibly rare endemic to see anywhere! Squirrel-wise we had **Borneo black-banded, Bornean mountain ground, Low's, Brooke's** and **Sculptor squirrel**. Again, the latter two being new for us, and both are very rarely seen squirrels that are restricted to mid-level mountains. Check the identification-paragraph below for more information. Bird-wise we had the species where the hide is known for: **Bulwer's pheasant** (2 males, 1 female in the morning session), **Great argus** (1 female in the afternoon session) and **Bornean banded pitta** (also afternoon session).

Birding around the entomology camp was also very enjoyable, with new species raining in even though we had been on Borneo for almost a month. Endemics like **Bornean leafbird, Pygmy white-eye, Bornean bulbul, Cinereous (green-winged) bulbul, Bornean barbet, Mountain barbet, Blue-banded pitta, Bornean frogmouth, Bornean spiderhunter** and **Black-side flowerpecker** and interesting other species like **Plain flowerpecker, Blyth's hawk-eagle, Scaly-breasted bulbul, Yellow-bellied warbler, Sunda scimitar babbler, Grey-chested jungle flycatcher, Red-bearded bee-eater, Rail babbler, Sunda owlet** and strangely a [singing Grey nightjar](#) before dawn. It sounds a bit like a **Bornean barbet** with short strophes, but the sono is slightly different too. Nevertheless, it is strange to hear it sing so far away from its breeding grounds, so if anyone has a better suggestion, please let us know!

## Some notes on the more difficult target species

### Partridges

When you have a thermal scope at night at the Kinabalu, finding sleeping **Red-breasted partridge** and **Crimson-headed partridge** is a lot easier than before. We found them along the road to the Timpohon gate, often at around 1,5-2 meters high in the bushes. If you do not have a thermal scope, you might want to check the public(!) photography hide for these species mentioned in the report by [David Van den Schoor \(2023\)](#). **Sabah partridge** can best be found along the Kinabatangan, where we had great views from the boat thanks to our guide. For all three species it can be helpful to study their sounds, as they are quite vocal. We did not see **Crested partridge** unfortunately, but the second Bulwer's-pheasant-hide should be better for that species. We did not see any other partridge species, the other being incredibly rare and/or restricted to the Sarawak ranges. **Phillipine megapode** is restricted to the islands around Sabah.

### Pheasants

Two species of endemic pheasant can only be seen from organised photography hides. We chose to only go for **Bulwer's pheasant** at the hide near Trus Madi entomology camp. See details there. This species can also be seen from a second hide that is better accessible, but you will miss the goodies of the camp. See Van den Schoor (2023). We did not choose to go for the **Bornean peacock pheasant** near Telupid. That hide was even more expensive and we thought it did not fit well in our itinerary (though in hindsight it might have). For details, again see Van den Schoor (2023). The fantastic calls of **Great**

**argus** are striking in the soundscapes of almost all lowland and foothill rainforests, but seeing them is something else. They regularly visit the Bulwer's-pheasant-hides, and that is where we saw a female.

### Bornean ground cuckoo

Romzie is very skilled in finding this species, as it responds well to playback and Romzie's excellent imitation. If by any chance you do not find it at the Kinabatangan, we heard one as well at [Danum](#). At Danum we did not bother to try and get views, as we already saw it at the Kinabatangan.

### Frogmouths

It is always exciting to hear and/or see frogmouths. At the Kinabatangan, Romzie has his spots for both **Gould's** and **Large frogmouth**, both of which we got to see as well. Besides, Jurriën heard a calling **Large frogmouth** at night behind Osman's homestay, but this individual does not seem to respond to playback anymore. We did not observe Blyth's frogmouth (Danum might be good?) and Dulit frogmouth is only possible in Sarawak. We thought that that also would apply for **Bornean frogmouth**, so we were pleasantly surprised to hear them both calling and singing at [Trus Madi entomology camp](#), where they are regular visitors. According to mr. Kui they can also be seen when there is not too much wind, so ask him about it. [A sound](#) we initially identified as Sunda scops owl turned out to better match **Sunda frogmouth**. We still wonder what the "hard" characteristics are, so if anyone has better suggestions, please e-mail Daan.

### Owls

For **Oriental bay owl**, Romzie has several spots, and we had a chance to encounter one sitting on a branch from the boat too. We heard a **Sunda owlet** at Trus Madi, and it should also be possible to hear it at the Kinabalu. **Reddish scops owl** was heard from the boat at the Kinabatangan, where we also found a **Sunda scops owl** with the thermal at dusk. Kinabatangan is also full of **Buffy fish owls**, and there is **Brown wood owl** too here. We understood that **Barred eagle owl** can be very hard to find, as it is missed by quite some groups. Interestingly we saw at least five of them at Deramakot.

### Trogon

The most sought after trogon is the endemic **Whitehead's trogon**, that lives on the Kinabalu. There was a pair feeding a young near the [upper entrance of the Mempening trail](#). We found them the first time by accident when checking a drongo, and a second time we found them in the thermal scope. **Diard's** and **Scarlet-rumped trogon** should not be any problem to find in lowland and foothill forests, but we missed Red-naped, Cinnamon-rumped and Orange-breasted trogon. Probably due to a lack of proper preparation of the sounds and other priorities.



White-crowned hornbill at the Kinabatangan (JvD)



A young Whitehead's trogon at Kinabalu (JvD)



## Hornbills

Only **White-crowned** and **Helmeted hornbill** can be hard to find, all the others are encountered frequently. We had a pair of **White-crowned hornbill** crossing the Kinabatangan once and heard one call at [Danum](#). We only had heard-only **Helmeted hornbills**, at Danum and Deramakot. Only at Deramakot Daan found it a satisfying observation (albeit distant). Listen for it on foot on the road on the westside of the Deramakot Head Quarters.

## Kingfishers and bee-eaters

The most sought after species are **Rufous-collared kingfisher** that responded well to playback at [Gomantong](#) and **Banded kingfisher** (in the future might be split), which Jurriën saw on the waterfall trail at [Poring](#) and we all heard at the adventure trail at [Danum](#). Other difficult kingfishers are **Ruddy kingfisher** and **Malay blue-banded kingfisher**, both of which we only glimpsed at the [Kinabatangan](#) and [Danum](#) respectively. The [crazy voice](#) of **Red-bearded bee-eater** is a must, and we saw and heard the species at [Trus Madi entomology camp](#).

## Woodpeckers

**Great slaty woodpecker** was seen and heard both at [Danum](#) (behind the [hostel](#)) and at [Deramakot](#). The many other species of woodpecker should be easier to find, but might require some preparation.

## Falconet

The Sabah endemic **White-fronted falconet** can be notoriously hard to find apparently. For a long time [our only observation](#) was along the road between Ranau and Poring. At Deramakot, they are regular visitors during the afternoon at the medium high trees at the HQ apparently, where [we saw them once](#).

## Broadbills

The easiest of the green broadbill family is by no means easy to find. We saw **Green broadbill** only once, at the [Tembaling waterfall](#) trail at Danum. Note its tarzan-like call. Of the two endemic green broadbills, your chances on **Whitehead's broadbill** are quite good at the main road to the Timohon gate at the Kinabalu. Some birders still miss them, but we saw them three times. One fly-by of two birds at the [Kiau Gap View](#), and twice a singing male on a rainy afternoon near the [Silau Silau Shelter](#). The hardest of them all is the [Hose's broadbill](#), probably the easiest at Ba'kelan in Sarawak, but also sometimes seen at Poring Hot Springs. We had put our hopes on Poring, but apparently the best chance is to visit a fruiting tree early in the morning. As it was lean season and we did not know nor did we find any fruiting tree, we were unsuccessful. It might be noteworthy that we saw a broadbill hurdling over the ridge coming from a fruiting tree at Trus Madi entomology camp! Given that [Hose's broadbill](#) is restricted to mid-level mountains, this might very well have been one. I fully recommend putting some effort into finding it here, as it might not even be the [first record](#). Of the other broadbills, we had one observation of a nest of **Dusky broadbills** at the waterfall trail in Poring and Chantal saw Dusky broadbills in the canopy next to the access road close to the reception of Danum Valley field center, only heard-only **Banded broadbills** (Kinabatangan), lots of **Black-and-yellow broadbills** in the lowlands and foothills, quite some **Black-and-red broadbills** in the lowlands and no [Long-tailed broadbill](#).

## Pittas and rail babbler

The jungle-jewels might be the most drooled-over birds of the rainforest, and as none of us had ever seen a pitta before, we hoped we could find them! Finding pittas is not the hardest part if they start to call (or respond to playback), but getting views is the main issue. August is apparently not the best season for pittas, as they sing and respond much more during the wetter months. We started off well with two **Hooded pittas** at the Kinabatangan. Our first **Black-crowned pitta** was at [Gomantong](#) and flew away just before we could see it, but luckily Romzie knew of a well-known spot at the oxbow lake of the Kinabatangan where we could see it beautifully. After that we also heard and saw it at dusk at [Sepilok](#) and had heard-only

observations at Danum and Deramakot. These two are the “easiest” pittas of Sabah, with all the others being much more difficult to find. **Giant pitta** can be completely unfindable in some years, but this year there were more observations. We heard one responding to playback (with a rather less-known call) at [Gomantong](#), and one did a very brief response to tape of the guide at [Danum](#). We came frustratingly close to a **Bornean banded pitta** at the Temballing waterfall trail at Danum, but luckily we finally saw it at the Bulwer’s-pheasant-hide at Trus Madi. We heard **Blue-headed pitta** on several occasions at Danum, but only Jurriën managed to get a few seconds of views. Danum is also the most well-known place for **Blue-banded pitta**, but we did not even hear it there. You can book a hide for it somewhere in the Tawau hills, but at Trus Madi entomology camp, there are three territorial males, of which we heard one. Last but not least we also treat **Rail babbler** here, as it behaves and sounds like a pitta and is just as beautiful. We did not count on finding it in Sabah, as the only places we knew were in Sarawak or Peninsular Malaysia. However, when we arrived at Trus Madi entomology camp, mr. Kui told us that just behind the camp you could find **Rail babbler**! At that spot we were unsuccessful, but during a walk to the north we suddenly heard one! There was a small path [towards it](#) and we managed to see it on two different days.

### Larger passerines

Many “family-collectors” come to Borneo for the monotypic **Crested jayshrike** (and also for **Rail babbler**, see above). We found [three individuals](#) at night with the thermal scope during our first nightwalk at Danum, and the next day saw them at daylight quite close to that location. **Bornean treepie** is common at the Kinabalu, where you hear them more often than you see them. We only had one observation of a stunning **Bornean green magpie** though, while it was getting mineral clay from a stream just below the [entrance gate](#) of the Timpohon road. We heard **Bornean black-magpie** on the canopy walkway at Sepilok, but only saw it at night at Danum, where we found it with the thermal scope. We were not very lucky with our laughingthrushes, as we missed both [Sunda laughingthrush](#) and [Bare-headed laughingthrush](#). Both should be possible if you spend enough time at the trails of the Kinabalu, and they tend to search each other’s and **Chestnut-hooded laughingthrush**’s company. The only “real” thrush we saw was also the most important endemic: **Everett’s thrush** on mount Kinabalu. The best advice we can give you is: thermal scope. We saw [five of them](#), from the river near the headquarters up to the Kiauw gap view, and in all cases the thermal scope came in handy for either finding or re-locating. Unfortunately we did not see [Island](#) or [Orange-headed thrush](#), nor did we see [Chestnut-capped thrush](#). Another big thrush-dip was the [Fruithunter](#). Look for it around the Kinabalu, but beware of the very similar sounding **Jentink’s squirrel**, see below. The endemic **Bornean leafbird** was common at the garden and surroundings of the Trus Madi entomology camp, sometimes in company of **Greater green leafbird**. For the **bulbuls** I think you just have to search well and have some luck. The toughest is probably **Straw-headed bulbul** which we saw and heard from the boat at the Kinabatangan. We missed [Hook-billed bulbul](#) at Klias, see above. **Bornean bristlehead** can be found at Sepilok, Danum and Deramakot. We only saw and heard them at multiple occasions at Danum. Familiarise yourself with both the most common call- and song-types.



Crested jayshrike (JvD)



Straw-coloured bulbul (JvD)

### Smaller passerines

Most smaller passerine endemics do not require extra information other than knowing the habitat, sounds and how they look like. The toughest might be **Bornean wren-babbler** and **Black-throated wren-babbler**, both of which are possible at Danum and Deramakot and require a lot of taping apparently. Note that **Black-throated wren-babbler** has two distinct song-like sounds. Apparently it works best to tape the repetitive whistle to get response, while with the melodic shorter song you might get him closer once located. The flycatchers are a nice challenge. **Dayak blue flycatcher** is at the Bulwer’s-pheas-



ant-hide, while **Bornean-blue flycatcher** can be found along the waterfall trail at Danum. We advise you to check out the taxonomy of the jungle flycatchers too. We saw **Grey-chested jungle flycatcher** at Trus Madi entomology camp and our only **Eyebrowed jungle flycatcher** was down by the Kinabalu HQ.

## Treeshrews, insectivores and colugo

As always, shrews and other insectivores are very hard to find, and even the largest of them all, the Moonrat eluded us, although we might have smelt it at some point in Danum and Tawau. The treeshrews of Borneo are amazing, the only species occurring in Sabah we missed was the nocturnal Pen-tailed treeshrew, and that was not from lack of trying. It is rarely seen these days, despite its bright eyeshine. Look for it in the pristine lowland forests. Our first treeshrew of the trip was the seldom seen **Smooth-tailed treeshrew**! We found it with the thermal on a large tree at Kinabalu, where it was hunting cicadas. In contrast with the **Mountain treeshrews** there it is arboreal and has a very slender, almost rat-like tail. Our best **Lesser-treeshrew** sighting was at Poring, where two individuals raced through the canopy. Before Trus Madi we only saw one other treeshrew, when a **Large treeshrew** hurried by at Danum. At the Bulwer's pheasant hide it was suddenly crazy with treeshrews, with five species that we could observe beautifully! **Mountain, Large, Lesser, Long-footed** and **Slender treeshrew** all popped up at the feeders! **Colugo** is easy to find at daytime with the thermal scope when it rests on tree trunks. Otherwise you will need to spotlight it at night. We saw them at Poring, Sepilok and Deramakot.

## Primates

The Kinabatangan is the place to be for primates, though **Orangutan** was not there when we were there, but we did see them at Gomantong, Sepilok (probably a wild one), Danum and Deramakot. **Proboscis monkey** was common, while **Silvered langur** was rarer along the Kinabatangan river. **Sunda pig-tailed** and **Long-tailed macaque** were common at many places. **Maroon langurs** were at Gomantong, Kinabatangan, Tawau and Danum. The **East-Bornean grey gibbon** dawn-chorus is beautiful and we saw and heard this species at the Kinabatangan, Sepilok, Danum, Tawau, Deramakot and Trus Madi. The only chance you have on Sabah grey langur seems to be Tabin.



Large treeshrew (JvD)



Proboscis monkey (DD)

## Squirrels

Borneo is the heart of squirrel diversity with around 35(!) species. In Sabah that number is still as high as 30. The most wanted, but hardest species is Tufted ground squirrel. According to Mike Gordon it is mainly found in the hills, and he saw it at Maliau and Imbak canyon, while the remote northern part of the Kinabalu national park might also be good according to our Danum guide Akmal (Sayap substation, see also the report by [Baumgartner 2019](#)). We also missed the Sabah-near-endemic Four-striped ground squirrel, which might be seen at Deramakot, Tawau and Trus Madi. Shrew-faced squirrel is very rare in all of its range and might be tried at coastal rainforests. The thermal scope comes in handy for the nocturnal smaller species, as we found **Jentink's flying squirrel** at the Kinabalu and **Hose's pygmy flying squirrel** at Klias with it. Keep in mind that Emily's pygmy flying squirrel is an option too! This species has been seen recently at Deramakot and the Kinabatangan. The thermal scope surprisingly worked also really well for finding **Least** and **Tufted pygmy squirrels** at daytime! Both species also produce characteristic high squeaks. Practise them [here](#) and [here](#). Daan can go on and on about squirrels, but for now we



just want to mention the **Sculptor squirrel** and **Brooke's squirrel** of the Bulwer's-pheasant-hide. These endemic species of mid-level mountains are very rarely seen, and before our trip there was only one photo of **Brooke's** and zero photos of **Sculptor squirrel** on the citizen science platforms of Observation.org and iNaturalist.org. If more mammalwatchers start to visit the Trus Madi hides, we are sure that will change! We have already added our photos on Observation.org, and placed some in the report. Note that **Sculptor squirrel** does not (necessarily?) have a reddish belly as depicted in the Phillipps's field guide, and the most important character other than size is the white flank stripe that broadens towards the end. **Brooke's squirrel** is rather "character-less" at first sight, but note the rings in the long tail and the dorsum that has a similar colour as the (similar sized) **Borneo black-banded squirrel**, but then without the white and black flank stripes. It is larger than **Low's squirrel**, which also has a shorter and (if not moulting) bushier tail. **Bornean mountain ground squirrel** is of similar size and colour as **Brooke's** and even has rings in the tail, but the tail is much shorter while the muzzle is much longer and typical of *Dremomys* squirrels. Note also the difference in behaviour, as **Bornean mountain ground** indeed mainly sits, comes and goes on the ground, while **Brooke's** can be on the ground but prefers to hang upside down on the tree trunk and comes or flees through going up the tree.



Identification photos of a number of squirrels at Trus Madi: Brooke's squirrel (JvD, above left), Borneo black-banded squirrel (DD, above right), Low's squirrel (DD, middle left) and Bornean mountain ground squirrel (JvD, below).



## Other rodents

Identifying rats and mice can be a huge pain in the ass. A probable [Whitehead's maxomys](#) at Tawau we photographed does not count for our lists just yet, but as soon as it turns out how we can separate it with certainty from the more altitudinal [Chestnut-bellied maxomys](#), please let us know. The same goes for [this large rat](#) in the bushes and trees at Klias. The ones we got to species level were: a [Rapid rat](#), a [Kinabalu rat](#), and a few [Asian house rats](#) at the Kinabalu, a [Malaysian field rat](#) at the Kinabatangan, several [Dark-tailed tree rats](#) at Tawau and a [Indomalayan long-tailed giant rat](#) at Deramakot. If you wish to ID [Ranee-mice](#), be sure to bring a measuring tape to photograph it on the exact spot where you photographed the mouse before. At our last night we heard some very nice arguments given by a couple of [Malay porcupines](#). Mr. Kui recognised the sound and was sure that [Long-tailed porcupine](#), that also visits the Trus Madi entomology camp, sounds different. I think this is our first and only heard-only mammal. Unfortunately we did not see [Bornean porcupine](#) either, but Deramakot should be good for that species.

## Bats

Bats are always exciting. Daan brought his Echometer touch and unfortunately did not use it too much, but he still recorded bats at dusk at Kinabalu and foraging bats at the moth traps at Trus Madi. Unfortunately these were species that roost in tree holes and therefore the sounds could not yet be allocated to the exact species (Ellen mcArthur in litt.). However, Daan also recorded [Acuminate horseshoe bats](#) and [Bornean horseshoe bat](#) at their roost at [Deramakot](#) and the Bulwer's-pheasant-hide respectively. For the latter two it was nice that the morphological identification we did using photos could be confirmed by their echolocation. Additionally we saw quite some other bats: two [Great woolly horseshoe bats](#) (nowadays split into the endemic [Anderson's horseshoe bat](#)) were roosting [at this water-tunnel](#) under the road at Kinabalu. We found a [colony](#) of [Borneo fruit bats](#) with the thermal high up in a tree along the same road. The colony of [Fawn roundleaf bats](#) and [Lesser sheeth-tailed bats](#) that Jon Hall saw back in 2004 was still present at [Poring](#) almost 20 years later. You can recognise the [Fawn roundleafs](#) by their two lateral leaflets (see p. 9). Two bat species we regularly found with the thermal were [Trefoil horseshoe bat](#) (also one roosting under a leaf at daytime at Poring) and [Diadem roundleaf bat](#). Under the roof of the dining area at Deramakot, we saw a [Nepalese whiskered myotis](#) (*Myotis muricola* as it has many common names) who showed itself [so well at daytime](#) we could photograph the distinctive characters, including the position of the tail membrane at the ankle. The renovation of a bridge at the Gomantong caves meant that we only could add [Wrinkle-lipped free-tailed bat](#) there as we saw the huge stream flying overhead at the HQ.



Identification photos of a number of bats: Bornean horseshoe bat at Trus Madi (JvD), Acuminate horseshoe bat at Deramakot (JvD) and Diadem roundleaf bat at Tawau (JvD).

## Cats and Sun bear

Everyone always drools over cats and Borneo has five excellent species to look for. We were very lucky with a **Flat-headed cat** on our first night at the Kinabatangan tributaries, spotted by Romzie. It had been four months since Romzie last saw one, so as always, it is by no means guaranteed. The only endemic cat is the Bay cat (related to the Golden cat of mainland Asia) and it is by far the most difficult to observe. Our guide Theo had seen it once at Deramakot near the river. Apparently it is mostly crepuscular. Deramakot is also the place to be for the three other cats: **Sunda leopard cat**, Marbled cat and Sunda clouded leopard. The way to see them: spend as much time driving up and down the gravel road between Deramakot and the Kinabatangan at dusk, in the evening (and perhaps also at dawn). If you really want to see Clouded leopard and you have the time and money: book at least for ten nights at Deramakot and even then, you might not see them. We had four nights and of the “big three”, we were very lucky with a **Sun bear**.

## Civets and linsangs

On our first night on the Kinabalu, we struck gold with a beautiful **Banded linsang**. For more information, see our Kinabalu paragraph. Regarding civets, the terrestrial **Malay civet** and arboreal **Small-toothed** and **Common palm civet** are the easiest and most widespread. Unfortunately we did not see Banded civet (possible at e.g. Deramakot, Tawau and Danum), nor its extremely rare mountainous nephew the Hose's civet (very small chance deep in the Tawau hills). The **Common palm civet** is replaced in the hills by **Masked palm civet** which we saw at the Kinabalu and at Trus Madi entomology camp. We saw two **Binturongs** at fruiting trees, one at night at Deramakot and one during the afternoon at Trus Madi. At our last night at Danum, we saw an awesome **Sunda otter civet** hunting successfully for snakes in a small stream at the crossing of trail W0 to N5 of the research plots.

## Mustelids

At Deramakot we smelt and later saw a **Sunda stink badger** (a.k.a. **Sunda skunk**). We got lucky with mustelids at the Kinabatangan with a **Malay weasel** running away from the boat. This species is rarely seen and it always seems like chance encounters. We also had a group of three **Smooth-coated otters** at the Kinabatangan. You also have to be lucky with Yellow-throated marten, of which other tourists photographed one crossing the road at Danum during our stay. The same goes for the two species of Mongoose. The Kinabalu ferret badger should be possible around the dustbins and higher up from the Timpohon gate. We were not lucky at the dustbins and going higher up is not possible.

## Some notes on identification

### Swifts and swiftlets

Swifts and swiftlets are made needlessly complicated by a variety of English names. Every book and portal has something different and therefore I decided to make an overview for you.

Plume-toed swiftlet *Collocalia affinis* (IOC, Observation, Merlin and eBird)

= Western glossy swiftlet *C. esculenta affinis* in Birds of Malaysia

Bornean swiftlet *Collocalia dodgei* (IOC, Observation, Merlin and eBird)

= Cave swiftlet *C. linchi dodgei* in Birds of Malaysia

Silver-rumped spinetail *Rhaphidura leucopygialis* (IOC, Observation, birds of Malaysia)

= Silver-rumped needletail (Merlin, eBird)

Edible-nest swiftlet *Aerodramus fuciphagus* (IOC, Observation, birds of Malaysia)

= White-nest swiftlet (Merlin, eBird)



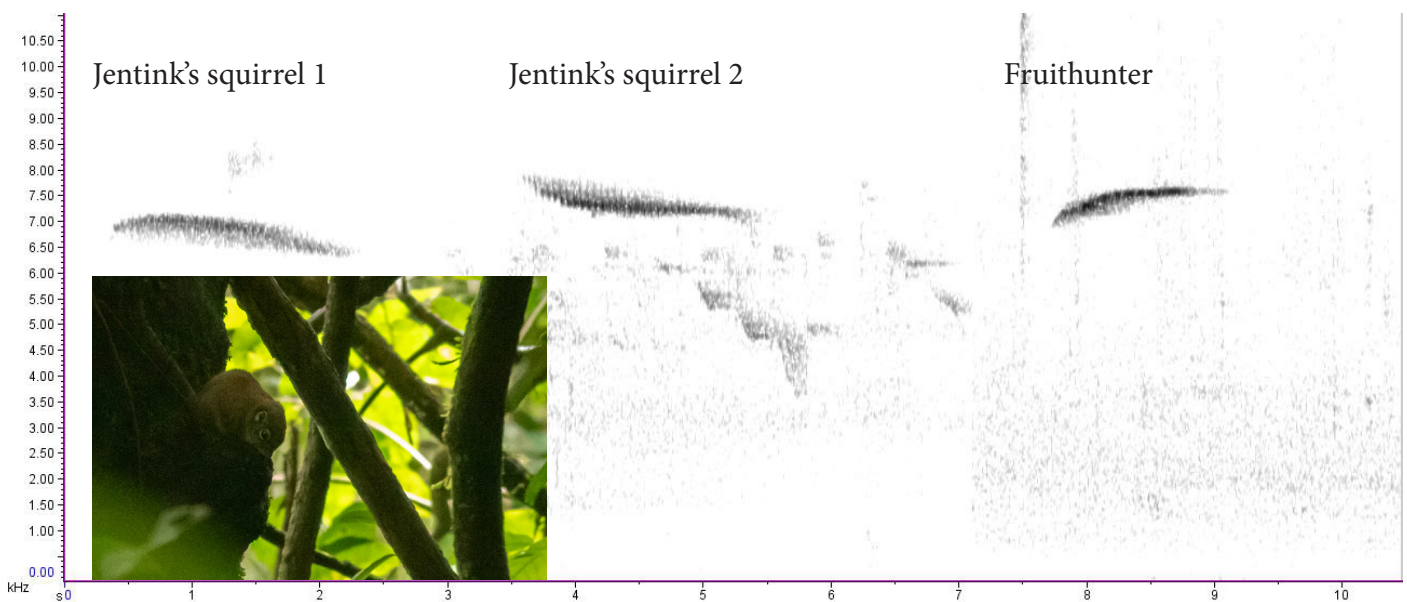
Germain's swiftlet *Aerodramus germani* (IOC, Observation, Merlin and eBird)

= Germain's swiftlet *A. fuciphagus germani* (birds of Malaysia)

So these are the problems with nomenclature, but beware that some of these species are also very hard to identify: Mossy-nest, Black-nest and Edible-nest (=White-nest) can only be separated based on the colour and shape of their nests, while Germain's looks also a lot like them, but has a grey rump. Bornean (=Cave) and Plume-toed (=Western Glossy) are also very much alike, but Bornean has more extended white on the belly and green-glossed instead of bluish glossed upperparts.

### Fruithunter and Jentink's squirrel

We read beforehand in the report of Johan Buckens (2017) that there was a squirrel on the Kinabalu that has a call almost exactly the same as the song of Fruithunter. We found out that this is **Jentink's squirrel**. At close range or in open areas the difference can be noted, as **Jentink's squirrel** calls are actually composed of around 15 separate elements. In the acoustic soundscape of a forest however, it sounds exactly like to single whistle of a Fruithunter. At a certain moment near the HQ, the quarter fell for us, when we searched like crazy to find the source of an alleged Fruithunter-whistle and twice found a **Jentink's squirrel** exactly from the place where the sound came from. What makes it complicated is that the squirrel does not move when it produces the sound. Jurriën filmed it and you barely see it exhale (perhaps this is easier visible at closer range). We advise everyone looking for Fruithunter to keep looking and not count heard-onlies. Recordings might clinch the identification with sonograms, but it would be better if there was a slightly larger database of sound recordings where it is certain that the producer was seen. Compare below a sonogram of two of my **Jentink's squirrel**-recordings with one of a Fruithunter from Xeno-canto by Mike Nelson where it was specified that the bird was seen. I will try to work this out with a larger dataset in the future. See above for more information on rarely seen squirrels such as **Brooke's** and **Sculptor squirrel**.



Sonograms of two Jentink's squirrels near the Kinabalu HQ (DD) and of a Fruithunter (Mike Nelson on XC). Inset: one of the Jentink's squirrels calling (DD)



Smooth-coated otters, Kinabatangan (DD)

# Mammal trip list

Species	Klias	Kinabalu	Poring	Kinabatangan	Sepilok	Danum	Tawau	Deramakot	Trus Madi
Asian elephant <i>Elephas maximus (ssp borneensis)</i>				x				x	
Bornean smooth-tailed treeshrew * <i>Dendrogale melanura</i>		x							
Slender treeshrew * <i>Tupaia gracilis</i>									x
Long-footed treeshrew * <i>Tupaia longipes</i>									x
Lesser treeshrew <i>Tupaia minor (ssp caedis)</i>			x					x	x
Mountain treeshrew * <i>Tupaia montana (ssp baluensis)</i>		x							x
Large treeshrew <i>Tupaia tana (ssp paitana)</i>						x			x
Sunda colugo <i>Galeopterus variegatus (ssp borneanus)</i>			x		x			x	
Philippine slow loris <i>Nycticebus menagensis</i>				x				x	
Western tarsier <i>Tarsius bancanus (ssp borneanus)</i>	x					x			
Long-tailed macaque <i>Macaca fascicularis</i>	x			x		x	x	x	
Sunda pig-tailed macaque <i>Macaca nemestrina</i>				x	x	x		x	x
Proboscis monkey * <i>Nasalis larvatus</i>				x					
Maroon langur * <i>Presbytis rubicunda (ssp chrysea/ignita)</i>				x		x	x	x	
Silvered langur <i>Trachypithecus cristatus</i>				x					
East Borneo grey gibbon * <i>Hylobates funereus</i>				x	x	x	x	x	x
Bornean orangutan * <i>Pongo pygmaeus (ssp morio)</i>				x	x	x		x	
Indomalayan long-tailed giant rat <i>Leopoldamys sabanus</i>								x	
Kinabalu rat * <i>Rattus baluensis</i>		x							
Oriental house rat <i>Rattus tanezumi</i>		x							
Tioman rat <i>Rattus tiomanicus (ssp sabae)</i>				x					
Dark-tailed tree rat <i>Niviventer cremoriventer</i>							x		
Rapit rat <i>Niviventer rapit</i>		x							
Malayan porcupine <i>Hystrix brachyura (ssp longicauda)</i>									x
Black flying squirrel <i>Aeromys tephromelas (ssp phaeomelas)</i>								x	
Thomas's flying squirrel * <i>Aeromys thomasi</i>								x	
Red giant flying squirrel <i>Petaurista petaurista (ssp nigrescens)</i>					x			x	
Spotted giant flying squirrel <i>Petaurista elegans (ssp banksi)</i>		x							
Jentink's flying squirrel * <i>Hylopetes platyurus</i>		x							
Hose's pygmy flying squirrel * <i>Petaurillus hosei</i>	x								
Ear-spot squirrel * <i>Callosciurus adamsi</i>				x				x	
Borneo black-banded squirrel * <i>Callosciurus orestes</i>		x							x
Plantain squirrel <i>Callosciurus notatus (ssp suffusus)</i>	x	x		x	x	x			
Prevost's squirrel <i>Callosciurus prevostii (ssp pluto)</i>	x		x	x	x	x	x	x	
Bornean mountain ground squirrel * <i>Dremomys everetti</i>		x							x
Least pygmy squirrel * <i>Exilisciurus exilis</i>			x	x	x	x	x		
Tufted pygmy squirrel * <i>Exilisciurus whiteheadi</i>		x							
Sculptor squirrel * <i>Glyphotes simus</i>									x
Brooke's squirrel * <i>Sundasciurus brookei</i>									x
Jentink's squirrel * <i>Sundasciurus jentinki</i>		x							x
Low's squirrel <i>Sundasciurus lowi</i>			x	x					x
Horse-tailed squirrel <i>Sundasciurus hippurus (ssp pryeri)</i>					x			x	
Pale giant squirrel <i>Ratufa affinis (ssp baramensis)</i>					x	x		x	
Borneo fruit bat * <i>Aethalops aequalis</i>		x							



Species	Klias	Kinabalu	Poring	Kinabatangan	Sepilok	Danum	Tawau	Deramakot	Trus Madi
White-collared fruit bat <i>Megaerops wetmorei</i> (ssp <i>albicollis</i> )						x			
Large flying fox <i>Pteropus vampyrus</i>	x							x	
Acuminate horseshoe bat <i>Rhinolophus acuminatus</i> (ssp <i>sumatranus</i> )								x	
Bornean horseshoe bat <i>Rhinolophus borneensis</i>									x
Andersen's horseshoe bat * <i>Rhinolophus foetidus</i>		x							
Trefoil horseshoe bat <i>Rhinolophus trefoliatus</i>			x		x			x	
Fawn roundleaf bat <i>Hipposideros cervinus</i> (ssp <i>labuanensis</i> )			x						
Diadem roundleaf bat <i>Hipposideros diadema</i> (ssp <i>niasoni</i> )						x	x		
Lesser sheath-tailed bat <i>Emballonura alecto</i>			x						
Wrinkle-lipped free-tailed bat <i>Chaerephon plicatus</i>				x					
Nepalese whiskered myotis <i>Myotis muricola</i>								x	
Sunda leopard cat <i>Prionailurus javanensis</i> (ssp <i>borneensis</i> )								x	
Flat-headed cat <i>Prionailurus planiceps</i>				x					
Banded linsang <i>Prionodon linsang</i>		x							
Binturong <i>Arctictis binturong</i> (ssp <i>pageli</i> )								x	x
Small-toothed palm civet <i>Arctogalidia trivirgata</i> (ssp <i>stigmaticus</i> )	x	x		x	x	x	x	x	
Sunda otter civet <i>Cynogale bennettii</i>						x			
Masked palm civet <i>Paguna larvata</i> (ssp <i>ogilbyi</i> )		x							x
Common palm civet <i>Paradoxurus hermaphroditus</i> (ssp <i>philippinensis</i> )					x	x		x	
Malay civet <i>Viverra zibetha</i>				x		x		x	
Sun bear <i>Helarctos malayanus</i> (ssp <i>eurypilus</i> )								x	
Sunda skunk <i>Mydaus javanensis</i> (ssp <i>lucifer</i> )								x	
Smooth-coated otter <i>Lutrogale perspicillata</i>				x					
Malay weasel <i>Mustela nudipes</i>				x					
Lesser oriental chevrotain <i>Tragulus kanchil</i> (ssp <i>klossi</i> )						x	x	x	
Southern red muntjac <i>Muntiacus muntjak</i>						x			
Sambar <i>Rusa unicolor</i> (ssp <i>brookei</i> )						x		x	x
Total number of species: 71	7	16	8	21	13	20	9	30	18



Bornean stubtail (JvD)

# List of endemic birds and mammals

Species in **bold** indicate that we observed them

English name	scientific name	status	where
	<b>Birds</b>		
Crested Partridge	<i>Rollulus rouloul</i>	non-endemic tarç	TM, DA
<b>Red-breasted Partridge</b>	<i>Arborophila hyperythra</i>	endemic	KI
Dulit Partridge	<i>Rhizothera dulitensis</i>	endemic	Sarawak
<b>Bulwer's Pheasant</b>	<i>Lophura bulweri</i>	endemic	TM
Bornean Crestless Fireback	<i>Lophura pyronota</i>	endemic	Sarawak
<b>Bornean Crested Fireback</b>	<i>Lophura ignita</i>	endemic	DA
<b>Sabah Partridge</b>	<i>Tropicoperdix graydoni</i>	endemic	KN, DA
<b>Crimson-headed Partridge</b>	<i>Haematortyx sanguiniceps</i>	endemic	KI
Bornean Peacock-Pheasant	<i>Polyplectron schleiermacheri</i>	endemic	Telupid
<b>Bornean Ground-Cuckoo</b>	<i>Carpococcyx radiceus</i>	endemic	KN, DA
Dulit Frogmouth	<i>Batrachostomus harterti</i>	endemic	Sarawak
<b>Bornean Frogmouth</b>	<i>Batrachostomus mixtus</i>	endemic	TM
<b>Bornean Swiftlet</b>	<i>Collocalia dodgei</i>	endemic	KI
<b>Mountain Serpent-Eagle</b>	<i>Spilornis kinabaluensis</i>	endemic	KI
<b>Whitehead's Trogon</b>	<i>Harpactes whiteheadi</i>	endemic	KI
<b>Bornean Barbet</b>	<i>Psilopogon eximius</i>	endemic	TM
<b>Golden-naped Barbet</b>	<i>Psilopogon pulcherrimus</i>	endemic	KI, TM
<b>Mountain Barbet</b>	<i>Psilopogon monticola</i>	endemic	TM, KI
<b>White-fronted Falconet</b>	<i>Microhierax latifrons</i>	endemic	DK
Hose's Broadbill	<i>Calyptomena hosii</i>	endemic	PO, TM?
<b>Whitehead's Broadbill</b>	<i>Calyptomena whiteheadi</i>	endemic	KI
<b>Black-crowned Pitta</b>	<i>Erythropitta ussheri</i>	endemic	lowland
<b>Blue-banded Pitta</b>	<i>Erythropitta arquata</i>	endemic	TM, DA
<b>Giant Pitta</b>	<i>Hydrornis caeruleus</i>	non-endemic tarç	GO, DA
<b>Bornean Banded-Pitta</b>	<i>Hydrornis schwaneri</i>	endemic	TM, DA
<b>Blue-headed Pitta</b>	<i>Hydrornis baudii</i>	endemic	DA
<b>Hooded Pitta</b>	<i>Pitta sordida</i>	non-endemic tarç	KN
<b>Bornean Whistler</b>	<i>Pachycephala hypoxantha</i>	endemic	KI
Black Oriole	<i>Oriolus hosii</i>	endemic	Sarawak
<b>Bornean Bristlehead</b>	<i>Pityriasis gymnocephala</i>	endemic	DA, SP, DK
<b>Crested Shrikejay</b>	<i>Platylophus galericulatus</i>	non-endemic tarç	DA
<b>Bornean Green-Magpie</b>	<i>Cissa jefferyi</i>	endemic	KI
<b>Bornean Treepie</b>	<i>Dendrocitta cinerascens</i>	endemic	KI
<b>Rail-babbler</b>	<i>Eupetes macrocerus</i>	non-endemic tarç	TM
Friendly Bush Warbler	<i>Locustella accentor</i>	endemic	exc KK
<b>Bornean Bulbul</b>	<i>Rubigula montis</i>	endemic	TM
<b>Bornean Stubtail</b>	<i>Urosphena whiteheadi</i>	endemic	KI
<b>Chestnut-crested Yuhina</b>	<i>Staphida everetti</i>	endemic	mountain
<b>Pygmy White-eye</b>	<i>Heleia squamifrons</i>	endemic	TM
<b>Mountain Black-eye</b>	<i>Zosterops emiliae</i>	endemic	KI
Meratus White-eye	<i>Zosterops meratusensis</i>	endemic	Kalimantan
<b>Bold-striped Tit-Babbler</b>	<i>Mixornis bornensis</i>	endemic	widespr
Bare-headed Laughingthrush	<i>Melanocichla calva</i>	endemic	KI
<b>Black-throated Wren-Babbler</b>	<i>Turdinus atrigularis</i>	endemic	DA, DK
<b>Mountain Wren-Babbler</b>	<i>Gypsophila crassa</i>	endemic	KI
<b>Bornean Wren-Babbler</b>	<i>Ptilocichla leucogrammica</i>	endemic	DA, DK



English name	scientific name	status	where
<b>Everett's Thrush</b>	<i>Zoothera everetti</i>	endemic	KI
Fruit-hunter	<i>Chlamydochaera jefferyi</i>	endemic	KI
<b>White-crowned Shama</b>	<i>Copsychus stricklandii</i>	endemic	widespr
<b>Dayak Blue Flycatcher</b>	<i>Cyornis montanus</i>	endemic	TM
Meratus Blue Flycatcher	<i>Cyornis kadayangensis</i>	endemic	Kalimantan
<b>Bornean Blue Flycatcher</b>	<i>Cyornis superbus</i>	endemic	DA
<b>Eyebrowed Jungle Flycatcher</b>	<i>Vauriella gularis</i>	endemic	KI
<b>Bornean Shortwing</b>	<i>Brachypteryx erythrogyna</i>	endemic	KI
<b>Bornean Whistling-Thrush</b>	<i>Myophonus borneensis</i>	endemic	KI
<b>Bornean Forktail</b>	<i>Enicurus borneensis</i>	endemic	KI
<b>Yellow-rumped Flowerpecker</b>	<i>Prionochilus xanthopygius</i>	endemic	widespr
Spectacled Flowerpecker	<i>Dicaeum dayakorum</i>	endemic	TM, DA
<b>Black-sided Flowerpecker</b>	<i>Dicaeum monticulum</i>	endemic	KI, TM
Whitehead's Spiderhunter	<i>Arachnothera juliae</i>	endemic	KI
<b>Bornean Spiderhunter</b>	<i>Arachnothera everetti</i>	endemic	TM, DA, DK
<b>Bornean Leafbird</b>	<i>Chloropsis kinabaluensis</i>	endemic	TM
<b>Dusky Munia</b>	<i>Lonchura fuscans</i>	endemic	lowland
<b><u>Mammals</u></b>			
<b>Borneo Fruit Bat</b>	<i>Aethalops aequalis</i>	endemic	KI
Spotted-winged Fruit Bat	<i>Balionycteris maculata</i>	endemic	DA
Sunda Tailless Fruit Bat	<i>Megaerops ecaudatus</i>	endemic	?
	<i>Hipposideros bicolor</i>	endemic	?
	<i>Hipposideros larvatus neglectus</i>	endemic	?
	<i>Hipposideros dyacorum</i>	endemic	?
	<i>Hypsugo kitcheneri</i>	endemic	?
Gomatong myotis	<i>Myotis gomantongensis</i>	endemic	GO
	<i>Myotis borneoensis</i>	endemic	?
Hose's Pygmy Shrew	<i>Suncus hosei</i>	endemic	?
Black Shrew	<i>Suncus ater</i>	endemic	?
Bornean Shrew	<i>Crocidura foetida</i>	endemic	?
Kinabalu Shrew	<i>Crocidura baluensis</i>	endemic	KI
Bornean Water Shrew	<i>Chimarrogale phaeura</i>	endemic	KI
Moonrat	<i>Echinosorex gymnurus</i>	non-endemic tarç	DK, DA
Hylomys	<i>Hylomys suillus</i>	endemic	KI
Pen-tailed Treeshrew	<i>Ptilocercus lowii</i>	non-endemic tarç	DA, SP
<b>Slender Treeshrew</b>	<i>Tupaia gracilis</i>	endemic	TM
<b>Long-footed Treeshrew</b>	<i>Tupaia longipes</i>	endemic	TM
<b>Mountain Treeshrew</b>	<i>Tupaia montana</i>	endemic	KI, TM
<b>Smooth-tailed Treeshrew</b>	<i>Dendrogale melanura</i>	endemic	KI
Striped Treeshrew	<i>Tupaia dorsalis</i>	endemic	Sarawak
Painted Treeshrew	<i>Tupaia picta</i>	endemic	Sarawak
Sunda Pangolin	<i>Manis javanica</i>	non-endemic tarç	DA
<b>Bornean Colugo (Sunda Colugo)</b>	<i>Galeopterus borneanus</i>	endemic	lowland
Kayan Slow Loris	<i>Nycticebus kayan</i>	endemic	?
<b>Red Langur (Maroon (Leaf) Monkey)</b>	<i>Presbytis rubicunda</i>	endemic	lowland
Hose's Grey Langur	<i>Presbytis hosei</i>	endemic	Brunei
Sabah Grey Langur	<i>Presbytis sabana</i>	endemic	Tabin

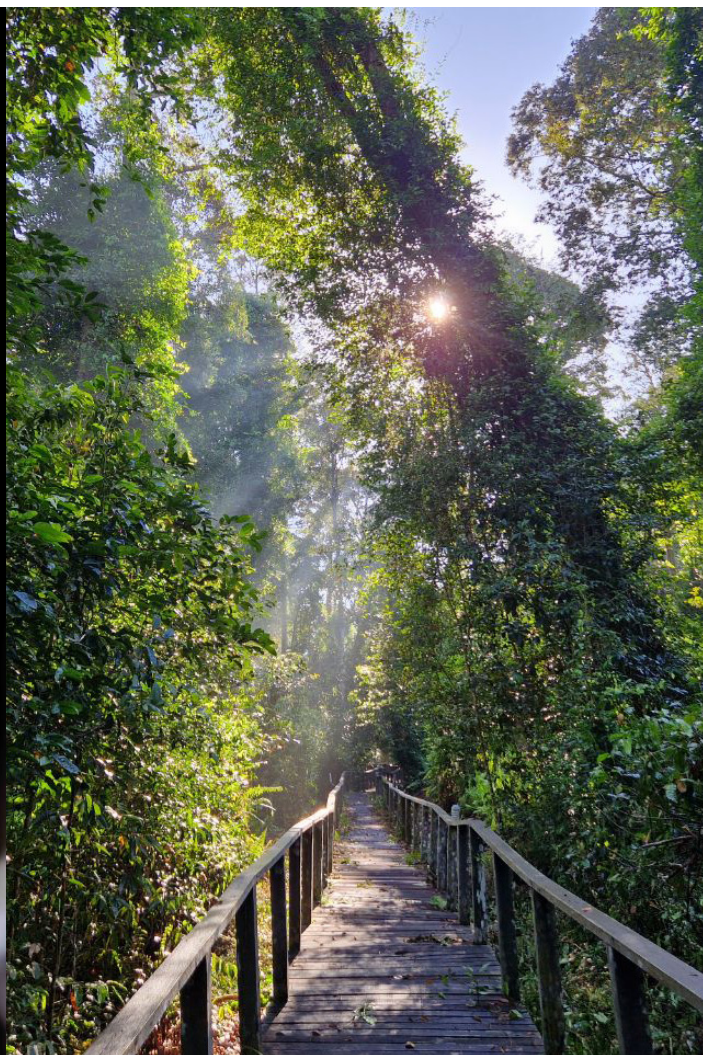
English name	scientific name	status	where
Sarawak Langur	<i>Presbytis chrysomelas</i>	endemic	Sarawak
<b>Proboscis Monkey</b>	<i>Nasalis larvatus</i>	endemic	KN
<b>North Borneo Gibbon</b>	<i>Hylobates funereus</i>	endemic	lowland
Abbott's Gibbon	<i>Hylobates abbotti</i>	endemic	Sarawak
<b>Bornean Orangutan</b>	<i>Pongo pygmaeus</i>	endemic	lowland
Kinabalu Squirrel	<i>Callosciurus baluensis</i>	endemic	KI
<b>Horse-tailed Squirrel</b>	<i>Sundasciurus hippurus</i>	non-endemic tarç	SP, DK, DA
<b>Brooke's Squirrel</b>	<i>Sundasciurus brookei</i>	endemic	TM
<b>Jentink's Squirrel</b>	<i>Sundasciurus jentinki</i>	endemic	KI, TM
<b>Ear-spot Squirrel</b>	<i>Callosciurus adamsi</i>	endemic	GO, DA, DK
<b>Bornean Black-banded Squirrel</b>	<i>Callosciurus orestes</i>	endemic	KI, TM
<b>Least Pygmy Squirrel</b>	<i>Exilisciurus exilis</i>	endemic	lowland
<b>Tufted Pygmy Squirrel</b>	<i>Exilisciurus whiteheadi</i>	endemic	KI
<b>Sculptor Squirrel</b>	<i>Glyphotes simus</i>	endemic	TM
<b>Bornean Mountain Ground Squirrel</b>	<i>Dremomys everetti</i>	endemic	KI, TM
Four-striped Ground Squirrel	<i>Lariscus hosei</i>	endemic	DK, TM
Tufted Ground Squirrel	<i>Rheithrosciurus macrotis</i>	endemic	Maliau, Sayak
<b>Hose's Pygmy Flying Squirrel</b>	<i>Petaurillus hosei</i>	endemic	KL
Emily's Pygmy Flying Squirrel	<i>Petaurillus emiliae</i>	endemic	DK
<b>Jentink's Flying Squirrel</b>	<i>Hylopetes platyurus</i>	endemic	KI
<b>Thomas's Flying Squirrel</b>	<i>Aeromys thomasi</i>	endemic	DK
<b>Kinabalu Rat</b>	<i>Rattus baluensis</i>	endemic	KI
Borneo Giant Rat	<i>Sundamys infraluteus</i>	endemic	KI
Mountain Maxomys	<i>Maxomys alticola</i>	endemic	KI
<b>Rapit Rat</b>	<i>Niviventer rapit</i>	endemic	KI
Chestnut-bellied Maxomys	<i>Maxomys ochraceiventer</i>	endemic	?
Baeodon Maxomys	<i>Maxomys baeodoni</i>	endemic	?
Large Sunda Tree Mouse	<i>Chiropodomys major</i>	endemic	DA
Grey-bellied Sunda Tree Mouse	<i>Chiropodomys muroides</i>	endemic	?
Bornean Sunda Tree Mouse	<i>Chiropodomys pusillus</i>	endemic	?
Emmon's Tree-rat	<i>Pithecheirops otion</i>	endemic	DA
Ranee Mouse	<i>Haeromys margaretae</i>	endemic	DK
Bornean Porcupine	<i>Thecurus crassispinis</i>	endemic	DK, TM
<b>Bornean Sun Bear</b>	<i>Helarctos malayanus</i>	non-endemic tarç	DK
<b>Teledu or Sunda Skunk</b>	<i>Mydaus javanensis</i>	non-endemic tarç	DK
Bornean Ferret-badger	<i>Melogale everetti</i>	endemic	KI
<b>Banded Linsang</b>	<i>Prionodon linsang</i>	non-endemic tarç	KI
<b>Small-toothed Palm Civet</b>	<i>Arctogalidia stigmatica</i>	endemic	lowland
<b>Otter Civet</b>	<i>Cynogale bennettii</i>	non-endemic tarç	DA, DK
Hose's Civet	<i>Hemigalus hosei</i>	endemic	TW
Bornean Clouded Leopard	<i>Neofelis diardis borneensis</i>	non-endemic tarç	DK
Marbled Cat	<i>Pardofelis marmorata</i>	non-endemic tarç	DK
Bay Cat	<i>Catopuma badia</i>	endemic	DK
<b>Flat-headed Cat</b>	<i>Felis planiceps</i>	non-endemic tarç	KN
<b>Bornean Leopard Cat</b>	<i>Prionailurus javanensis</i>	non-endemic tarç	DK
Bornean Yellow Muntjac	<i>Muntiacus atherodes</i>	endemic	DA, DK



Photos: Klias peat swamp



Western tarsier (JvD)



The Klias boardwalk (JvD/CP)



Red-crowned barbets (night and day. JvD)



# Kinabalu



Everett's thrush (JvD)



Banded linsang (JvD)



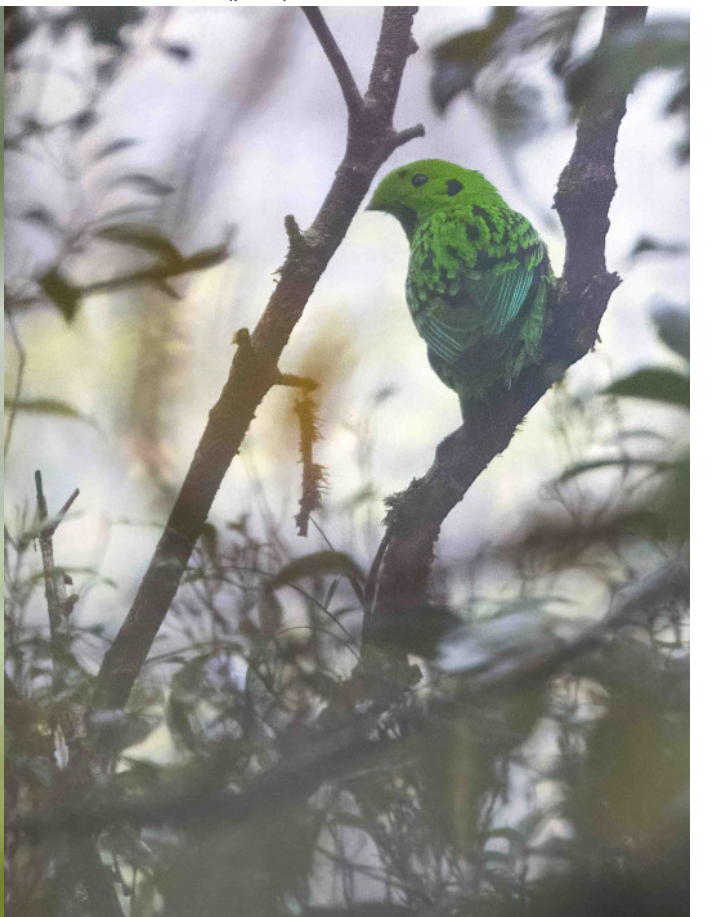
Spotted giant flying squirrel (JvD)



Bornean forktail (JvD)



Tufted pygmy squirrel (JvD)



Whitehead's broadbill (JvD)



## Poring hot springs



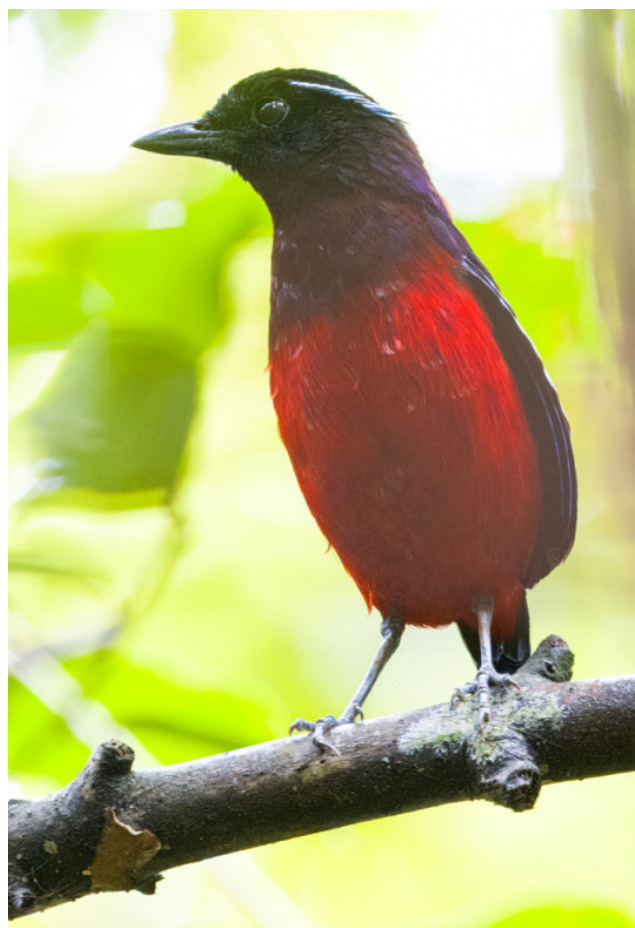
Trefoil horseshoe bat (JvD)  
**Kinabatangan**



Sunda Colugo (JvD)



Oriental bay owl (JvD)



Black-crowned pitta (JvD)



## Kinabatangan & Gomantong



Large frogmouth (JvD)



Ear-spot squirrel (JvD)



Rufous-collared kingfisher (JvD)



Hooded pitta (JvD)



Sabah partridge (JvD)



Flat-headed cat (JvD)



## Sepilok



Horse-tailed squirrel (JvD)



Black-crowned pitta (JvD)

## Danum



Great slaty woodpecker (JvD)



Bornean bristlehead & Green broadbill (JvD)



Maroon langur (CP)



Gold-ringed cat snake (JvD)



# Deramakot



Leopard cat (JvD)



Black flying squirrel (JvD)



Lesser mousedeer (DD)



Cynopterus sp. (JvD)



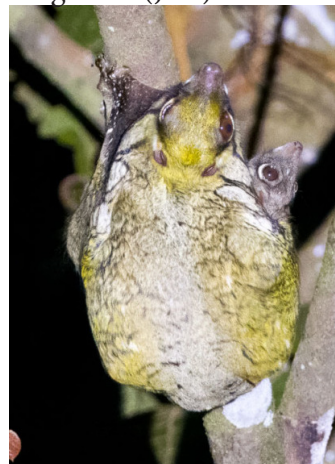
Sun bear (DD)



Orangutans (JvD)



Barred eagle owl, Sunda colugo's & Thomas's flying squirrel (JvD)





# Trus Madi



Mountain treeshrew (DD)



Bornean leafbird (DD)



Bornean peacock pheasant (DD)



Brooke's squirrel (DD)



Low's squirrel (DD)



Dayak blue flycatcher (DD)



Long-footed treeshrew (DD)



Sculptor squirrel (DD)





Rail babbler (DD)



Slender tree shrew (DD)



Bornean banded pitta (JvD)





# Moths of Borneo

Trus Madi 29-31 August 2023



Selection of Bornean moths (CP)