

THE RARE MAMMALS OF BORNEO

By Shavez Cheema and Martin Parry

Correspondence to: Shavez Cheema at 1stopborneo@gmail.com

Background

Borneo has over 240 species of mammals with almost 90 of these being fruit-eating or insectivorous bats. In recent years, mammal watching on Borneo has 'taken off' but it is still not close to bird watching in popularity. However, there are now more mammal watching tours taking place every year, catering for the increasing numbers of enthusiasts. Most tours still aim to find Borneo's 'usual suspects' such as Bornean Orangutan, Bornean Clouded Leopard,

Proboscis Monkey as well as other species such as squirrels, gibbons and the Western Tarsier.

In this article, we will not be highlighting these species but instead we want to discuss 'The Rare Mammals on Borneo'. We are not including bats because most mammal watchers need to catch them for identification and this is time-consuming and requires special permits. With apologies to bat lovers but these will be covered in a later article



Tawau Hills Park

The 'Rarest' and the reasons for our selections

Mammals covered here are species that are very difficult to record in the wild. Even serious mammal watchers and field scientists acknowledge the challenge of seeing and photographing them. Mostly, their presence has been confirmed by camera trapping, anecdotal evidence or unexpected, chance encounters. It is reasonable to explain these limited records by the fact these species exist only in small populations, in other words they are rare. In conservation terms, they might be considered to be at risk but not necessarily endangered.

Some species that are endemic to Borneo may have always been rare, since they will have evolved in habitats that are limited in distribution and small in size, for example the Ferret Badger at Mount Kinabalu. Others may have populations that have declined only recently because of the destruction or fragmentation of their habitats. The distinction between a species being rare, under threat or endangered is blurred since such terms are difficult to define. Certainly, the species listed below as being 'the rare mammals in Borneo' are amongst the most likely ones to be or become critically endangered, in other words they could become extinct.

However, the lack of clarity on the status of these species may also in part be due to our lack of understanding of their ecology, their food and even their behaviour; but of course, these factors are difficult to study when a mammal is only present in small numbers or when their habitats are inaccessible and hard to survey.

Here is the list and we are suggesting that species like these should become the focus of more mammal-watching tours:

1) Kinabalu Ferret Badger (*Melogale everetti*)



Photo by Chun Xing Wong

Also known as the Bornean Ferret Badger, it is largely confined to hill and montane cloud forest of Mount Kinabalu but there are also limited records from other areas, such as recent camera trap records in similar habitat within the Crocker Range Park. This is a nocturnal mammal and is difficult to observe within its known range. Perhaps the best method to see this species is by doing more night walks in Kinabalu Park, where there has been one recent record in early 2023: when one was disturbed at the mountain peak by a hiker who reported it as being 'disorientated'.

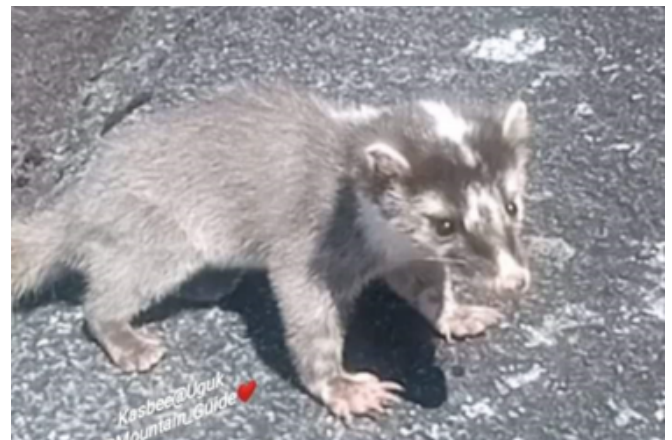


Photo by Kasbee@Uguk, Mountain Guide

2) Tufted Ground Squirrel (*Rheithrosciurus macrotis*)

This is often described as one of the most magnificent looking squirrels in the world. It is largely confined to hill forest throughout Borneo, with well documented sightings from each of Sabah, Brunei, Sarawak and Kalimantan. It is captured quite regularly in camera traps but is rarely seen in the field, even by experienced mammal watchers. There are no confirmed dense populations in Borneo and it is likely to be scarce but widely distributed.



Photo by 1StopBorneo Wildlife

Various strategies have been employed to find them; by using two of these: 'random walks' and just 'hammocking' in likely hill forest locations, one author (Cheema) has successfully seen this squirrel. A further option is to patiently spend time near an established food source, such as in acorn forest.



Photo by Shavez Cheema

3) Hose's Civet (*Hemigalus hosei*)



Photo by Chien Lee from his facebook post - [Chien Lee Wildlife Photograph](#)

This elusive civet is largely confined to montane habitat of many of the northern mountain ranges of Borneo; Phillipps indicates that Hose's Civet replaces the Banded Civet at altitudes above 1,200m in such habitat. Few mammal watching tours have seen or even target it. One of the reasons why it is rarely looked for is that wildlife watchers are less likely to visit mountains that are often regarded as inaccessible. Mathai (2019), whilst reviewing refuges for this civet, suggested Tawau Hills Park as a hotspot but Cheema has also seen it in Kinabalu Park; it has also been caught in camera traps set on some peaks in Brunei and at Mulu. It is likely that the best way to see Hose's civet is night walks in montane forests of Sabah such as Sayap Substation, Mount Lucia in Tawau or Gunung Alab Substation and in similar mountain forests.

4)The Bay Cat (*Catopuma badia*)



Photo by A.J. Hearn & J.Ross

This is the rarest and least understood of Borneo's 5 wild cats. They seem to be widespread, with records from Kuching hill forests, national parks in Kalimantan, Brunei's interior forests and Sabah's Danum Valley, Deramakot, INIKEA, Kinabalu, and Tawau Hills Parks. In all of these, it is elusive and usually only detected by camera traps, with Tawau Hills and INIKEA being the most productive. Despite these sightings, no mammal tour has recorded (or at least photographed) a Bay Cat; this may be because this cat is thought to avoid forest trails and/or is non-territorial.

Anecdotal evidence from guides suggests that 'random' rainforest walks and night drives are most likely to result in spotting this cat.

5. Borneo Sun Bear (*Helarctos malayanus euryspilus*)



Photo by Shavez Cheema

There are two subspecies of Sun Bear, *H. m. malayanus* that has a wide distribution in tropical forests in S.E. Asia and the smaller *H. m. euryspilus* found only on Borneo. Sadly, the Borneo subspecies is only easy to see in Sun Bear Centres but to actually see one in the wild is rare. Cheema has seen it three times, twice crossing the road in Brunei whilst doing night drives in a forest reserve and once in the rainforest of Deramakot, just behind the accommodation area, presumably 'coming for a snack' near the food-disposal area.



Photo by Shavez Cheema

BORNEO'S LANGURS

Most langurs of Borneo are generally in decline, with some under threat of extinction. Red Langurs, however, are the commonest with a strong population at Tawau Hills Park for example, and we are not calling these rare. In contrast, Grey Langurs form a group of 4 closely related, endemic species, previously thought to be separate races of the same species; no matter how they are classified, all of these are rare and for further reading refer to Phillipps (2023) pages 164-167 for useful discussion of these species. The 4 have separate distributions in Borneo although these may overlap, but all tend to be more common in hills rather than lowlands. Together with the Sarawak langur, these 4 form our second 'Top 5' rare endemic mammals of Borneo:

(1) Sabah Grey Langur (*Presbytis sabana*)



Photo by Yulinda Wahyuni

This is found mainly in East Sabah and is probably the easiest of the grey langurs to see, with good records and sightings in Sabah from protected areas at Tabin, Tawau Hills and Sepilok.

2) Hose's Grey Langur (*Presbytis hosei*)

This species now has a much reduced population, being confined to small pockets in Sabah such as Membakut, although there are strongholds in Brunei, especially in and close to the Temburong National Park.

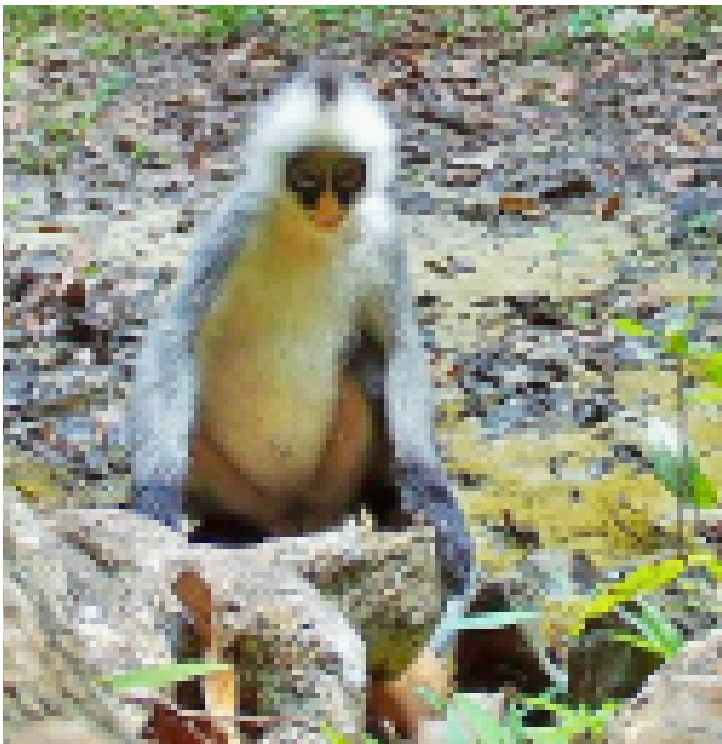


Photo by Silver Peter and 1StopBorneo Willdife

(3) Kutai Grey Langur (*Presbytis canicrus*)



Photo by G. Fredriksson

Once common in Kutai, Kalimantan, this species is now rare after uncontrolled habitat destruction and illegal hunting has taken its toll (and continues to do so). Very few recent records exist and the parks where they found are difficult to reach.

(4) Kalimantan Grey Langur (*Presbytis frontata*)

Still reported from South Sarawak and Central Kalimantan, this species has a wider distribution than the other 3 grey langurs but is rare throughout its range; as with the Kutai Grey Langur, it now usually occurs only in inaccessible habitat.

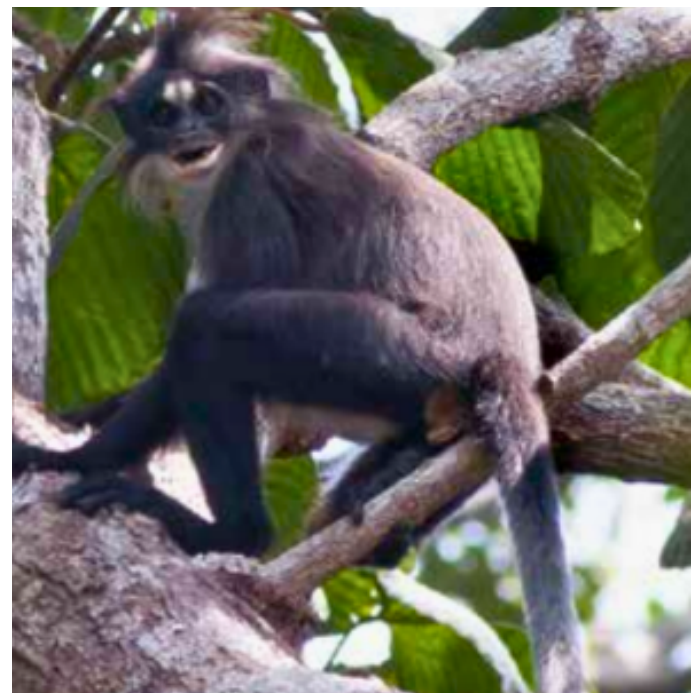


Photo by Milan Janda

(5) Sarawak Langur (*Presbytis chrysomelas*):
'Red and Black Morphs'

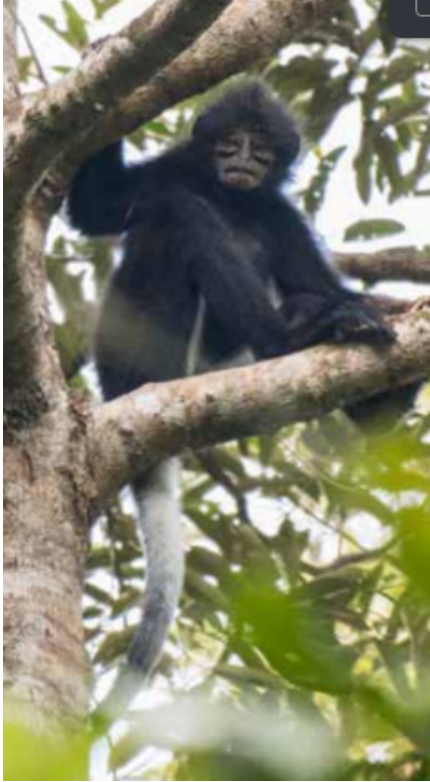


Photo by Jason Teo

This langur of primary rainforest was once common in Sarawak but is now under threat of extinction. The 'black morph' is still found in small populations in West Sarawak and Kalimantan, whilst the 'red morph' might still be seen in two parks in Sarawak: very few good photographs exist. In Sarawak they have been recently spotted at Tg Datu National Park, which is around 3 hours away from Kuching, as well as in Maludam Park, 130km from Kuching.



Photo by Sarawak Forestry

SOME OTHER RARE MAMMALS OF BORNEO

There are other mammals of Borneo that are usually considered to be rare and not easily photographed. Some are listed below but only one of these is endemic: the Bornean Porcupine. Two others listed here are also discussed in a further section on Borneo Mammal Myths.

1. Dugong (*Dugong dugong*)



Photo by 1StopBorneo Wildlife

The dugong is a marine mammal that is occasionally documented along some parts of the coast of Borneo. Some estuaries in Brunei, for example in Brunei Bay, and Sarawak, in the bay surrounding the town of Lawas, have had recent recordings of the dugong, either feeding on sea grass or being accidentally caught by fishermen.



Photo by Ismail Ahmad

2. Otter Civet (*Cynogale bennettii*)



Photo by Charles Ryan (Sticky Rice Travel)

This species is very difficult to see but there are recent records from water courses in some Parks of Sabah, notably at Danum Valley, Maliau Basin and Deramakot. ted at Tg Datu National Park, which is around 3 hours away from Kuching, as well as in Maludam Park, 130km from Kuching.

3.Hairy-Nosed Otter (*Lutra sumatrana*)



Photo by Saliman Salashour

This otter is associated with peat swamp and lowland rivers, with recent sightings recorded in Long Pasia in Sabah, as well as in Kinabatangan and Tabin.

4.Pen-Tailed Tree Shrew (*Ptilocercus lowii*)



Photo by ALbert Tingangan

This is a beautiful species of nocturnal tree shrew with very few records from throughout Borneo. There has been a recent record from Cheema in 2022 at Gunung Alab and the photograph in the Pocket guide to Mammals of Borneo was taken on the island of Labuan several years back.

5.Bornean Porcupine (*Thecurus crassipinis*)



Photo by Shavez Cheema

Porcupines are regularly seen in Borneo but the only endemic one, the Bornean Porcupine, is difficult to see, despite sometimes being described as 'locally common' in North Borneo. There are recent records from Teraja, Brunei. It is much less frequently seen in South Sarawak and Kalimantan and over the whole island it is typically elusive.

MAMMALIAN MYTHS ON BORNEO: NO RELIABLE RECORDS OR PERHAPS MISIDENTIFICATIONS?

In this section we have listed some species that we are not convinced even exist on Borneo, even though there seems to be a common assumption that they do. Their continued inclusion in contemporary literature is a particular 'pet hate' of one of the authors (Cheema). This may be controversial and we are happy to be proved wrong, although we would need to see evidence for their existence that is reliable and contemporary. It seems to be a topic that mammal watchers avoid but with this article we are hoping to stimulate discussion.

After Cheema began writing on conservation in Borneo and meeting with established authors such as Quentin Phillipps and John Payne, he realised that there are some species that are routinely listed in publications on Borneo mammals but for which there is little strong evidence of their current existence on the island. We should add that both of the above authors largely agree with our current point of view. Cheema has also discussed these mammals with guides, hunters and scientists. It became clear that some species exist only as museum records or even in the absence of museum records, only in anecdotal evidence. In one case, the Smoky Flying Squirrel, the strongest evidence is merely a memory from decades ago.

There are also researchers and local guides working in the field at sites of original reports of species such as Emily's flying squirrel who have yet to document unequivocal evidence for their existence. In the case of the Eurasian Otter, we have contacted the photographer and others present at the only claimed sighting but no one could provide convincing evidence, such as a photograph or field notes.

If these records without hard evidence remain unchallenged, then the existence of such species in Borneo will continue to be confirmed in new publications and references. The mammals listed below are some of those for which we suggest that there is little convincing evidence for their presence on Borneo.

1) Smoky Flying Squirrel



Photo Animation of Smoky Flying Squirrel, Phillipps' Field guide to the Mammal of Borneo by Quentin Phillipps

There is still no photograph of this species in the wild from Borneo, nor do we know of anyone who has photographed it anywhere else. In Phillipps' Field Guide to Mammals of Borneo (both editions) he has it from Poring, but after checking with him, he confirmed that he had only seen it with the local hunters when he was in his late teens or early 20s. We believe this might have been a different species or, if it really was seen, it might have been subsequently lost from the area. As reported by Banks (2021), Jessica Hayson, working with colleagues in a forest reserve on the east coast of Sabah, obtained an unclear image of what might be this squirrel. However, we don't feel this is conclusive evidence of its existence.



Photo photographed by Jessica potentially a Smoky Flying Squirrel

2. Eurasian Otter

How is it possible that this species has only ever been photographed on August 14th 2014 by a single long term visitor to Danum Valley? In contrast, there are guides who have spent many years in this Park, mammal watching tours and field scientists undertaking countless thousands of hours of camera trapping in this park and yet nobody else has documented it. Through their travel agent of the original photographer, Cheema even took the liberty of finding out which other tourists had been present at Danum Valley when this photograph was taken. When he contacted some of them, it became clear that they only had photographs of smooth-coated otters.

We have discussed this report with Quentin Phillipps and he confirmed that when compiling his field guides he had insisted on seeing the original photograph of the otter from the photographer. It would be ideal if the image could be found again, and the location of the shot identified, so that a proper survey can be undertaken. Without this or any other supporting evidence, we suggest there must be serious doubt about the sighting of the Eurasian Otter in Borneo.



Photo animation from Phillipps' Guide to the Mammal of Borneo

3.Emily's flying Squirrel

Does this squirrel really exist? Or is it a mistaken record of the similar species, Hose's Pygmy Squirrel, which is also very rare?! Or is it now extinct? In fact, rather confusingly, an early report of Emily's flying squirrel in 1901 was of a pair collected on the Baram River by the then Governor of Marudi (Sarawak), Charles Hose, after whom Hose's pygmy squirrel is named. Emily's flying squirrel has possibly only been recorded twice: originally by Hose at Marudi and, far more recently, by Duijvestijn (2023). The discussion is ongoing: are these two different species or were the sightings above of Emily's either a juvenile Hose's or, in the case of the early record, two poorly preserved adult Hose's Pygmy flying squirrel?



Photo by Joep Duijvestijn

OPTIMISING YOUR SEARCH FOR BORNEAN MAMMALS

1. Undertaking many drives

The more drives you undertake with a good driver and spotter, the higher the chance you have of seeing mammals; the greater the distances you travel, the better the chance of seeing mammals.



2. Taking random walks

The more you explore on foot in suitable habitats, the better the chance you have to see animals.



3. Doing some background research and networking

Better preparing yourself to explore a habitat for particular species improves the chances of seeing species. This can be done by reading articles and journals, referring to relevant websites or speaking to local guides and scientists.

4. Using thermal scopes and red lights

The use of thermal scopes can enhance mammal watching and is a good and enjoyable way to search for mammals at night. Relying just on 'non-red light' to detect mammal 'eye shine' at night may mean you miss mammals if they happen to be looking away from you. We have been using the Xinfra Thermal scope recommended by Jon Hall in Tawau recently. Using a bright red light may enable better and longer observation but may not be best for night photography. Recommended red lights are Fenix Tk25 and Wolf-eyes Dingo Set and both can be purchased directly at Amazon.com

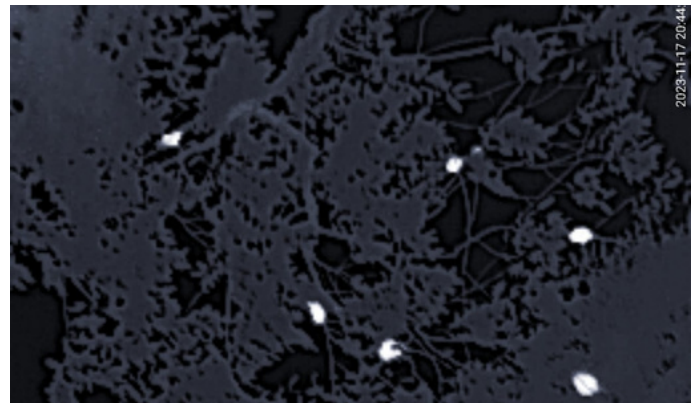


Photo of Mammal detected with thermal scope



Photo of banded civet using red light

5. Maximising your travelling

Travelling to the maximum number of the best parks and spending the maximum time in each one will increase your chance of seeing target species. As with increasing the number of drives, this requires a lot of time, effort and planning and increases your costs but, nevertheless, can be very rewarding.

6. Understanding mammalian ecology

A major contributory factor as to why some mammals may appear so elusive is that there is insufficient understanding of their ecology. For example, knowing and looking for a mammal's food source, may considerably increase the chance of seeing it. Ficus species are keystone species in Borneo's rainforests and if you find a good fruiting fig tree, you can increase the likelihood of seeing an array of fruit-feeders, including some mammals. Similarly, Oak tree acorns and nuts of other trees form a major food source for mammals such as squirrels and porcupines; discovering where and when these trees are producing nuts is a good mammal-watching strategy.



Photo by Yulinda Wahyuni

7. Using Borneo Mammal Club's Facebook pages

This is a very reliable source of information about Borneo mammals and offers an open, transparent way for anyone in Borneo to share their records. It isn't just for guides and travel companies but is the best place to gain up to date information about Bornean mammals. You can post your own records and reports and contribute to the accumulation of unbiased data.



8. Mammalwatching.com Borneo reports

These reports from Borneo represent another source of reliable and recent information from fellow mammal watchers, who present their notes, ideas, photographs and experiences from their trips to Borneo.



A FUTURE TRIP?

1StopBorneoWildlife,

1stopborneo@gmail.com +60128248052,

is offering to organise a mammal watching trip for the above species, entitled 'Rarest Borneo Mammals'. These are some of the rarest species in the world and so the chances of seeing them are often low! 1StopBorneo Wildlife also organizes 2-3 weeks mammal-watching trips in Borneo



2 Week Mammal Watching Tour

Come Experience the amazing mammals of Borneo with 1stopBorneoWildlife!

For more information, please contact:
1stopborneo@gmail.com or +60128248052

What's included: basic accommodation, transportation, basic meals, conservation fees, ecologist guide, park fees, tree planting, four wheel safari, boat cruises, basically everything except beers and flights!

SOURCES OF FURTHER INFORMATION

1. A Pocket Guide to Mammals of Borneo by Shavez Cheema: <https://www.mammalwatching.com/community-post/a-pocket-guide-to-mammals-of-borneo-author-shavez-cheema-2020/>
2. Phillipps Guide to Mammals of Borneo by Quentin Phillipps: <https://www.mammalwatching.com/community-post/phillipps-field-guide-to-the-mammals-of-borneo-and-their-ecology-author-quentin-phillipps-second-edition-2018-reprinted-2023/>
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5. Mathai, J. (2019) <https://www.sciencedirect.com/science/article/pii/S2351989418302981>
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6. Duijvestijn, J. (2023) <https://www.mammalwatching.com/community-post/mystery-pygmy-flying-squirrel-on-borneo/>