

# Javan Rhino Expedition

**Destination:** Java, Indonesia    **Duration:** 10 Days    **Dates:** 1<sup>st</sup> – 10<sup>th</sup> June 2022

-  Finding tracks and evidence of some of the world's only 74 Javan Rhinos!
-  Having the expert guidance of the world renown Vladimir Dinets throughout
-  Rare bird species seen including Green peafowl & Australasian Bushlark
-  Trekking & camping deep inside the core zone of Ujung Kulon National Park
-  Observing a record 52 species of mammals in Ujung Kulon National Park
-  Seeing 99 species of birds throughout including many rare and endemic species
-  Spotlighting Javan mousedeer, Javan slow loris and many other rare mammals
-  Canoeing down the river where more Javan rhinos have been seen than anywhere
-  Many species of reptile including Reticulated python, Estuarine crocodile & more
-  Having a sighting of the incredibly rare and elusive Javan Leopard!



## Tour Leader / Guides

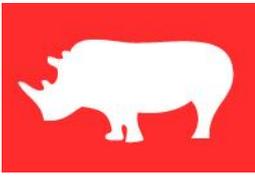
Vladimir Dinets (Royle Safaris Tour Leader)  
 Ofat (Lead Ujung Kulon Guide)  
 Mita (Ujung Kulon Ranger)  
 Bonsai (Camp Cook & All round Good Guy)  
 Adun, Geni, Wilum, Mo, Olat, Bambu, Son, Wallace, Wilf, Nurlin,  
 Asif (Porters)  
 Edy (Transfer driver)  
 Sam (Boat transfer skipper)

## Participants

Mr. Thomas Clode    Mr. Phil Davison    Mr. Alex Meyer

## Overview

<b>Day 1:</b>	Jakarta / Carita / Ujung Kulon
<b>Days 2-8:</b>	Ujung Kulon
<b>Day 9:</b>	Ujung Kulon / Handeleum Island
<b>Day 10:</b>	Carita / Jakarta
<b>Day 11:</b>	Home



# Day by Day Breakdown

## Overview

With only five species of rhinos in the world you would think that everyone would know about all five, there are not that many (in fact to our knowledge Royle Safaris helped perhaps the only person alive today to have seen all five when we had a Sumatran rhino sighting back in May 2022). The reason being that there are two rhino species that largely go unnoticed in the general wildlife watching industry worldwide. Royle Safaris wants to change that and highlight the two rarer species which inhabit the forests of Indonesia.

When most people think of rhinos they are invariably thinking of the black and white rhinos of the African continent, but head much further east (and past the haunt of the Indian one-horned rhino) and you reach the lush, tropical forests of Sumatra, Kalimantan and Java. Here the two poorest known of the 5 rhinos are found. This tour is focused on just one of these two, the critically endangered Javan Rhino. This animal has the dubious honour of being the most endangered large mammal in the world, with just 67 recognised individuals known to exist (well that was before one was found dead – from old age (horn still intact) in 2018). They are all confined to the far western tip of Java and one protected forest, Ujung Kulon National Park.

The park itself is a wonderful, pristine forest full of some of the last large mammals to inhabit the island, the rhinos, banteng, leopards, fishing cats to name a few. It was here that the Javan tiger hung on the most and it is here that the Javan rhino is making its last stand. The park is thick and densely vegetated, thorny rattan grows everywhere and the trees make seeing just 3m in front of you near impossible. But there are a handful of rivers that cut across this forest and it is these channels of treelessness that open up the world of the Javan rhino for us to see. That is with a large side of luck of course.

So as Indonesia finally opened for tourism in March of 2022, the twice-delayed Javan Rhino Expedition to Ujung Kulon National Park could finally happen. Ujung Kulon, a peninsula in western Java, is the only place where Javan rhino, once widespread from India and China to Bali, still occurs, thanks in part to the area's human population having been killed off by the Krakatau eruption of 1883. The rhino population is slowly growing and is now over 70.

Unfortunately, despite spending most of the time at the most reliable site for the rhinos, we didn't see any. We don't know what caused the unexpected change in rhinos' distribution within the park but think the most likely explanation was the unusual weather. The dry season of 2022 didn't really happen; the weather was unusually cool and rainy, making it unnecessary for rhinos to concentrate along rivers. Although the rhinos were not seen, we saw lots of other wildlife, including some animals that are virtually impossible to see outside Ujung Kulon, such as West Javan ebony langur, the extremely rare Javan giant mastiff bat, Javan leopard, Javan warty pig, Javan mouse deer, Javan banteng, and Javan rhinoceros hornbill; in total we recorded over 50 species of mammals and ~100 species of birds.

The expedition was physically demanding due to frequent rainstorms which turned trails into mud, made rivers flood and filled them with constantly shifting logjams that had to be cleared by hand, but all participants did well. Fortunately, there are no terrestrial leaches in Ujung Kulon (they are abundant in similar habitats in Sumatra and are present in Javan mountains). There were very few ticks and chiggers, mosquitoes were an issue only in some places, while no-see-ums were active only at certain times of day (around noon along rivers and at night at beaches).

### 2023 Javan Rhino Expeditions

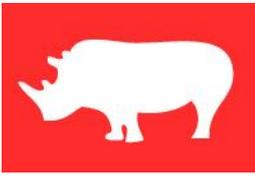
We have 3 expeditions planned for 2023, if anyone is interested we have 1 places available on our 1-10 June 2023 trip, and 4 on our 2-12 August 2023 trip. Our July 2023 is fully booked. Please contact us on [martin@royle-safaris.co.uk](mailto:martin@royle-safaris.co.uk) for more information on these trips.



## Day 1 **Jakarta / Ujung Kulon National Park**

## *Travelling & Trekking*

All of us spent the previous night in the same hotel near Jakarta Airport, so it was easy to assemble in the morning and get an early start.



By 05:00 we were on the road, enjoyed views of Krakatau Volcano (dormant at the time), transferred to a boat at 09:00, and, despite unusually rough seas, reached Ujung Kulon by 13:00, having seen Christmas Island frigatebirds and a few species of terns along the way.

We had to wait out a thunderstorm, then found that the first section of the trail – normally the easiest one – had been turned into a river of deep mud by recent Park construction work and heavy rainfall. This trail was particularly challenging to our porters carrying the inflatable boat. After we crossed the peninsula from its northern to its southern shore, the going was easy; after a few hours of walking through coastal rainforest we continued along the beach. On the way we saw our first **West Javan ebony langurs**, a **common pencil-tailed tree mouse**, **common woolly bats**, a **brown tube-nosed bat**, and many animal tracks (of pigs, civets, banteng, etc.).

By 21:00 we reached the camp near the mouth of the river where most rhino sightings usually take place, and found the dinner cooking and the camp being set up.

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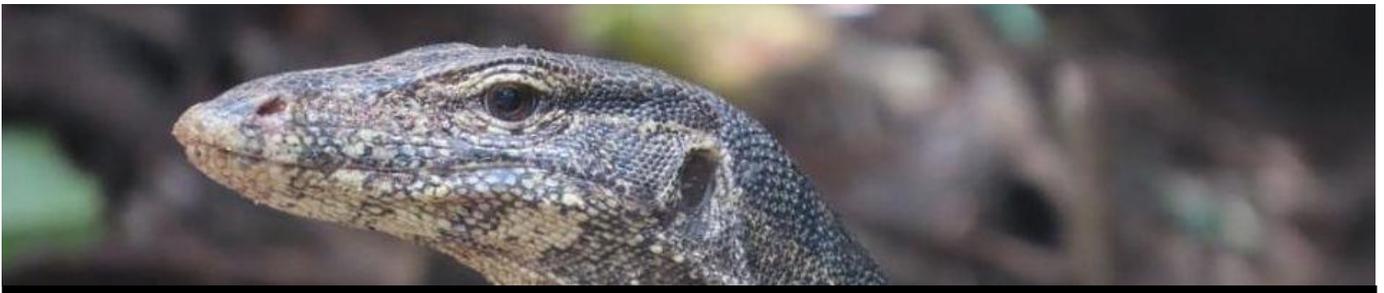
## Day 2 Ujung Kulon National Park

## Trekking & Rhino Spotting

We spent the morning exploring the camp area. The camp is surrounded by primary forest and palm thickets where many mammals such as **crab-eating macaque**, **Sumatran palm civet**, **Sunda black-banded squirrel**, **black giant squirrel**, and **Malayan wood rat** can be found. Birding is also good if you are patient: mixed-species flocks move through the forest a few times a day, and you can sometimes hear banded pitta calling from the slope above the tents. Three species of flying dragons are easy to see in the camp and along the trails. At the riverbank there is a whole menagerie of colorful crabs, glittering skinks, funny mudskippers, and green spotted pufferfishes – probably the cutest freshwater fish in the world. Small estuarine crocodiles and water monitors patrol the area, but while the monitors are very tame, the crocs are paranoidly shy.

The endless beach is just a few minutes away and you can bathe in the ocean, although swimming out into the surf is not recommended. Watch for beach thick-knees and Javan plovers on the beach. Coastal dunes are grazed by **banteng** at night, and twice we saw Horsefield's bushlarks there –birds once common on Java but not recorded in recent years due to trapping for cagebird trade. **Lesser short-nosed fruit bats** roost in large pandanus trees along the edge of the forest; there are many tracks of **Javan porcupine** and **Sumatran palm civet** on the beach. **Malayan wood rats** forage among flotsam at night. You can use the boat to cross the river and explore the swampy meadow on the other side, frequented by **banteng** and blue-breasted quail. Within easy walking distance is a small hill where two species of deer (**Javan deer** and **southern red muntjac**) graze at night and **acuminate horseshoe bats** spin in their arboreal ambushes; if you climb to the top you can see an ancient cycad tree, watch changeable hawk-eagles circle overhead, search for tiny frogs and snakes in the leaf litter, and sometimes get cell phone reception.

In the evening we made our first boat trip up the river; these trips were our primary occupation in subsequent days.



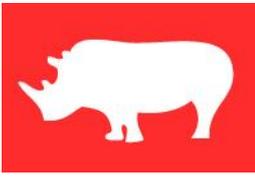
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## Days 3-6 Ujung Kulon National Park

## Rhino Spotting

Every day we made two boat trips. In the morning we headed upstream before dawn, reaching as far as logjams would allow just before sunrise, and slowly returning to the camp. In the evening we would go upstream before sunset and return in the dark. The river is very scenic. Its lowest reaches are lined with water palm, an ancient tree which is very beautiful but, as we discovered, has warm fruit and hot flowers – a constant nuisance when looking for animals using a thermal scope. Higher up the river meanders through lowland rainforest, with a few tiny meadows on the banks – normally good places to look for feeding rhinos. Unfortunately, there was no sign of recent rhino presence in the area.

On the first trip we found one old trackway descending to the river which we first thought had been made by a rhino but was more likely just **banteng** tracks. We saw lots of other wildlife, such as **Javan mouse deer**, **Javan warty pig**, **Sumatran palm civet**, **small-toothed civet**, **Indomalayan maxomys** (red adults and black subadults), **arboreal niviventer**, **Indomalayan pencil-tailed tree mouse**, **Sunda leopard cat**, numerous troops of **long-tailed macaques** and **West Javan ebony langurs**, one group of **Javan surili** (a langur very rare in lowland parts of Ujung Kulon), and, on one exciting occasion, a **Javan leopard** stalking macaques (unfortunately, seen almost only through thermal scopes – we nearly flipped the boat trying to get a better view).



At dusk we had an excellent opportunity to practice bat identification, as numerous species swarmed over the river and we could see them well in flight and identify using bat detectors. One of the tributaries was particularly good for bats, with **Sulawesi** and **intermediate horseshoe bats**, **Sumatran greater** and **lesser bamboo bats**, **Javan pipistrelles**, and **medium bentwings** being common and **painted woolly bat** seen once. We also saw a few large, long-eared freetail bats there that could only be the enigmatic **Java giant mastiff bats** (known from four specimens)

their echolocation signals were similar in frequency and length to those of closely related Wroughton's giant mastiff bat from mainland Asia. In the lower reaches of the river, **gray large-footed** and **lesser large-footed myotis** could often be seen fishing. In addition to **large flying foxes** often flying overhead, we saw one of them feeding in a fruiting tree, and photographed other fruit bats roosting and feeding in riverside trees: **Indonesian fruit bats** (strangely, abundant only on one night), **minute fruit bats**, and once a tiny **dagger-toothed fruit bat** with a baby. Birding along the river was also good: Oriental pied hornbills were particularly common, and we found many sleeping stork-billed, blue-eared, and Oriental dwarf kingfishers after dark.

Sometimes our thermal scopes picked up snakes in trees over water, warm after a day of basking in the sun. One juvenile reticulated python even fell into our boat, to everybody's amusement. Luminescent mushrooms brightly glowing on palm fronds above the water were a special treat.

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## Day 7 Ujung Kulon National Park

### *Trekking & Wildlife Watching*

Since there were no rhinos in the area, we decided to hike across the peninsula and try looking for them along a river on the northern side. The trek proved more difficult than anyone expected: many parts of the trail were very muddy because of relentless rains and trampling by **deer**, **pigs** and particularly **banteng**; crossing numerous streams was also a challenge.

It took us 7 hours on the first day and 6 hours on the second day to cover about 10 km. We didn't see much wildlife on the first day, even though our camp in the headwaters of the river was in excellent primary forest, inhabited by **great woolly horseshoe bats**, **least pipistrelles**, and **common woolly bats**.



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## Day 8 Ujung Kulon National Park

### *Trekking & Rhino Spotting*

It was raining almost all night, but two hours before dawn the rain stopped, we got going and saw a lot of wildlife before first light: a few **Javan mouse deer**, a **Sunda leopard cat**, a **small Indian civet**, and a sleeping banded pitta. We also found **Javan rhino** tracks in one place, although they didn't look particularly fresh, and very fresh **leopard** tracks near the river in an area with lots of signs of **pigs** foraging.

We finally reached the camp at the river mouth at 10:00, and were greeted by a sizeable estuarine crocodile floating offshore. This coast has almost no surf, but swimming in the sea requires caution. Near the camp is a small patch of mangroves where **plains squirrels** live, a beach lined by forest where we found a **small-toothed civet** and a **Javan slow loris** at night, and a large meadow with a watchtower. **Rhinos** are sometimes seen from the tower, but although we checked it all the time and even spent nights there, the only mammals seen in the meadow were **banteng** (up to 22 at a time); there were also nice birds such as green peafowl, red junglefowl, blue-bellied bee-eaters, large-billed nightjars, wreathed and rhinoceros hornbills, and crested treeswifts. At night there were **rousettes**, **lesser Asiatic yellow bats**, and **Javan slit-faced bats** feeding over the meadow in the moonlight, while **clear-winged woolly bats** were flying along the beach. The tower and the camp were inhabited by huge tokay geckos.

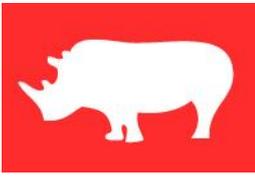
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## Day 9 Ujung Kulon National Park

### *Rhino Spotting*

It was our only full day at the second river; we made two boat trips on the previous day and one on the next day. This river had few water palms, but the navigable part was shorter and in the upper part the banks were too high for good viewing. It was better for birding, but we saw only a few mammals: **Javan mouse deer**, **long-tailed macaques**, **West Javan ebony langurs**, a **bukit niviventer**, a **long-tailed giant rat**, and twice **spotted giant flying squirrels** – an unexpected find since on Java they are mostly highland dwellers.

Bat fauna along the river was different here and included **hill fruit bat** and **Cantor's leaf-nosed bat**. In the afternoon we made a trip to a rhino wallow within short walking distance of one of the river's tributaries, and found two **Javan rhino** trackways, signs of browsing, and some old dung, but nothing fresh.



If we had more time, we would probably make a small wooden platform there (the wallow is in a very muddy area) and set up a tent as a blind, but it would have to stay there for at least a week before being used. On the river itself we saw only one **rhino** trackway, also at least a couple days old.

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## Day 10 **Ujung Kulon NP / Jakarta**

## *Wildlife Watching & Travelling*

After the last river trip we got into a motorboat; while our camp was being packed away we made a side trip to Peucang Island – a nice camping area with tame **long-tailed macaques**, **Javan rusa** and **pigs** (we didn't see the latter), plus a few **lesser sheath-tails** roosting in certain trees and logs in the forest.

Then we loaded everything into the boat, made a quick stop at Handeleum Island (similar to the previous one but with **lesser false-vampires** roosting in one of the buildings), and left the park. This time the sea crossing was smooth, and we got to our hotel by 20:00.



# Species List

Javan Rhino Expedition

Jun 2022

## *Mammals* (\* = heard or signs only)

	Common Name	Binominal Name	Comments on Sightings & ID's
			<i>Abbreviations: C1 camp on the south shore, C2 inland camp, C3 camp on the north shore, HI Handeleum island, PI Peukang Island, R1 first river, R2 second river, RW rhino wallow near R2, T1 trek to C1, T2 trek to C2, T3 trek to C3.</i>
1	Small-toothed palm civet	<i>Arctogalidia trivirgata trilineata</i>	Only two seen (at R1 and C3), both with normal coloration rather than golden seen in nearby highlands.
2	Banteng	<i>Bos javanicus javanicus</i>	Tracks abundant on T2 and T3 and around C1, but animals seen only at C3 and (with thermal scopes) near C1.
3	Black-striped squirrel	<i>Callosciurus nigrovittatus nigrovittatus</i>	Common at C1.
4	Plantain squirrel	<i>Callosciurus notatus notatus</i>	Never seen well at C1, but a few present near C3; IDed by belly color [1].
5	Common pencil-tailed tree mouse	<i>Chiropodomys gliroides</i>	One seen by TC at C1, another by all at R1.
6	Lesser short-nosed fruit bat	<i>Cynopterus brachyotis javanicus</i>	Two photographed feeding on R1; likely the same sp. seen roosting in pandanus trees at the edge of the beach near C1; identified by notched ears and much lighter coloration than <i>C. sphinx</i> , which is very dark on Java.
7	Minute fruit bat	<i>Cynopterus minutus</i>	Seen feeding and photographed at R1; obviously smaller than other <i>Cynopterus</i> , ears not notched.
8	Indonesian fruit bat	<i>Cynopterus titthaechilus titthaechilus</i>	Many seen on one night at R1; photographed; ears not notched; paler and less reddish than <i>C. horsefieldii</i> .
9	Lesser sheathtail	<i>Emballonura monticola</i>	Roost in two nearby dead trees at PI.
10	Cantor's leaf-nosed bat	<i>Hipposideros galeritus longicauda</i>	Mid-size bats flying over R2 and producing typical <i>Hipposideros</i> calls with CF component at ~110 kHz [1].
11	Sunda porcupine *	<i>Hystrix javanica</i> *	Tracks only (in coastal dunes near C1).
12	Common woolly bat	<i>Kerivoula hardwickii</i>	Tiny brown bats flying along trails on T1 and at C2; sonogram at C2 matched the one in [2].
13	Clear-winged woolly bat	<i>Kerivoula pellucida</i>	A few seen over the beach at C3; IDed by tiny size and translucent wings.
14	Painted woolly bat	<i>Kerivoula picta picta</i>	1 seen at dusk over R1; IDed by small size and unique color pattern.
15	Long-tailed giant rat	<i>Leopoldamys sabanus sabanus</i>	1 seen briefly by VD on R1, another seen better by AM on R2; ID uncertain.
16	Long-tailed macaque	<i>Macaca fascicularis fascicularis</i>	Abundant on both rivers and near C1; also seen on T3.
17	Dagger-toothed fruit bat	<i>Macroglossus minimus minimus</i>	2 seen at R1, one of them well photographed.
18	Hill fruit bat	<i>Macroglossus sobrinus sobrinus</i>	1 at R2 feeding (seen through thermal scope) then flying (seen w/out scope), ID mostly by size so uncertain.
19	Indomalayan maxomys	<i>Maxomys surifer ravis</i>	Common at R1 in mangrove palm zone, with both red adults and grey subadults [3] seen; 1 adult seen at R2.
20	Lesser false-vampire	<i>Megaderma spasma trifolium</i>	Roost in a building at HI.
21	Large bentwing	<i>Miniopterus magnater</i>	Abundant at R1; small long-winged bats with direct flight; sonogram typical for the genus, peak freq. 60 kHz [1].
22	Medium bentwing	<i>Miniopterus medius</i>	Frequently recorded together with the previous species; peak frequency 47 kHz [1].

23	Southern red muntjac	<i>Muntiacus muntjak</i>	1 seen and heard by VD on a hill near C1; tracks seen on T2.
24	Brown tube-nosed bat	<i>Murina suilla suilla</i>	1 seen on T1, ID by slow, moth-like flight through dense tangles, typical for the genus; the only <i>Murina</i> on Java.
25	Gray large-footed myotis	<i>Myotis adversus adversus</i>	The larger of 2 spp. seen trawling on R1; few seen just above C1; sonogram matches those in [4].
26	Lesser large-footed myotis	<i>Myotis hasseltii hasseltii</i>	The smaller of 2 spp. seen trawling on R1; FM calls with peak frequency 40 kHz [1].
27	Bukit niviventer	<i>Niviventer bukit</i>	Only 1 seen well on R2; smaller than the following species, brown without rufous or orangish [1].
28	Arboreal niviventer	<i>Niviventer cremoriventer</i>	A couple seen on R1; probably common but shyer than <i>Maxomys</i> ; smaller, more slender and longer-tailed [1].
29	Javan slow loris	<i>Nycticebus javanicus</i>	1 seen at C3 in the forest at the far end of the beach.
30	Javan giant mastiff bat	<i>Otomops formosus</i>	See notes below.
31	Leopard	<i>Panthera pardus melas</i>	1 seen with thermal scopes at R1 where it was apparently stalking sleeping macaques (seen well enough to ID only by VD, who also saw rosettes with flashlight); fresh tracks on T3 (at 2 locations) & near RW.
32	Sumatran palm civet	<i>Paradoxurus musangus</i>	Common on R1 and around C1, 2 seen on R2, many tracks on beaches apparently of this species.
33	Giant flying squirrel	<i>Petaurista cf. petaurista</i>	See notes below.
34	Javan pipistrelle	<i>Pipistrellus javanicus javanicus</i>	Small bats with erratic flight abundant on R1; FM/QCF calls with peak frequency 42 kHz [1].
35	Least pipistrelle	<i>Pipistrellus tenuis sewelanus</i>	Tiny bats with erratic flight seen around C2; FM/QCF calls with peak frequency 35 kHz [1].
36	Javan surili	<i>Presbytis comata</i>	Only one group seen on R1; according to Olaf rare in lowlands but common in highland parts of the park.
37	Sunda leopard cat	<i>Prionailurus javanensis javanensis</i>	2 seen at R1 and 1 on T3.
38	Large flying fox	<i>Pteropus vampyrus vampyrus</i>	Many seen in flight over R1 and elsewhere; 1 seen and photographed feeding at R1.
39	Malaysian wood rat	<i>Rattus tiomanicus</i>	1 seen up close in C1; one found dead on T1; likely the same sp. seen by AM and PD on the beach near C1.
40	Black giant squirrel	<i>Ratufa bicolor bicolor</i>	A few seen at C1 and elsewhere.
41	Javan Rhinoceros*	<i>Rhinoceros sondaicus*</i>	Tracks and sign only: old tracks seen on T3, fresh tracks, old dung and browsing sign around RW.
42	Intermediate horseshoe bat	<i>Rhinolophus affinus affinus</i>	Mid-sized bats seen above R1; IDed from sonograms by Nils Bouillard (pers. comm.).
43	Great woolly horseshoe bat	<i>Rhinolophus luctus luctus</i>	1 seen well at night roost near C2 by VD; IDed by large size and woolly pelage.
44	Rousette	<i>Rousettus sp.</i>	A few seen above the meadow at C3; ID by size and audible clicks.
45	Javan deer	<i>Rusa timorensis russa</i>	Numerous tracks seen on a hill near C1 (where also heard by VD), on T2 & T3; habituated animals on PI & HI.
46	Lesser Asiatic yellow bat	<i>Scotophilus kuhlii</i>	Many seen in flight around C3; 1 photographed in flight by AM.
47	Javan warty pig	<i>Sus verrucosus verrucosus</i>	1 seen at R1; we didn't see it well enough, but Mita got better look at the head and was certain about ID. According to him & Olaf <i>S. scrofa</i> is less common in that part of the park but I couldn't confirm this from literature.
48	West Javan ebony langur	<i>Trachypithecus mauritius</i>	Abundant on R1 and R2; groups also seen on T1 and T3.
49	Javan mousedeer	<i>Tragulus javanicus</i>	1 seen at R1 and 3-4 on T3; might be split into red-necked and dark-red taxa (Marcus Chua pers. comm.), but we were unaware of that and didn't notice the neck color; I think the 1 <sup>st</sup> one didn't have dark neck but not sure.
50	Lesser bamboo bat	<i>Tylonycteris pachypus pachypus</i>	Tiny bats seen on R1 emerging from clumps of bamboo; sonogram matches those in [5].
51	Sumatran greater bamboo bat	<i>Tylonycteris robustula</i>	Seen together with previous sp.; sonogram matches those in [5].
52	Small Indian civet	<i>Viverricula indica muriavensis</i>	1 seen on T3.

\*Some bats identified 100% at roosts or with good views. Others identified with spectrograms in combination with sightings (no spectrograms without visual confirmation are recorded), behaviour and habitat – so not 100% but best educated guesses. For more information please email me.

## Notes:

Javan giant mastiff bat: At the first river we saw large freetail bats with visibly protruding ears flying over the river soon after sunset on two consecutive evenings. On the first evening they were seen twice and could be one or two individuals; on the second evening there was only one sighting and a sonogram was obtained. Four species of freetails are known from Java, but three of them (*Chaerephon plicatus*, *Mops mops* and *Cheiromeles torquatus*) have short ears and roost in caves; the first two also roost in buildings but are not large. There are no caves or buildings in that part of the park, so seeing the bats so early in the evening suggests that they roosted in the forest nearby (although this is not certain because freetail bats are very fast flyers). The only large, long-eared freetail bat recorded from Java is Javan giant mastiff bat (*Otomops formosus*), known from four males collected in Bogor area; two of them were found in 1939 in a bird nest at 400 m and two in 1990 in a tree hollow at 1450 milliseconds. The sonogram has narrowband FM calls at ~20 kHz, 20-50 milliseconds long with intervals of 0.2-0.4 sec. This doesn't match the published parameters of the calls of the other three Javan freetails, but is similar to the calls of *O. wroughghtoni*, a closely related species from mainland Asia. Unfortunately, freetail calls are notoriously variable in duration and frequency so they alone cannot be used for species identification. The habitat along the river is a mosaic of primary forest, palm forest, overgrown openings and bamboo patches. Many species of freetails are high-altitude foragers and are notoriously difficult to collect except at roosts, which is why many species are poorly known. Javan ones are no exception: *Mops mops* has been documented from the island only very recently (Carlos Bocos pers. comm.). Hopefully future bat researchers working in the park will be alert to the possibility of encountering *O. formosus* there.

Giant flying squirrel: We observed it on two consecutive nights on the second river a short distance upstream from the camp, in the crowns of emergent trees in secondary forest; likely but not certainly it was the same animal. AM managed to obtain a few photos. The animal was large, solid black with black face and tail and red underparts. Two species of giant flying squirrels are currently known from Java, with virtually all records from higher elevations: spotted (*Petaurista elegans*) and red (*P. petaurista*). The former is smaller, white-grizzled or white-spotted above. The latter is red with black tail tip (*P. p. petaurista*, described from Mt. Gede in W Java), rufous with black tail tip (*P. p. interceptio*, described from Mt. Ciremai in WC Java), or rufous with black tail (*R. r. nigricaudata*, described from E Java). An animal photographed by Jon Hall on Mt. Halimun was dark with red underparts, red face, and rufous tail with black tip. Red giant flying squirrel is generally suspected to be a species complex, but there are few if any specimens from Java in collections, so figuring out how many species are present on the island is difficult (Mohd Nur Arifuddin pers. comm.). In any case, the animal we saw almost certainly represented an undescribed taxon.

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**Birds** (\* = heard or signs only)

	Common Name	Binominal Name
1	Crested Goshawk	<i>Accipiter trivirgatus</i>
2	Common Iora	<i>Aegithina tiphia</i>
3	Black-nest Swiftlet	<i>Aerodramus maximus</i>
4	Mossy-nest Swiftlet	<i>Aerodramus salangana</i>
5	White-nest Swiftlet	<i>Aerodramus. fuciphagus</i>
6	Crimson Sunbird	<i>Aethopyga siparaja</i>
7	Blue-eared Kingfisher	<i>Alcedo meninting</i>
8	Oriental Pied-Hornbill	<i>Anthracoceros albirostris</i>
9	Brown-throated Sunbird	<i>Anthreptes malacensis</i>
10	Paddyfield Pipit	<i>Anthus rufulus</i>
11	Asian Glossy Starling	<i>Aplonis panayensis</i>
12	Little Spiderhunter	<i>Arachnothera longirostra</i>
13	Purple Heron	<i>Ardea purpurea</i>
14	Great-billed Heron	<i>Ardea sumatrana</i>
15	Javan Pond-Heron	<i>Ardeola speciosa</i>
16	Black-headed Bulbul	<i>Brachypodius melanocephalos</i>
17	Cattle Egret	<i>Bubulcus ibis</i>
18	Rhinoceros Hornbill	<i>Buceros rhinoceros</i>
19	Striated Heron	<i>Butorides striata</i>
20	Savanna Nightjar	<i>Caprimulgus affinis</i>
21	Large-billed Crow	<i>Caprimulgus macrorhynchos</i>
22	Large-tailed Nightjar	<i>Caprimulgus macrurus</i>
23	Lesser Coucal	<i>Centropus bengalensis</i>
24	Rufous-backed Dwarf-Kingfisher	<i>Ceyx rufidorsa</i>
25	Ruby-cheeked Sunbird	<i>Chalcoparia singalensis</i>
26	Asian Emerald Dove	<i>Chalcophaps indica</i>
27	Javan Plover	<i>Charadrius javanicus</i>
28	Olive-backed Sunbird	<i>Cinnyris jugularis</i>
29	Cave Swiftlet	<i>Collocalia linchi</i>
30	Oriental Magpie-Robin	<i>Copsychus saularis</i>
31	Slender-billed Crow	<i>Corvus enca</i>
32	Racket-tailed Treepie	<i>Crypsirina temia</i>
33	Gray-headed Canary-Flycatcher	<i>Culicicapa ceylonensis</i>
34	Fulvous-chested Jungle-Flycatcher	<i>Cyornis olivaceus</i>

35	Asian Palm-Swift	<i>Cypsiurus balasiensis</i>
36	Scarlet-headed Flowerpecker	<i>Dicaeum trochileum</i>
37	Hair-crested Drongo	<i>Dicrurus hottentottus</i>
38	Dark-backed Imperial-Pigeon	<i>Dicrurus lacernulata</i>
39	Black Drongo	<i>Dicrurus macrocercus</i>
40	Greater Racket-tailed Drongo	<i>Dicrurus paradiseus</i>
41	Lesser Racket-tailed Drongo	<i>Dicrurus remifer</i>
42	Pied Imperial-Pigeon	<i>Ducula bicolor</i>
43	Gray Imperial-Pigeon	<i>Ducula pickeringii</i>
44	Pacific Reef-Heron	<i>Egretta sacra</i>
45	Pin-tailed Parrotfinch	<i>Erythrura prasina</i>
46	Beach Thick-knee	<i>Esacus magnirostris</i>
47	Dollarbird	<i>Eurystomus orientalis</i>
48	Christmas Island Frigatebird	<i>Fregata andrewsi</i>
49	Red Junglefowl	<i>Gallus gallus</i>
50	Golden-bellied Gerygone	<i>Gerygone sulphurea</i>
51	White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>
52	Orange-breasted Trogon	<i>Harpactes oreskios</i>
53	Gray-rumped Treeswift	<i>Hemiprocne longipennis</i>
54	Black-winged Flycatcher-shrike	<i>Hemipus hirundinaceus</i>
55	Brown-backed Needletail	<i>Hirundapus giganteus</i>
56	Pacific Swallow	<i>Hirundo tahitica</i>
57	Waterfall Swift	<i>Hydrochous gigas</i>
58	Javan Banded-Pitta	<i>Hydrornis guajanus</i>
59	Pied Triller	<i>Lalage nigra</i>
60	White-shouldered Triller	<i>Lalage sueurii</i>
61	Van Hasselt's Sunbird	<i>Leptocoma brasiliana</i>
62	Copper-throated Sunbird	<i>Leptocoma calcostetha</i>
63	White-headed Munia	<i>Lonchura maja</i>
64	Yellow-throated Hanging-Parrot	<i>Loriculus pusillus</i>
65	Ruddy Cuckoo-Dove	<i>Macropygia emiliana</i>
66	Barred Cuckoo-Dove	<i>Macropygia unchall</i>
67	Scaly-crowned Babbler	<i>Malacopteron cinereum</i>
68	Blue-throated Bee-eater	<i>Merops viridis</i>
69	Australasian Bushlark	<i>Mirafra javanica</i>
70	Changeable Hawk-Eagle	<i>Nisaetus cirrhatus</i>
71	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
72	Bridled Tern	<i>Onychoprion anaethetus</i>
73	Black-naped Oriole	<i>Oriolus chinensis</i>

74	Olive-backed Tailorbird	<i>Orthotomus sepium</i>
75	Rufous-tailed Tailorbird	<i>Orthotomus sericeus</i>
76	Mangrove Whistler	<i>Pachycephala cinerea</i>
77	Eurasian Tree Sparrow	<i>Passer montanus</i>
78	Green Peafowl	<i>Pavo muticus</i>
79	Stork-billed Kingfisher	<i>Pelargopsis capensis</i>
80	Scarlet Minivet	<i>Pericrocotus speciosus</i>
81	Blue-eared Barbet	<i>Psilopogon duvaicelli</i>
82	Coppersmith Barbet	<i>Psilopogon haemacephalus</i>
83	Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>
84	Olive-winged Bulbul	<i>Pycnonotus plumosus</i>
85	Cream-vented Bulbul	<i>Pycnonotus simplex</i>
86	Silver-rumped Needletail	<i>Rhaphidura leucopygialis</i>
87	Wreathed Hornbill	<i>Rhyticeros undulatus</i>
88	Ruby-throated Bulbul	<i>Rubigula dispar</i>
89	Scaly-breasted Bulbul	<i>Rubigula squamata</i>
90	Velvet-fronted Nuthatch	<i>Sitta frontalis</i>
91	Crested Serpent-Eagle	<i>Spilornis cheela</i>
92	Roseate Tern	<i>Sterna dougallii</i>
93	Black-naped Tern	<i>Sterna sumatrana</i>
94	Blue-breasted Quail	<i>Synoicus chinensis</i>
95	Chestnut-capped Babbler	<i>Timalia pileata</i>
96	Collared Kingfisher	<i>Todiramphus chloris</i>
97	Thick-billed Green-Pigeon	<i>Treron curvirostra</i>
98	Gray-cheeked Green-Pigeon	<i>Treron griseicauda</i>
99	Pink-necked Green-Pigeon	<i>Treron vernans</i>

## **Reptiles** (\* = heard or signs only)

	<b>Common Name</b>	<b>Binominal Name</b>
1	Estuarine crocodile	<i>Crocodylus porosus</i>
2	Olive tree skink	<i>Dasia olivacea</i>
3	Fringed flying dragon	<i>Draco fimbriatus</i>
4	Red-bearded flying dragon	<i>Draco haematopogon</i>
5	Common flying dragon	<i>Draco volans</i>
6	Many-lined sun skink	<i>Eutropis multicfasciata</i>

7	Tokay gecko	<i>Gecko gecko</i>
8	Spotted house gecko	<i>Gecko monarchus</i>
9	Arboreal ratsnake	<i>Gonyosoma oxycephalum</i>
10	Reticulated python	<i>Malayopython reticulatus</i>
11	Boie's many-tooth snake	<i>Sibynophis geminatus</i>
12	Yellow-lined forest skink	<i>Sphenomorphus sanctus</i>
13	Eastern water monitor	<i>Varanus salvator</i>

## ***Amphibians*** (\* = heard or signs only)

	<b>Common Name</b>	<b>Binominal Name</b>
1	Crab-eating frog	<i>Fejervarya cancrivora</i>
2	Javan cricket frog	<i>Fejervarya iskandari</i>
3	Small sticky frog	<i>Kalophrynus minusculus</i>
4	Friiled treefrog	<i>Kurixalus appendiculatus</i>
5	Black-eyed litter frog	<i>Leptobrachium nigrops</i>
6	Blyth's river frog	<i>Limnonectes blythii</i>
7	Javan giant frog	<i>Limnonectes macrodon</i>
8	Javan chorus frog	<i>Microhyla achatina</i>

## ***Fishes*** (\* = heard or signs only)

	<b>Common Name</b>	<b>Binominal Name</b>
1	Inshore cardinalfish	<i>Apogon lateralis</i>
2	Indonesian flying fish	<i>Cheilopogon katoptron</i>
3	Spotted green pufferfish	<i>Dichomyctere nigroviridis</i>
4	Indo-Pacific tarpon	<i>Megalops cyprinoides</i>
5	Striped mullet	<i>Mugil cephalus</i>
6	Slender mudskipper	<i>Periophthalmus gracilis</i>
7	Oriental sweetlips	<i>Plectorhinchus vittatus</i>