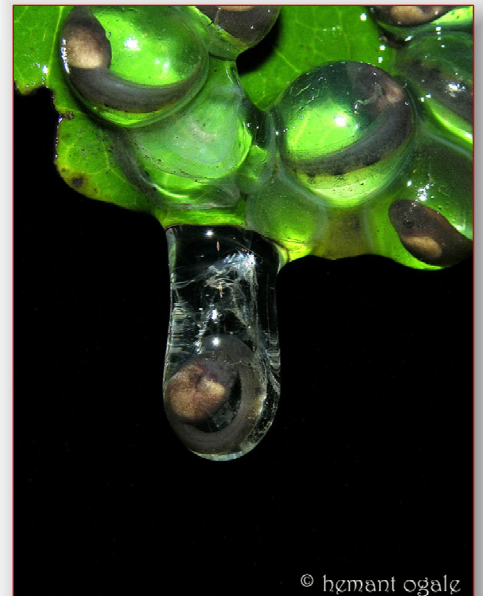




**WESTERN GHATS OF INDIA**  
22/08 >> 30/08/2019  
A One Week Herping Tour



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## INDIA WESTERN GHATS

22/08 → 30/08/2019

### A one-week herping tour under professional guidance of our friend Ashwin HP

The Western Ghats is a mountain range that runs from the western coast of Peninsular India to the South.

Older than the Himalaya Mountains, they are also known as Sahyadri.

It is recognized as a UNESCO World Heritage Site. It is one of the eight hotspots of biological diversity in the world and has a high level of endemism. It begins near the border of Gujarat and stretches down 1,600 km through the states of Maharashtra, Karnataka, Kerala and Tamil Nadu covering approximately 160,000 km<sup>2</sup> of the area.

The Western Ghats perform important hydrological and watershed functions. About as many as 245 million people living in the peninsular Indian states that receive most of their water supply from rivers originating in the Western Ghats. In other words, the soil and water of this region safeguards the livelihoods of millions of people.

A total of around 178 species of amphibians, 227 species of reptiles, 220 species of fishes and approximately 650 flora species are found in the Western Ghats.

This escarpment houses one of the richest collections of frogs in the world, with more than 150 endemic species!

And for the reptiles, look at this!

Table 1.1. Diversity and endemism in the reptilian families with respect to Western Ghats

Family	No. of species	No. of endemic species		Percent endemism	
		In Western Ghats	In Peninsular India	In Western Ghats	In Peninsular India
Crocodylidae	1	0	0	00.00	00.00
Agamidae	14	7	4	50.00	28.57
Boidae	3	1	0	33.33	00.00
Chamaeleonidae	1	0	0	00.00	00.00
Colubridae	43	14	6	32.55	13.95
Elapidae	9	1	2	11.11	22.22
Eublepharidae	2	0	1	00.00	50.00
Gekkonidae	50	23	17	46.00	34.00
Gerrhopilidae	2	2	0	100.0	00.00
Lacertidae	5	0	2	00.00	40.00
Natricidae	6	2	0	33.33	00.00
Psammophiidae	3	0	1	00.00	33.33
Pseudoxyrhophiidae	1	0	0	00.00	00.00
Pythonidae	1	0	0	00.00	00.00
Scincidae	34	16	12	47.05	35.29
Typhlopidae	6	2	2	33.33	33.33
Uropeltidae	35	33	2	94.28	5.71
Viperidae	7	3	1	42.85	14.28
Xenodermatidae	3	3	0	100.0	00.00
Varanidae	1	0	0	00.00	00.00
Total	227	107	50	47.13	22.02

## Information:

- Some pictures are retrieved from the Internet when ours are not usable or just missing!
- At the end of the report, pp. 80-83, you can find the lists with the observed amphibians, reptiles, birds and other wildlife we have met.

The list of birds is very short. This is mainly due to the bad weather conditions: the more rain, the fewer birds, but that is compensated for by the number of species of amphibians!

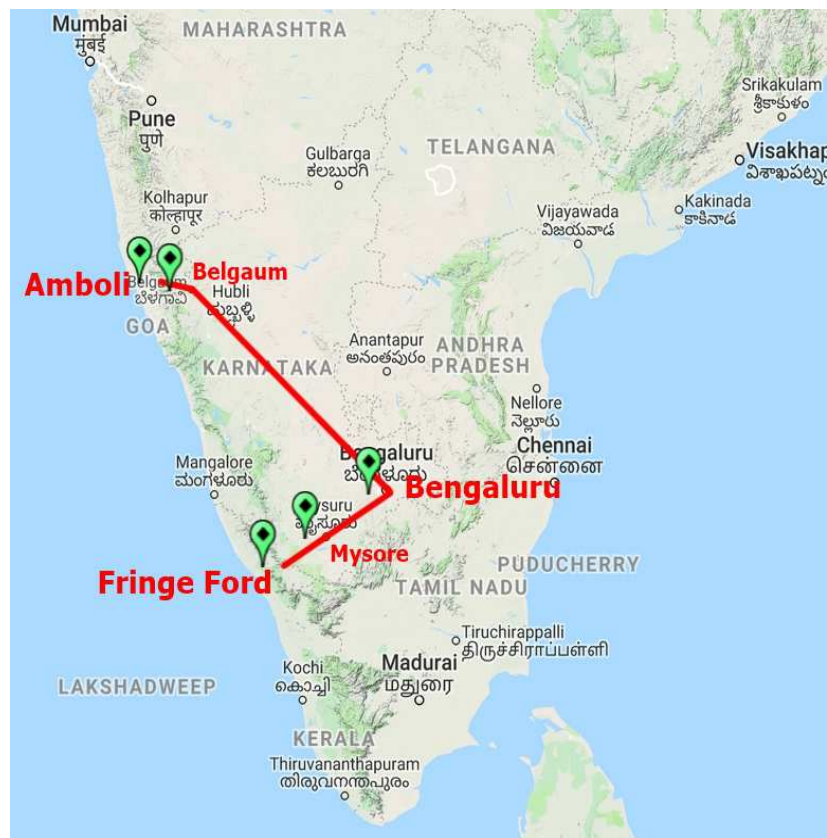
- I owe the English version of this report to Donna Deluyker-Griesbach, Annita Smet and Walter Van Regemortel, who have each helped to translate, correct and re-read these texts.

## Useful addresses:

- Ashwin, my permanent guide: e-mail: [ashwinbubo@gmail.com](mailto:ashwinbubo@gmail.com)
- Fringe Ford Lodge: <https://www.fringeford.com/>
- Whistling Woods Lodge Amboli: <https://whistlingwoodsamboli.in/>

## Program:

- 22/08: Brussels - Frankfurt - Bangalore flight  
23/08: a 10-hour drive to Fringe Ford, via Mysore  
23/08 to 26/08: Stay in Fringe Ford.  
26/08: 8 hours drive to Bangalore, flight to Belgaum, 2 hours driving to Amboli.  
26/08 to 29/08: Stay at Whistling Woods Lodge in Amboli.  
29/08: 2 hours drive to Belgaum, flight to Bangalore.  
30/08: Return flight to Brussels via Frankfurt.



### **The different actors:**

My guide for the entire week is Ashwin. I met him in Central India in April 2019, when we made a successful Tiger trip with fellow travelers Petra, Patrick and Walter.



*Shaji from Fringe Ford*



*Ashwin, my guide, with Sampada and Swayam*



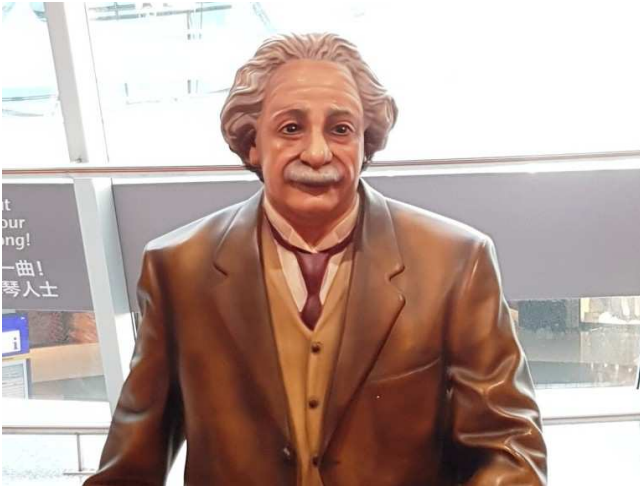
*Hemant, guide and owner of Whistling Woods and Ashwin.*

### **Thursday 22/08/2019**

Walter picks me up in Kontich at 4.40 am.  
Half an hour later we are already in Brussels Airport.  
My flight is at 9.05 am towards to Frankfurt.  
Take off at 9:20 am, with an A319-100 from Lufthansa.  
Landing in Frankfurt at 10.10 am.

They try to make it fun for travelers at the airport. There are benches in various places with famous figures.

For example, there is Einstein who likes to be photographed. And an artist who plays the piano, as an advertisement for a specific piano brand, until a tourist turns up who starts playing spontaneously!



The next flight will take me to Bangalore (India), Bengaluru in the local language.

The B 747-8 departs at 1.30 pm. The plane is barely half full!

I enjoy Economy Premium, very good service for little money.



The aircraft must drive on the runway for a very long time, has difficulties to take speed and then flies for a long time at low altitude. Hard to take height.

I am starting to get a bad feeling, but after a few minutes everything turns back to normal;

To use Wi-Fi and a cell phone during the flight, I must pay 11 euro.

OK. But after barely 30' flying, the Internet drops out. Everything "DOWN".

Statement from the crew: "Due to an important update of some satellites, we have no internet on this flight route for a few hours. We must not worry. This has no impact on our flight or on our safety. And all financial transactions in connection with Internet will be canceled".

## Friday 23/08

We land in Bangalore at 1.30 am local time. The flight took eight and a half hours.

I had agreed with my guide Ashwin that he would come to pick me up between 3 am and 4 am, the time I needed for immigration, luggage and money exchange.

I do the money exchange with Thomas Cook, US dollars against INR.

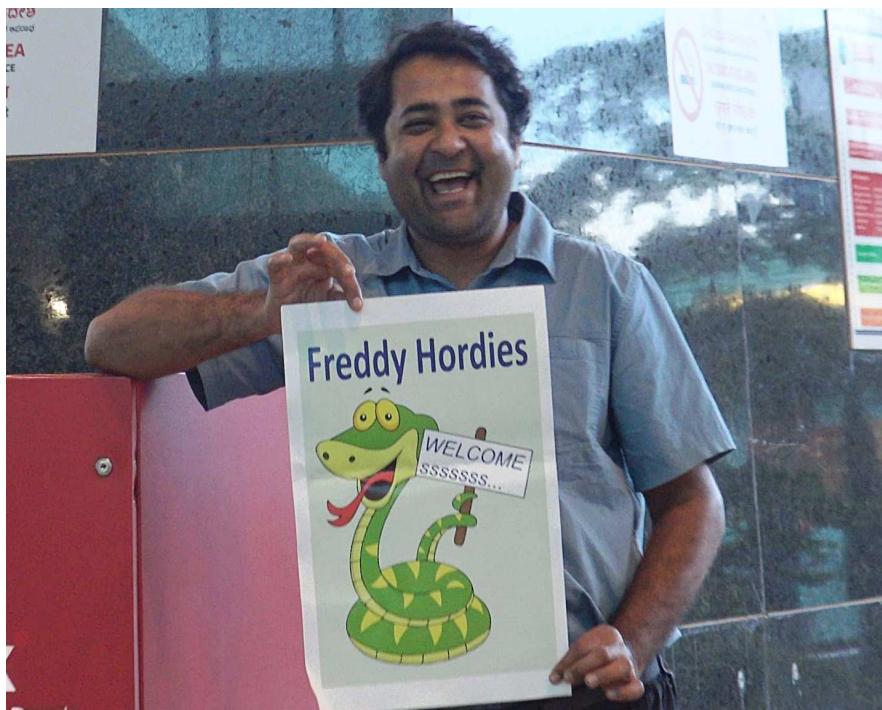
First traditional paperwork, scan passport, etc.



When I get a thick pack of Indian Rupees, I notice that the counter clerk has given me too little. He apologizes, restarts the entire procedure and this time he gives me way too much!

In the end, everything gets resolved, with a smile.

Ashwin is waiting for me at 03.30 am with a striking poster:



Transport is done by taxi. Our driver is called Ravish.

We drive towards Mysore, three hours from the airport, and then towards Fringe Ford.

At 9 am, after a 6-hour drive, we have breakfast at KAAV ', a beautiful lodge where Ashwin regularly stops.

He knows several biologists there, including Mr. Piqué, a specialist in spiders.

In just a few minutes he introduces me to 8 types of spiders, and that in a short walk of just 20 meters!

One of them is the "Two-tailed" spider *Hersilia savignyi*. On the photo you can see this very well-camouflaged spider eating a small butterfly.

*Hersilia savignyi* is found in Kerala, Maharashtra, Gujarat, Telangana, Karnataka, West Bengal, Myanmar, Philippines, Singapore, and Sri Lanka.

Popularly called the "two-tailed spider", it lives on the trunks of large trees — including commonly on the trunk of the coconut palm.



Its color closely matches that of the tree trunks in which it lives. It feeds on moths, ants, and other smaller spiders. Its cocoon is generally laid in the holes or crevices of trees. It can be easily identified by its two long spinnerets. The spider can grow up to 6–7 cm. in length and are colonial in nature.

From here on the road gets worse. There is severe damage due to the heavy monsoon rains of previous weeks, and long traffic jams and buses that are difficult to cross, let alone pass!



Then we drive through the Nagarahole N.P., where we see, amongst other things, our first Bonnet Macaque (*Macaca radiata*). They owe their name to the funny crown-shaped cap.

*The Bonnet Macaque is a macaque endemic to southern India.*

*He feeds on fruits, nuts, seeds, flowers, invertebrates, and cereals. In southern India, this macaque exists as commensal to humans, feeding on food given by humans and raiding crops and houses.*

*The Bonnet Macaque has a very wide range of gestures and behaviors, which can be easily differentiated. Lip smacking is one of the most common affiliative behaviors, where one individual may open and close its mouth in rapid succession, with its tongue between its teeth and its lips pressing against each other, giving an audible sound. A grimace is the most common gesture of fear or submission that a subordinate shows to a dominant individual during aggressive encounters. It consists of pulling back its upper lip, showing its upper teeth. It also has distinct alarm calls for predators such as pythons and leopards.*

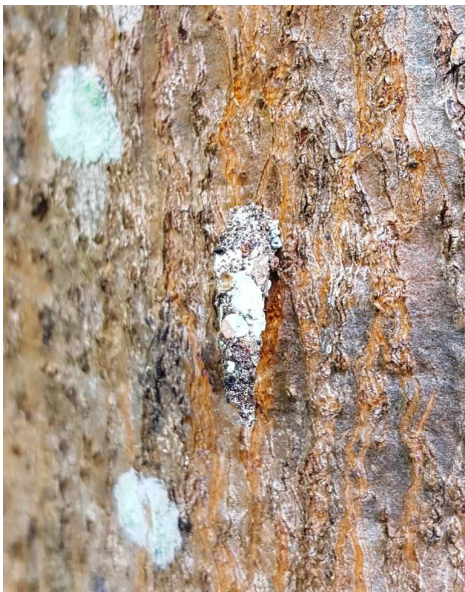


At 11.30 am, being already 8 hours on the road, we exchange the taxi for the Fringe Ford jeep. Driver is Anil (which means squirrel in the local language).

We still have to drive 10 km, and that takes us exactly one hour.

We stop for a moment at a pupa of an insect that is attached to a tree trunk.

Nothing wrong, except that it is a work of art of camouflage, at least when you look at it from the right angle.



We are lucky to observe a beautiful green bug, the Jewel Bug, fam. Scutelleridae.



At our arrival in Fringe Ford, we are met by the entire crew. This consists of 5 men.

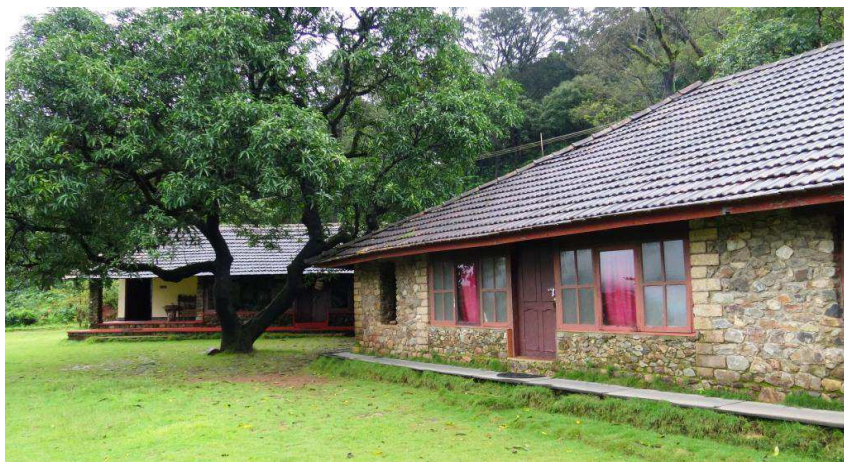
The "boss" is the veteran cook who arrived here at the age of 10, and that was 59 years ago.

You must know that this is a very remote location, without network, no internet, no radio, no TV, no satellite phone ... NOTHING!

South of us lies a small village 8 km away, the same road as to Mysore.

In the other directions, the villages are 55 to 120 km away!

Impressive place! Pure nature. Every year they take pictures of elephants, tigers and cobras right up to the front garden opposite the rooms!



View from the sidewalk, in this period without elephants ...

The local biologist / guide is the super sympathetic Shaji.

Just relax with a local tea.

No formalities, they only need the passport .... But I don't find it anywhere !!!

Think very hard, and stress! ... Either lost or stolen.

In both cases the trip ends here!

I must go to New Delhi to the Embassy or the Consulate.

So, first drive back 5 hours to Mysore, and then ... no, no flight because you need a passport for that ... ditto for the train.

Only the bus remains, and that is 30 hours ....

Everyone encourages me to think vigorously, everyone super sweet and worried.

Suddenly it occurs to me: when we had problems with the money, with Thomas Cook, it might be that my passport remained there ...

Ashwin and Shaji drive to the village, an hour away, where contact with the outside world is possible in one place: the telephone! A very long story, numerous phone calls ... Thomas Cook head office, police, security service, to identify the employee. Fortunately, he remembers me perfectly and admits that he has left the passport in the photocopier. Then finally end up at the Lost and Found, it is confirmed that my passport is in safe hands and by all means can be collected on our way back, August 26, afternoon! WHEW!!!!

I want to offer the entire team a drink, but then find out that there is only water, lemon juice, tea and coffee here.

After all these stressful troubles, it's high time for our first excursion.

It is 4 pm, and our first sighting is a juvenile Checkered Keelback (*Xenochrophis piscator*). A small innocent snake that really wants to bite me.



*The Checkered Keelback is a medium-sized snake but may grow to be large. Adults may attain a snout-to-vent length (SVL) of 1.75 m. This Keelback feeds mainly on small fish and water frogs. The preferred habitat is in or near freshwater lakes or rivers. Xenochrophis piscator is oviparous. Clutch size is usually 30-70 eggs but may be as few as 4 or as many as 100. The female guards the eggs until they hatch.*

We meet the 'you-see-them-everywhere' Asian Common Toad (*Duttaphrynus melanostictus*), the one we know from previous trips in Asia.

*Duttaphrynus melanostictus* is commonly called Asian Common Toad, Asian black-spined Toad, Common Sunda toad, and Javanese toad. It is probably a complex of more than one true toad species that is widely distributed in South and Southeast Asia.

The species grows to about 20 cm long. Asian Common toads breed during the monsoon, and their tadpoles are black.

They breed in still and slow-flowing rivers and temporary and permanent ponds and pools.

Adults are terrestrial and may be found under ground cover such as rocks, leaf litter, and logs, and are also associated with human habitations. They are often seen at night under streetlamps, especially when winged termites swarm.

They have been noted to feed on a wide range of invertebrates, including scorpions.



The Asian Painted Frog (*Kaloula pulchra*) is also no stranger. We met it earlier in Central India in April 2019.

In India, the Painted Frogs call after the first heavy monsoon showers in April–May. The males call while afloat in pools of water.



These frogs are big eaters and are very slow. They are primarily ant specialists, consuming up to a couple hundred ants in one night, and can often be found sitting along an ant trail picking off individuals one by one.

In between the raindrops, some other observations:

Greater Racket-tailed Drongo (*Dicrurus paradiseus*) (picture left).

*The Greater Racket-tailed Drongo (Dicrurus paradiseus) is distinctive in having elongated outer tail feathers. The tail with twirled rackets in flight it can appear as if two large bees were chasing a black bird. They are conspicuous in the forest habitats often perching in the open and by attracting attention with a wide range of loud calls that include perfect imitations of many other birds. One hypothesis suggested is that these vocal imitations may help in the formation of mixed-species foraging flocks, a feature seen in forest bird communities where many insect feeders forage together. These drongos will sometimes steal insect prey caught or disturbed by other foragers in the flock and another idea is that vocal mimicry helps them in diverting the attention of smaller birds to aid their piracy.*

White-bellied Treepie (*Dendrocitta leucogastra*) (picture right) is endemic for the *Western Ghats*. *The White-bellied Treepie is 48 cm long. Is often found along with Greater Racket-tailed Drongos. This bird eats fruits, seeds, nectar, invertebrates, reptiles, rodents, nestlings and eggs.*



Brown-cheeked Fulvetta (*Alcippe poioicephala*). I only heard this bird, but I didn't find it among the leaves ...

*Their food is mainly insects and nectar. They can be difficult to observe in the dense vegetation they prefer, but these are vocal birds, and their characteristic calls are often the best indication that these birds are present.*

Dark-fronted Babbler (*Rhopocichla atriceps atriceps*). This subspecies is again an endemic!



*This babbler builds its nest low down in a bush, the nest being a ball of leaves, often of bamboo. The nest looks like some dry leaves stuck in a bush with the opening on the side. The dark-fronted babbler is found only in the Western Ghats of India.*

The butterfly Sahyadri Blue Oakleaf (*Kallima horsfieldii*) is found in India and Sri Lanka. The underside appears like a leaf complete with midrib while the upperside is brilliantly colored.



*Dorsal view*



*Ventral view*

Next butterfly is the Common Evening Brown (*Melanitis leda*). This one has a huge distribution area going from Africa, over South Asia to Australia!



Sambar (Sambar Deer - *Rusa unicolor*), a solitary deer that rises to a height of one and a half meters. We also know this kind from our trip to Central India.

*The sambar (*Rusa unicolor*) is a large deer native to the Indian subcontinent, South China, and Southeast Asia that is listed as a vulnerable species on the IUCN Red List since 2008.*

*They are favorite prey of tigers and Asiatic lions. In India, the sambar can comprise up to nearly 60% of the prey selected by the Bengal tiger. Anecdotally, the tiger is said to even mimic the call of the sambar to deceive it while hunting.*



We must stop at 6.30 pm, because the almost permanent soft rain changes into a real downpour. Fortunately, we are never far from the lodge. Why should we embark upon journeys? We are in the middle of the rainforest! There are neither mopeds, nor bicycles nor cars here. Only that one jeep from the boss, who brings people and / or food a few times a week.

One hour later we can go searching again for critters....

It is raining less. Armed with poncho and large umbrella ...

We start again with a butterfly, this one the Common Map Butterfly (Cyrestis thyodamas).

Beautiful butterfly, and the caterpillar, which we have not observed ourselves, looks like this:



Followed by a topper, one of the hoped-for species that is high on my wish list: the Malabar Pit Viper (Trimeresurus malabaricus).

*Trimeresurus malabaricus* is a venomous pit viper species endemic to the Western Ghats.



*The Malabar Pit Viper is nocturnal and usually inactive in the day, sometimes seen basking on rocks or trees near streams. It is more commonly encountered during the monsoon months. The species preys upon frogs, lizards, nestling birds, musk shrews, mice and other small animals.*

One of the ways to find small skinks or little snakes is to investigate leaf litter. Shift the leaves with one hand, the other hand ready to catch something.

I'm not fast enough to stop a beautiful black-yellow slippery legless amphibian: a Caecilian! He is gone!

*The Western Ghats of India are one of the global biodiversity hotspots, and a center of caecilian diversity. Of the 39 described species of Caecilians from India, 26 are endemic for the West Ghats. From distributional records it is apparent that the hot spot of known caecilian diversity in India is the Western Ghats. Of the 26 currently recognized Western Ghats species, most are known from the southern part of the range, including seven species endemic to this area.*

*Caecilians are a group of limbless, serpentine amphibians.*

So, bad luck. And at this moment we even don't know that our guide will also let one escape tomorrow!

It is 10.30 pm, unfortunately we must go back, it is raining too hard.

But observations never stop ...

On the window of my room I see, for the first time, some mating antlions.

*The antlions are a group of about 2,000 species of insect in the family Myrmeleontidae, known for the fiercely predatory habits of their larvae, which in many species dig pits to trap passing ants or other prey. The adult insects are less well known, as they mostly fly at dusk or after dark, and may be mistakenly identified as dragonflies or damselflies. Antlion larvae eat small arthropods – mainly ants – while the adults of some species eat pollen and nectar; and others are predators of small arthropods.*



In the corner of the 2nd window hangs a Black Widow, or at least a spider from the same family.



*Researchers have found six new species of spiders in the Western Ghats in Kerala in the past month. The spiders belonging to the genus Argyrodes are from the same spider family—Theridiidae—as the famous "black widow" spider; the female of which are known to sometimes kill and eat their mates after mating. "The species are new to science. They have not been discovered in any other part of the world yet.*

There is a big tree opposite my room. Low to the ground there is a hole in the trunk.

That hole is occupied every year by a species of frog, which lays eggs here in the puddle of water in that hole, barely 7 cm in diameter. With the flashlight we can clearly see the tadpoles, mosquito larvae and ... the frog itself!

But due to the bright light, it quickly disappears "behind the corner", inside the hole. After a long wait we finally manage to see it in its "mini pool" (photo left).

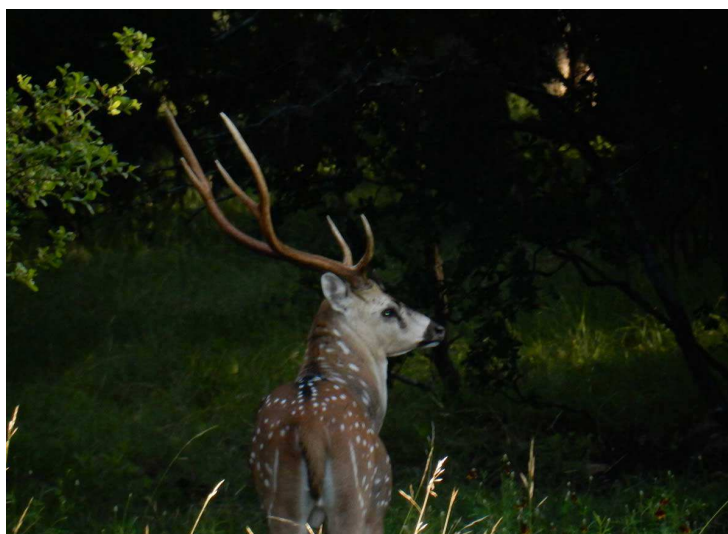
Later that evening it leaves that small tree cavity, installs itself on the trunk of "his" tree and feeds on ants, termites or tiny flies that walk or land on the moss (photo on the right). FO 162

This is all about the Malabar Ramanella (*Ramanella triangularis*), another name is Malabar Narrow-mouthed Frog.



*Ramanella triangularis*, now *Uperodon triangularis*, is a species of narrow-mouthed frog found in southwestern India. They are endemic to the Western Ghats, where they are known to breed in water collected in tree hollows. The advertisement calls of males are made up of about 30 pulses of 0.38 second duration with a frequency range of 0.6 and 1.1 kHz. These are emitted every three seconds.

In the distance, among the trees, Ashwin points out to me the presence of a few Spotted Deer (*Axis axis*). The species is sexually dimorphic; males are larger than females, and antlers are present only on males.



The upper parts are golden to rufous, completely covered in white spots. The abdomen, rump, throat, insides of legs, ears, and tail are all white. The antlers, three-pronged, are nearly 1 m long.

In the light of the flashlight we close with a very mobile and therefore difficult to follow Lesser Asiatic Yellow Bat (*Scotophilus kuhlii*) (picture from Internet).

*Head and body length is 7 cm. Forearm is 5 cm. Scotophilus kuhlii is a uniform beige color above sometimes with a yellow tinge and its underparts very light brown to whitish.*



After a delicious and very extensive dinner, very local food, and especially not spicy for me, we (finally) go to sleep: I am exactly 42 hours on the road ...

### **Saturday 24/08**

In the early morning I take some pictures of the lodge. On the left my room, on the right the restaurant.



And the views from the bedroom and bathroom: tens of kilometers of uninhabited primary rainforest ...



I have the visit of a large Walking Stick, about 20 cm long!

Phasmatodea can be found all over the world except for the Antarctic and Patagonia. They are most numerous in the tropics and subtropics. The greatest diversity is found in Southeast Asia and South America. Mating behavior in Phasmatodea is impressive because of the extraordinarily long duration of some pairings. A record among insects, the stick insect *Necrosia sparaxes*, found in India, is sometimes coupled for 79 days at a time!



We start the first walk at 7 am, before breakfast.

The first observation is again a Malabar Pit Viper.

Our guide Shaji is very lucky. He walks to the exit of the lodge, puts his hand on one of the large stones that serve as a boundary line (for whom or what I really don't know), and touches the tail of this groove viper rolled up on top of this stone!

Nothing bad happened, except that this snake moves quickly to a bush!



Another nice sighting is that of the Malabar Woodshrike (*Tephrodornis sylvicola*), an endemic bird of this region.



Something is moving high in a tree. Very difficult for me to see, but the guides know for sure: the Malabar Giant Squirrel (*Ratufa indica*). I barely see a moving dark spot ... Regrettable, because in terms of colors it can be there!



*The Malabar Giant Squirrel is an upper-canopy dwelling species, which rarely leaves the trees, and requires "tall profusely branched trees for the construction of nests." It travels from tree to tree with jumps of up to 6 m. When in danger, the Ratufa indica often freezes or flattens itself against the tree trunk, instead of fleeing. Its main predators are the birds of prey and the leopard. The Giant Squirrel is mostly active in the early hours of the morning and in the evening, resting in the midday. They are typically solitary animals that only come together for breeding. The species is believed to play a substantial role in shaping the ecosystem of its habitat by engaging in seed dispersal. Diet includes fruit, flowers, nuts and tree bark. Some subspecies are omnivorous, also eating insects and bird eggs.*

It is remarkable that many species have a name that starts with Malabar. Almost all of them are endemic species for this area.

The Malabar region refers to the historic and geographic area of southwest India. It lies between the Western Ghats and the Arabian Sea.

*The word Malabar is derived from the Malayalam word "mala-baram". Mala in Malayalam means "hill". Varam means "slope" or "side of a hill".*

*The Malabar Coast, especially on its westward-facing mountain slopes, comprises the wettest region of southern India, as the Western Ghats intercept the moisture-laden Southwest monsoon rains.*

We also find a Dung Beetle, family Scarabaeinae.

*Dung beetles feed on feces (dung). Some species can bury dung 250 times heavier than themselves in one night. The Scarabaeinae comprises more than 5,000 species. Many dung beetles, known as rollers, roll dung into round balls, which are used as a food source or breeding chambers. Others, known as tunnelers, bury the dung wherever they find it.*

*Nice to know: the nocturnal African Dung beetle Scarabaeus satyrus is the only known non-vertebrate animal to navigate and orient itself using the Milky Way.*



Next insect is a Planthopper.

*A planthopper is any insect in the suborder Auchenorrhyncha and exceeding 12,500 described species worldwide. The name comes from their remarkable resemblance to leaves and other plants of their environment and from the fact that they often "hop" for quick transportation in a similar way to that of grasshoppers. However, planthoppers generally walk very slowly so as not to attract attention.*



*Nymphs of many fulgoroids produce wax from special glands on the abdominal terga and other parts of the body. These are hydrophobic and help conceal the insects. Adult females of many families also produce wax which may be used to protect eggs.*

*Fulgoroid nymphs also possess a biological gear mechanism at the base of the hind legs, which keeps the legs in synchrony when the insects jump. The gears, not present in the adults, were known for decades before the recent description of their function.*

Close to the river, 2 frogs on flat stones, not identified, probably Indirana spec.



Something I cannot avoid, despite many spinal problems, is turning stones.

Nice when that still yields something, such as this scorpion, from the Heterometrus family, its members are also known by the collective vernacular name Giant Forest Scorpions.

*The symptoms from a Heterometrus envenomation are rather mild and no human fatalities are known. The sting causes local pain, inflammation, oedema, swelling, and redness of the skin, lasting for hours to a few days.*



Also under a stone, this beautifully drawn juvenile Asian Common Toad. We saw an adult one yesterday afternoon, p. 10. (photo left).

And a well-camouflaged frog, with a large broad yellow stripe. We cannot find the name of the species, we just know it's another Indirana spec. (photo right).



But we also have attention for other beautiful things, such as these colorful fungi.



In the bushes, we find two Green Vine Snakes (*Ahaetulla nasuta*), an adult one and a juvenile. *This Long-nosed Whip Snake or Green Vine Snake is diurnal and mildly venomous. The reptile normally feeds on frogs and lizards using its binocular vision to hunt. They are slow moving, relying on camouflaging as a vine in foliage. The snake expands its body when disturbed to show a black and white scale marking. Also, they may open their mouth in threat display and point their head in the direction of the perceived threat. There is a widespread myth in parts of southern India that the species uses its pointed head to blind its human victims. The ingredients of the venom are unknown. The venom is moderately potent and can cause swelling, pain, bruising, numbness and other local symptoms, which will subside within three days.*



We stop at a tree. Shaji and Ashwin explain here about the smell that prevails in the rooms. Not unpleasant, but special.

That is their natural and self-made anti-mosquito / anti-insect product:

a light cut is made in the bark of a special tree, the *Vateria indica*. From that "wound" runs a kind of resin that hardens quickly. That resin is heated at home on charcoal. Very efficient.

We have already seen and learned a lot this morning, let's have breakfast!

Traditional and daily breakfast: warm rice with lamb or chicken. Everything is slightly adjusted for me, because the local people eat very spicy.

During the second walk the Fred catches a skink! Nothing special, a fairly general species, but still our first. The 'bad' weather certainly plays a role here: the reptiles are not very active when there is no sun ....



It's a Bronze Grass Skink (*Eutropis macularia*). *Deep-brown, olive or bronze-brown in color; dorso-lateral bands light or yellow; sometimes with black spots on the base of the tail. Breeding males have orange color on the lateral side of the body. Juveniles are grey with a bronze head.*

We also find a very special frog! Probably the Kempholey Night Frog (*Nyctibatrachus kempholeyensis*)!

*It is endemic to the Western Ghats, where it is only found between Karnataka and Kerala.*

*A team of scientists from Delhi University, Bombay Natural History, Zoological Survey of India and Brussels' Vrije University (Belgium) has discovered 12 new frog species in the Western Ghats.*

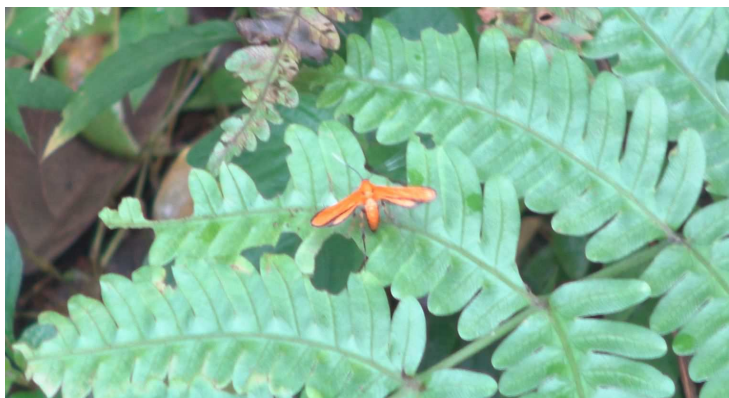


*The 12 species of frogs belong to the genus or scientific classification 'Nyctibatrachus'.*

*The findings included the rediscovery of three frog species which were thought to have been extinct after remaining unsighted for 74 years: the Coorg Night Frog, the Kempholey Night Frog and the Forest Night Frog. They lived alongside dinosaurs, which have long since disappeared, but amazingly frogs continue to exist," said herpetologist Sathyabhama Das Biju...*

*The Night Frogs require unique habitats — either fast-flowing streams or moist forest floor — for breeding and survival. Further, it is the only group of frogs that can fertilize and reproduce without physical contact.*

We see a lot of small and fast insects around and above the water. One of them, a kind of wasp, is just landing on a fern.



It is dry for a while, so we are leaving soon, after breakfast!

We start for a long walk towards the big waterfall, and need already an umbrella...



At the foot of the first waterfall, Ashwin tells me: “this like me a good place for a Malabar Torrent Toad.

Less than 2 minutes later... bingo! Our first *Ghatophryne ornata*! A new one for me of course, but for Ashwin too!

*Ghatophryne ornata*, known with common names *Malabar Torrent toad* or *Black Torrent toad*, is a rare and endangered species of toad endemic to the Western Ghats.

The skin of these toads is slightly rough and usually dry. The underbelly is usually held above the ground. Overall coloration on dorsum varies from dark brick red to black.

Underside has bright red color with yellow circular spots. Base of mandible has two yellow spots.



The bright coloration on the underside could be for unken reflex. Unkenreflex – interchangeably referred to as unken reflex (Unke is the German word for the genus of fire-bellied toads) – is a defensive posture adopted by several branches of the amphibian class – including salamanders, toads, and certain species of frogs. Implemented most often in the face of an imminent attack by a predator, unkenreflex is characterized by the subject's contortion or arching of its body to reveal previously hidden bright colors of the ventral side, tail, or inner limb; the subject remains immobile while in unkenreflex.

During the course of unkenreflex, the amphibian in question releases toxins from its parotid glands, tenses its entire body, and swallows air to bloat itself in an attempt to look larger.

Shaji catches a large wrinkled dark frog, but this one manages to escape.

A little further, the same species but much smaller. This could be the Giant Wrinkled Frog (*Nyctibatrachus karnatakaensis*), endemic to the Western Ghats.



Its natural habitats are tropical moist lowland forests and rivers. It is threatened by habitat loss.

*His conservation status by the IUCN Red List of Threatened Species is “Endangered”!*

On the same place, we can observe mating frogs. This species is probably Kottigehar Dancing Frog (*Micrixalus kottigeharensis*).

*Endemic for the Western Ghats, his conservation status by the IUCN Red List of Threatened Species is Vulnerable.*

*The frogs earned their colorful moniker by unique leg movements the males make when trying to attract mates. While most male frogs simply croak to get the attention of females, male dancing frogs twist, extend, and wave their hind legs in a display called “foot-flagging.” Das believes this is because they live in fast-flowing streams, an environment too noisy for conventional croaking.*



*“Foot-flagging probably evolved multiple times in this group as an adaption to overcome the ambient noise of flowing water in the environment,” Das told mongabay.com. “Besides calling, males display the foot-flagging behavior to communicate and to attract females in order to complete their breeding cycle. If a particular group of frogs do not inhabit noisy environments, then they probably do not need to evolve adaptations such as foot-flagging.”*

Lunch around 2.30 pm.

Hot rice, as usual, accompanied by 'something else', simple but very tasty!

During our lunch, we have the visit of an Orange Minivet female (*Pericrocotus flammeus*).



*The orange minivet is a species of bird in the cuckooshrike family. Its natural habitats are temperate forests, subtropical or tropical moist lowland forest, and subtropical or tropical moist montane forest. It was formerly considered a subspecies of the scarlet minivet.*

To give my wife Rita a call, I need to drive 8 km on an almost non-existent road, badly damaged by mud flows from previous monsoon rains.



I find two Pill millipedes, one 'walking' and one in "rolling-up position". Two different Pills on the same place...

*Pill Millipedes (fam. Arthrosphaera) are any members of Oniscomorpha. The name Oniscomorpha refers to the millipedes' resemblance to certain woodlice (Oniscidea), also called pillbugs or "roly-polies". However, millipedes and woodlice are not closely related (belonging to the subphyla Myriapoda and Crustacea, respectively); rather, this is a case of convergent evolution.*



We make different observations on birds:

The Malabar trogon (*Harpactes fasciatus malabaricus*) is a subspecies only found in the forests in the Western Ghats.



*The nest is made in rotting trees or stumps that are easy to carve and pulverize using their bills. The male and female take turns to excavate the nest. It may take about a month to excavate the nest. The floor is made out of the wood powder and no extra lining is added. Two eggs were seen to be the normal clutch in a study in Kerala.*

The Malabar Whistling Trush (*Myophonus horsfieldii*) is also known locally by the name of *whistling schoolboy* for the whistling calls that they make at dawn that have a very human quality. The species is a resident in the Western Ghats and associated hills of peninsular India including central India and parts of the Eastern Ghats.



The Yellow-browed Bulbul (*Acritillas indica*) or Golden-browed Bulbul, is a species of songbird in the big bulbul family, Pycnonotidae.



*It is found in the forests of southern India and Sri Lanka. The yellow-browed bulbul is mainly yellow on the underside and olive above with a distinct yellow brow. They are easily located by their loud calls but tend to skulk within foliage below the forest canopy. They feed mainly on berries and insects. The breeding season is during the dry spell before the monsoons, mainly January to May. The nest is a cup built in a low fork covered with moss and cobwebs on the outside, giving the appearance of a large white-eye nest, and lined with fine root fibers.*

The Malabar Barbet (*Psilopogon malabaricus*) is an Asian Barbet native to the Western Ghats. This species is found in the Western Ghats from around Goa south to southern Kerala in moist evergreen forest mainly below 1200 m elevation. They often visit fruiting *Ficus* species, joining flocks of green pigeon and mynas.

*These birds are usually seen in pairs during the breeding season but are gregarious in the non-breeding season. The breeding season is mainly February–March prior to the rains. The nest hole is excavated on the underside of thin branches. It takes about 18 days to excavate the nest. These nest holes are often destroyed by larger barbets that may attempt to enlarge the hole. A nest is made each year. Multiple holes may be made and any extra hole may be used for roosting.*



Under a stone, a surprise: Scolopendra.

*Family: Scolopendromorpha; Genus: Ethmostigmus; Species: Scolopendra spec.*

*The genus Scolopendra contains many species of centipedes found across the world's tropics and warmer temperate areas. The species vary considerably in coloration and size. Scolopendra are*



*mostly very large centipedes, with even the smallest species capable of reaching at least 10 cm at maturity. The largest species found in tropical climates can exceed 30 cm and are the largest living centipedes in the world. All Scolopendra species can deliver a painful bite, injecting venom through their forcipules, which are not fangs or other mouthparts, but instead modified legs on the first body segment.*

*Centipede venom is a cocktail of several substances, including histamine, serotonin, cardiotoxin, and a quinoline alkaloid. The venoms of other centipedes are used in Chinese folk medicine to combat rheumatism, convulsions, tetanus, heart attacks, kidney stones, skin problems, and dementia. It is also used in India as a last-resort cancer treatment, leading researchers to investigate potential antitumor properties of centipede venom.*

Evening walk 6 pm - 9 pm, together with 2 newcomers, Swayam and Sampada, a sympathetic couple who only stay for one night, with a special interest in frogs and fungi. And they will get what they hoped for special species!

This one, a juvenile/intermediate, got a very special scientific name: VUB Night Frog (*Nyctibatrachus vrijeuni*). Named after a university! A Belgian university!

Both the specific name, "vrijeuni", and the acronym in the common name, "VUB", refer to Vrije Universiteit Brussel, the Free University of Brussels.



It is one of 12 new species of frogs in the genus *Nyctibatrachus* discovered in September 2011. It is found exclusively in the Western Ghats, India.

Next amphibian is probably Dattatreya Night Frog (*Nyctibatrachus dattatreyaensis*).

*This species of frog was first described in the Shola forests around the Dattatreya Peeta in the Chikkamagaluru district of Karnataka, and is endemic for the Western Ghats.*

*Sholas are the local name for patches of stunted tropical montane forest found in valleys amid rolling grassland in the higher montane regions of South India. These patches of shola forest are found mainly in the valleys and are usually separated from one another by undulating montane grassland.*



Nice dinner with fish, with many fishbones, at 10.00 pm.

Because all locals eat using their fingers (from the right hand, of course), those bones are much less of a problem for them. They remove the fishbones from the mouth in one movement, while I'm messing around with fork and knife ...

We become better acquainted with the two new guests, both very interested in amphibians, fungi and mushrooms. They mainly do photography.

It's getting late, very late. And soon we want to get up early again to fully enjoy this environment.

We call it a night at 00.30 am

### **Sunday 25/08**

We are ready for the 07 am-walk.

But first the preparatory work on our boots against leeches.

*Leeches are segmented parasitic or predatory worms that belong to the phylum Annelida. They are closely related to the oligochaetes, which include the earthworms.*

*Almost 700 species of leech are currently recognized, of which some 100 are marine, 90 terrestrial and the remainder freshwater.*

*Leech bites are generally alarming rather than dangerous, though a small percentage of people have severe allergic or anaphylactic reactions and require urgent medical care.*

*Leeches can be removed using a fingernail or other flat, blunt object to break the seal of the oral sucker (at the front end), repeating at the other end, then flicking the leech away.*



*Common, but medically inadvisable, removal*

*techniques are to apply a lit cigarette, salt, soap, or vinegar to the leech. These cause the leech to detach quickly, but also to regurgitate its stomach contents into the wound, with a risk of infection.*

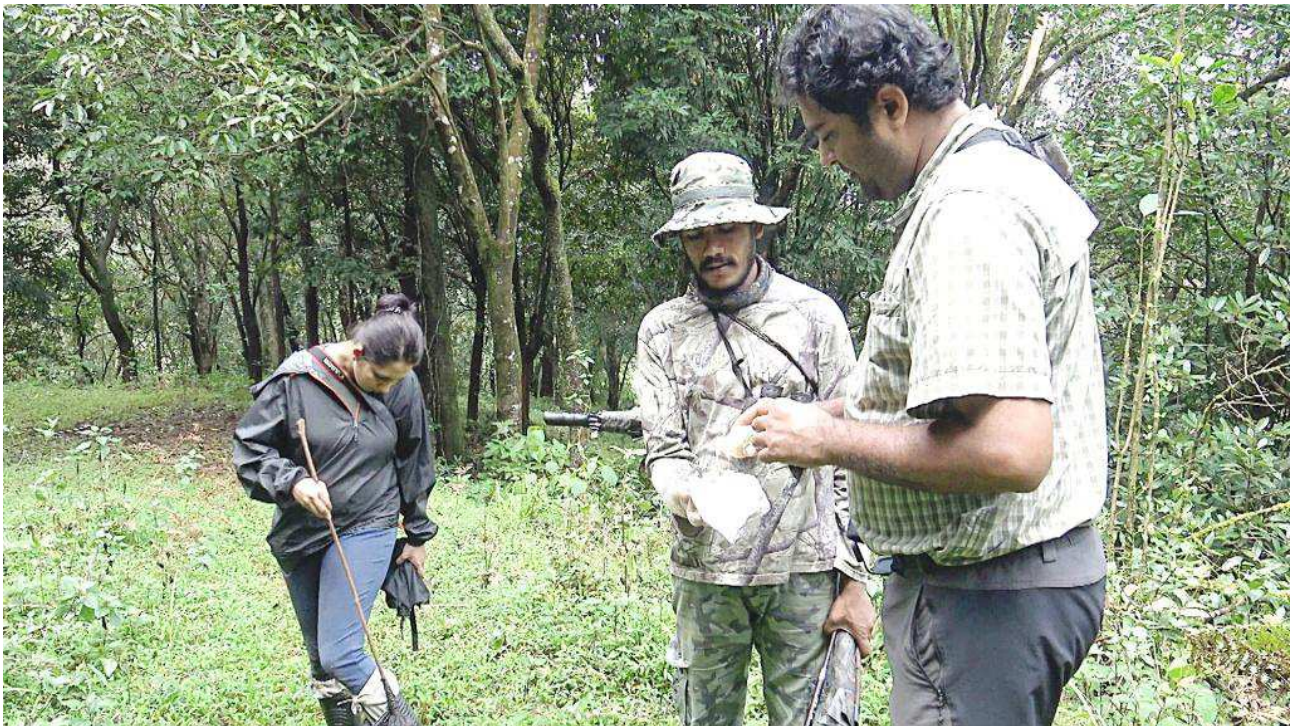
*Leeches normally carry parasites in their digestive tracts,*

*which cannot survive in humans and do not pose a threat; however, bacteria, viruses, and parasites from previous blood sources can survive within a leech for months.*

Our boots are carefully rubbed by Shaji, with a natural product that looks a lot like Dettol. This is to prevent the leeches from crawling upwards. But with the permanent rain, the efficiency of that product vanishes very quickly ...



The defense is also updated along the way: at the end of a branch a bag is attached that is filled with salt. That bag is then rubbed over the boots to remove the climbing leeches. And again "Dettol" is applied as long as the supplies last.



But the battle cannot be won against thousands of leeches. At the end of the walk the bodies must be checked and the damage measured ...



But we make also beautiful observations!

Like this *Indirana spec.*, another one with a broad band on the back, from which the guides couldn't give me the full name.



And this one!

Beddome's Keelback (*Hebius beddomei*, syn. *Amphiesma beddomei*)



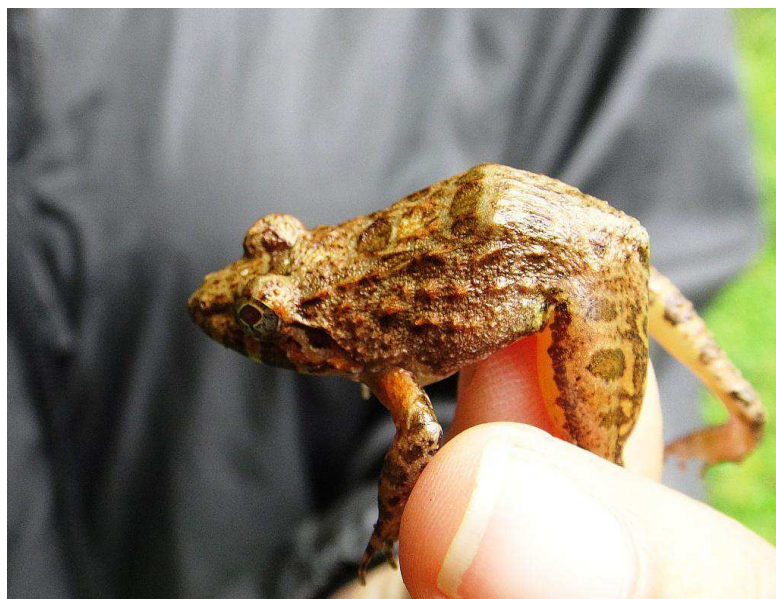
*It prefers moist deciduous forests and evergreen forests.*

*Although not aquatic, it can be found actively hunting from dawn to dusk on stream banks or close to other bodies of water.*

And still before breakfast, another one!

It's the Guenther's Leaping Frog (*Indirana brachytarsus*).

This species is endemic to the Western Ghats. Has been categorized by the International Union for Conservation of Nature (IUCN) as Endangered. It breeds on wet rocks, and the tadpoles are found on wet rock surfaces next to streams.



And the last one during our early morning walk is the Large Pied Wagtail or White-browed Wagtail (*Motacilla maderaspatensis*).



*The White-browed Wagtail is a resident breeder in India and is endemic to the Indian subcontinent. Its nesting season is from March to September. Its nest is a cup shaped pad of rootlets, hair, wool, and dry algae etc. under a projecting rock among rafters of a dwelling house or under girders of a bridge-always near water.*

Breakfast with warm rice and a kind of pancake!

From 9 am to 3 pm long hike, relatively difficult steps to climb and wild streams to cross via slippery rocks, towards the Great Waterfall!

We start with a snake, our second Beddome's Keelback. Everybody happy!



It's the first time I see a Centipede protecting its eggs!

Females of the Geophilomorpha and Scolopendromorpha show parental care. The eggs, 15 to 60 in number, are laid in a nest in the soil or in rotten wood. The female stays with the eggs, guarding and licking them to protect them from fungi. The female in some species stays with the young after they have hatched, guarding them until they are ready to leave.

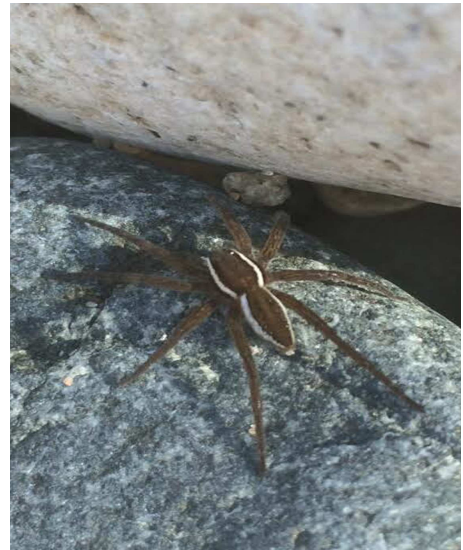


If disturbed, the female either abandons the eggs or eats them; abandoned eggs tend to fall prey to fungi rapidly. Some species of Scolopendromorpha are matrophagic, meaning the offspring eat their mother.

Next beauty is a Fishing Spider.

*Dolomedes* is a genus of large spiders. They are also known as fishing spiders, raft spiders, dock spiders or wharf spiders. Almost all *Dolomedes* species are semiaquatic. Many species have a striking pale stripe down each side of the body.

They hunt by waiting at the edge of a pool or stream, then when they detect the ripples from prey, they run across the surface to subdue it using their foremost legs, which are tipped with small claws; like other spiders they then inject venom with their hollow jaws to kill and digest the prey. They mainly eat insects, but some larger species are able to catch small fish. They can also climb beneath the water, when they become encased in a silvery film of air.



In the water, close to the Fishing Spider, *Nyctibatrachus kempholeyensis*, our 3rd specimen of the trip. This is one of the frogs that was rediscovered and described together with the VUB (Vrije Universiteit of Brussels) (see p. 22).

A real picture puzzle!



While I am trying to take a good picture of that well-camouflaged Night Frog, I hear Ashwin calling: "Fred, hurry up! Shaji has caught something special for you!"

Very special indeed! An endemic skink for the Western Ghats: Travancore Cat Skink (*Ristella travancorica*).

This species is oviparous. Egg laying coincides with the southwestern monsoons. Adult females lay clutches of 2 eggs under dead leaves and rocks.

They owe their common name to the fact that they can retract their nails, just like a cat.



Fred looks very happy with his third Green Vine Snake!



A nice observation, especially for Ashwin, is this Little Spiderhunter ! A lifer!

*The Little Spiderhunter (Arachnothera longirostra) is a species of long-billed nectar-feeding bird in the family Nectariniidae found in the moist forests of South and Southeast Asia. Unlike typical sunbirds, males and females are very similar in plumage. They are usually seen in ones or twos and frequently make a tzeck call and are most often found near flowering plants, where they obtain nectar.*

*In southern India it breeds from December to August. Two eggs are the usual clutch. The nest is a compact cup attached under a leaf of banana or similar broad leaved plant. The nest is suspended from the underside of the leaf using 150 or so "pop-rivets" of cobwebs and vegetable fiber, a unique method of using spider silk for animal architecture.*



Shaji knows the location of a nest of the Indian Jumping Ant (*Harpegnathos saltator*). Without him, we'll never find it! A small flat circle with tiny stones. That's it.

*Harpegnathos saltator is a species of ant endemic to India. They have long mandibles and have the ability to leap a few inches. They are active predators that hunt mainly in the early morning hours. The colonies are small and the difference between workers and queens is very slight.*

*The Indian Jumping Ant or Jerdon's Jumping Ant (*Harpegnathos saltator*) is different from other ant species because the queen and workers, both, reproduce sexually. They live in complex underground nests which are designed to survive floods. The Indian ant *Harpegnathos saltator* may be unique among insects in using its jumping capacity not only as an escape mechanism but also as a normal means of locomotion, and for catching its prey in flight.*



*High-speed cinematography used to analyze the various phases of the jump suggests that *Harpegnathos* employs a novel jumping mechanism to mediate these behaviors: namely the synchronous activation of its middle and hindlegs. Electrophysiological recordings from muscles or nerves in pairs of middle and hindlegs show*

remarkably synchronous activity during fictive jumping, supporting the synchronous activation hypothesis.

They are not alone inside the nests. They share a special relationship with a fly belonging to the family Milichiidae. The larvae of these flies are mainly saprophagous – they feed on dead or decaying matter. Although all other ants of the same tribe take prey remains out of the nest, the *Harpegnathos* ant simply discards the organic debris in a special refuse chamber. The flies take advantage of this and rear their larvae within the nest of the *Harpegnathos*, providing the essential service of garbage disposal.

A worker ant can carry an insect – ranging from moths, to cockroaches, spiders and even grasshoppers. Amazing that this little ant could carry a grasshopper; perhaps close to a hundred times its own weight.

New research suggests that some of these ants can carry objects weighing close to 2000 times their own body weight; and much of this is due to micro structures around the ant's neck-joint that allows them to shoulder incredibly heavy loads.

We stay in the wonderful world of insects....

The Sahyadri Red Helen (*Papilio helenus*), is a large swallowtail butterfly found in forests of southern India and parts of southeast Asia.

*Papilio helenus*, ssp. *daksha*, is generally common and not threatened. It is commonly found from Kerala to Maharashtra.

After the first molt the caterpillar has the appearance of a shiny bird dropping. The larva is grass green in color; mottled black and white and smoky grey.

While inactive, mainly during daylight hours, the young larva lies along the midrib of the underside of the leaf. Later on, when it is largely fully grown, it is greener and lies on the center of the upperside of the leaf, on a stem or a twig.



The Blue Mormon!

*Papilio polymnestor*, the Blue Mormon, is a large swallowtail butterfly endemic to south India and Sri Lanka. It is the "state butterfly" of the Indian state of Maharashtra.

The blue Mormon has been recorded as a pollinator of cardamom.

The butterfly is most common in heavy rainfall areas, such as evergreen forests. It is also common in deciduous forests and wooded urban areas, primarily due to the cultivation of its host plants, i.e. the Citrus species.

In Sri Lanka, populations of *Papilio polymnestor* have expanded due to the increased availability of its food plants (family



Rutaceae) due to modification of landscapes.

## Red Silk Cottonbug.

*Dysdercus cingulatus* is a species of true bug, commonly known as the red cotton stainer. It is a serious pest of cotton crops, the adults and older nymphs feeding on the emerging bolls and the cotton seeds as they mature, transmitting cotton-staining fungi as they do so.

Like other true bugs, *Dysdercus cingulatus* sucks fluids from its host plants. The only part of the cotton plant affected by this pest is the flower and the seed capsule or boll. As this develops, the insect thrusts its rostrum between the carpels and sucks fluids from the still soft seeds inside. Micro-organisms are admitted in the process and may make the boll contents rot or the lint become discolored. Meanwhile, the seeds wither, the fibers may fail to expand and the boll may abort.



When the seeds of a host plant ripen and it becomes unsuitable, the adult insects migrate to new host plants of the same or different species. While away from their hosts, they feed on nectar and fruit of non-host plants, and can survive for several days without food. They seem fond of citrus fruits, but this may merely be because there are often citrus plantations in close proximity to cotton fields.

Next insect is a Spider Wasp of the genus *Pepsis*, also known as Tarantula Hawks. They are cosmopolitan, with some 5,000 species in six subfamilies.

Nearly all species are solitary and most capture and paralyze prey.



Wikipedia - DaveHood, Grant Ranch, CA, Public Domain

In 1984, Justin O. Schmidt, a researcher from Arizona, developed a hymenopteran sting pain scale, now known as the Schmidt sting pain index. In this index, a 0 is given to a sting from an insect that cannot break through human skin, a 2 is given for intermediate pain, and a 4 is given for intense pain. The scale rates stings from 78 different species in 42 different genera. Our Spider Wasp here have a sting rating of 4. The sting is described as "blinding, fierce, and shockingly electric. A running hair dryer has been

dropped into your bubble bath." Only the sting of the bullet ant, *Paraponera clavata*, is ranked higher, with a 4+ rating.

Sampada and Ashwin go down to the small stream, looking for other frogs. Going down is easy, but coming up.....



Next to the stream, we find 2 brown frogs from a very special family: *Indirana cf. beddomii*. This one is our third or fourth different species of *Indirana* (see pp. 19, 20, 30 and 31). It's time now to give some information about this family.

The family *Indirana* represents an ancient radiation of frogs that diverged from all other frogs almost 50 million years ago. This has credited one of them, *Indirana gundia*, as a status of one of the "Top 100 Evolutionarily Distinct and Globally Endangered Amphibians".

It represents a family that has been evolving independently in India for almost 50 million years. New species are still being discovered. All are endemic for the Western Ghats!

The one we have here is the Beddome's Leaping Frog (*Indirana cf. beddomii*). They are usually detected by their long leaps as they flush from the ground when disturbed. Their color is brown above, with rather indistinct darker spots; a dark cross-band occurs between the eyes; a black band is found along the canthus rostralis, and a black temporal spot is seen.



At the end of the long walk, we must cross the big waterfall.



This seems the best biotope for Malabar Torrent toads.... and Ashwin finds THREE toads, stuck together between the rock and a small tree trunk!



It is 2.30 pm. Time for lunch: warm rice with meat and vegetables. Delicious!

We start again at 7 pm, after a long wait due to torrential rains.

We have barely been walking for 10 minutes and we have again a new and endemic species of frog! The new one, another lifer for Ashwin and myself, is the Anil's Bush Frog (*Raorchestes anili*), described in 2006 by Biju, S.D., and F. Bossuyt, the guy from the VUB Belgium. (Franky Bossuyt <https://we.vub.ac.be/nl/franky-bossuyt>).

A broad, dark brown upside-down "V" marks the back, running from the forelimbs to the hind limbs.

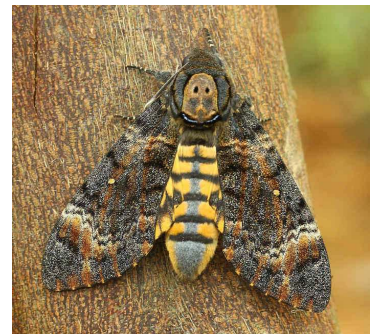
This species begins calling during or immediately after sunset.

It is a direct developer. That means that these frogs eliminated the tadpole from their life history—a process termed direct development. That evolution enables these frogs to reproduce on land; they don't have to go into the water.

Anil's Bush Frog is often found living on coffee plantations, in gardens, and on roadside vegetation. After a few minutes, during the photosession, it starts to call! Beautiful!



Among all those frogs, just one insect: the Lesser Death's Head Hawkmoth (*Acherontia styx*). *This moth, also called Bee Robber, is a sphingid moth found in Asia, one of the three species of Death's Head Hawkmoth. It is very fond of honey, and bee keepers have reported finding dead moths in their hives as a result of bee stings. They can mimic the scent of bees so that they can enter a hive unharmed to get honey. Their tongue, which is stout and very strong, enables them to pierce the wax cells of the beehive and suck the honey out.*



Back to the frogs!

Günther's Golden-backed Frog (*Indosylvirana temporalis*).



Commonly known as the Bronzed Frog or Günther's Golden-backed Frog, this is a species of true frog found in the Western Ghats and southwestern Sri Lanka. *They are found abundantly on or close to the ground near water. Individuals are not shy and react by jumping only when provoked. They are important prey of many species of snakes, including the vine snake. Some related species found in the Western Ghats of India were formerly included in this species but were separated in a 2014 study.*

We have not seen the next one, only heard!

It is the Variable Bush Frog (*Raorchestes akroparallagi*) which is calling here!  
It is endemic to the Western Ghats, where it is known from the states of Kerala and Tamil Nadu.  
Before its description in 2009, it was confused with *Raorchestes femoralis* and *Raorchestes glandulosus*.

*Raorchestes akroparallagi* has direct development, with all growth inside the egg and no free-swimming tadpole stage. Males attract females with their calls. Mating takes place during the night. A pair in amplexus may move around before settling on a leaf and starting to lay eggs on its upper side. Egg laying takes hours and results in a clutch of 20–41 eggs. There is no parental care. This is how he looks:



About 8 pm, another lifer! And calling in front of the camera!  
The Wayanad Bush Frog (*Pseudophilautus wynaadensis*) is endangered and endemic!!!



*Pseudophilautus wynaadensis*, also known as, common bush frog, tinkling frog, plain-colored bush frog, Malabar coast frog, or Dark-eared bush frog, is a species of frog in the family Rhacophoridae. The body is rather slender. coloration varies, even within the same population, from uniform grey to brownish or reddish grey.

The last observation of the day is an Indian Giant Flying Squirrel (*Petaurista philippensis*). This squirrel is one of the two species found in the Western Ghats, and one of the largest flying squirrels in the world, with gliding membranes between its wrists and ankles as well as between its legs and tail. With the lift provided by both of these, the species can glide up to 250m and even up to 400m on a down-slope. Flying squirrels are nocturnal, and inhabit forested areas.



We don't have pictures. This beautiful one was found on Internet and taken by G. Krishnamurthy.

### **Monday 26/08**

Departure at 6 am by Jeep.

Then transfer to a taxi in Mananthavady.

The public road runs through the Nagarahole Tiger Reserve!



We see an Indian Elephant (*Elephas maximus indicus*) walking along the roadside!

*The Western Ghats ecoregion has the largest Indian elephant population in the wild with an estimated 11,000 individuals across eight distinct populations. The Indian elephant is one of three extant recognized subspecies of the Asian elephant and native to mainland Asia.*



*Since 1986, the Asian elephant has been listed as Endangered on the IUCN Red List as the wild population has declined by at least 50% since the 1930s to 1940s, i.e. three elephant generations. The Asian elephant is threatened by habitat loss, degradation and fragmentation.*

Already seen on the first day, on this same road, towards Fringe Ford, Bonnet Macaque (*Macaca radiata*).

But here we are dealing with a group of four, walking in the middle of the track. One of them, which, by the way, has lost its left-hand paw somewhere, jumps on the moving car, grabs hold of the door mirror, lurks in quietly, then crawls on the roof and finally walks back to its buddies. Nice visit, nice video.



After breakfast in KAAV' about 9 am, we drive to the airport of Bengaluru.  
We pick up my passport ... without problems!!! Whew!!  
Flight is at 6:10 pm instead of 4:45 pm ... delayed. Plane is Bombardier Q400.



Then taxi to Amboli, a 2-hour drive for 70 km.  
En route, we are lucky to find a Beddome's Catsnake (Boiga beddomei). We will handle it tomorrow ... now too much rain, wind and dark.

When we approach the lodge, we see a small group of monkeys. Unfortunately, we don't get them in sight for long enough to have a clear view, let alone take a picture!

Unfortunately, because this is a beautiful animal and an endemic species, namely the Nilgiri Langur (Semnopithecus johnii). Photo taken from the internet!

*The Nilgiri langur is a langur (a type of Old World monkey) found only in the Western Ghats in South India.*

*This primate has glossy black fur on its body and golden brown fur on its head. It is similar in size and long-tailed like the gray langurs. Females have a white patch of fur on the inner thigh. It typically lives in troops of nine to ten monkeys. Its diet consists of fruits, shoots and leaves.*

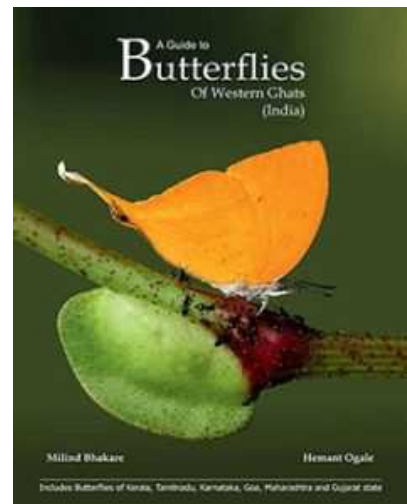


*The species is classified as vulnerable due to habitat destruction and poaching for its fur and flesh, the latter believed to have aphrodisiac properties.*

Arrival at Whistling Woods Lodge, welcomed by the owner and biologist Hemant Ogale, author of a beautiful book about the butterflies of the region!

Hemant Ogale is a renowned butterfly expert and a master in micro photography. He is a founder member of the Malabar nature conservation club. He has documented more than 100+ butterfly life cycles and has authored and published a book on this.

<https://whistlingwoodsamboli.in/index.php/sonali-and-hemant/>



Charming, generously sized room and delicious local food!



A short walk around the lodge, before going to sleep (tired, tired, tired), yields beautiful observations!

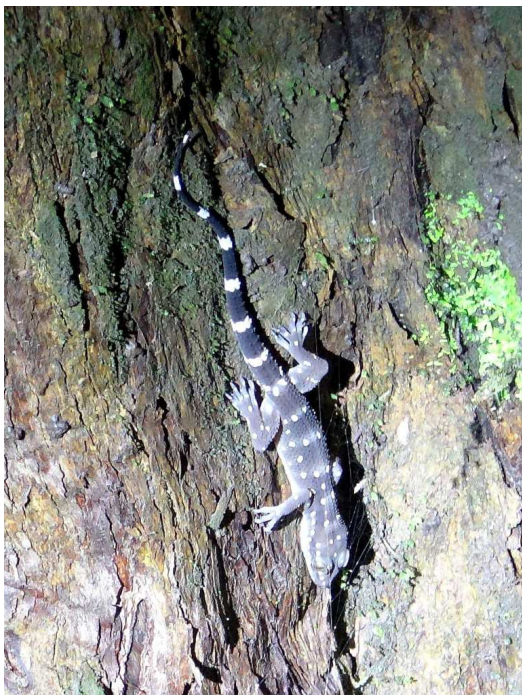
Bombay Leaf-toed Gecko (*Hemidactylus prashadi*) (photo left).

*Hemidactylus prashadi*, also known as the Bombay Leaf-toed Gecko or Prashad's Gecko, is a species of gecko endemic to the Western Ghats.

White-banded Gecko (*Cyrtodactylus albofasciatus*, ex-*Geckoella*) (photo right).

*White-banded Ground Gecko* is a species of gecko endemic to the Western Ghats of India.

Two nominal species of Indian geckos, *C. deccanensis* and *C. albofasciata*, are similar in general appearance and have been regarded as conspecific by some recent authors. Although there are no obvious morphometric differences between the two forms, they differ consistently in dorsal scalation and in juvenile color pattern. *C. deccanensis* is characterized by large, flattened, juxtaposed dorsal scales and a series of yellow cross-bands on the body, whereas *C. albofasciata* has smaller, heterogeneous, conical dorsal scales and juveniles possess a series of white dorsal trunk bands and a single, yellow nape band.



Lesser Short-nosed Fruit Bat (*Cynopterus brachyotis*).

*It is a small bat that lives in South and Southeast Asia. It occurs in many types of habitat, but most frequently in disturbed forest, gardens, mangroves, and vegetation on beaches.*

*The bats feed mainly on small fruits by sucking out the juices and soft pulp. They also eat nectar and pollen.*

*The mother nurses the young with milk for about six to eight weeks. It takes about a year for the male to become sexually mature, and most females become pregnant at approximately six to eight months of age. Males play an active role in lactation and feeding the young. They have mammary glands that are the same size as those of the female and exceed 8% of their overall body mass.*



We close with a big moth, an Owl Moth, fam. Erebus spec.  
The round "eyes" on the wings are reminiscent of an owl.



And then finally we go to sleep!  
What we have seen in 30 minutes in and around the rooms ... phenomenal!

## **Tuesday 27/08**

Program of the day:

Morning walk: 7:30 am - 9 am

Breakfast

2nd walk: 10 am – 1:30 pm

Lunch and rest

3rd walk: 4 pm – 6:30 pm

Snack

4th walk: 7 pm - 11 pm

Dinner

We start with a walk between the small buildings of the lodge, towards the home of owner / biologist / guide Hemant.

The day starts with the two beautiful geckos we saw yesterday under artificial light, namely the speckled Bombay Leaf-toed Gecko and the striped White-banded Gecko.

After that, we walk to an old abandoned castle, still owned by the royal family. The fog creates a very special atmosphere .



Here we find a gecko, similar to *Hemidactylus brookii*...



*Hemidactylus brookii complex*

Each time we see such a gecko, Ashwin and Hemant give it, with a broad smile, the name *Hemidactylus brookii* / amboli, with which they point to the fact that there is still a lot of work on the shelf to keep these species apart. These geckos are still 'undescribed species', but various universities are busy with it.

*Molecular data in conjunction with morphology help resolve the Hemidactylus brookii complex. These data are increasingly being used to resolve cryptic species complexes; however, subsequent formal species description and taxonomic revisions often remain incomplete.*

Tomorrow, if the weather conditions allow, we could go to a high plateau to observe the most recent described species from the *Hemidactylus* complex (see p. 65).

Back to the lodge at 10 am, we start a photosession with the Beddome's Catsnake (*Boiga beddomei*) we caught yesterday evening.

*It's commonly known as Beddome's Catsnake, is endemic Western Ghats and Sri Lanka and is a species of rear-fanged snake in the family Colubridae.*



*Boiga beddomei* is a slender snake. The head is distinct from the neck. The vertebral scales are strongly enlarged. The dorsum is grayish brown with dark brown vertebral spots. The ventral surface is yellowish-cream.

*Boiga beddomei* feeds mainly on geckos and skinks.

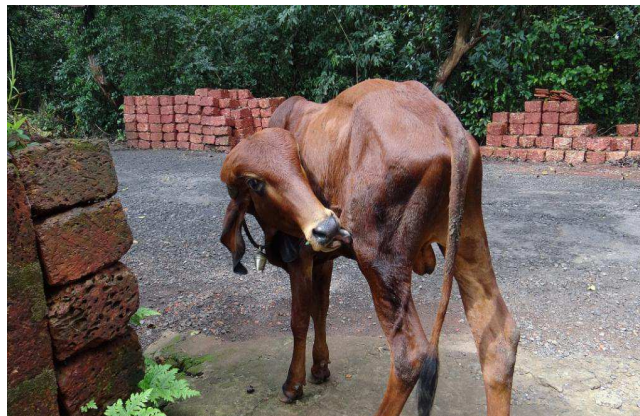
On the wall of my room, an *Olepa ricini* (photo left).

*Olepa ricini* is a moth found in India and Sri Lanka. It closely resembles the much less distributed *Olepa ocellifera*, and differs only in the lack of a chain like series of small yellow banded black spots in between large spots in forewings, which are present in *O. ocellifera*.

And another whose name we do not know (photo right). Let's call it the pied moth...



We start our 2nd walk of the day. First, we encounter a domesticated cow, very nice warm color, on the entrance of the lodge.



A bit further, our first Green Vine Snake in Amboli. We will see five of them here. This one is a beautiful adult. As soon as the snake feels disturbed, it expands its body to show a black and white scale marking.



We leave the narrow asphalt road, cross a running stream and arrive, barely 20 meters further, in an idyllic place, well known from our guide Hemant: completely closed off from the road, only bushes, a small lake where 2 or 3 streams join each other, flat wet stones and croaking frogs everywhere. Fantastic location where we will spend a while looking for very special species of frogs and snakes.

We start with a 'new' frog!

Wonderful what we get to see here: A dancing frog in full action! Croacking and 'foot-flagging'!  
It is the Northern Dancing Frog (*Micrixalus uttaraghati*).



*Picture taken by Hemant*

*Micrixalus* frogs are popularly known as "dancing frogs" due to their peculiar habit of waving their feet to attract females during the breeding season. Dancing frogs are extremely vulnerable as their habitat is severely threatened.

*During the breeding season, male dancing frogs call from spots close to running water and display their prominent white vocal sacs. Males tap their hindfeet and extend it, subsequently stretching the foot outward and shaking it, both at prospective mates and rival males. This type of hindleg movement has been termed as "foot-flagging". Foot flagging is done with either hindlimb and also while calling. The mating pair enter the water where the eggs are fertilized. The female dancing frog excavates in the streambed with her hindlimbs. The pair detach, the female lays her eggs in the chamber in the streambed and buries the spawn with sand and gravel using the hindlimbs.*

*Micrixalus uttaraghati* - Uttar stand for North and ghati means Western Ghats of India. This species was described from Amboli.

*Called the Northern Dancing Frog, it is only known from its type locality at Amboli (Sindhudurg District, Maharashtra state, India).*

*Its natural habitats are subtropical or tropical moist lowland forests and rivers.*

This is an idyllic place indeed! Look at this!

My second observation of a 'frognest' on leaves! The first was in Costa Rica with the Red-eyed Tree Frog (*Agalychnis callidryas*). These eggs are from the Castle Rock Night Frog (*Nyctibatrachus petraeus*). The female climbs into a bush and deposits her eggs on a few broad leaves, directly above the water. After barely 2 weeks, when the tadpoles are developed, they slowly slide off the leaf and fall into the stream.



*Journal of Herpetology*, Vol. 39, No. 3, 2005/ Society for the Study of Amphibians and Reptiles. A new species of ranid frog of the genus *Nyctibatrachus* is described from Castle Rock, Karnataka State, Southwest India. The new species is compared with all known congeners and is diagnosed by the following combination of characters: head wider than long; snout projecting beyond mouth; supratympanic fold poorly defined.

Thus, in front of us, eggs of *Nyctibatrachus petraeus*. Great!

*This species of frog is endemic to the Western Ghats, India. Its natural habitats are subtropical or tropical moist lowland forests and rivers.*

*There is no amplexus in this species, making *Nyctibatrachus petraeus* the only known Old World frog species to completely lack amplexus and because of this, males lack nuptial pads. This is very unusual.*

*Males vocalize from leaves that are 10 - 100 cm above the stream, or from the moss-free rocks adjacent to the stream (thus some eggs may be deposited on streamside rock surfaces as well). Females search through several male territories to choose a male. As the female approaches the chosen, vocalizing male, his calls get more frequent. The male steps to the side and continues to vocalize while the female deposits her eggs at the exact calling site. If she deposits part of the clutch at a second location, it is always the spot a few centimeters away where the male moved after her arrival. Thus, the male determines the oviposition site since the female follows his vocalization to release her clutch of eggs. Immediately after the clutch is released, the female returns back to the water and the male ceases calling and positions himself to fertilize the eggs. After fertilization, the male resumes his calling at a new site a few centimeters away (on the same branch, often on the same leaf), until he is encountered by a different female. Clutches fertilized by the same male are thus spatially clustered.*

*After about 12 - 15 days of development, tadpoles hatch by aggressively wriggling in the egg-jelly, which bursts and releases them into the flowing water underneath.*

We will come back here tomorrow night, hoping to find calling males. And we will succeed too! (see p. 73)

Back to the asphalt road, direction our lodge, we make different observations.  
A Green Vine Snake, again... Nice position in the bushes, nice pics.



The guide tells us that we must pay a lot of attention to tree holes, often interesting places for different kinds of animals.

Indeed! Along the way we see our only monitor of the journey, a juvenile specimen of which we only see the head. So cute!

*The Bengal Monitor (Varanus bengalensis) is mainly terrestrial, and its length can range from 60 to 175 cm from the tip of the snout to the end of the tail. Young monitors may be more arboreal, but adults mainly hunt on the ground, preying mainly on arthropods, but also taking small terrestrial vertebrates, ground birds, eggs and fish.*



*Although large monitors have few predators apart from humans who hunt them for meat, younger individuals are hunted by many predators.*

Next tree, next hole, next species.

We find a lot of eggs from the Amboli Leaping Frog (*Indirana chiravasi*). This species is endemic to the Western Ghats. It is only known from its type locality, the laterite plateaus by the hill-station of Amboli, Maharashtra. It was described in 2014.

Great... this road is part of the laterite plateau!



Now something about crabs.

In 2015, five new species of brightly colored freshwater crabs have been found in the Western Ghats, India's wildlife haven. Of these, two species belong to the genus *Ghatiana*: *Ghatiana atropurpurea* and *Ghatiana splendida*.

We 'll find both!! One today and the other one will be tomorrow! (see p. 66)

This one is also spotted in a tree cavity.

Purple Tree Crab (*Ghatiana atropurpurea*) is a tree-living crab with a preference for the jamun tree, whose fruit color it resembles. It was found in July 2015 from rainwater-containing tree holes in Amboli.

*Ghatiana atropurpurea* gets its name from the Latin for 'dark purple' (*atropurpureus*). This crab has a broad, deep purple shell that distinguishes it from the other newfound species. Before its scientific discovery, the crab was known to the locals as the 'purple tree crab'; they had also observed it scavenging on millipedes and snakes that were accidentally killed by vehicles on roads. Its claw-bearing legs or pincers are differently sized – one is larger than the other. Fingers of the

*larger claw have four or five large teeth, leaving a gap when their tips meet. This gap in the pincers helps in gripping food and competing for mates.*



A baby lizard is crossing the road. It's the Roux's Forest Lizard (*Calotes rouxii*). Taxonomists are going to change the name in *Monilesaurus rouxii*.

Roux's Forest Lizard or Forest Blood Sucker, is a species of arboreal, diurnal, agamid lizard, which is endemic to hills of peninsular India.



*Calotes/Monilesaurus rouxii* can attain a total length (including tail) of up to 30 cm. In adult males, the upper part of the head, nape, and gular pouch become brick-red in the breeding season. It is an insectivore, hunting during the day both on the ground and in trees. It is oviparous, breeding between April and September.

Our guide Hemant finds our first (and last) shield-tailed snake. A juvenile whose dimensions and weak colors do not allow us to name it. There are too many different varieties here.

*The Uropeltidae, the shield-tailed snakes, are a family of primitive, nonvenomous, burrowing snakes endemic to peninsular India and Sri Lanka. The name is derived from the Greek words ura ("tail") and pelte ("shield"), indicating the presence of the large keratinous shield at the tip of the tail. Uropeltis is a genus of nonvenomous shield tail snakes endemic to peninsular India. As of 2017, 23 species are recognized.*

*Most Uropeltis species are found in hills of peninsular India, mainly in southwestern parts of the country, including the Western Ghats. These snakes are not well known in terms of their diversity, biology, and natural history.*



A kind of bark scorpion is spotted, could be *Lychas rugosus*.



Next amphibian is a very good one! The Amboli toad (*Xanthophryne tigerina*). Rare, endemic and critically endangered!

*This toad is known only from the vicinity of Amboli! It was described as a new species in 2009 and placed in a new genus along with its sister species *Xanthophryne koynayensis*.*

*Breeding takes place in temporary ponds in cavities within lateritic rock.*

*This species occurs on the ground in patchy evergreen forest and plantations. It is considered "Critically Endangered" because it is known from a single location only, its habitat is declining in the extent and quality (loss of forest cover), and its abundance is declining.*



During one of the walks in a more or less deserted park, we arrive at a kind of water reservoir, decorated with an elephant.



In this large barrel we find a foam nest of the long-awaited Malabar Gliding Frog; now I must be patient for an adult one ...

*The Malabar Gliding Frog or Malabar Flying Frog (Rhacophorus malabaricus) is a Rhacophoridae tree frog species found in the Western Ghats of India.*

*The term "gliding" frog refers to its ability to break its fall by stretching the webbing between its toes when making leaps down from the treetops. It can make gliding jumps of 9–12 m, a maximum of about 115 times its length.*

*Like many moss frogs, they build foam nests above small pools of water, into which the tadpoles drop after hatching.*



In the same 'barrel' we find, in addition to many tadpoles, also two frogs, Daniel's Night Frog and Short-webbed Frog.

*The Daniel's Night Frog (Nyctibatrachus danieli) is known only from Humbarli village and Amboli.*

*Fifteen frog species have been discovered in the Western Ghats region of India, including 12 completely new species and three that had not been spotted in nearly 100 years.*

The “night frogs”, so named for their preference for evening activity, were found by amphibian expert Associate Professor S. D. Biju from the University of Delhi and researchers from the Bombay Natural History Society, the Zoological Survey of India and Vrije University Brussels in Belgium (2011) as part of a global hunt for frogs that have not been seen for many years. One of them is this *Nyctibatrachus danieli*!



The second one is probably the Short-webbed Frog (*Fejervarya brevipalmata*). *Fejervarya brevipalmata* is a little-known and uncommon grassland frog associated with waterlogged or marshy areas. This frog is found on forest floors and grassy marshes in the Western Ghats in southern India (Maharashtra, Tamil Nadu, and Kerala states).



Half an hour later, Bingo again!

And again a rare, endemic and critically endangered one, the Amboli Bush Frog (*Pseudophilautus amboli*)! Incredible what we can see here in Amboli. Crazy!

Critically endangered means that this species is categorized by the International Union for Conservation of Nature (IUCN) as facing an extremely high risk of extinction in the wild. It is not known to occur in any protected areas, making habitat protection an urgent priority.

*Pseudophilautus amboli* is found in Amboli. It is a small frog. The snout-vent length of this species is 34 mm in males and to 37.5 mm in females. Males have a large and transparent vocal sack when calling.

*It breeds by direct development.*



*Picture taken by Hemant*

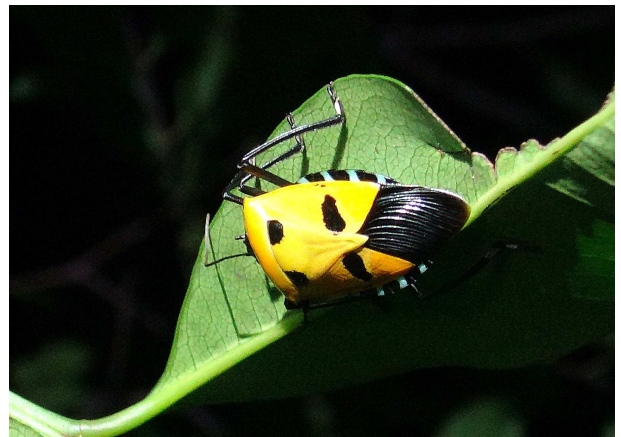
Man-Faced Stink Bug.

*Catacanthus incarnatus* (means "having downward-pointing thorns").

One of the common names is the Hitler bug (as the one living in Slovenia, the real Hitler bug, *Anophthalmus hitleri*).

Just nice to know:

*The scientific name of that Slovenian beetle comes from a German collector, Oscar Scheibel, who was sold a specimen of a then undocumented species in 1933. Its species name was made a dedication to Adolf Hitler, who had recently become Chancellor of Germany. The genus name means eyeless, so the full name can be translated as "the eyeless one of Hitler". The dedication did not go unnoticed by the Führer, who sent Scheibel a letter showing his gratitude. Despite its strong political associations, it is of taxonomic tradition not to change the*



*binomial name of an organism, with exceptions for religious names, which are also discouraged. The species exhibits no notable characteristics, such as extravagant colors or unusual antennae, and is of interest to collectors of Hitler memorabilia and beetle collectors purely as a result of its name. This is putting the beetle in danger of extinction.*

*After World War II, renaming the beetle was rejected by the International Commission on Zoological Nomenclature. Since the beetle's name has been registered, it is impossible to now change the species name, unless it has violated its rule when it was first registered into the system.*

It never stops! A 'new' species of frog again!

Here comes the Bombay Bush Frog (*Raorchestes bombayensis*). Another endemic to the Western Ghats. And categorized by the International Union for Conservation of Nature (IUCN) as Vulnerable.

*Its natural habitats are subtropical or tropical moist lowland forests, subtropical or tropical moist montane forests, subtropical or tropical moist shrubland, and heavily degraded former forest. It is threatened by habitat loss.*



Another member of the Hemidactylus complex. We still call it Hemidactylus brookii/amboli...



Finally, and not expected anymore, one of my top frogs: the Malabar Gliding Frog (*Rhacophorus malabaricus*), the one we found the foam nest of eggs in the water reservoir this afternoon (see p. 56).

I make so many pictures and videoclips of this specimen, that my video card is full.



At the moment that I'm putting a new card in the camera, a lonely photographer, who is busy with his hobby in the neighborhood, shouts: "a kill!".

Everyone there, except me: bag on the floor, camera in one hand, video cards in the other, flashlight in the mouth, and soft rain ...!

When I arrive, a Beddome's Keelback Snake has already devoured three-quarters of a Cricket Frog. The film shows a few seconds of the scene, but in terms of photo we must do it with this one ... We see the swelling in the neck ... that is (or was) the frog ...



Ten minutes later, ... yes indeed, another frog!

Dobson's Burrowing Frog (*Sphaerotheca dobsonii*)

*Sphaerotheca dobsonii* (other common name is Mangalore bullfrog) is a species of frog capable of burrowing. It is found in southern India.

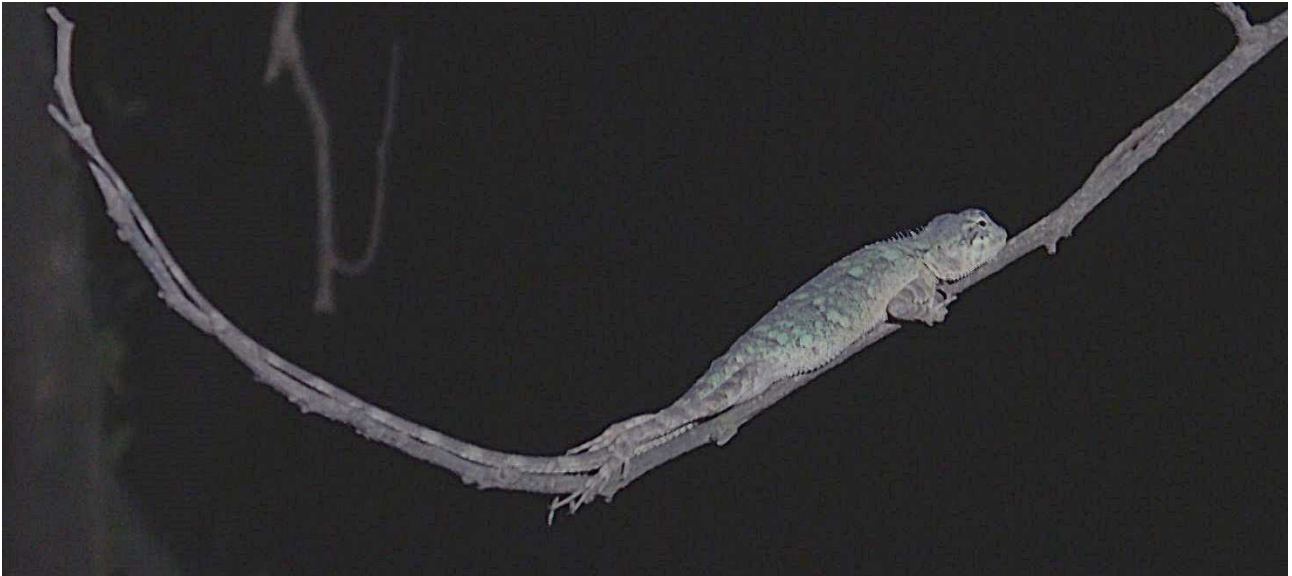
The skin is smooth above, and granular on the belly and under the thighs; a fold runs from the eye to the shoulder. Grayish or purplish above, it is indistinctly marbled with brown; a deep black streak runs from the end of the snout, through the nostril and the eye, to the shoulder, expanding in a round spot on the tympanum.



About nine o'clock, Ashwin spots a frog in a tree hole: probably Variable Ramanella (*Ramanella variegata*). It is a species of narrow-mouthed frogs that is endemic to India. They have been found to occur with large black scorpions *Heterometrus* sp. and when disturbed they crawl over the scorpions but flattened and froze when the scorpions walked over them.



In a tree, a *Calotes rouxii* is sleeping on a thin twig, to feel vibrations from any predator such as snakes, stretched hind legs and tail perfectly along the twigs as camouflage.



### **Wednesday 28/08**

It's 9.30 am. After a lot of rain, we walk in the immediate vicinity of the lodge.

I see some Jungle Fowl females crossing the track. Unfortunately, no male is spotted. They look like our colorful roosters in Belgium.

High above us are some birds of prey, the Brahminy Kite (*Haliastur indus*).

It is primarily a scavenger, feeding mainly on dead fish and crabs, especially in wetlands and marshland, but occasionally hunts live prey such as hares and bats.

Young birds may indulge in play behavior, dropping leaves and attempting to catch them in the air.

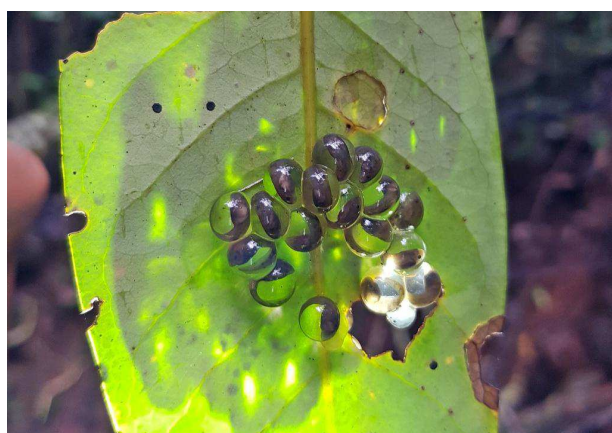
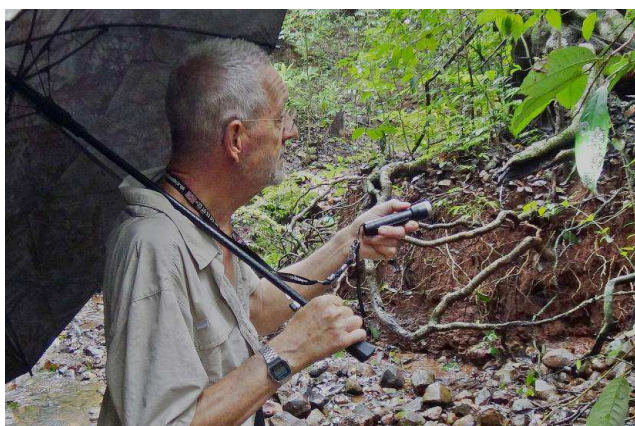


A nice observation is that of a centipede that protects its nest. More than twenty snow-white mini-centipedes form a small sphere, around which the adult centipede constantly revolves!  
In the 2nd photo we clearly see the juveniles, while the adult centipede disappeared completely under its offspring.



We keep looking and turning stones ...  
Hemant gets a hit! A newly described species, a gecko. But it escapes!  
Even with a 2nd find, the animal is too fast for us: it disappears while we are so close!  
It's about the Amboli Day Gecko, described in 2018! *Cnemaspis amboliensis*!  
We are waiting for the next observation to be able to view it or catch it and to take photos.

It starts raining a lot more, even though the weather forecasts for today were favorable, so no poncho, no boots ... just an umbrella. Thanks to Ashwin!  
Along a small stream, we find eggs of Daniel's Night Frog. A leaf with eggs on both side!



Two mating snakes disappear under a large stone. Ashwin installs himself and waits for them to reappear... It were Green Keelbacks (*Rhabdophis plumbicolor*) (see p. 72).



During lunch in the lodge, we finally succeed in spotting an Amboli Day Gecko (*Cnemaspis amboliensis*), hidden behind a small red metal billboard on the facade of the lodge! Not the best photo of the series, but we have it!

A team of scientists from India and the United States have discovered four species of lizards in the Western Ghats. The scientists have decided to name the species *Cnemaspis limayei*, *Cnemaspis aijiae*, *Cnemaspis mahabali* and *Cnemaspis amboliensis*. There is a need for further scientific exploration in the Western Ghats to find such species.

Our Amboli Day Gecko is nocturnal and his habitat are tree trunks and rocks of the wooded area of Amboli town.



This afternoon, we take the car to visit 3 different locations. According to Hemant, each of those places will produce a new species for us ...! But unfortunately, it is pouring... Not so nice!

Our first location: we drive to the Khamba Plateau.

The northern Western Ghats are characterized by plateaus and hilltop carapaces formed from ferricretes rich in aluminum ore.



Ferricretes in Western Ghats are home to a high number of endemic species, many with extremely limited distribution. The heterogeneity of microhabitats on ferricretes supports a great diversity of plant and animal communities.

A new species of gecko was described here, just two weeks ago.

*A novel member of the Hemidactylus brookii complex (Squamata: Gekkonidae) from the Western Ghats of Maharashtra, India.*

*Distribution and Natural history. Hemidactylus varadgirii sp. nov. is known with surety only from the type locality, Amboli in Maharashtra state at elevations of 650–750 m asl. Predominant parts of the Amboli landscape are covered by basaltic floors, commonly called the Deccan Traps, and are thought to have formed during the upper cretaceous to the lower Eocene. The vegetation types here can be classified as mid-elevation wet evergreen and southern tropical semi-evergreen in the comparatively less disturbed areas.*

The three of us start turning over some stones. It only takes a few minutes before I can observe one!

*Hemidactylus varadgirii. Suggested Common Name: Giri's "brookiish" gecko or Amboli "brookiish" gecko. Only described on 17/8/2019!*



The specific epithet is a Latinized patronym in honor of Varad Giri for mentoring the authors in gecko taxonomy. Varad has made sizeable and significant contributions to the taxonomy of reptiles in India and has also been working tirelessly for over 15 years towards the conservation of the Amboli landscape, the type locality of this species.

The common name 'Amboli brookiish gecko' refers clearly to the Hemidactylus brookii complex. (see p. 48).

Ashwin and I are only the 7th and 8th people who have seen this specimen since it has been described.

On page 53, I wrote: *In 2015, five new species of brightly colored freshwater crabs have been found in the Western Ghats.*

We saw *Ghatiana atropurpurea* yesterday, today we have the 2nd *Ghatiana*, the *Ghatiana splendida*, also locally known as the Pink Forest Crab, a fresh water crab found only here in the Western Ghats, named after its splendid looks - pink colored shell and pincers, and orange legs.



*Picture taken by Hemant.*

This laterite plateau is, as announced by Hemant, a unique place for endemic species: we got a rare gecko and the bright pink crab!

We leave this strange location and drive to the next place.

On the way, a few new birds.

Malabar Crested Lark (*Galerida malabarica*) (picture left).

The Malabar Crested Lark is found in western India. It is a common bird of open country, cultivation and scrub, often at some altitude. Medium-sized, fairly sturdy lark with prominent spiky crest. Diet poorly known; apparently seeds and invertebrates, e.g. orthopterans, beetles and ants.

Short-toed Snake Eagle (*Circaetus gallicus*) (picture right).

This is an Old World species found throughout the Mediterranean basin, into Russia and the Middle East, and parts of Asia, mainly in the Indian Subcontinent and also further east in some Indonesian islands. Its prey is mostly reptiles, mainly snakes, but also some lizards. Sometimes they become entangled with larger snakes and battle on the ground.

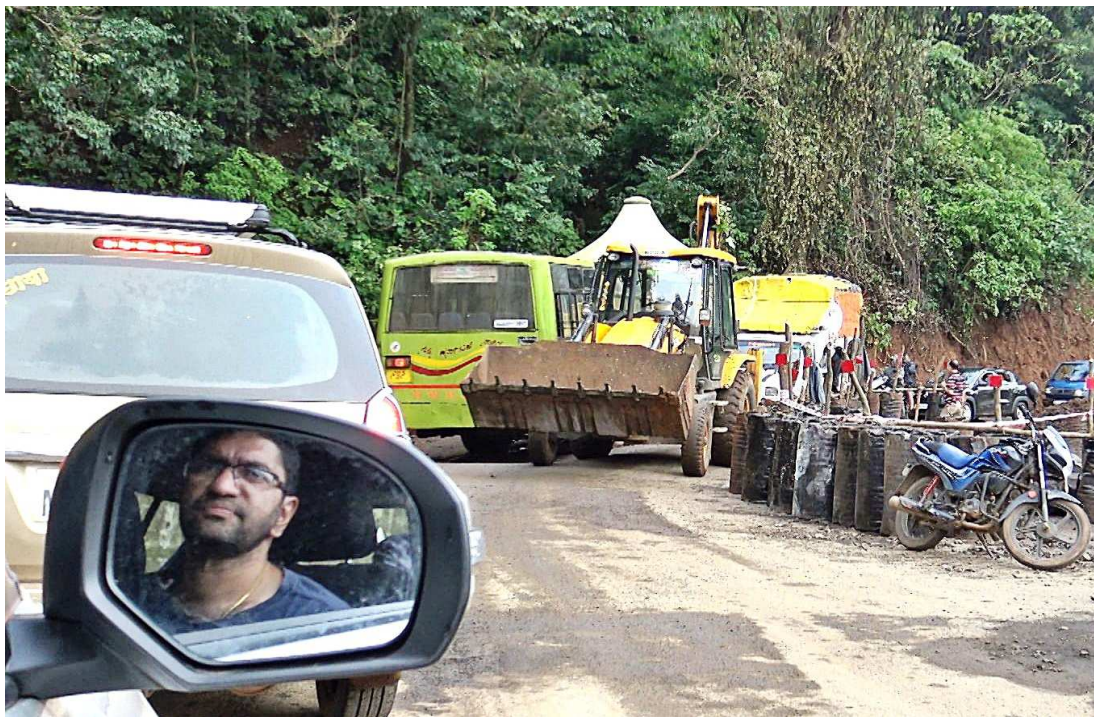


### The Indian Spot-billed Duck (*Anas poecilorhyncha*)

This duck is a resident throughout Pakistan and India in freshwater wetlands. They tend to avoid very large patches of open water and prefer medium-sized wetlands with vegetation cover. Some individuals may however migrate as a bird ringed at Bharatpur in Rajasthan on 5 December 1969 was recovered near Novosibirsk in August 1970.



When we approach our second destination, we're stopped by roadwork because of the landslides of last week. Heavy excavators and bulldozers drive up and down to reinforce the sides of the main road. As a result ... stagnant traffic and long waiting times ..



Along the road, different small waterfalls: this is the biotope of our third new endemic crab!  
On June 28, 2018, the following article appears in "Crustacea": "*The Freshwater Crab Genera Ghatiana, Gubernatoriana & Inglethelphusa: descriptions of "Eleven New Species",...* including this one here!

The Fall Base Crab (*Gubernatoriana longipes*) is endemic to a few waterfalls at Amboli. We spot 3 to 7 crabs per fall. They sit or hang behind the water curtain of the waterfall, and they mainly eat algae that grow on the rocks.



In the same biotope of waterfalls, a unique flowering plant: *Sonerila rheedii*, only found in this area! Rheed's *Sonerila* is a small herb up to 15 cm tall, stemless or with very short stem which is quadrangular. Flowers are violet, crowded in umbels, either at branch ends or in leaf axils. Rheed's *Sonerila* is endemic to a few places in Southern Western Ghats.



In the vegetation along the course, a Bonnet Macaque family. Evil, the boss, chases the challenger away.



Large and touristic waterfall on the landslide and the associated works.



We are back home at 6.30 pm.

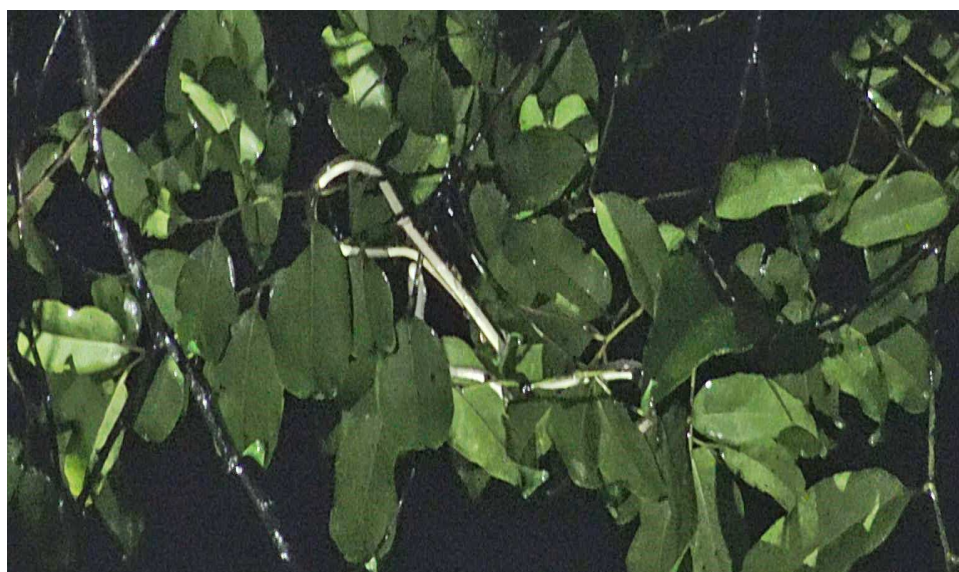
We don't go to the 3rd location, due to delays and much loss of time with the repair of the roads after the mudslides.

It rains a lot! This bucket is meant to break the rain on the stones, but it is raining so hard that the current shoots past the bucket!



We enjoy a small snack and start walking again. It's 7 pm. We'll be back about 8.30 pm for dinner.

Our first snake of the evening is a Giri's Bronzeback Snake (*Dendrolepis girii*). This is what it looks like when it is sleeping high in a tree.



*Dendrelaphis girii*, or Giri's Bronzeback Tree Snake, is a species of diurnal, arboreal, Colubrid snake endemic to the Western Ghats.

Named after Varad Giri, the curator of the herpetological collection of the Bombay Natural History Society. He contributed enormously to the knowledge of the Indian reptiles by his own research and by making the BNHS collection easily available for all kind of researchers.

*Dendrelaphis girii* lives in wider parts of Western Ghats and abundantly found there.

Road kill mortality can be a cause of threat because of its abundance in forest edges also.

Feeds on lizards, frogs and small rodents.

*Described in 2011 by Vogel & Rooijen, a German taxonomist and a Dutch naturalist. And this is how he looks from close by ... (photo Internet)*



Half past eight... a running Tarantula on the leaf litter! *Neoheterophrius amboli* ... recently described and endemic for the Western Ghats. There is still very little information about these new species on Google.



On the same place, 5 minutes later... a large Green Keelback (*Rhabdophis plumbicolor*). In disposition this Keelback is very gentle, but if threatened may flatten the neck and raise the head like a cobra while other specimens may flatten the entire body on the ground.

The Green Keelback feeds mainly on toads, as one of the only snakes in the world that have toads as main food on their menu. Few times seen with feeding on other snakes too.

Mistaken as a direct threat people kill this species due to its Green color which gives appearance of some venomous snake like Green Pit Viper.



Next location we get a croaking frog! It's a Narrow-mouthed Frog. It seems very difficult to see the difference between *Microhyla rubra* and *Microhyla ornata*. They are very similar to each other except for the call. Ashwin has an App with the calls from the local frogs! So we can be sure, it's *Microhyla ornata*, commonly known as the Ornate Narrow-mouthed Frog.

And we spot the tadpoles too!

*The Ornate Narrow-mouthed Frog lives semi-buried in leaf litter on the forest floor. In some habitats, this frog may take shelter in the dung of elephants.*

*It is mainly nocturnal but it is also active during the day during the rainy season. It breeds in ponds and temporary pools. Males are about 24 mm from snout to vent and females about 28 mm.*



*Sitting*



*Croaking*

Upon arrival at the lodge, Ashwin shows us a "civet cat", more specifically the Asian Palm Civet (*Paradoxurus hermaphroditus*).

It usually inhabits primary forests, but is also present in parks and suburban gardens with mature



fruit trees. Its sharp claws allow climbing of trees and house gutters. In most parts of Sri Lanka, palm civets are considered a nuisance since they litter in ceilings and attics of common households, and make loud noises fighting and moving about at night.

Kopi luwak is coffee prepared using coffee beans that have been subjected to ingestion and fermentation in the gastrointestinal tract of the Asian palm civet, which is called luwak in Indonesia.

Kopi luwak is traditionally made from the feces of wild civets, however, due to it becoming a trendy drink, civets are being increasingly

captured from the wild and fed coffee beans to mass-produce this blend.

After a quick dinner we leave again, this time for a night drive 10 pm - 11 pm.

Our first observation is a Vine Snake in the bush, along the roadside.

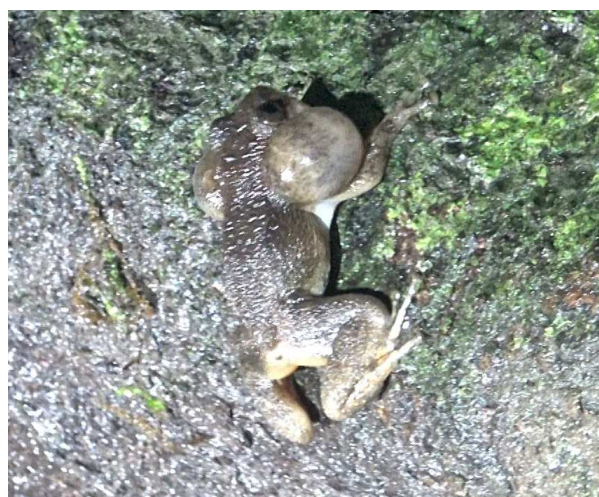
Our driver / guide Hemant sees it while he is driving!

We don't even get out of the car anymore .... we've seen enough of that kind ... Shame, shame!

After that, we stop for another calling frog, a very bizarre, unreal, complaining sound. It's the call of a Wrinkled Frog.

*Wrinkled frogs (genus Nyctibatrachus) derive their name from the unusually wrinkled skin on their backs. There are over a dozen described species, all endemic to the evergreen forests of the Western Ghats, and many of them are endangered due to continuing loss of habitat.*

The one we hear here is the Castle Rock Night Frog (*Nyctibatrachus petraeus*), the same species from which we have seen the eggs (see p. 51), and the only known Old World frog species to completely lack amplexus.



At 10.30 pm, during a short walk along a small fast-flowing stream, Ashwin can spot his second snake of the evening! Our first and only wolf snake, the Travancore Wolf Snake (*Lycodon travancoricus*).

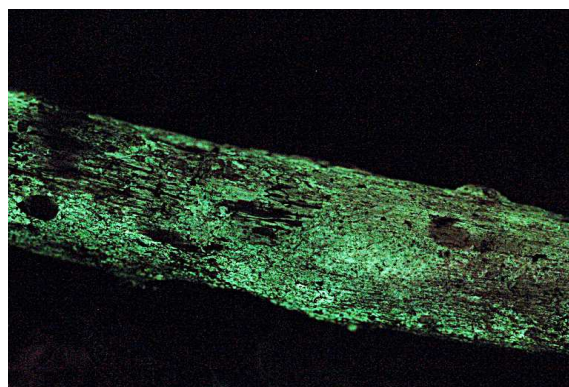
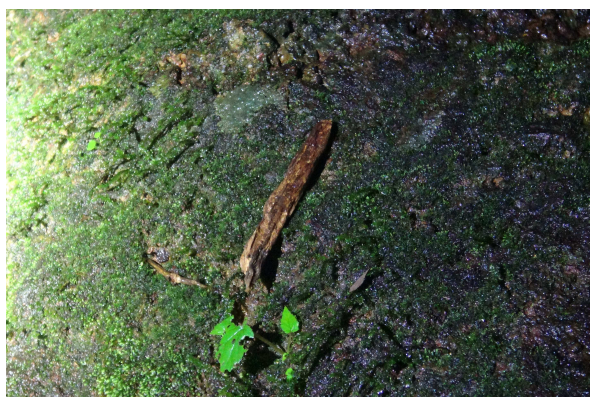
*Lycodon travancoricus* is a species of colubrid snake endemic to Peninsular India. It occurs in the Western Ghats and Eastern Ghats. Adults may attain 60 cm in total length. It is a nocturnal snake. Travancore Wolf Snake is a nocturnal species which climbs well in rocks and other rough surfaces. Behavior shy, elusive and usually non-offensive. On provocation restrict itself in a small coil with head hidden under it.



A little further, Hemant shows us a piece of wood. He asks us to extinguish all flashlights and to keep looking in the direction of that little stick. Gradually we see a green light appear ...

Bioluminescens fungus!

*The light of luminous wood was first noted in the early writings of Aristotle which occurred in 382 B.C. The next mention of luminous wood in the literature occurred 2,000 years later, in 1667 by Robert Boyle who noticed glowing earth and noted that heat was absent from the light.*



Bioluminescence is simply light created by living organisms. Probably the most commonly known example of bioluminescence is the firefly, which lights its abdomen during its mating season to communicate with potential mates.

Bioluminescence results because of a certain biochemical reaction. This can be described as a chemiluminescent reaction which involves a direct conversion of chemical energy transformed to light energy.

We conclude the evening walk with a Tarantula in its nest.

*Thrigmopoeus truculentus* in a self-dug cavity in a steep wall. Occurs exclusively in the Western Ghats.

I found two common names on Internet: Lesser Goa Mustard Tarantula and Karwar Large Burrowing Spider.



We must stop the trip because of the pouring rain. Walking is no longer possible and even driving a car becomes a bit dangerous.

Then have fun on the terrace of our lodge, where Hemant gives us a demo of how *Vateria indica* resin is prepared as an anti-insect agent. See also p. 21.



With a sweet tea as a nightcap, we quietly make the balance of this special week: we've seen many species, especially amphibians, many endemic species.

For info: for Ashwin himself, who spends a large part of his life in the Indian rain forests, the lifers' counter (new type for the person) is 21! Composed of 18 amphibians, 3 reptiles and 1 bird species, the Spider Hunter.

And for me the result is of course even more spectacular. How could it be otherwise, in an area known as "*one of the world's ten "hottest biodiversity hotspots"*".

31 types of amphibians, 28 of which are new,

18 species of reptiles, 14 are new,

and 10 new bird species.

In 7 days ...

### Thursday 29/08

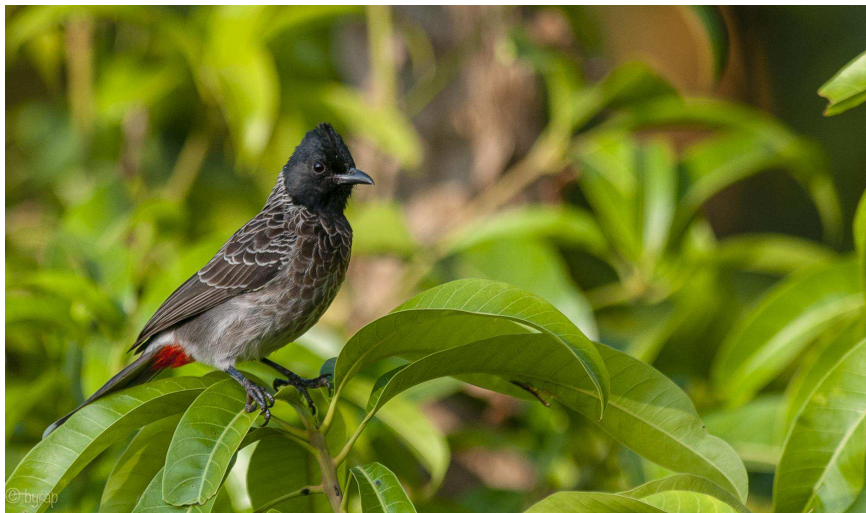
The very last little walk, waiting for our driver, packed and ready to leave this wonderful place, gives us a very common bird, the Red-vented Bulbul (*Pycnonotus cafer*).

*Red-vented bulbuls feed on fruits, nectar, insects and occasionally geckos.*

*It is resident breeder across the Indian subcontinent, including Sri Lanka extending east to Burma and parts of Tibet. It has been introduced in many other parts of the world and has established itself in the wild on several Pacific islands including Fiji, Samoa, Tonga and Hawaii.*

*It has also established itself in parts of the United Arab Emirates, Bahrain, the United States and Argentina.*

*It is included in the list of the world's 100 worst invasive alien species.*



*They were introduced into Melbourne around 1917 but were not seen after 1942. They established in Auckland in the 1950s but were exterminated and another wild population that was detected was exterminated in 2006. In 2013 more were found, and authorities offered a \$1000 reward for information that led to a bird's capture. They are considered as pests because of their habit of damaging fruit crops.*

As a real final observation, this beautiful and rare Amboli toad that we have already admired a few times, and which Fred discovers here under the last large flat stone that he turns around.



*Picture taken by Hemant*

From the car we see a few men with sticks hitting something in a bush at a bus stop. Ashwin suspects that there is a snake in that bush, and people are very scared of snakes. We stop immediately. I am allowed to capture the snake, a beautiful mature Vine Snake. I put it away in my 'black bag', otherwise I can't go in the car, because our driver is scared too. A little further we can release the snake ...



After 2 hours of driving on a bad track, we arrive in Belgaum at 11.40 am.

We stop at a parking lot and Ashwin explains to me that we are waiting for "someone". In fact, this is part of his plan B if we couldn't get to Amboli because of the blocked roads due to the mudslides. Since we are way too early for the plane, he is allowing part of plan B to continue! Nice surprise!

A biologist comes over with a small moped, 'a friend of one of my friends' (which he has never seen before), Rana is his name, and he guides us through the busy traffic to a training center for Paratroopers.

A city within the city, with houses, schools, banks, department store, a temple, etc ... all heavily fenced and protected.

No access possible, except that just ahead of the entrance, we have picked up a soldier in civilian to get in. The presence of this man, one block of muscles and barely 1.65 cm, opens all doors!

A little later it becomes clear to us that this is the trainer of the military "How to handle snakes in the wild" department.

There are so many dangerous snakes living here that the paratroopers receive training about these snakes: how to recognize them, how to deal with them, how to ensure that they are not killed, but also how you can eat them yourself in an emergency!

Different species are kept in captivity here: cobras, sand boas, rat snakes, pit vipers and much more. The Chief trainer receives a call from a remote corner of the barracks: a cobra has been reported. This man is also involved in Snake Rescue, both within the military domain and in the city and surrounding villages.

We have permission to join him, and I can even film (which is strictly forbidden in the camp).

It is a cobra. Unfortunately, the snake disappeared without a trace when we arrive there.



We have lunch in the city and invite our guide Rana. The food here is very spicy ...!

Rana was bitten in the hand by a cobra last year.

Immediately to the hospital, where he was put into observation, without any antidote. First, they want to be sure whether poison was injected by the snake, and how much.

The symptoms were limited to swelling of the forearm and nausea. He could return home the next day without any treatment! The bite will probably have been a warning bite, an almost 'dry' bite, so without or with very little poison.

Lucky boy!

Now to the airport, for our flight of 4.35 pm with a Bombardier Q400.  
Barely 40 minutes later we are back on the ground, but then in Bangalore.  
Now I must wait another 10 hours for my flight to Europe.

Ashwin keeps me company for a few more hours and then leaves for the city, where he has an appointment tomorrow with colleagues to work out new tours and help on a new book.  
Walking around and exploring ...  
One would forget that he is still in India!



## Friday 30/08

The long flight to Frankfurt starts at 03.05 am in a B 747-8  
At 970 km/h and at 11,500 m, we fly for 9 hours. Landing around 8.30 am in Frankfurt.  
And here too a long wait starts: within 7 hours, at 3.40 pm, my flight is to Brussels.  
That will be strolling.

At a certain moment I notice that my wallet and my smartphone, which were lying on the chair next to me, have disappeared! Fortunately, I still have my passport and my boarding pass. Now I suddenly know what to do: to the police. Action!

First action was to block the credit card, through my friend Walter in Deurne.

A few hours later, through Lost & Found, I am informed that my wallet has been recovered. Open and exposed on a chair, a few gates further. I can't go to that service, which is outside the airport, but the police come to me with my wallet. Everything is still present, except for the dollars and the euros. And my phone is still gone too. What I regret the most is all those beautiful photos that are on the smartphone ....

Take off with a full A319-100 to Brussels where I land at 4.20 pm and will be met by Walter. It is very sunny here! I missed it there.

Two days later I receive a message that a mobile phone has arrived at Lost & Found, found at the same time and place as my wallet.

Where there's life, there's hope!

I pass on the IMEI code, and apparently there is a match!  
 Then a procedure starts, which ends well! ...  
 And then it's an exciting wait .....Not long, because on  
 Wednesday 04/09 I will receive a message from a nearby UPS  
 collection point. YESSSS! Smartphone is back!

Nicely packaged, with everything inside and out!  
 All's well that ends well!



A wonderful experience, this herping-tour, short but powerful, very tiring, lots of rain, no sun, but many many endemic species observed!

Thanks to Shaji from Fringe Ford, Hemant from Whistling Woods Amboli and of course to Ashwin, my partner and guardian angel during the entire week!

Fred

What did we spot? Reptiles, amphibians, birds, mammals, spiders, crabs, insects.....  
 See the tables below.

<b>Fringe Ford</b>	<b>Reptiles</b>	<b>Endemic</b>	<b>New for Aswhin / Fred</b>
Ahaetulla nasuta	Green Vine Snake	no	
Calotes rouxii	Roux's Forest Lizard	India	X
Eutropis macularia	Bronze Grass Skink	no	
Hebius beddomei	Beddome's Keelback	Western Ghats	X
Ristella travancorica	Travancore Cat Skink	Western Ghats	X / X
Trimeresurus malabaricus	Malabar Pit Viper	Western Ghats	X
Xenochrophis piscator	Checkered Keelback	no	

<b>Whistling Woods Amboli</b>	<b>Reptiles</b>	<b>Endemic</b>	
Ahaetulla nasuta	Green Vine Snake	no	
Boiga beddomei	Beddom's Catsnake	WG and Sri Lanka	X
Calotes rouxii	Roux's Forest Lizard	India	X
Cnemaspis amboliensis	Amboli Day Gecko	Western Ghats	X / X
Cyrtodactylus albofasciatus	White-banded Gecko	India	X
Dendrelaphis girii	Giri's Bronzeback Tree Snake	Western Ghats	X
Hebius beddomei	Beddome's Keelback	Western Ghats	X
Hemidactylus prashadi	Bombay Leaf-toed Gecko	Western Ghats	X
Hemidactylus spec.	Hemidactylus complex	Western Ghats	X
Hemidactylus varadgiri	Amboli Brookiish Gecko	Western Ghats	X / X
Lycodon travancoricus	Travancore Wolf Snake	India	X
Rhabdophis plumbicolor	Green Keelback	no	X
Uropeltis spec.	Shieldtail	WG and Sri Lanka	X
Varanus bengalensis	Bengal Monitor	no	

<b>Fringe Ford</b>	<b>Amphibians</b>	<b>Endemic</b>	<b>New for Ashwin / Fred</b>
Caecilian	Caeciliidae		
Duttaphrynus melanostictus	Asian Common Toad	no	
Fejervarya spec.	Cricket Frog spec.		X / X
Ghatophryne ornata	Malabar Torrent Toad	Western Ghats	X / X
Indosylvirana temporalis	Guenther's Golden-backed Frog	Western Ghats	X
Indirana brachytarsus	Guenther's Leaping Frog	Western Ghats	X
Indirana cf. beddomii	Beddome's Leaping Frog	Western Ghats	X
Indirana spec.	Leaping frog spec.	Western Ghats	X
Kaloula pulchra	Asian Painted Frog	no	
Micrixalus kottigeharensus	Kottigehar Dancing Frog	Western Ghats	X / X
Nyctibatrachus dattatreyaensis	Dattatreya Night Frog	Western Ghats	X / X
Nyctibatrachus karnatakaensis	Giant Wrinkled Frog	Western Ghats	X / X
Nyctibatrachus kempholeyensis	Kempholey Night Frog	Western Ghats	X / X
Nyctibatrachus vrijeuni	VUB Night frog	Western Ghats	X / X
Pseudophyllautes wynadensis	Waynad Bush Frog	Western Ghats	X / X
Ramanella triangularis	Malabar Ramanella	Western Ghats	X
Raorchestes akroparallagi	Variable Bush frog (Calling)	Western Ghats	X
Raorchestes anili	Anili's Bush Frog	Western Ghats	X / X

<b>Whistling Woods Amboli</b>	<b>Amphibians</b>	<b>Endemic</b>	
Duttaphrynus melanostictus	Asian Common Toad	no	
Fejervarya brevipalmata	Short-webbed Frog	Western Ghats	X
Fejervarya spec.	Cricket Frog spec.		X
Indirana chiravasi	Amboli Leaping Frog	Western Ghats	X / X
Micrixalus uttarghati	Northern Dancing Frog	Western Ghats	X / X
Microhyla ornata	Ornate narrow-mouthed frog	no	X
Nyctibatrachus danieli	Daniel's Night Frog	Western Ghats	X / X
Nyctibatrachus petraeus	Castle Rock Night Frog	Western Ghats	X / X
Pseudophyllautes amboli	Amboli Bush Frog	Amboli	X / X
Raorchestes bombayensis	Bombay Bush Frog	Western Ghats	X / X
Ramanella variegata	Variable Ramanella	India	X / X
Rhacophorus malabaricus	Malabar Gliding Frog	Western Ghats	X
Sphaerotheca dobsonii	Dobson's Burrowing Frog	Western Ghats	X / X
Xanthophryne tigerina	Amboli Toad	Western Ghats	X / X

<b>Birds</b>		<b>Endemic</b>	<b>New for Ashwin / Fred</b>	
<i>Acritillas indica</i>	Yellow-browed Bulbul	India & Sri Lanka		
<i>Alcippe poiocephala</i>	Brown-cheeked Fulvetta	no		
<i>Anas poecilorhyncha</i>	Indian Spot-billed Duck	no		
<i>Arachnothera longirostra</i>	Little Spiderhunter	no	X	/ X
<i>Ardea cinerea</i>	Grey Heron	no		
<i>Circaetus gallicus</i>	Short-toed Snake Eagle	no		
<i>Dendrocitta leucogastra</i>	White-bellied Treepie	Western Ghats	/	X
<i>Dicrurus paradiseus</i>	Greater Racket-tailed Drongo	no		
<i>Galerida malabarica</i>	Malabar Crested Lark	Western Ghats	/	X
<i>Haliastur indus</i>	Brahminy Kite	no		
<i>Harpactes fasciatus malabaricus</i>	Malabar Trogon	Western Ghats	/	X
<i>Motacilla maderaspatensis</i>	White-browed Wagtail	India	/	X
<i>Myophonus horsfieldii</i>	Malabar Whistling Thrush	India	/	X
<i>Pericrocotus flammeus</i>	Orange Minivet	India & Sri Lanka	/	X
<i>Psilopogon malabaricus</i>	Malabar Barbet	Western Ghats	/	X
<i>Pycnonotus cafer</i>	Red-vented Bulbul	no		
<i>Rhopocichla atriceps atriceps</i>	Dark-fronted Babbler	Western Ghats	/	X
<i>Tephrodomis sylvicola</i>	Malabar Woodshrike	Western Ghats	/	X

## **Mammals**

		<b>Endemic</b>
<i>Macaca radiata</i>	Bonnet Macaque	Southern India
<i>Semnopithecus johnii</i>	Nilgiri Langur	Western Ghats
<i>Ratufa indica</i>	Malabar Giant Squirrel	Peninsular India
<i>Petaurista philippensis</i>	Indian Giant Gliding Squirrel	Western Ghats
<i>Rusa unicolor</i>	Sambar Deer	India & Sri Lanka
<i>Axis axis</i>	Axis Deer	no
<i>Scotophilus kuhlii</i>	Lesser Asiatic Yellow Bat	no
<i>Cynopterus brachyotis</i>	Lesser Short-nosed Fruit Bat	no
	Forest Rat spec.	
<i>Paradoxurus hermaphroditus</i>	Asian Palm Civet	no
<i>Elephas maximus indicus</i>	Indian Elephant	no

## **Spiders**

<i>Hersilia savignyi</i>	Two-tailed Spider	no
<i>Argyrodes spec.</i>	Black widow spider spec.	Western Ghats
<i>Neoheterophrictus amboli</i>	Tarantula, no English name	India
<i>Thrigmopoeus truculentus</i>	Lesser Goa Mustard Tarantula	Western Ghats
<i>Dolomedes spec.</i>	Fishing Spider	no

## Crabs

Ghatiana splendida	Pink Forest Crab	Western Ghats
Ghatiana atropurpurea	Purple Tree Crab	Western Ghats
Gubernatoriana longipes	Fall Base Crab	Western Ghats

## Insects

Kallima horsfieldii	Sahyadri Blue Oakleaf	India
Melanitis leda	Common Evening Brown	no
Cyrestis thyodamas	Common Map Butterfly	no
Sphingidae	Hawk moth	no
Papilio helenus	Red Helen	no
Papilio polymnestor	Blue Mormon	India & Sri Lanka
Erebus spec.	Owl Moth	no
Acherontia styx	Lesser Death's Head Hawkmoth	no
Olepa ricini	No English name	India & Sri Lanka
	Caterpillar Atlas Moth??????	
	Pied Moth ??	
	Crickets	
Fam. Myrmeleontidae	Antlion spec.	
Fam. Phasmida	Walking Stick spec.	
Auchenorrhyncha	Planthopper	
Orthoptera	Grasshopper	
Cicadidae	Cicada spec.	
Membracidae spec.	Treehopper	
Dysdercus cingulatus	Red Silk Cottonbug	no
Catacanthus incarnatus	Man-Faced Stink Bug	no
Fam. Scutelleridae	Jewel Bug spec	no
Fam. Scarabaeidae	Dung Beetle	
Pepsis spec.	Spider Wasp	
	Cicade	
	Rood insect	

## Varia

Heterometrus spec	Giant Forest Scorpion spec.	
Lychas rugosus	Scorpion, no English name	no
Scolopendra spec.	Scolopendra	
Arthrospiraera	Pill-millipede	
	Centipedes	
	Millipedes	
Harpegnathos saltator	Indian Jumping Ant	India
Annelida spec	Leeches	no
Fungi	Bioluminescent fungi	no
Special plant		
Sonerila rheedii	Rheed's Sonerila	Western Ghats

