TAMAN NEGARA NATIONAL PARK EXPLORATION 1998

It was early morning, and I walked the trail along the Tahan River in a light mist, heading with my guide to a pristine overlook on Teresek Hill of the remote Tembeling Valley. It was clear this morning, and the sound of the clear, tannin stained Tahan River was soothing along with birdsong floating in the forest. The river is full of many species of Mahseer, one of the best game fish in SE Asia in the Cyprininae or carp family. They are a sought-after fish highly prized for their taste, and can get enormous in size, with one species recorded at 2.45 meters (9 ft) in length and weighed 54 kg (119 pounds). We heard a splash at the edge of the river not more than 100 meters upstream, and ran the short distance through the forest to the rivers edge, only to have just missed seeing a Malaysian Tapir that had just crossed and disappeared into the forest. Scouting along the banks upstream, we found it had left fresh tracks along the sand bank on our side.

Within ten minutes we crossed path of a male Argus pheasant that seemed tame and whose beautiful long tail feathers filled with colorful eyespots were caught by a shaft of light streaming through the forest. It slowly moved away. It was a beautiful morning filled with the varied calls of forest birds, including the beautiful melodic song of the white-rumped shama, the puff-backed bulbul, grey-headed babbler, the caw of the red-naped trogon, the short croak of the golden throated barbet, and the loud whoos of the white handed gibbon were close by, echoing through the forest from the north, and was answered by another pair to the west of us. It was an amazing first day introduction to Taman Negara, the largest Natural area and protected area in Peninsular Malaysia.

White-rumped shama, Argus pheasant male, red-naped trogon, white handed gibbon male, golden throated barbet

I was a naturalist accompanying a group from International Expeditions twenty years ago in 1998. I was very familiar with most of the bird families, and mammals within the Peruvian Amazonian rainforest, but not here I was out of my element, depending on my guide for interpreting sights and sounds. This morning I went alone and would join the group again after they had rested from the trip. We had traveled by bus from the crowded streets of Kuala Lumpur and endured the over four-hour drive to the small-town Kuala Tembeling. The area was still undeveloped thankfully, and we boarded a longboat with our gear, and started the journey ascending the wide, reddish brown Tembeling River.

Leaving Kuala Tahan by longboat, Orang Asli camp, Kuala Tembling

Much of the area was already logged and farmed, but within several hours we were in secondary forest, Our shared boat sat precariously low in the water as we motored through rapids, with nothing but sandy embankments and rainforest at our sides. As we entered the park, the guide stalled the boat in front of a former settlement of the remaining indigenous tribes, truly nomadic people the Orang Asli (original people in Malay) from the Bateq tribe who forage, collect rattan, and hunt, which by law they were still allowed to do but only with traditional tools, spears and extremely long blowpipe. Technically, they are Negritos, named by early Spanish missionaries. Racially, they are closely related to native Australo-Melanesians. Small tribes in Malaysia once lived as nomadic hunter gatherers scattered throughout the forests of Taman Negara, but today, they are more settled in a few villages beside the Tembeling River, and Endau Rompin in Southeastern Malaysia.

Orang Asli, Melanesian inhabitants of Malaysia

After three hours on the river, we arrived to a half-sunken pier, and everyone pitched in transferring the bags to their rightful owners. The jungle had been cleared enough for several wood dormitories, a small shop, and several park staff buildings. Our small group trekked to the edge of the clearing to one of the dormitories that held two rooms of six dorm beds, and had an accommodating porch to give us outdoor shelter from the increasingly ominous rain. Across the river what is today known as Kuala Tahan, the

forest had been cleared with a only a few village dwellings; 20 years later in 2018 is built up with hotels and has become a small town and tourist center.

Taman Negara is the largest natural area reserve in Peninsular (West) Malaysia, located about 125 miles (200 km) northeast of Kuala Lumpur, containing 1,677 square miles (4,343 square km) of primary forest. It encompasses Peninsular Malaysia's highest mountain, Gunung Tehan, 2,187 meters (7,175 feet), a wide plateau, rivers filled with game fish such as the Mahseer, and limestone outcroppings. The pristine rainforest is home to thousands of species of trees and flowering plants, including tulang trees *Koompassia excelsa*, Dipterocarp species of the genus *Shorea*, parasitic plants such as orchids and the gigantic flower known as Rafflesia *arnoldii*. Wildlife is abundant and the park is a refuge for many of Southeast Asia's 150 species of mammals including those that are rare: Sumatran rhino, tiger, sun bear, seladangs (a species of gaur, or wild cattle, and those that are threatened such as Asian elephant, leopard, sambar, Malayan tapirs, a large diversity of bats, the1.5kg giant squirrel and the yellow-throated marten. There are 479 recorded non-migrant species of birds that include the large and remarkably noisy hornbills, ground-loving pittas, especially the stunning garnet pitta with its brilliant mix of red and blue feathers, broadbills, trogons, and babblers. There is a diversity of reptiles and amphibians, such as the Speckle-bellied Keelback Snake, Jasper Cat Snake*,* Green Marbled Slender-toed Gecko*,* and Impressed Tortoise and vast numbers of exotic insects., and birds that include the Argus pheasant, red junglefowl, Malayan peacock pheasant. One of the best fighting sport fish, several species of Mahseer (ikan kelah) is protected in the main watershed of the Tahan River.

The trail began ascending once it left the river towards Teresek Hill where I hope to find stunning views of the primary forest and wilderness area of Tembeling Valley. The tree flora of the lowland forest here is very rich one recent study done at Kuala Keniam estimated at least 280 tree species per hectare, amazing but still not as great as certain areas in Amazonian Columbia and Peru. The most common and conspicuous tree species found is the Tualang tree *Koompassia excelsa*, which comprises a large part of the emergent layer in the upper canopy. Other common emergent species I learned from my guide include Merbau *Intsia palembanica*, the dipterocarp Meranti Tembaga *Shorea leprosula, S. faguetiana, and* Meranti Sarang Punai *Shorea parvifolia*. So many tall dipterocarps; the tallest measured one *Shorea faguetiana* at 63.2 meters(210 feet), which grows to even higher in east Sabah, the tallest tropical tree in the world over 70 m in height.

We continued through the classic lowland forest of Bukit Teresek where the understory was clear and in addition to dipterarps, there were palms. The higher one ascends, the forest changes to Hill Dipterocarp forest with many trees of *Syzygium* and *Shorea curtisii* abounding, and cycads several meters tall. The cycads that grow here are probably *Cycas macrocarpa*, as this species has been recorded in the northern region of Peninsular Malaysia. Contrary to their appearance, cycads are not palms but plants found amidst dinosaur fossils, and are living fossils from the past. They grow very slowly

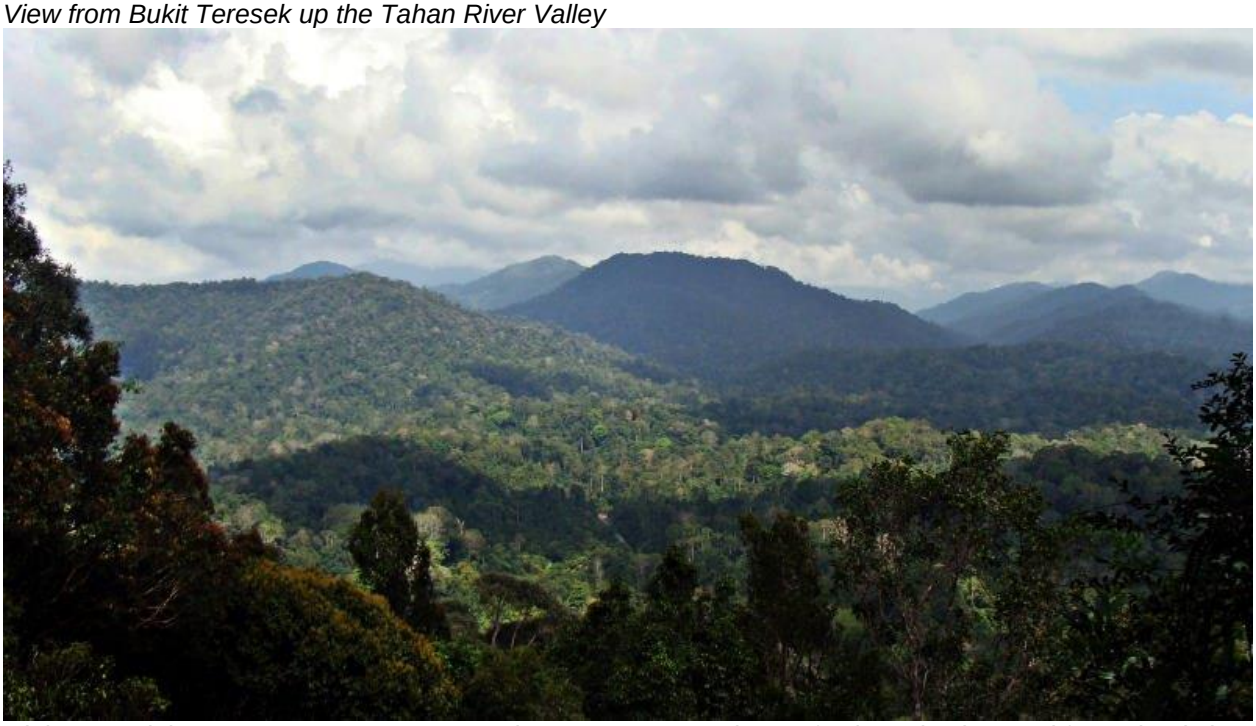
***Primary forest with cycads and palms**, Diptercorp shorea faguetiana, tallest growing tree in Tropical Asia*

The forest floor affords an even richer range of life to the curious visitor than the distant canopy: millipedes and centipedes up to eight inches long; five-inch grasshoppers; shiny staghorn beetles bumbling clumsily through the grass; wide streams of termites and ants busily going about their tasks, the largest of the latter an inch or more long and equipped with pincers that deliver a painful bite; brilliant blue and orange butterflies; moths, some with six-inch wingspans; even scorpions three or four inches long, though these are, happily, rarely encountered.

Giant termite, weaver ants creating nest with leaves, jumping spider, swallowtail butterflies at mineral seep, hairstreak butterfly

We gained the summit in a few hours, and viewed primary tropical rainforest as far as the eye can see in the morning mist. The view included Mount Tahan, and nowhere else in Malaysia can you find this amazing view unless you trek the 5 days into Gunung Tahan. While picking off a few leeches on the outside of my socks, and I literally never

View from Bukit Teresek up the Tahan River Valley



Highest peak in Taman Negara Gunung Tahan 2,187 meters (7,175 feet) partly obscured from clouds just left of center. View from Bukit Teresek

encountered leeches before, absent thankfully from south American rainforests, I heard Siamangs called in the distance, with a crescendo of hoots that ends with a rapid laugh-like staccato of whoos. And gazing through the horizon I imagined the forest with its uinseen tiger, Sumatran rhino, elephants, sambar deer, tapir, barking deer, and wild boar amongst a plethora of other species foraging hidden within the forest. Overhead we heard to whooshing wingbeat of a pair of large rhinoceros hornbills. There are 10 species of hornbill found in Taman Negara and Malaysia, with names that include the great, white-crowned, helmeted, wrinkled and bushy. These resplendent birds are Malaysia's signature species. The rhinoceros hornbill is the largest and most colorful with a horn-like crown and powerful figure; the plain-pouched is the rarest.

Wreathed hornbill, Rhinocerus hornbill, Oriental pied hornbill, three of the ten species found in Malaysia

I returned to the group before lunch, and found the birders had already compiled a list. We explored another trail that afternoon that followed the Tahan River, and spent the time observing and trying to find tracks in the sand and mud. Tonight we will do a night walk, and that is one of my favorite ways to introduce others to rainforest insects and nocturnal mammals. The interior of the forest has often been compared to that of a forest cathedral with tree architecture forming a soaring majesty. There was not much sound except the sound of the river, and cicadas, almost a damp silence, an almost mystical hush blanketing the trees.

After a dinner of curried chicken and rice, we met outside under the bright porch light, and witnessed on the wood sides an amazing array of beetles, from a giant three horned beetles, to beautiful Uranus moths with subtle green and grey coloration with a long tail, to camouflaged preying mantids. The sounds of crickets and katydids were loud, and we left the trail with a ranger with spotlight in the lead, and our guide tailing the group. I taught others to take their flashlights and place it next to their eye to get the best reflection view of insects or reptiles when scouring understory tree buttresses or vines. After an hour we'd spotted large tarantula spiders, a scorpion, a long line of massive termites at work, as well as more leeches, little half-inch ground dwellers that work their way up socks onto your ankles. I disliked them with a passion, yet the guides ignored them. We saw many more insects, but the night had failed to deliver any scenes from The Temple of Doom. Finally, we were fortunate as the guide showed us with his beam pointed into the canopy, the glowing eyes of a slow loris. We walked silently, then heard a noise, a rustling of understory leaves and the guide shined his spotlight into the mist, finding a small muntjac deer. Most of us felt pretty magical about the experience. And there were fungus that emitted bioluminescence. The rainforest comes alive at night, with a chorus that starts individually, then slowly swells louder and louder, the waves of buzzing from the cicadas acting as background accompaniment to an eccentric and irregular range of buzzes, rasps, trills, burps, whistles, coughs and wails of frogs, crickets, geckos, and long horned grasshoppers. But morning dawn

Malaysian porcupine, pangolin, palm civet, Malay civet, Short nosed fruit bats, binturong, Malaysian tapir, Asian elephant in deep forest. They can bd extremely aggressive and dangerous (last three photos courtesy Zaharil Dzulkafly)

Eared frog, flying harlequin frog with webbed feet for gliding, tree frog (Rhacophorus sp)

brings in the choruses of gibbons, siamangs, and an abundance of birds. I especially love the dawn.

And the next morning was again clear, with fog rising off the Tahan River. Today we will venture upriver by longboat trip to Lata Berkoh waterfalls. The Tahan River is crystal clear yet tea colored like the Olympic Peninsula Streams in my home state of Washington. The stain is due to a high level of tannin content in the water generated

Tahan River motoring toward Lata Berkoh waterfalls

The steep forested hillside rising directly from the river bank exposes a cross-section of through decaying peat soil at the headwaters of the watershed in the Tahan range. It is teeming with fish, like the Kelah *Tor tambroides*; fishing is prohibited in the Tahan river. rain forest architecture: at the lowest level are grasses, ferns, and small trees on which the branches and leaves begin to sprout out of the trunk almost from ground level, and whose roots often sink directly into the river. Then, straining over the undergrowth, come wild banana plants, palms and bamboos arching their branches over the tangle of vegetation close to the ground. There are medium-sized trees, among them many forest fruits such as the infamously malodorous durian. And there are the true giants, thrusting their trunks 150 feet into the air, bursting in an explosion of branches and foliage far above their competitors. Many large trees had their trunks grow horizontally towards the center of the river, arching slowly towards the canopy, and along the river, many are

Tahan River stained with tannins, rattan palm, unknown tree species, cycas fruit Cycas edentata, Elephan flower and large fruit it produces apple Dillenia indica

Elaeocarpus grandiflorus (Lily of the Valley Tree), fig (ficus sp), Moraceae wild jackfruit Artocarpus integer loved by elephants and monkeys

covered with epiphytes of orchids and ferns. Many of the trees are wrapped in the predatory strangler fig, their trunks almost completely obscuring the host tree with the fig's thick, woody vines. The seed most likely is defecated by birds that love fig fruit, the germinated fig will send roots to the ground, sending over time creeping branches that

eventually burst through the tree's canopy of leaves, sprouting its own leaves and cutting the tree off from the light. In the end, the tree will die and rot away, leaving as its only testament the strangling fig that killed it, a hollowed-out facsimile of itself. And there were monitor lizards stretched out on branches overhanging the river, a swimming viper, and taking a break from the canoe, we stood on a sandy beach filled with fresh leopard tracks and the tracks of tapir, and upriver with binoculars, watched a family of short clawed otters paddling along the river bank. Along the right bank of the river we heard a heavy, rhythmic whooshing noise beat through the trees for a moment, startlingly loud. Then a melancholy honking echoed through the forest, at first soft, then louder and louder until it cut off abruptly.

A few minutes later the noise was repeated, and a large black and white hornbill suddenly appeared, cruising between the trees 50 yards above the ground, the beating of its powerful wings amplified six-fold by the canopy of leaves that shuts out most light from the forest floor. Neck stretched out in flight, the characteristic growth that emerges from its forehead and reaches three-quarters of the way down its beak was clearly visible for a moment. The protuberance, from which the bird gets its name, sweeps upward to a point like the prow of a ship, adding a cumbersome stateliness to the hornbill's features. The bird glided slowly between the trees for a moment, wings extended to their full span of about four feet, then slid through a small gap in the branches and, with a few rapid thrusts, disappeared from sight, skimming away over the forest canopy.

We had to walk much of the rapids as the water level became very shallow and our boatman had to ground the boat and line it a few hundred meters downstream below Lata Berkoh, and we hiked the final distance alongside the river. Lata Berkoh, it is more or less the furthest navigable point by boat up the Tahan River. Lata Berkoh is a rocky cascade with a lot of sharp angled sedimentary rocks, which characterize the underlying geology of large areas of Taman Negara in Pahang. It was an amazingly beautiful place, with the occasional Oriental pied hornbill flying overhead, and the sound of the river passing through gravel, with steep sides of primary forested trees, and butterflies in profusion hovering over wet mud. And there were many species of colorful kingfishers including the black-backed, blue eared, and brown-winged. It was an amazing day.

Blue-eared, brown-winged, and Black-backed Kingfishers on the Tahan River

I had wanted to continue upriver, and walk the trail to Gunung Tahan to explore waterfalls descending from limestone karsts, explore an area that still support Asian elephant, gaur, and the rare Sumatran rhino. Smallest of the rhinoceros species, the Sumatran rhinoceros has two horns like its African counterpart, but only remnant populations are found in Sumatra (Indonesia) and Peninsular Malaysia, possibly in southern Thailand and recently extinct in Sabah Borneo. The last female was believed

Wild Sumatran rhino in forest east of Ipo, 1980, captive breeding female, Sumatran Rhino Sanctuary (SRS) facility in Way Kambas National Park, Sumatra, Indonesia

to be captured in Sabah in 2016, but died. Census conclude there is fewer than 200 individuals left due to poaching and habitat fragmentation and Sumatran rhinos are critically endangered. The subspecies in Peninsular Malaysia *Dicerorhinus sumatrensis* is the last surviving species in the same group as the extinct woolly rhinoceros, and one of the world's rarest mammals. It lives in a variety of forest types, but prefers lowland humid tropical with small hills and valleys. They rhinos spend much of their day in mud wallows which they dig out themselves, to avoid biting insects and protect themselves from the heat.

Sumatran rhinos are very shy and are almost never seen in the wild. Their population is estimated by surveying rhino scrapes, where they defecate in the same location, and in mud bathing areas in the forest, and with camera traps. Two breeding pairs have been documented in Gunung leuser in Sumatra Indonesia and filmed. It is a strict forest-dweller that inhabits a wide variety of habitats, from lowland rainforests and swamps to mountain moss forests. It seems to prefer hilly areas near water, particularly steep upper valleys with thick undergrowth, as well as secondary forest where the upper canopy is broken and the smaller shrubs and vines which it feeds on are more plentiful. Sumatran rhinos feed before dawn, after dusk and move about during the night. A healthy diet consists of diverse tropical plants of up to 50 kg of leaves and twigs of young saplings and small trees. They also feed on fallen fruits and are reputed to prefer figs and wild mangoes. Rhinos visit natural mineral concentrations or salt licks. Zaharil Dzulkafly, a Malaysian forester had shared that Sumatran Rhino was last seen

in forests east of Ipo, but are no longer in existence. It is thought that they are extinct in Peninsular Malaysia, only stronghold left is Indonesia is in two reserves in Sumatra.

The Sumatran rhino moves seasonally, staying in hilly country when the lowlands are flooded during the rains, descending when the weather has become cool near the end of the rains, and returning to high ground. Sumatran rhinos can climb steep slopes with great agility, swims and has been known to swim in the sea. Males are usually solitary, while females are found in mother-offspring groups. They are solitary animals that only come together to breed. Gestation is about 16 months with one calf per birth. Their low reproductive rate and their horns being used in Chinese medicine has decimated their population, along with a tremendous loss of habitat through rampant and uncontrolled logging in Malaysia.

Since I visited Taman Negara in 1998, Kuala Tahan has been completely logged off to the east and west, and is being attacked along the edge of the park. Rumors of illegal logging in Taman Negara have been going on for years now, especially in Kelantan (possibly Pahang too). A look at Google Maps at the previously remote Sungai Sat (far upstream of the Tembeling), and other rivers, shows some disturbingly large areas of sand siltation (some parts having quite a lot of tree trunks washed up) all along the river which is quite different from other rivers in Taman Negara, for example Sungai Keniam or Sungai Tahan. It has grown into a greater issue, including Endau Rompin that is isolated on its eastern and southern edge with farming, mining and oil palm plantations. I was thankful for at least this area being protected, but tourism has grown tremendously since my first visit in 1998.

We returned to camp, refreshed, and had wanted to visit the limestone bat caves, but it was too late in the afternoon. These limestone formations are not for the squeamish, though: even 25 yards away from the cave entrance, the stench of bat guano is enough to turn the keenest naturalist's stomach. And, once inside, there is a good deal of crawling through very narrow spaces and over slippery rocks. The reward is seeing with lights a main cavern full of roosting fruit bats and roundleaf horseshoe bats. The visitor may perhaps also get a glimpse of a cave racer, a snake that feeds on the bats, and oversized cockroaches. The horseshoe bats are equipped with small sharp teeth and leering expressions caused in part by the grotesque leaves of flesh jutting out from the nose area designed to channel the ultrasonic waves the bats use to find their prey in the dark. And their ears are also of amazing design with a fleshy tragus, that focus the receiving sound waves emitted back into the ear.

The fruit bats in the caves seem relatively benign in comparison. They rely primarily upon vision for navigation, and include the huge flying foxes. Much larger than normal bats, they roost in trees and are equipped with huge leathery wings, often with spans of up to 1.2 meters (4.5 feet) and can sometimes be seen in large flocks during the day.

That evening we had the opportunity to visit with the park supervisor. Ahmad Shamsuddin. He asked about our experience so far, and then shared that the forest

Fruit bats, muntjac, Banteng bull, female (Zaharil Dzulkafly), Asian elephant, sambar, rare serow in the family caprinae, squirrel, Sumatran tiger (captive)

White handed gibbon, female, male, bearded pig, female

reserve holds many other animals, but they are mostly very wary of human company or so reduced in numbers that the casual visitor is unlikely to spot them. According to the park supervisor, Mr. Hassan bin Kassim, there may be a few two-horned Sumatra rhinoceroses living in Taman Negara. He adds, however, that there has never been a confirmed sighting, and it is probably extinct in Peninsular Malayasia.

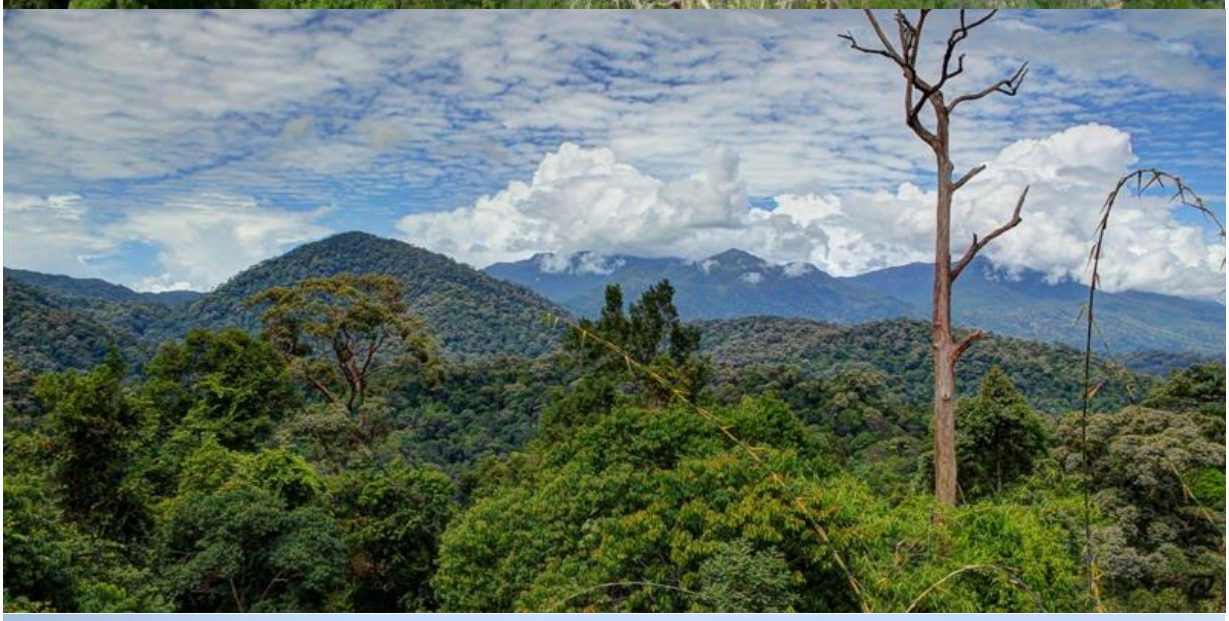
There are also about 100 tigers in the park, Mr. Kassim says, along with perhaps 60 to 70 elephants. Such animals are sighted infrequently, even by park rangers, the superintendent says, indicating as testimony the framed photograph on his own wall of a black panther. It was taken from a hide by a colleague, he says, when the panther was making one of its rare appearances at a salt lick.

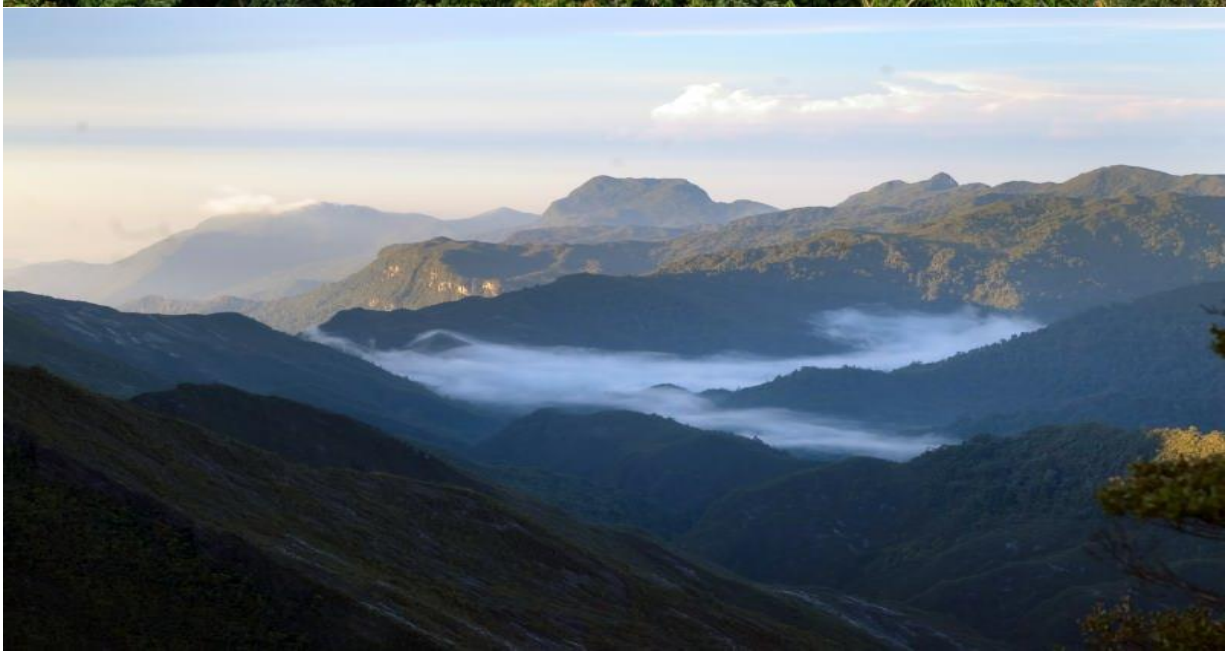
Clockwise from top left: red bearded bee eater, emerald broadbill, black and yellow broadbill, long tailed broadbill on sock nest, black naped oriole, blue-crowned hanging parrot, crested fireback pheasant male, Malaysia peacock pheasant, crimson-winged woodpecker, Garnet pitta, hooded pitta, red-naped trogon

Mr. Kassim sketches out the Government's plans to develop tourism in the park, accommodations are being doubled at Kuala Tahan and two other centers in the northern end of the park are to be built, but he says he is confident that the changes won't put further pressure on the park's precious flora and fauna. He does acknowledge, though, that the money to be made from illegal logging is causing serious problems in the north of the park.

"There's definitely encroachment, We did prosecute . . . but the fines are nothing compared to the money they can make. It's just not a deterrent."

The future of rare wildlife is difficult to forecast, until buffer areas are created and illegal logging and poaching are stopped. It is at the hands of the government and conservation activism.





ORANG ASLI NOTE on the plight of Orang Asli or Batek refer to themselves as Batek hep, ‘people of the forest’. The Batek beliefs are animistic, where they see their presence and actions in the community and their land as essential to the continuing existence of

the forest. They followed an elaborate set of prohibitions believed to maintain positive relationships among people, the environment, and the superhuman beings controlling the forces of nature. They considered their rituals necessary to induce the superhuman beings to bring on the honey, flowers, and fruit seasons and to cure serious illnesses, and believed that if the forest were ever destroyed or if they were removed from it, superhuman beings would destroy the world in an all-encompassing flood of water welling up from the underworld. This worldview is still implicit in Batek actions and behaviors, but the religion is now kept secret from outsiders.

For the last few decades, the Malaysian government been working hard since the 1980s to assimilate all Orang Asli into the rural Malay population. The reason for this ambivalence is political. At the time of independence in 1957, Malays were mostly rural farmers or fishermen and lagged behind the Chinese and Indians economically. To address this problem, the Malay-dominated federal government granted Malays privileged access to places in educational institutions, scholarships, jobs, and the like. These ‘special privileges’ were enshrined in the Constitution, and, when the states of Sabah and Sarawak in Borneo were added in 1963 to form the Federation of Malaysia, they were extended to the Native Peoples of Borneo, but not to the Orang Asli. ‘Malay politicians consider the existence of the indigenous Orang Asli as a nuisance, and their existence means that the Malays are “migrants and latecomers”’. From the point of view of Malay politicians and bureaucrats, the solution to this problem is to assimilate the Orang Asli into the Malay population, so they will be merely another subgroup of rural Malays.

Assimilation efforts are implemented through the process of ‘development’, by which is meant getting Orang Asli to settle in permanent villages, moving them out of subsistence economies into cash cropping and wage labor, and inducing them to adopt the language, customs and religion of Malays (Islam), which are the legal criteria for being classified as Malays. Some groups of Orang Asli have succumbed to these government pressures, in part because they have been accompanied by disruption of their old ways of life. According to the Malaysian constitution and land laws.

Orang Asli have no land rights even in areas where their ancestors have lived for countless centuries. After the interior of the peninsula was opened up for logging and the development of plantations in the 1970s, most Orang Asli lost the land and resources necessary for pursuing economically and politically independent lives, and the displaced people were moved into ‘regroupment schemes’, where families were conditionally allocated small plots of land and expected to make their living by growing cash crops, such as rubber. The result has been that a large portion of the Orang Asli population now live in rural slums and are officially classified as orang termiskin, the ‘poorest of the poor’

FLORA AND FAUNA The National Park is considered second to the Amazon in plant species and genetic diversity and hosts more than 3,000 species of plants. The fern flora are well endowed with more than 246 species in 26 families

Among the trees found in Taman negara include the endemic gymnosperms *Podocarpus deflexus*, *P. montana* and some pitcher plants species such as *Nepenthes gracilima, N. macfarlanei, N. sanguinea*. There are many endemic palms in the National Park such as the Tahan serdang *Livistona tahanensis*, Tahan bertam *Eugeissona bracystachys*, *Iguanura wallichiana,.* It is believed that more than 30% of the known palms in Malaysia are found in the area. Other species include the endemic wild grapes (*Pterisanthes glabra*), and some rare species such as jewel orchid *Ludisia discolor*, parasitic balanophores *Balanophora fungosa*, and the largest flower *Rafflesia cantleyi*. In addition, more than 46 species of relatives of cultivated fruit trees were also recorded. Other endemic flora includes begonias and a rhododendron: *Begonia longicaulis, B. rheifolia, B. reginula,B.barbellata*, *Rhododendron seimundi.,*

BIODIVERSITY OF FAUNA: The National Park has recorded 150 species of mammals including Asian Elephant, Malayan Tiger, Clouded Leopard, Leopard Cat, Flat-headed Cat, Asian Golden Ca, Malayan Gaur, Malayan tapi, Wild Boar, Binturong, Mengkira *Martes flavigula*, Barking Deer*,* Sambar Deer , Mouse Deer, Malayan Sun Bear, Serow, Asiatic Wild Dog*,* Siamang, White-handed Gibbon, Dusky Leaf Monkey, Banded-leaf Monkey and more than 80 species of bats and 30 species of rodents*. S*mall mammals include White-toothed Shrew*,* Smoky Flying Squirrel and Oriental Small-clawed Otter*.*

Taman Negara is one of the Important Bird Areas (IBA) in Malaysia. A total of 479 species of birds has been recorded excluding the migrant species, among them are Crested Argus*,* Mountain Peacock Pheasant, White-Bellied Sea Eagle*,* Crested Serpent Eagle *,* Changeable Hawk Eagle , Crestless Firebacked Pheasant*,* Pink-necked Green Pigeo*,* Greater Yellownape*,* Long-tailed Parakeet*,* Buff-necked Woodpecker*,* Banded Kingfisher*,* White-throated Kingfisher *,* Rufous-backed Kingfisher*,* Black Hornbill*,* Whreated Hornbill*,* White-crowned Hornbill*,* Southern Pied Hornbill*,* Rhinoceros Hornbill*,* Great Hornbill*,* Helmeted Hornbill*,* Malaysian Hill-Partridge*,* Gold-whiskered Barbet*,* Fire-tufted Barbet *,* Green-billed Malkoha*, and* Spectacled Bulbul.

Among the notable reptilian fauna are Speckle-bellied Keelback Snake *,* Jasper Cat Snake*,* Green Marbled Slender-toed Gecko*,* Impressed Tortoise *,* Spiny Terrapin *,* Malayan Flat-shelled Turtle *,* Asian Brown Tortoise *(Manouria emys).* Amphibian fauna include Bongao Tree Frog, Spotted Litter Frog*,* Black Caecilian, an endemic *Leptobrachium heterops*, Minute Narrow mouthed Frog <u>*Calluella minuta*</u> . Malayan Horned Frog*,* Hose's Rock*.*
A total of 53 species of fresh water fishes has also been recorded, including Malayan Mahseer, Copper Mahseer*,* Jungle Perch*,* Torrent Barb. In addition, more than 57 species of amphibians, 67 species of snakes including some uncommon species such as Blunthead Slug Snake, Malayan Slug Snake Rainbow Tree Snake Ashy Pit Viper.