

other of the ways mentioned above, viz., by being swallowed by animals or birds, or by being drifted by wind or water.

The part played by mammals is insignificant compared with that played by birds in the dispersal of seeds, but as has been shewn it is too important to be overlooked.

Of the great waves of evolution which in past times have altered the whole character of the Flora of the world, the first and greatest was probably that due to the appearance of pollen- and honey-seeking insects through whose agency the brilliant colours and elaborate forms of flowers were evolved. The next was due to the evolution of the frugivorous birds through whom we have obtained much of the colouring and sweetness of the fruits. Through the evolution of mammals, we have also obtained many modifications of fruits, and the development of some groups of plant, notably the grasses and some of the other herbaceous plants will, I believe, be eventually shown to have borne a close relation to the evolution of the graminivorous mammals so abundant at one period of the world's history.

—:o:o:—

Journal Smith Branch

Royal Asiatic Society

25 (1894)

pp. 33-60.

2451

ACCOUNT OF A TRIP UP THE PAHANG, TEMBELING, AND TAHAN RIVERS, AND AN ATTEMPT TO REACH GUNONG TAHAN.

—:o:o:—



OUR party, composed of Messrs. H. N. RIDLEY, Director of the Botanic Gardens, Singapore, W. DAVISON, Superintendent of the Raffles Museum, and Lieut. H. J. KELSALL, R.A., with a staff of native plant-collectors and bird-skinners, left Singapore at 3 p.m. on 23rd June, 1891, in the s.s. *Glanggi*, and arrived at Kuala Pahang about 10 a.m. on the 24th.

Leaving our men to look after the baggage we proceeded to Pekan in a steam-launch belonging to Mr. HOLE, of Pekan, that gentleman having kindly offered to take us with him, as he was returning to Pekan at once.

Arrived there, we proceeded at once to the Residency; Mr. HUGH CLIFFORD, the Acting Resident having made arrangements for our accommodation.

We found that Mr. HOLE had, in accordance with previous arrangement, despatched a boat-load of rice and other stores, with 25 coolies, to await our arrival at Kuala Tembeling. So far all was satisfactory, but we found that there was some difficulty in getting a supply of small boats, which would be necessary above Temerloh (Kuala Semantan), owing to the shallowness of the river—the season being an exceptionally dry one.

We went all round Pekan endeavouring to buy three or four boats suitable to our needs, but in vain, there were none

for sale. In this difficulty Mr. HUGH CLIFFORD came to our assistance, and placed at our disposal a large native built boat. His head boatman, after some little difficulty, succeeded in getting together a gang of 25 coolies, amongst whom were two Dyak lads, one of whom turned out a most useful hand in the jungle, and set them to work to caulk and clean the boats which had not been in use for some time, and consequently required overhauling.

All this delayed us in Pekan till the 28th, but the time was not altogether wasted, as we did some collecting in the immediate neighbourhood.

On the North side of river, which is here over half-a-mile wide, are extensive sandy plains interspersed with patches of heavy jungle. On the sandy portions, the trees are all much stunted and grow in small clumps or coppices, giving quite a distinctive appearance to the landscape.

Portions of these sandy tracts were riddled with the burrows of the bee-eaters (*Merops philippinus*), at the extremity of which they lay their eggs. These burrows are excavated in the hard ground and slope downwards for the first foot or so, then run more or less horizontally. Among other birds noticed were the Brahmany Kite (*Haliastur indus*), which appears to be the common kite of the southern portion of Malaya, the "Burra Burra" (*Trachycomus ochrocephalus*), one of the best songsters amongst Malayan birds; most of the common Kingfishers (the Raja Udang of the Malays), and some rarer ones (*Halcyon coromanda* and *Alcedo meninting*), a few woodpeckers and several swifts. Butterflies were not plentiful, the most noteworthy being perhaps the beautiful *Parthenes gambrisius*.

Of mammals, the only ones noticed were the common mangrove monkey, Kra of the Malays (*Macacus cynomolgus*), and several of the common squirrels (*Sciurus notatus* and *Sciurus tenuis*). Of reptiles, the large Monitor (*Hydrosaurus salvator*) and the beautiful many-coloured sand lizard.

On the 28th, everything being at last ready and being provided with letters from Mr. CLIFFORD to the Sultan asking him to render us any assistance in his power in the way of

providing guides, we started up-stream about 11 a.m., being obliged to wait for night tide to get out into the main stream, Pekan being situated on a sort of loop. Mr. TOWNSON, a young Australian, accompanied us. By 5 p.m. we had reached Tanjong Bedang, and went ashore for a short time. Here we saw some peafowl, which are very plentiful all along this part of the river, and large numbers of the ground dove "Terkuku" (*Turtur tigrina*), which are exceedingly good eating, also specimens of the Burmese lapwing (*Lobivanellus atronuchalis*), and the small Malayan hornbill (*Anthracoceros convexus*). At dusk we started again meaning to travel all night, but owing to our constantly running on sand-banks, with which the river abounds, we made but little progress. Our means of progression was by means of poles or *gallahs*, eight men poling at a time, four at each side.

29th June. We went ashore for an hour or two in the morning to collect but did not get anything of note; a couple of specimens of the Eastern little Tern (*Sterna sinensis*) were shot.

The general character of the country bordering the river up as far as Kuala Tembeling is pretty much the same. Along the river bank, is a strip of jungle, 100 to 200 yards wide, with frequent small villages and plantations of coco-nut, banana, and mangosteen trees. Inside of this lies a tract of open grass or swampy land, varying from 100 yards to half-a-mile in width, and beyond this comes the jungle proper. The tract of open land is in places ploughed and cultivated by the natives, who use rude wooden ploughs, which, however, do the work required of them fairly well. The draught animal is the water-buffalo (*Bos bubalus*), of which there are large herds in a semi-domesticated condition. We continued travelling by night, and made better progress than before.

30th June. We heard a Wau Wau in the early morning, the first we had noticed. We made good progress during the day, and got as far as Kuala Luit, about 50 miles from Pekan. Here we went ashore for a short time, and got specimens of *Tupaia javanica*; *Cymborrhynchus macrorrhynchus* the Rouge-et-noir Broadbill, and the Malayan Falconet

- The black variety appears to be by far the most common form in the Malay Peninsula, the yellow one being comparatively seldom met with.
8. *Felis Temminckii*, Vig. and Horsf.
The red tiger-cat. A living specimen from Pahang was for some time in the Botanical Gardens, Singapore.
There are probably several other species of wild cats found in Pahang, but there are no records of them. Tracks were often seen of small species in sandy spots.
9. *Viverricula malaccensis*, Gm.
The common Musang or small civet cat.
10. *Hemigale Hardwickii*, Less. Seen in Tahan woods.
11. *Cuon rutilans*.
The wild dog of the Malay Peninsula, called by the Malays "Anjing Utan" is said by them to hunt in packs. Living specimens have been sent down to Singapore from Pahang.
12. *Lutra leptonyx*, Gray.
The Otter. Malay "Anjing Ayer." Seen on the Tahan River.
13. *Helarctos Malayanus*.
The Malayan Honey bear. Tracks seen by the Tahan River. This little bear is easily kept in captivity and becomes exceedingly tame.
- †14. *Tupaia ferruginea*, Raffl.
Malay "Tupaia tanah."
- †15. *Tupaia javanica*, Horsf.
- †16. *Galeopithecus volans*, Linn.
The flying lemur. Kuala Tahan.
17. *Pteropus edulis*, Gray.
The large Fruit Bat, or, as it is sometimes called, the flying Fox. Common at Pekan.
There are many other bats, but few have as yet been collected and identified.
- †18. *Sciurus bicolor*, Sparr.
This very variable Squirrel is in Pahang usually of a

- dirty yellowish white colour, almost tawny on the back. Seen far up the Tahan River, and at Pulau Tawar.
- †19. *Sciurus Rafflesii*, Vig. and Horsf.
The Coco-nut Squirrel, "Tupai B'lang" of the Malays. This squirrel is most destructive amongst coco-nuts. It gnaws a round hole in the nuts to get at the inside. Common at Kuala Semantan.
- †20. *Sciurus laticaudatus*, Diard.
This appears to be a rare species. Kota Glanggi.
- †21. *Sciurus griseimanus*, A. M. Edwards.
- †22. *Sciurus insignis*, F. Cerv. This is a pretty squirrel with three black stripes down the back. It appears to live almost entirely on the ground. Tahan River.
- †23. *Sciurus notatus*, Bodd. This is perhaps the commonest of all the Malayan squirrels. Common everywhere.
- †24. *Hystrix longicauda*, Marsden.
The long-tailed porcupine. Two caught in the Kota Glanggi caves.
25. *Elephas maximus*, L.
The elephant, though common all through Pahang, is never caught and tamed. Abundant in the Tahan woods.
26. *Rhinoceros sp.* Tahan River woods. Tracks seen and animal heard at night.
27. *Tapirus malayanus*. Tracks have been seen of this animal at near Temerloh.
Bos gaurus, Ham. Smith.
The S'ladang is to be met with all through the Pahang jungles, but, owing to its shy and retiring habits, is difficult of approach. Tahan woods and all down Pahang River.
28. *Bos bubalus*, Ham. Smith.
The water buffalo is common in a semi-domesticated state along the rivers. It is very doubtful if it occurs in a wild state.
29. *Menorrhaedus sumatrensis*, Shaw.