

## XV. THE NATURAL HISTORY OF KEDAH PEAK.

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### I. INTRODUCTION.

Kedah Peak, or Gunong Jerai, to use its Malay name, is a familiar landmark to all voyagers through the Straits of Malacca, dominating as it does the roadstead of Penang.

It is situated about 22 miles NNE of Penang with its summit about 6 miles from the sea and according to the latest computations attains a height of 3,976 feet being, if we except the Bintang Range on the Perak border, considerably the highest mountain in the State of Kedah. It is quite isolated, standing on a base that does not exceed 50 square miles, and is separated by low land not exceeding 50 feet in elevation from all other hills. Its slopes to the north and west are much steeper than those to the south and east and vertical rock faces, many hundreds of feet in height, exist. Geologically the mountain appears to consist of sandstones and quartzites of varying degrees of hardness, traversed by veins of quartz, while in one or two places deposits of haematite are found. It is well watered, being cut into by three great valleys which have been utilized for a water supply to the neighbouring districts and the cliffs are ornamented in several places by cascades which are very conspicuous after wet weather of any duration.

On the lower slopes the forest is now poor, timber cutting having been, until the last few years quite unrestricted, but a good deal of Meranti (*Shorea* and *Hopea spp*) is found up to about 2,000 ft., while Medang (*Lauraceae*) is also abundant. There is but little hard wood except in the first two or three hundred feet where it has almost all been cut out, and but little *jelotong*. We saw no taban of any kind. The stemless palms are by no means numerous and the forest generally is dry and with but little undergrowth.

On the Eastern side above about 1,800 feet where timber cutting ceases, the character of the forest changes and on the ridges great numbers of orchids begin to appear. Conifers, *Agathis*, *Dacrydium* (spp.) and *Podocarpus* are abundant and large shrubby Rhododendrons with salmon, lemon-yellow and white flowers begin to show themselves. In the damper hollows and among rocks near the streams a scarlet *Balanophora* was very abundant. Many of the ridges and flatter areas from 2,500 feet to the summit were clothed with a zerophitic vegetation, amongst which *Boeckia frutescens*, *Tristania*, *Leptospermum* and *Vaccinium* were the commonest shrubs, while in damp hollows amongst the rocks and amongst the coarse grasses and sedges that covered the more open spaces *Burmannia longifolia*,

a Purple and a Yellow *Utricularia* and two species of *Xyris* were very conspicuous. Melastomaceous plants and Begonias, in contradistinction to the flora of the Perak main range, were by no means common and only two or three species of ginger-worts were met with. We did not see a single tree fern.

Collections were made in all groups of the animal kingdom and rather over two hundred species of flowering plants were obtained amongst which was an unusually large proportion of orchids. Very many species however were not in flower or in fruit at the time of our visit and it was therefore impossible to obtain identifiable specimens. This was especially the case among the *Gesneraceae*, of which about a dozen species were noted.

Animal life was extraordinarily poor, not only in species but also in individuals, and the only group represented by large numbers of specimens is the Lepidoptera Heterocera, of which considerable series were obtained by the use of a Lux lamp at night. In other groups the Millipedes were perhaps most abundant, though the number of species was not large. All orders of day flying insects were extremely scarce.

The most interesting capture of the trip was a specimen of *Eoperipatus* secured by a collector belonging to Dr. R. Hanitsch of the Raffles Museum, Singapore, who accompanied us. A single specimen was obtained in rotten wood at about 2,900 ft: though diligently searched for by ten other collectors for a day no other specimens were met with. The collections as worked out will be published group by group in this Journal. In the present number lists are given of the vertebrates.

Owing to the fact that there is now a railway station at its eastern foot, Kedah Peak has become very accessible and it is one of the easiest mountains to ascend that we have visited. From a practical point of view perhaps the most interesting feature attaching to it is that at about 3,300 ft. there exists a far better site for several hill bungalows than we know of at any similar altitude in the Peninsula.

The ascent from Gurun Station to Padang 'toh Seh, 3,200 ft., takes about three hours and the return journey about half that time. For the first two thousand feet the going is excellent in dry weather, a smooth and broad track having been formed by the extraction of baulks of timber drawn by buffalo, but as the subsoil is clayey this road becomes very slippery after rain though it is nowhere steep.

Between 1,500 ft. and 2,500 ft. there are an unusual number of flat spaces or slightly rounded ridges such as we have noted nowhere else and to this altitude the forest is open, with but little undergrowth.

Padang 'toh Seh is an open, somewhat rocky area (with abundant water near by) in a shallow gully between the actual summit and a ridge to the north. It is on the main track which continues westward and shortly beyond the Padang falls

steeply towards the sea, and is about 100 yards beyond the point where the path leading to the actual summit of the Peak branches off to the left.

The building site which lies N.W. beyond the Padang and four or five minutes distant, consists of a long, slightly undulating ridge running east and west, gently rounded from side to side, in some places flat, and varying in width from one to two hundred yards. It is covered with grasses, etc., pitcher-plants and orchids and is dotted throughout with bushes, (*Boeckia*, *Leptospermum*, *Vaccinium*, *Rhododendron* and heaths), of a general height of 3-10 ft. but on several of the highest points of the ridge where the soil is deeper some of these become small trees growing in clumps with a height of 15-20 ft. and afford a welcome broken shade on a fine day. Golden-flowered *Xyris* and a pretty free-blossoming pink *Argostemma* give colour to the herbage, while everywhere the growth is so open that charming views can be obtained in many directions and if a certain amount of clearing were done the whole surrounding sea and land could be seen except in the section SE-SW.

Roughly, that portion of the horizon is obscured by the secondary summit of the mountain, seen from the site, a steep-sided ridge running parallel to the southward, thickly wooded and rising 500 ft. higher. Seaward this drops sharply for 100 ft. and then descends more gently to become a narrow *arrête* which rises again to a lower peak in the S.W. and screens the island of Penang from view. Landward this summit drops more gently, the path to the Peak running near its profile, while across its base the inland plains and distant hills can be seen.

The prospect eastwards is closed by the continuation of the ridge from which these views are recorded but to the northward can be seen the wide-spreading plain under rice cultivation stretching right away to the hills of Perlis and bordered by the sea. Through this can be traced the railway to Alor Star and the town itself can be picked up with beyond it, the most conspicuous of all features, the precipitous mass of Gunong Keriang. The islands of Terutau and Langkawi lie clear on the horizon and running south in a long curve is the sea-shore with the mouth of the Kedah River jutting out in the centre, Pulau Paya is in the middle distance and the wooded islets of the Bunting group with their glistening yellow beaches are strung out in a line nearer in; while only about four miles away lie the village and fruit-groves of Yen, the mouth of its stream being marked by a long grove of cocopalms. Sails, and even canoes at sea, can be seen quite clearly.

The open portion of the ridge, on which the soil is very shallow and peaty and where numerous outcrops of sand-stone and quartzite occur, is some 7-800 yards long and is only fit for building purposes: inland, however, where the forest grows, the soil is much deeper and richer and the surface being rounded

and even flat, a considerable area is provided which is suitable for vegetable gardens with little need for terracing. Through the woods of the ridge a path runs more or less northwards and having a gentle slope affords a pleasant walk.

In all about 20 acres would be available for building while about half that area could be cleared of forest for gardening and cow-keeping.

There appears to be an ample supply of water all the year round in the gully. Though a few mosquitoes occur at night no *Anopheles* were included in the collection made.

The higher ridge near the summit has also some extent of flattish land but this is much smaller than the area available at the lower site and there would be a difficulty about water: also a good deal of cloud or mist is generally present so that the slightly lower temperature ( $\pm 2^{\circ}$ ) due to an extra height of 4-500 ft. would not counter-balance the greater area and convenience of the other locality.

Quite close to this is the actual summit which is reached in about 50 minutes from Padang 'toh Seh: from it there is a clear view in all directions, including Penang and its shipping, the Muda River and the Larut Hills.

## II.—MAMMALS.

The mammal fauna of Kedah Peak appears to be very poor. This is due to the fact that the mountain has never had any connection with the main range of the Peninsula while uncongenial conditions have as usual prevented the upward spread of the lowland forms. By far the most interesting of the few animals obtained were *Hylomys suillus*, *Epimys ferreocanus* and *Chiropodomys gliroides*.

Besides the species recorded below there were observed a tiger, binturong and some small bats, but none of these were obtained. Fresh tracks of tapir were frequently met with just below the summit and the goat-antelope is reported to inhabit some of the peaks, while the cries of a species of gibbon and leaf monkey were heard from the lower slopes.

### I. SCIURUS VITTATUS MINIATUS.

*Sciurus notatus miniatus*, Miller, Proc. Acad. Nat. Sci., Washington, II, p. 79 (1900).

3 Males.

Three very typical specimens in which the red pencil of the tail extends nearly half-way towards the base.

Not at all common on the higher slopes of the mountain.

### 2. SCIURUS TENUIS SURDUS.

*Sciurus tenuis surdus*, Miller, Proc. Acad. Nat. Sci., Washington, II, p. 80 (1900).

3 Males, 7 Females.

By far the commonest squirrel on the mountain and not differing in any way from lowland animals: in no way approaching our recently described *S. t. gumong* from the Bandon hills [Journ. F.M.S. Mus., V. p. 119 (1914).]

3. EPIMYS VOCIFERANS.

*Mus vociferans*, Miller, Proc. Biol. Soc., Washington, xiii. p. 198 (1900), pls iii and iv, fig. 3.

2 Females.

Only two examples of this generally common hill rat were trapped.

4. EPIMYS SURIFER.

*Mus surifer*, Miller, Proc. Biol. Soc., Washington, xiii, p. 148 (1900), pl. v, fig. 4, a, b, c.

2 Males, 2 Females.

Four examples of this, the commonest spiny rat in the Peninsula, were obtained: the pelage of all is somewhat pale and dull.

5. EPIMYS CREMORIVENTER.

*Mus cremoriventer*, Miller, Proc. Biol. Soc. Washington, xiii, p. 144 (1900), pl. v, fig. 2, a, b, c.

1 Male, 1 Female.

This little rat has always been found sparsely distributed in the mountains of the Peninsula and only two individuals were obtained on the present occasion.

6. EPIMYS ASPER.

*Mus asper*, Miller, Proc. Biol. Soc. Washington, xiii, p. 145 (1900), pl. v, fig. 3, a, b, c.

22 Males, 8 Females.

This species was extremely common. It was found, here as elsewhere, to vary considerably in brightness of colouration, the yellow tone of the upper surface ranging from bright ochraceous-tawny to pale clay. The grey under surface is sometimes suffused with ochraceous but this feature is in no way correlated with a brighter back.

7. EPIMYS JALORENSIS.

*Mus jalorensis*, Bonhote, Fasciculi Malayenses, Zoology, Pt. 1, p. 28 (1903), pl. ii, figs 1 and 2; pl. iv. fig. 4.

3 Males, 2 Females.

These are representatives of the common *rattus* of the Malay subregion and though we have used for it the name applied by Bonhote we doubt, when large series of Malayan and Bornean animals are compared, that it will be considered in any way distinct from the subspecies *neglectus* of that island.

## 7. CHIROPDOMYS GLIROIDES.

*Mus gliroides*, Blyth, Journ. Asiat. Soc. Bengal, xxiv, p. 721 (1855).

3 Males, 1 Female.

Of this charming little rodent four individuals were obtained which were taken in the hollow internodes of bamboos. It was represented in our Museum hitherto by five examples only and we had regarded it as a species of rare occurrence in our area, but this scarcity in collections is possibly rather due to reasons of habitat and habit.

## 9. TUPAIA GLIS WILKINSONI.

*Tupaia ferruginea wilkinsoni*, Robinson and Kloss, Journ F.M.S. Mus, iv, p. 173 (1911).

1 Male, 1 Female.

These are rather dull coloured examples of this subspecies, the rump showing very little ferruginous tint; thus approaching, in its little-varied upper surface, the northern species *T. belangeri*.

## 10. HYLOMYS SUILLUS.

*Hylomys suillus*, Mull. and Schleg., Verhandelingen p. 153 (1839-44) pl. 25, figs. 4-7, pl. 26, fig. 1.

Though generally included as a member of our fauna this species seems to have been first definitely recorded from the Peninsula by Robinson whose collectors obtained an individual from the mountains of Selangor in 1910 [Journ. F.M.S. Mus. IV. p. 223 (1911)]. Several examples have since been captured in Perlis, the state north of Kedah, and now we have these two examples from Kedah Peak. We have compared them with animals from Sumatra (type region) and can discover no differences.

## III. BIRDS.

We are aware of no paper dealing exclusively with the avifauna of the State of Kedah, nor indeed to our knowledge have any but very inconsiderable collections been made therein. A few species obtained by Cantor are mentioned by Moore in his "List of Malayan Birds collected by Theodore Cantor, M.D.," *P. Z. S.* 1854, pp. 258-285; 1859 pp. 443-468, while others obtained by the "Skeat Expedition" in 1899 are listed by *Bonhote, P. Z. S.* 1901 (i) pp. 57-81. To the east the avifauna of the Patani States is well known, that of Province Wellesley, Penang and Perak to the South and South-east has been thoroughly worked out, while to the north considerable collections have been obtained from the small boundary state of Perlis by the collectors of the Federated Malay States Museum, which disclose nothing of special interest.

To the north-east the fauna of Senggora is known from collections obtained by the "Skeat Expedition," which disclose no material difference between it and Patani and Jalor,

which was extensively worked by one of us. From the nature of the terrain it was not therefore probable that Kedah as a whole would disclose any form of special interest, but it was thought possible that Kedah Peak, rising as it does to a height of approximately 4,000 feet, might harbour some of the mountain species that are known from the main range mountains of the Federated Malay States to the south and from the mountains of Trang and Bandon to the North and North East. Moreover it was desirable to ascertain, whether the faunal boundary separating purely Malayan species from Tenasserimese races passed to the north or south of the peak.

With this object in view the mountain on its higher levels from the summit to about 2,500 feet was exhaustively searched from November 29th to December 11th, by three trained Dyak Collectors, well acquainted with the local fauna, and we do not think that they are likely to have missed any species really resident on the hill at the time.

As a result the hill was found to be extraordinarily barren in bird life, both species and individuals being very scarce, the only forms at all common being *Aethopyga temmincki*, *Turdinus magnirostris* and *Hemixus cinerea*.

The results conclusively show that Kedah Peak has never been connected either with the Trang mountains or those of the main range in such a manner as to permit the passage of the fauna of these two districts to it. The tradition in Malay Legend that until comparatively recent times the Peak was an island has probably therefore some foundation in geological fact.

Besides the specimens actually listed, three species of hornbills were seen and numerous individuals of a large *Spizaetus*, probably the black form of *Sp. limnaetus*, but these have no bearing on the general conclusions. No game birds were seen or heard nor did pigeons of any kind occur on the peak, though *Carpophaga badia* is usually found on mountains of this elevation. Round the summit *Hirundo javanica* and *H. gutturalis*, *Chaetura gigantea* and *Ch. leucopygialis* were noted, but no species of *Collocalia*.

The rarest and most interesting acquisition was *Prionochilus thoracicus*, of which but few specimens have ever been obtained in the Malay Peninsula, while *Anthus maculatus* and *Cichloselys sibericus* are rare seasonal visitors. The specimens obtained have been listed in detail but it has not been thought necessary to give any extensive references to the local literature. Occurrence to the north in Trang and Bandon have, however, usually been quoted.

#### RALLINA SUPERCILIARIS (Eyton).

*Rallina superciliaris* (Eyton); *Sharpe, Cat. Birds Brit. Mus. xxiii*, p. 76 (1894) *Robinson & Kloss, Ibis*, 1911, p. 10.

a. 1 Female imm. Kedah Peak, 3,000 ft. 30th November, 1915. No. 2,112. "Iris orange, bill dark slate, sea February, 1916.