



GEOGRAPHY

AN outline of the general geography of the Malay Peninsula has been given already in Volume I. of this work. As the present volume deals with the birds that inhabit the hill stations and mountain ranges of the country above an altitude that has been fixed at 2500 ft., the Surveyor-General, F.M.S. and S.S., has kindly supplied me with a map showing, so far as the British portion of the Malay Peninsula is concerned, the extent of country comprised within this contour line, though on the somewhat small scale, and from the data available, it has not been possible to supply this for Siamese territory.

It has not been feasible to mark on this map all places and mountains mentioned in the text, but the following list indicates those places and hills from which collections have been obtained which form the basis of this work. Descriptions—which may be regarded as authoritative—have also been included of the various hill stations or hill bungalows which are maintained by the Governments of the Straits Settlements and the Federated and Unfederated Malay States.

The various places described are arranged from north to south.

PENINSULAR SIAM

Kao Nawng or Kao Nong.—A peak on the range separating the Siamese provinces of Bandon and Nakon Sri Tammarat in approximately $8^{\circ} 55' N.$ The elevation is about 4200 ft., but the hills are extremely steep, and the actual area above the contour of 3000 ft. is very small. The rainfall is high, and the vegetation—evergreen forest—extremely dense and matted near the summit. Small but interesting collections were secured in this locality by Mr Seimund and myself in 1913.

Kao Luang.—This is the highest summit of the same range on which Kao Nawng is situated, and is in the province of Nakon Sri Tammarat, in about lat. $8^{\circ} 30' N.$, attaining a height of about 5000 ft. It was ascended by Captain Pendlebury, of the Federated Malay States Museums, in March 1922, with a party of hunters, and considerable collections were made, very similar in character to those from Kao Nawng. The vegetation is described as very dense, with much bamboo and spiny rotan, the latter occurring right at the summit. Like the other hills of the range it apparently enjoys a very heavy rainfall.

Mountains of Trang.—Lat. $7^{\circ} 40'$ N., maximum height, 3000 to 3200 ft.

Large collections, made by Dr W. L. Abbott in these hills, are in the United States National Museum. The collectors of Sir W. J. F. Williamson and Mr E. G. Herbert have also worked the district, but did not spend much time at the higher elevations.

Bukit Besar, Patani States, East Coast Malay Peninsula.—Lat. $6^{\circ} 30'$ N., maximum height about 3500 ft.

Considerable collections were made here both by the "Skeat Expedition" and by Dr Annandale and myself. The mountain is covered with evergreen jungle, with much bamboo at the summit, but is isolated and supports no true high-level fauna.

UNFEDERATED MALAY STATES

KEDAH

Kedah Peak or Gunong Jerai.—Lat. $5^{\circ} 48'$ N. Height, 3976 ft. The fauna of this isolated mountain, which is very poor, has been investigated by Mr Kloss and myself.

Though the fauna (with the exception of butterflies) is not a rich one, the flora is one of great interest, including several rhododendrons and other flowering shrubs, and a multitude of orchids—some of which have their only known habitat on this mountain.

A commodious bungalow has been erected, and is situated in a clearing of about ten acres in the Gunong Jerai forest reserve, at a height of 3250 ft. above sea-level, on the northern slopes of the mountain, having a prospect to the north over the paddy-fields of North Kedah and to the west over the sea, distant five miles.

The bungalow is approached by an easy graded footpath, seven and a quarter miles long, which leaves the main Trunk Road at a point about twenty miles south of the town of Alor Star, the administrative capital of the State, and about two miles north of the village of Gurun, which is a station on the railway to Penang. Visitors at present require to make their own catering arrangements.

STRAITS SETTLEMENTS

PENANG

"The Penang Hill Station is situated in lat. $5^{\circ} 25'$ N., and long. $100^{\circ} 16'$ E., and has an altitude of 2530 ft. above sea-level at its highest point. The area will be 2500 acres more or less. The area quoted covers the range, and the greater part of it is probably forest reserve.

"The area round Government Hill under development is comparatively small. There is no plateau, and house sites are scattered about on ridges and small spurs on the hillsides, which are steep and cut up by numerous ravines and spurs. At present the Government own the Crag Hotel, Government Bungalow, and three bungalows which are available for Government

officers and the general public. A fourth bungalow is to be commenced this year [1927], and possibly another next year. There are a few private houses on the higher levels.

"The Hill Railway runs up to a point below Government Bungalow, the Lower Station being about five miles distant from the town.

"Electric lighting and a piped water supply are available." [*Official.*]

Little that is definite is at present known about the bird life of the higher levels of Penang Island, which will probably prove to be even poorer in resident forms than is Kedah Peak. It is, however, a resting-place for many migratory species both in autumn and spring.

A recent (December 1927) collection made near the summit of the hill by Mr F. N. Chasen includes only twenty-nine species, of which seven are migrants or winter visitors.

FEDERATED MALAY STATES

PERAK

Gunong Inas.—Lat. $5^{\circ} 10'$ N. Height, 5800 ft.

A peak of the Larut range, which runs parallel with, but is not connected to, the main range, from which it is separated by the valley of the Perak river.

A few mountain birds were collected here by Messrs Yapp and Laidlaw of the "Skeat Expedition," and are now in the Cambridge University Museum.

Maxwell's Hill and Gunong Ijau.—Lat. $4^{\circ} 50'$ N. Height, 3300 to 4750 ft.

"Maxwell's Hill is situated on the mountain range near Taiping, the capital of Perak, and is named after the late Sir William Maxwell, K.C.M.G., who, as Assistant-Resident, first made a clearing there. At the 'Tea Gardens,' 2152 ft. on the way up, there is a bungalow, with eight bedrooms. At Maxwell's Hill itself there are six comfortable bungalows at an elevation of between 3400 and 3650 ft. 'The Cottage' (the bungalow of the Chief Secretary to Government) and 'The Box' (the bungalow of the British Resident) are on two peaks at heights of 4530 and 4076 ft. respectively. The rainfall of the hill is high, but the flower gardens are attractive, and the dairy and vegetable gardens well maintained.

"The views from 'The Cottage' and 'The Box' are extensive in all directions, but from the other bungalows the view is restricted to the area north-west to south-west, looking over the Straits of Malacca. The situation is immediately above the town of Taiping, in lat. $4^{\circ} 50'$ N., and long. $100^{\circ} 45'$ E.

"The average rainfall at 'The Cottage' is 253 in., and at the bungalows half-way down the hill, 206 in." [*Official.*]

This area has always been a favourite collecting ground, owing to the fact that it is easy of access and has numerous paths. The jungle is dense evergreen, very thick and matted, with much bracken-like fern near the ridges and on the peaks.

Gunong Kerbau or Korbu.—Lat. $4^{\circ} 43'$ N. Height, 7100 ft.

This mountain is a spur of the main range, about fifteen miles east-north-

east of the town of Ipoh, in Perak, and is the second highest summit in the Malay Peninsula, being only slightly exceeded by Gunong Tahan (7186 ft.).

One small collection has been made on it, but there is no reason to suppose that its fauna differs in any way from that of other peaks of the main range.

Gunong Kledang.—Lat. $4^{\circ} 37'$ N. Height, 2646 ft.

This hill is on a range dividing the basin of the Perak river from that of its tributary, the Kinta river, and is due west of the town of Ipoh.

There are two bungalows upon it, reached by a motor-road from Ipoh to the foot of the hill, and a bridle-path four and a half miles long.

A recent (December 1927) collection made by Mr E. Seimund shows, as was to be expected, that no strictly montane forms occur on this hill.

Gunong Batu Puteh, Telôm, Batang Padang Mountains, and Cameron's Highlands.—These terms cover a district in the main central range of the Malay Peninsula, on both sides of the watershed, centering round a point at about $4^{\circ} 15'$ N., lat., and ranging in altitude from about 3500 to nearly 7000 ft.

Large collections have been made here, and are contained in the British Museum and local museums.

“The area known as ‘Cameron's Highlands,’ from the explorer who first called attention to it in the early eighties, which will become, in time, the most important Hill Station in the Federated Malay States, is situated in Pahang, close to the Perak boundary, in lat. $4^{\circ} 30'$ N., and long. $101^{\circ} 24'$ E. The area of the Highlands proper is 9 square miles, but between that area and the Perak boundary there is a further area, capable of development, of seventeen square miles. The altitude of this larger area varies from 3750 to 5500 ft., with peaks running up to nearly 7000 ft. There has existed for a considerable time a road from Tapah station, passing through the town of Tapah and extending for twelve miles beyond the town. Work has been proceeding for the past year [1926] in the extension of this road towards the Highlands, and a contract has now been let for the remaining portion of twenty-five miles. When this road is completed the distance from the railway will be approximately forty-six miles. The road will be a wide one, on an average gradient of about 1 in 27. Work has been commenced on the felling of the jungle in the flatter parts of the Highlands, and it is hoped that by the time the road has been completed—that is, about 1930—considerable progress will have been made in preparing recreation grounds and building sites. The Agricultural Department is experimenting with various products—such as tea and cinchona—the results of which are encouraging. The area is well watered, and it appears likely that electric power can be generated in sufficient quantity by using the water power of the Robinson Falls. This Hill Station differs from all others in the Peninsula, in so far as it consists of broad, shallow valleys, the general shape being that of a saucer opening towards the east. It is considered that it will be capable of considerable development.

“The average maximum temperature is 72° F., and the average minimum, 57° F., with little variation in either case. The rainfall averages 120 in., and the number of hours sunshine per day is 4.2 in.” [Official.]

SELANGOR

Semangko Pass and Fraser's Hill, and neighbouring hills.—Lat. $3^{\circ} 40'$ N. Height, 2700 to 5000 ft.

A point in the main range of the Peninsula, on the central water parting, between Selangor and Pahang, at a height of 2700 ft., from which hills rise steeply to over 5000 ft.

Very large collections have been made in this district, which is an exceptionally good collecting ground.

“Fraser's Hill consists of a series of ridges, with one small shallow valley, at a mean altitude of rather over 4000 ft. The other valleys between the ridges are too deep for development. It is situated in the watershed between Selangor and Pahang, five miles from the main road to Pahang, and is joined to it by a motor-road five miles long from the 'Gap' [Semangko Pass]. Considerable progress has been made since this road was completed in 1922, and there are now several Government buildings and private houses. Good vegetable gardens and a dairy farm are in existence. Owing to its accessibility from Kuala Lumpur, the Federal Capital, from which it can be reached in three hours by motor-car, it is a very popular resort. A small golf course has been made in the valley, which affords interesting recreation. The average maximum temperature is 73° F., and the average minimum, 61° F., with little variation. The rainfall averages 120 in. per annum, and the number of hours sunshine, $4\frac{3}{4}$ *per diem*.”

Bukit Kutu.—Lat. $3^{\circ} 32'$ N. Height, 3300 ft.

This is a clearing on a hill, forming a spur of the main range, about five miles from the town of Kuala Kubu, a station on the railway from Kuala Lumpur to Perak, from which it is reached by a well-graded bridle-path.

There are two Government bungalows, excellent flower and vegetable gardens, and a dairy.

The locality is an excellent one for birds, and large collections have been made there in past years.

Gunong Mengkuang Lebar and Gunong Ulu Kali.—Lat. $3^{\circ} 25'$ N. approx. Heights, from 4200 to 5800 ft.

Points in the main dividing range between Selangor and Pahang. An excellent collecting ground, though somewhat difficult of access owing to considerations of transport. We have obtained many rare birds from the district.

Ginting Bidei.—Lat. $3^{\circ} 12'$ N. Height, about 2300 ft.

This is a pass in the main range between Selangor and Pahang rather over twenty miles from Kuala Lumpur, and a very excellent collecting ground, many species rare elsewhere being comparatively common.

Gunong Menang Gasing.—Lat. $3^{\circ} 14'$ N. Height, 4000 to 4900 ft.

A massif a few miles east-south-east of Ginting Bidei, where a small collection was made in May and June 1911. It is interesting as marking almost the southernmost extension of the true mountain avifauna of the Malay Peninsula.

NEGRI SEMBILAN

Gunong Telapa Buroh, Gunong Berumban, and Bukit Lantai, Bukit Tangga.—Lat. $2^{\circ} 48'$ N. approx. Height, 2400 to 4000 ft.

This group of hills in the middle of Negri Sembilan, between Sungei Ujong and Jelebu, are on the main peninsular water parting. Their fauna is purely submontane, with none of the peculiar races occurring in Selangor and Perak.

Gunong Angsi.—Lat. $2^{\circ} 38'$ N. approx. Height, 2700 ft.

Fauna, similar to that of the above.

Gunong Tampin.—Lat. $2^{\circ} 30'$ N. Height, 2500 ft.

A collection made on this hill, which may be regarded as the southern termination of the peninsular main range, in September 1913 contained only one montane species (*Corythoichlab leucosticta*), which, curiously enough, does not occur on other Negri Sembilan hills.

MALACCA AND JOHORE

Mount Ophir (Gunong Putri or Gunong Ledang).—Lat. $2^{\circ} 20'$ N. Height, 4187 ft.

Gunong Blumut.—Lat. $2^{\circ} 20'$ N. Height, 3321 ft.

Gunong Mentahak.—Lat. $1^{\circ} 52'$ N. Height, 2082 ft.

Gunong Pulai.—Lat. $1^{\circ} 36'$ N. Height, 2141 ft.

Such investigations as have been carried out on these mountains show that, like Kedah Peak in the north, they all possess a very impoverished avifauna, with no montane forms whatever.

PAHANG

The mountains of Pahang, so far as they form part of the main range, have, of course, a fauna identical with those of Selangor and Perak. Large collections have been made on:

Gunong Tahan.—Lat. $4^{\circ} 45'$ N. Height, 7186 ft.

The highest mountain in the Malay Peninsula and, like Gunong Benom, quite detached from the main range.

Though in geological formation and general characteristics this mountain differs greatly from others of the Peninsula its birds have not greatly varied, only two—a warbler (*Suya waterstradi*) and a woodpecker (*Picus canus robinsoni*)—seem not to be found elsewhere.

Gunong Benom.—Lat. $3^{\circ} 48'$ N. Height, 6000 ft.

A small collection made in August 1925 discloses no material differences between the birds of this and other mountains of similar height and zerophytic vegetation. The Malayan bullfinch (*Pyrrhula n. waterstradi*) was exceedingly abundant.