



## GEOGRAPHY

THE area with which this work deals is the Malay Peninsula in its widest sense, from the Isthmus of Kra and the Pakchan estuary on the north, to Cape Roumania in Johore on the south, the southernmost extremity of the Asiatic Continent. The islands adjacent to the Peninsula are also included.

The area is a natural but not a political unit, the greater portion forming part of the British Empire, either as the Crown Colony of the Straits Settlements, the Protectorate of the Federated Malay States, or the rather more loosely attached states, the suzerainty over which passed to Great Britain by the Anglo-Siamese Treaty of 1909, and by later treaties entered into with these states individually. These states are collectively known as the Unfederated Malay States.

The northern third of the Malay Peninsula forms part of the kingdom of Siam.

For administrative purposes, the island of Labuan, off the north coast of Borneo, once itself a Crown Colony, Christmas Island and the Cocos Keeling group in the Indian Ocean, form part of the Crown Colony of the Straits Settlements; the Malay State of Brunei in the north of Borneo is also under British protection. The ornithology of these territories does not enter into the scope of this book.

Geographical details, especially when compressed into small compass, are arid reading, but some brief account is here necessary, as even now few people are familiar with the Malay Peninsula, which is vaguely known as the place somewhere near India where rubber and tin come from, and as the country of the "curs Malayane creese."

### I. THE CROWN COLONY OF THE STRAITS SETTLEMENTS

#### (A) SINGAPORE

Singapore is an island at the southern extremity of the Malay Peninsula, commanding the ocean route from Europe and India to China, and within a hundred miles of the Equator. It is roughly diamond-shaped, with a length east and west of about twenty-two miles, and a breadth north and south of fourteen, and an area of 217 square miles. It is separated from the mainland to the north by a depth of water that does not exceed six fathoms in places.

The straits between it and the Rhio Archipelago to the south, and thence to Sumatra, are rather deeper, but an elevation of the sea-bottom of less than thirty fathoms would obliterate them.

The coastal districts of Singapore are flat, much of them having once been swamp, and to the north and west there is a good deal of mangrove; to the east and in the south there are stretches of sand. The interior is undulating land, and there are numerous low hills, rising to a maximum elevation of about 500 ft.

Though traditionally the site of a Javanese empire, Singapore was practically uninhabited until the foundation of the city and port by the foresight of Sir Stamford Raffles in 1819. It was then covered with forest. At the present day but little primeval forest remains, except for a few blocks protected as "reserves" by the Forest Department. Even these are greatly impoverished, and much of the indigenous flora is now extinct or on the verge of extinction. At one time gambier and pineapples were largely grown on the island, but in later days have been replaced by coconuts and rubber.

The nominal list of birds attributed to the island is a large one. The latest, compiled by Mr Chasen, of the Raffles Museum, Singapore, and founded on his own collections, and on all available records, comprises no less than 291 species, nearly half the total number known from the whole of the Malay Peninsula. As has been pointed out, however, very many of these records are erroneous, specimens having been merely forwarded from Singapore, and credited to the place as resident, whereas their real origin may have been from the adjacent mainland or even farther afield. This is more especially true of the records of the earlier voyagers. At the present day, undoubtedly, many species have become locally extinct or no longer visit the island, and it would probably be difficult, even over a period of years, to accumulate a list of more than 150 species at the present day. On the other hand, not a few birds originally exotic are now becoming acclimatized in the island.

A characteristic of the island fauna, which has probably always existed, is the non-occurrence or comparative rarity of such birds as pheasants and partridges, trogons, barbets, woodpeckers and the smaller babblers, which are abundant on the adjacent mainland. Another interesting fact is that, in many cases, intensive study of the island birds has shown that certain species are more closely allied to forms occurring in the islands to the south, and in Sumatra, than to the Peninsular races. It would almost seem that at one time the Singapore Straits, which are wider and deeper, were less of a faunal barrier to birds coming from the south, than the Johore Straits to the north, which are now shallower and very narrow.

#### (B) PENANG

Penang, situated on the west coast of the Peninsula, in lat.  $5^{\circ} 20'$  N., about three hundred and fifty miles from Singapore, is a mountainous island, in area rather over 100 square miles, or slightly smaller than the Isle of Wight. It is separated from the mainland by a shallow strait about four miles wide, much encumbered by mudbanks and not ordinarily navigable by ocean-going

steamers. On the south and west there are considerable areas of flat, alluvial land devoted to the cultivation of coconuts and rice, but the core of the island is steep and mountainous, composed of granite, and rising, in several peaks, to an altitude of over 2700 ft. Originally the island was covered with heavy forest, but much has been cleared and devoted to the cultivation of cloves and nutmegs, an industry which has passed through many vicissitudes. A fair amount of original jungle still remains on the crests of the hills and at the north-west corner of the island, which has been preserved in the interests of water conservancy.

Until the end of the eighteenth century, Penang, like Singapore, was inhabited by only a few fishermen. Between 1786-1790, through the enterprise of Captain Light, the East India Company obtained a perpetual lease of the island from its titular owner, the Sultan of Kedah, and since that date it has grown continuously in population and importance as being the natural entrepôt for the trade of the northern parts of the Malay Peninsula and, until recent years, of much of that of Eastern Sumatra.

The museums of Europe contain much material from Penang, for which Dr Cantor, a surgeon in the employ of the East India Company, is in the main responsible. Our knowledge of the fauna of the island itself, as distinct from the mainland adjacent, is, however, by no means exact, and many birds attributed to Penang have, in all probability, never really been found there. The fauna, owing to the varied contours of the island, is probably rather more extensive than that of Singapore, and there is more untouched jungle. An interesting field of work is, therefore, still open to the ornithologist who is prepared to devote the leisure time of years to the subject.

The study of the sea-birds frequenting Pulau Perak, an isolated and barren rock some seventy miles from Penang on the direct course to Ceylon, may be commended to his notice.

#### (C) PROVINCE WELLESLEY

Province Wellesley is a strip of land from ten to fifteen miles deep, on the coast of the Peninsula facing Penang, with an area of 280 square miles. It was acquired from the Sultan of Kedah, early in the nineteenth century, in order to protect the trade of Penang. The country is mainly flat alluvial land, though there are hills on the eastern and southern border, none however exceeding 1700 ft. The district at one time produced a little indigo and much sugar, but is now devoted to the growing of coconuts, rubber and rice. Little original forest remains and the country is now of no great interest to the zoologist. In the period from 1840-1870, however, not a few collections were made there, and many of the specimens attributed to Penang were really from this province.

#### (D) THE DINDINGS

Administratively part of the settlement of Penang, but separated from Province Wellesley by the whole of the coast-line of the state of Perak, the Dindings consist of two large islands, Pulau Pangkor and Pulau Pangkor

Kechil, a group of islets off the estuary of the Perak river, known as the Pulau Sembilan or Nine Islands, an isolated island, Pulau Jarak, in the middle of the Straits of Malacca, about thirty miles to seawards of Pangkor, and a strip of mainland running north from Pangkor, with a total area of about 180 miles.

Originally ceded by Perak to Great Britain between 1826 and 1874, in order that the menace of pirates might be effectually dealt with, the territory, which includes an excellent deep-water harbour, remained undeveloped until late years, though a considerable quantity of rubber and coconuts is now grown, and there is a large fishing industry. Both islands and mainland are hilly, rising to over 2000 ft. in parts, and there is still much old jungle.

The fauna has not been exhaustively studied, but is fairly well known. That of Pangkor is of special interest as including in its members the argus pheasant, not known on any of the larger islands, and barking deer (*Kijang*), while curiously enough squirrels are quite absent. The Sembilan Islands—all quite small and rocky, though covered with jungle and scrub, and rising steeply from the sea to a maximum height of rather over 600 ft.—are a halting-place for multitudes of birds during the migration season from October to December. The same may be said of Pulau Jarak, where also the Nicobar pigeon (*Caloenas nicobarica*), unknown on the mainland of Malaya, is a resident breeding bird.

#### (E) MALACCA

The territory of Malacca, the largest of the settlements comprising the Crown Colony of the Straits Settlements, lies between the Protected State of Johore and the Federated Malay State of the Negri Sembilan on the west coast of the Peninsula, with a coast-line of somewhat over forty miles, Malacca itself being some hundred and twenty miles by sea from Singapore. The site of an historic Malay sultanate—and then one of the great emporia of trade in the Far East—Malacca was conquered by D'Albuquerque in 1511, and remained under the Portuguese flag until 1650 when it passed to the Dutch, and finally became British in 1824. Malacca has given its name to the whole Peninsula, and even now has in many quarters, especially on the Continent, a far wider significance than in strict accuracy the size of the town or settlement justifies.

The total area is some 720 square miles and the surface varied, alluvial flats on which the considerable Malay peasant population grows, or grew, rice, and rolling hills once devoted to the cultivation of gambier, or more especially tapioca, but now largely given over to the ubiquitous rubber.

There is still a certain amount of jungle in the settlement, and a good many plains and low hills, covered, in part, with lalang grass and secondary scrub. In the settlement proper there are no considerable mountains, Mount Ophir or Gunong Putri or Gunong Ledang, which is 4000 ft. high, and a conspicuous object from the roadstead of Malacca, being within the Johore border though its lower slopes are in Malacca.

The settlement is of special interest to the ornithologist as being the country from which nearly all specimens of Malayan birds originally reached Europe, and as being, therefore, the *terra typica* of very many species. The industry

must have been a considerable one and have employed numerous hunters. As far as it is possible to ascertain, it originated at some period anterior to 1830, and survived until about 1885, when it was discouraged by the British authorities and by Sultan Abubakar, then Maharajah of Johore. The hunters were persons of mixed Portuguese ancestry, locally known as Sirani, and in some cases Indians, and one of the last of them was employed by Mr L. Wray, then Curator of the Perak Museum, Taiping.

Their hunting-grounds seem to have been the lower slopes of Mount Ophir, and the country to the east and south of the settlement, but the collectors must, on occasion, have travelled farther afield, though but rarely outside the Peninsula. Their skins, once seen, can never be mistaken, as the make is very characteristic, being much compressed and cylindrical, with a shortened neck, and the legs pressed back into the body so that the skin appears to be smaller than the bird really was in life.

Mount Ophir, referred to in a previous paragraph, is classic ground to the ornithologist. Prior to about 1880 it was the only mountain of its altitude, 4000 ft., that was reasonably accessible in the whole of the Malay Peninsula—and indeed was at one time considered to be the highest mountain in the area. Collections have been made on it by numerous naturalists, notably by Wallace, Wardlaw Ramsay and Whitehead. Its fauna is not, however, of great interest, and includes no peculiar species, such as are found in the ranges farther north. It may indeed be surmised that, at no very distant period, it was a granitic island, surrounded by shallow sea, and that any physical connexion with the main range of the Peninsula has been very remote in time.

Both its fauna and flora are curiously like that of Kedah Peak, a similar mountain, of almost identical height, some thirty miles north of Penang Island.

## II. THE FEDERATED MALAY STATES

### (A) PERAK

The Malay State of Perak, the senior of the Federated Malay States, lies entirely on the western side of the Peninsula, its eastern boundary being the main watershed between the Straits of Malacca and the China Sea. To the north it is bordered by Province Wellesley and Kedah, and to the south by Selangor, the boundary in this case being the Bernam river.

Briefly it comprises, since the Anglo-Siamese Treaty of 1909, the whole drainage basin of the Perak, and parts of those of the Krian river to the north, and the Bernam to the south, and has an area of about 8000 square miles.

The Perak river, the second longest in the Peninsula, runs roughly north and south, more or less parallel to the main axis of the Peninsula, with a length of nearly 200 miles; the other rivers are shorter and run at right-angles to the axis. The coast of the state is flat alluvial land fringed with mangrove forest, and fronted by islands of similar character intersected by fairly deep water channels, but to seaward there is a broad and very shallow bank of mud and sand. Farther inland the land is higher, with subsidiary ranges of hills up

to about 3000 ft., not connected with the central axis; and east of the Perak river the main range rises steeply to a height varying from 2000 to slightly over 7000 ft., being fronted in many places by precipitous limestone crags and hills of lower elevation. The main range is largely granite, but here and there it is capped by altered sedimentary rock. Running south from the Kedah border to the centre of the state, south of Taiping, the administrative capital of the state, is another granite range, whose peaks have an altitude of from over 6000 ft., Gunong Bintang, to 4700 ft., Gunong Ijau. The country bordering the Krian river in the north of the state is flat, alluvial land, and is now devoted to the intensive cultivation of rice, rendered possible by an elaborate irrigation system. Much of the land in this area, and also towards the mouth of the Perak river, was formerly planted with sugar, which has now been entirely replaced by rubber. The low-lying deltaic land between the mouths of the Perak and Bernam rivers is given over to coconut plantations.

The middle reaches of the Perak river and the drier portions of the coastal zone have been heavily planted with rubber; there are, of course, many large tin-fields, notably in Kinta—which takes its name from a tributary of the Perak river—and in the district of Larut, near Taiping. Along the course of the Perak river, too, a large proportion of the Malay population lives, and there is much orchard- and garden-land and a little rice cultivation.

Above about 2000 ft., however, both on the main and subsidiary hill ranges, the country is covered with the original primeval forest, which has been little interfered with for mining or cultural purposes, while the ruggedness of the country at present renders the extraction of timber unprofitable.

The low-country forests, however—where they have not been destroyed for planting purposes—have been heavily cut over, and the policy of forest conservation and regulation now in force has been instituted none too soon if the country is to be even self-supporting in the matter of timber supplies in the not too distant future.

The ornithology of Perak is of greater interest than that of the Straits Settlements in that the higher mountains within its borders possess a fauna of their own, distinct from that of the lowlands, and closely allied to that of the higher mountains of Sumatra, Borneo and the distant Himalayas.

The fauna is very uniform, at a level above about 3000 ft., and practically no differences occur between that of the main and of the subsidiary ranges, such as the Taiping Hills. All have been investigated in considerable detail, but the credit of the first discoveries is due to Mr Leonard Wray, I.S.O., then Curator of the Perak State Museum. His collections contained most of the endemic forms known from the ranges, and were reported on by the late Dr R. B. Sharpe in the *Proceedings of the Zoological Society of London* for 1887-1888. An earlier paper which contains much interesting information on the birds of the lowlands is that by Lieutenant (now Brigadier-General) H. R. Kelham in the *Ibis* for 1881-1882. Conditions have, however, changed greatly since that day, and many species recorded then as common are now rarely seen.

