

to pass into the interior by a route to the north of that travelled by the Baron von der Decken. The country behind Mombas is a less unhealthy residence than other parts of the coast; and an expeditionary party might be organised there at leisure, with help from Zanzibar. The Rev. Mr. Krapf resides in its neighbourhood; the natives are accustomed to Europeans; and the traders mostly speak Hindustani. It would be impossible at the present time to plan an exploration in Africa that would afford hope of a more interesting discovery than one leading from Mombas round the northern flank of Kenia, and thence onwards towards Gondokoro.

18th March, 1862.

4.—*Calagouk, or Curlew Island, in the Bay of Bengal, as a Sea-coast Sanitarium.* By DUNCAN MACPHERSON, M.D., Inspector-General of Hospitals, Madras Establishment.

THE Moscos, contiguous to the mouth of Tavoy River; Tavoy Island, half-way between Tavoy and Mergui; and King's Island, opposite Mergui, have come respectively under our inquiries. Of these various islands, the following is in every respect the most suitable for a sanitarium.

Curlew Island, the headquarters of the Alguada Reef lighthouse establishment, is situated in the Gulf of Martaban, 5 miles from the mainland of the Tenasserim coast, and 30 miles of Amherst Point, in lat. $15^{\circ} 52'$, and in long. $97^{\circ} 42'$. It is 8 miles long, exclusive of Cavendish Island, which lies at its extreme south end, and which is half a mile in length. The greatest breadth of the island is about $1\frac{1}{4}$ mile; and on its highest part, which is about 500 feet above the sea, are the "remarkable trees," a point for navigators in making the coast.

The base of the island is primary rock, the superstratum being a rich mixture of open porous soil, composed of sand and vegetable mould. Its formation is very peculiar, the northern and southern portions differing considerably. The northern half on the western side is composed of a long granite ridge, with an average perpendicular drop to the sea, varying from 250 to 300 feet. To the east the ground descends to the sea in gentle or abrupt slopes. The opposite side of the island is broken into alternate or isolated hills, with level well-raised intervening spaces, forming three bays. The first, Quarry-bay, where the stones are now being prepared for the Alguada lighthouse, is the deepest at high water; the beach is sandy, but at ebb tide an extensive mud-flat, covered in places with mangrove, is exposed: the somewhat narrowness of the channel between the island and the mainland on its side tending to the accumulation of mud.

The southern half of the island differs entirely from the northern, inasmuch as both sides are broken into bays. To the west, Retreat Bay, Rocky Bay, Sea Bay, and Fish Bay are beautiful, hard, sandy beaches, well protected by high land on each side, and open to the ocean in front, with a fine rolling surf on the beach, and only divided from one another by projecting rocky points, and from the corresponding bays on the eastern side by well-raised necks of land, sloping east and west, free from all swampy ground, and ascending north and south to the hills which divide the bays. The eastern bays look on the distant mainland, rising in bold outline on the horizon. These very much resemble the western bay; in fact differ only by the mud uncovering at half-tides, the rise and fall at spring-tides being 22 feet. All the bays on the eastern side are perfectly protected from the south-west monsoon; while during the north-east monsoon the bay on the western side, and the deep water close up to the ridge on the north, afford a free, open, and safe place for yachting

and boating. The bays on both sides are peculiarly well suited for bathing, the water on the western side especially being always pure and clear, except at spring-tides.

Ascending from Retreat Bay the ridge referred to above is reached. This ridge, and indeed the entire island, is clothed with fine primeval forest, with trees of immense dimensions and height. Under their overshadowing branches a well-shaded road might with ease be carried along the ridge, having the open ocean on one hand, with the view of the fine contour of the island itself and the bold coast of the Tenasserim provinces in the distance beyond on the other. Here and there this ridge opens out into plateaus, forming beautiful sites for houses; and, with the exception of a slight rise about the centre, the road would nearly run on a uniform level for a distance of 5 miles. The same road might there be extended to the southward, encircling the bay and crossing the intervening points of land, and also to the northern part of the island, where there is a considerable space of garden and cultivable ground. The free percolation of air by means of these roads, judicious clearing for building sites, and the adoption of measures to facilitate the natural drainage, one year prior to the occupation of the island for sanitary purposes, are measures of the highest urgency and importance.

The island has now been occupied by a large party of workmen since April, 1860. Usually the pioneers or first settlers in every locality suffer considerably, especially where no prior arrangements have been made to guard against disease. In the present case a large body of natives of India, Burmah, and China, European officers and subordinates, entered on operations of a harassing nature, at the hottest season of the year. Quarry Bay, where they settled, is, sanitarily considered, by no means the best locality to settle on. But the presence of good stone, and the facilities for shipping it to the reef, induced the superintendent to fix his headquarters here. I append a return of the strength of the establishment, the prevailing diseases, and the mortality, from the 3rd April, 1860, to the 30th April, 1861, from which it will be observed that, everything considered, the sick and death rate have been unusually small. It must be borne in mind that the party for many months had little or no protection by night or by day, and that their huts occupied unwholesome sites in the midst of felled jungle, yet the report presents a gratifying immunity from the graver diseases. The fevers were chiefly of an ephemeral nature, the sick-list being chiefly kept up by local injuries and their results,—diseases not contracted on the island and cutaneous affections, from the want of antiscorbutic articles of diet.

DAILY AVERAGE per Cent. of Prevailing Diseases, from 30th April, 1860, to 30th April, 1861.

	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	Averages.
Strength . .	212	209	295	367	400	433	495	502	480	480	705	710	440
Dysentery . .	·09	2·07	..	..	..	..	·10	·36	..	·14	..	..	·23
Ulcers . . .	0·7	5·1	3·1	4·1	5·5	3·8	2·6	3·5	4·1	2·1	2·08	3·64	3·38
Fever . . .	0·8	1·0	0·9	1·0	1·2	1·5	3·4	4·9	4·1	4·1	2·3	1·55	2·17
Other diseases .	5·05	8·61	6·13	6·14	7·05	8·01	4·25	8·99	8·30	16·74	11·99	22·22	6·13

There were nine deaths during the year from diseases contracted on the island, viz. :—Three from dysentery in January; three from fever; from ex-

posure, one in July, one in November, and one in January; three from accidents and other diseases. No deaths occurred amongst the Europeans.

During the ten days of my residence on the island, in the months of May and June, the climate was exceedingly agreeable. The nights were cool, and no punkahs were necessary during the day. In fact, a refreshing sea-breeze was present at all times in every part of the island visited by me during the day, and a blanket was always grateful at night. The average of the thermometer at this period during the day is 75°, during the hot weather it is 88°; and Captain Fraser speaks in glowing terms of the climate at all seasons, as compared with that in Calcutta. Water of an excellent quality is procurable at a depth of 15 feet; and a perennial spring of sweet water flows through the centre of the island. The rainfall, Captain Fraser thinks, is under that experienced on the mainland opposite.

The great advantage of this island is its proximity to Madras and Calcutta, and to the principal stations in Burmah.

5.—*Topographical Notes on Tunis.*

[“THIS paper appears to be a careful compilation of considerably more than a century ago. Some of the places described are correct, as far as the compiler goes, but many changes have occurred in the interim. His mention of mines requires verification, for it is difficult to pronounce what is authentic and what he gathered from itinerant Jews and others. There are evidences of the manuscript having been ransacked, but I do not remember having met it in print.”—Vice-Admiral W. H. SMYTH, K.S.F., F.R.G.S., &c.]

Biserta, a large town about 50 miles north-west from Tunis, seated by the sea-side; about half a mile long, but narrow. The lake, on the banks whereof it is seated, discharges itself into the sea by the town walls, and forms the port. Towards the east is the island where the Christians formerly lived. The inhabitants are pretty numerous, and are for the most part of the race of the Andalusian Moors who were drove out of Spain. They have about this town very good arable land, which produces a great quantity of beans, chichorie, and sundry other sorts of grain, which is exported for Italy and France, except wheat and barley, that not being exported without a particular licence. They sow cotton and tobacco. The lake reaches up 30 miles in the country; and there is an ebb and flow every six hours, and at the full of the moon then it is more. In the year 1755 there was found an old-built well of very fine fresh spring-water; it was stopt up; it is in the market where they sell the wheat.

Ras El Gibel, a town of about 300 houses, 8 miles west from St. Farina, and about a mile from the sea. There are seven churches with steeples.

Porto Farina is an unwall'd town of above 100 houses: a large lake is before it, at the end whereof is a very handsome large bason for holding the men-of-war and cruisers belonging to Tunis, it being the safest and best port belonging to the kingdom of Tunis. To the northward of the town is a salt-work. In 1739, when I was first there, there were two men-of-war—one of 50 guns, given by the Grand Signor in 1732, and the other of 50 guns, built by one Mr. Markham, an English builder, which has never been at sea yet, nor, I believe, never will. Near this place, about 1750, was discovered, by a Milanese, a quicksilver-mine, very good, but neglected by the Bey.

El Alea, a neat town seated on the top of a hill, whence its name (the high), is inhabited chiefly by Andalusian Moors, about 10 miles south-west from Porto Farina. It is at this place only where the thistles grow which are used by the capmakers at Tunis; they will thrive nowhere else, as has been tried.

Solyman, a small unwall'd town of about 200 houses, about 22 miles south-