

In this case, Mr. Lankester accounts for the presence of the *Hemoglobin* in the dorsal fin muscles only by the special activity of the fin in question, but such an explanation fails in the case of the shark, the skin of which is apparently immovable; moreover, the structure of the skin precludes the idea of the red matter beneath it having a respiratory function.

Mr. Lankester has shown that *Hemoglobin* is entirely wanting in one fish at least, the white transparent oceanic surface fish *Leptocephalus*; and I believe that small oceanic Flat-fish, (*Pleuronectid*), will prove also to be devoid of red-blood colouring.

I was extremely vexed that no landing on the Kermadec Islands was arranged. Further information concerning the flora of the islands is very much wanted, and it seemed hard to be dredging off the islands and not to be able to land.

Tongatabu. July 19th to July 22nd, 1874.—Our approach to the Friendly Islands group was heralded by the appearance of a Tropic Bird, which was seen flying behind the ship, although we were as yet 150 miles distant from Tongatabu.

We sighted the island of Eua in early morning, and passed to the north of it. It is elevated in its highest point 600 feet above the sea, and is volcanic, with coral rock at its base. An ancient, now upraised sea-cliff of the coral rock, is conspicuous from the distance, forming a line above the present coast-cliff, as described by Dana.*

The island appears covered with bushes, with very few trees, and isolated palms on the summits of the high ground. The bushes on the higher land appear to be all bent over in the direction of the trade wind.

The sky was dull, covered with grey clouds, and the air even somewhat chilly, so the islands did not look bright and sunshiny, as I had expected these, the first South Sea Islands I had seen, to look. At the base of the Eua, the surf in places raised jets of spray, looking from a distance like thin white smoke.

Tongatabu was seen seven miles distant from the small Eua, stretched along the horizon as a long narrow neutral tint band, with an indented upper margin: towards the northern end the band thinned out into isolated rows and groups of palm-trees, which looked like dots on the watery horizon. As we approached nearer, the forms of the cocoanut-trees became more and more distinct. At length we shortened sail and steamed through the reefs with a long stretch of palm-covered land on the one hand, and numerous islets on the other, some bearing many cocoanut palms, others with few.

* J. D. Dana, "Coral Reefs and Islands," p. 30.