

II. REPORTS OF PROCEEDINGS OF THE NATURALISTS.

I. REPORT OF DR. IS. B. BALFOUR.

I LEFT England upon the 1st July 1874, and embarked at Marseilles on board the Messageries Maritimes steamer. I reached Mauritius with my confrères on the 4th of August. On our arrival there we met Lieut. Neates, the head of the expedition to Rodriguez, who had come by the troopship "Elizabeth Martin" some days previously. H.M.S. "Shearwater" with the other astronomers and the astronomical instruments arrived at Mauritius on the 6th, and as there was no cause for delay there, Captain Wharton decided to sail for Rodriguez on the 11th. This was carried out, and after a week's voyage the ship anchored in Mathurin Bay, Rodriguez, on the afternoon of Tuesday the 18th. Owing to the difficulty of carrying heavy baggage over the reefs, rendered doubly so by the neap tides which then occurred, some days elapsed ere we could take up our abode on the island. These days I spent in making an examination of the general features of the island. On the 28th of August I quitted the ship, and went to live on shore, and at once commenced my botanical and geological work.

As I have already explained in my letters to the Royal Society,* the flora is very scant owing to the frequency of the fires which have swept across the island. Indeed fully one half of the island is entirely bare of vegetation, save the few social weeds which now occupy the place of the destroyed indigenous plants. The only parts of the island where any amount of vegetation is to be found are the upper regions of some of the valleys, round which the fires have evidently passed, leaving them comparatively unscathed; but even here the plants are few and the dryness of the soil precludes any luxuriance. I explored thoroughly all those valleys which promised any botanical treasures, and I regret to say the result is very poor.

In accordance with the wishes of Captain Wharton, I had all my specimens packed and on board the "Shearwater" by the day of the Transit. On the 15th of December we quitted Rodriguez and sighted Mauritius on the 18th.

I remained in Mauritius until the 5th of February 1875. During my stay I spent much time at the botanical gardens examining the native flora, and I also made excursions over the island for the purpose of investigating the species of indigenous Pandani.

Specimens, the result of my work, I have transmitted to England.

Leaving Mauritius by the mail steamer on the 5th February, I reached Bourbon next morning. Here I remained investigating its rich and little known flora. Unfortunately bad weather during my stay rendered botanical and geological explorations both unpleasant and difficult. I amassed a considerable number of specimens illustrating the vegetation of the island, and I specially devoted some time to the examination of the Pandani.

On the 6th March the mail came in, and I had reluctantly to leave Bourbon. I reached Marseilles on the 31st March and London on April 2nd.

IS. BAYLEY BALFOUR.

* See Proc. Roy. Soc. 1874, p. 135.

2. REPORT OF HENRY H. SLATER, ESQ., B.A.

I LANDED in Mauritius August 4th, 1874. The Hon. Edward Newton kindly asked me to stay with him. My instructions directed me to take his advice as to my mode of procedure in Rodriguez, and accordingly I requested George Jenner, Esq., Director of Emigrants for the Grand Port District, to select for me nine good men and a cook.

This took some time and I regretted much that I was not able to leave for Rodriguez until September 9th, by the second trip of the "Shearwater." I was wishing at first, nevertheless, to sail without my men, had not Mr. Newton and Mr. Jenner (10 years magistrate of Rodriguez) assured me that I could do nothing without my men, and that the natives of Rodriguez were quite unreliable.

We landed in Rodriguez on September 14th, with our 10 men. Settled in Fort Mathurin and stayed there for a day to allow the men to recover from the voyage, which had been stormy; Government House had been allotted to the naturalists as a residence and head-quarters, but two tents had been supplied from the "Shearwater," one of which was to be my habitation at the caverns. After this the weather was stormy for some days, so much so that it would not have been prudent to attempt the sea voyage to the caves, and no native would pilot one there; but afterwards the weather changed and I secured two boats, in which, upon the 18th of September, I carried my men, tent, stores, and tools down to the caverns. Owing to the roughness of the country, which is very hilly, it would have been impossible to have carried the stores, &c. overland, without many porters and great expense.

The 19th was occupied in establishing camp, in building a hut for the men, and in prospecting for caves, of which I found several. Next morning we started work: the caves had all been previously dug over, but I determined to dig them again, and to a depth of three feet, and we found a good many bones (mostly tortoise, but with some of *Pezophaps*) though they were in a bad state of preservation.

I used to go out every evening to take my daily exercise and to shoot game (no fowls or goats could be got at the caverns, which part of the island is nearly uninhabited, so that it was necessary to shoot a supply of game), and on these walks I found all the caves.

This sort of work, *i.e.*, digging over caves second hand, continued till the 6th of October. I used to go home always on Saturday afternoon with the week's bones, stay over Sunday, and leave Government House for the caves on Monday morning in my canoe, carrying a week's rations for the men and my own supplies.

On October 7th I found some new caves. These formed a branch of a cavern already dug, but as entrance to them was extremely difficult, they had hitherto escaped notice. In these we found a large quantity of *Solitaire* bones and the almost perfect skeletons of a male and female mingled, including the rings of the trachea; very few tortoise bones were intermixed, and I found it an almost invariable rule, that where *Solitaire* bones were found in large numbers and apparently occupying the spots where they died, there were few or no tortoise bones amongst them.

After this I had varying success, sometimes getting a good haul and making valuable notes, sometimes doing nothing in either particular till October 23rd. On that day I was waiting for my head man near a curious ravine which we called "the Gorge," intending to make a survey of it with a view to new caves, when I noticed a small dark hole behind a huge block of coralline limestone. I peered in and found it to be a large cave which had been obliterated by a fall of rock; so when my Sirdar came, a thoroughly intelligent and enthusiastic man, we got a large mallet, and after reducing some huge blocks to movable fragments, gained entrance and found many bones, including one skeleton of *Pezophaps* which had evidently fallen into a cleft and had been unable to extricate itself; the bones being not quite covered with earth some had become quite decayed; indeed, had it not been that bones lying on the surface were always almost or quite decayed, I should have many skeletons of *Pezophaps* perfect.

On November 6th we found another virgin cave ; it yielded about 24 crania, several quite perfect and with the beaks still attached, maxillæ, mandibles, and quadrates in their right places ; and other bones in proportion, including many furcula, the auditory ossicles, plates of sclerotic, and the first phalange of wing, one of the few bones not already found.

After this, although vigorous search was continued, no caves were found of any value, all were disturbed by the action of running water, for some of the caves occasionally served as beds for subterranean rivers.

We dug for three days in a neighbouring marsh, about 450 feet above the sea level. Hitherto all the bones of *Didus ineptus* recently found have been discovered in the marshes of Mauritius, and I hoped that some result might reward a similar search in Rodriguez, but our work there was entirely ineffectual.

I never could find any traces of the stones mentioned by Lequat as invariably occurring in the stomach of *Pezophaps*, although I sought for them diligently ; we used to pass all the soil found in the bottom of the more fertile caves through sieves, and nothing of the sort was found. Surely a stone which in 1693 was sufficiently hard and close grained to serve as a good whetstone for knives, should have survived as long as the fragile ribs and crania of the bird !

The last week I was in Rodriguez (December 9–15) was employed in packing up my numerous specimens. It may be imagined that so many fragile bones would need a large quantity of some soft and elastic medium in which to pack them, but there was very little straw, no grass was to be had in the island, and I was reduced to great shifts. I finally put them temporarily in barrels, but when I unpacked them in Mauritius I was horrified to find that some of the most valuable specimens of all, which had been placed in sawdust, had, owing to the displacement of the sawdust, got mixed one layer with another ; but I do not see that this will cause any real inconvenience.

I left Rodriguez on December 15th, and arrived in Mauritius December 19th ; left that island for Réunion January 9th ; Réunion for Europe February 6th ; and landed in England March 10th.

3. REPORT OF GEORGE GULLIVER, ESQ., B.A.

AFTER my arrival in Rodriguez, in company with Mr. H. H. Slater, as stated in his report, I immediately proceeded in accordance with my instructions to make as complete a collection as possible of the land and freshwater animals of the island. As directed by my instructions I paid no special attention to marine zoology. I left Rodriguez immediately after the Transit of Venus, the period of my stay there being accordingly about three months.

Here my colleagues and I must express our special thanks to Mr. Newton, C.M.G., the Colonial Secretary at Mauritius, to Commander Wharton, R.N., and the officers of H.M.S. "Shearwater," to Mr. Bell the present, and Mr. Turner the late magistrate at Rodriguez, and to the residents in Mauritius for the assistance they constantly rendered and the kindness they always displayed to us. Personally I must again make acknowledgments, more especially to Commander Wharton, and the officers of the "Shearwater," and to Mr. Bewsher, of the Oriental Bank Corporation. Finally it would be difficult for me sufficiently to thank Professor Rolleston for the kindness which he has constantly shown to me, both before my departure from, and since my return to England.
