

# SHORT NARRATIVE OF THE VOYAGE

BY

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With a chart.

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I.

Short narrative of the voyage

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DR. L. F. DE BEAUFORT.

With a chart.

In the following pages I intend to give some informations about the voyage, which my wife and I made in the Indo-Australian Archipelago from November 1909 till March 1910, as an introduction to the reports of the zoological collections made during that trip, which are published in this periodical.

In 1909 the dutch Government granted for the first time a sum for the publication of a work on the Fishes of the Indo-Australian Archipelago by Prof. Max Weber and myself, of which the first volume has since appeared <sup>1)</sup>. A part of that sum, added to private means, enabled me to visit the Indo-Australian Archipelago in the interest of this work. I am glad of having an opportunity to express here my gratitude to the Minister of the Colonies as well as to the different officials in the dutch East-Indian colony for the interest they took in this voyage as well as for the liberal way in which they helped me everywhere. At the same time I wish to thank the Society for the Advancement of Scientific Research in the dutch colonies (Maatschappij ter bevordering van het Natuurkundig onderzoek der Nederlandsche Koloniën), that defrayed the expenses of the zoological equipment.

Thus one of the chief objects of our travelling was to get contact with persons, who would be willing to collect in these regions after we had left, but I aimed principally at the continuation of a work, which was begun by my esteemed master, Prof. Max Weber, viz. the study of the freshwater fauna of the different islands in the Indo-Australian Archipelago.

Max Weber was the first who collected systematically the freshwater fauna of Sumatra, Java, Celebes and some of the lesser Sunda islands and pointed out its significance for the solving of zoogeographical problems. After him the dutch Borneo-expeditions made large freshwater fish collections in Borneo, P. and F. Sarasin and more recently Abendanon explored the fauna of the inland lakes and streams of Celebes. Dr. Elbert continued lately the work of Max Weber by exploring some of the lesser Sunda islands and Buton, and it was on Weber's instigation that Merton and Roux explored the Aru- and Kei islands some years ago. The freshwater fauna of New Guinea is fairly well known since several dutch expeditions have been collecting on that island. Halmahera and Batjan have been explored by Kükenthal, Ambon by Semon, but Buru and Ceram as well as the Western Papuan islands Waigeu, Batanta, Salawatti and Misol were still unknown as far as their freshwater fauna was concerned. To fill up part of the gap in our knowledge we decided to collect on Waigeu and on Ceram.

Although our attention was chiefly drawn to the collecting of the freshwater fauna, we did not entirely neglect other groups of animals. We thought it wiser however not to collect

<sup>1)</sup> Max Weber & L. F. de Beaufort, The Fishes of the Indo-Australian Archipelago I. Index of the Ichthyological Papers of P. Bleeker, Leiden 1911 E. J. Brill Ltd.

at hap-hazard every animal that crossed our way, but to look systematically for some groups, neglecting others, as this seemed to us the only way to get useful collections in a short time and without much help. So we ignored all insects except Diptera, of which group my wife made a rather extensive collection. We chose Diptera on instigation of Prof. J. C. H. de Meijere of the university of Amsterdam — whose report on this part of the collections is to be found in this series — because Diptera have been rather neglected by collectors in this part of the world. Among vertebrates we specially collected (next to fishes) Amphibians and Reptiles. Among invertebrates, non insects, we collected the freshwater forms where we could. So we made a collection of freshwater decapodes and freshwater mollusks. Neither did we neglect land-mollusks, on account of their importance for zoogeographical problems. But everyone who has the blood of a collector in his veins will understand that, notwithstanding our temperance principles, we actually did bring home some small collections of other groups. It was impossible for us, when turning over a stone and finding instead of the expected toad say a myriapod or scorpion, to leave the animal unmolested when we had a bottle with alcohol at hands to preserve it.

On November 28, 1909 we sailed from Surabaya with a mailsteamer due for New Guinea, who brought us via Macassar, Buton, Ambon, Kajeli (island of Buru), Sanana (island of Sula-besi) Batchian, Ternate, several ports on Halmahera (Gilolo), Sorong (New Guinea) to Saonek, a small island near Waigeu. I mention all these places because we collected everywhere on our way. Whenever we had an opportunity, we always inspected the fishmarkets and got many interesting specimens in this way.

The missionaries Baarda at Galela and Maan at Buli (both on Halmahera) procured several specimens of freshwater fishes for us, while the civil-service official (posthouder) L. de Bruyn at Sorong also enriched our collection with a number of fishes. I express here my gratitude to these gentlemen.

On December 17 we arrived at Saonek, where we made our headquarters. From this station we explored Waigeu. Saonek itself is only a small round island, with a diameter of not yet  $1\frac{1}{2}$  KM. For the greatest part it consists of an elevated sandbank. In the S. E. part is a hill of a height of  $\pm 35$  M. At the foot of this hill is a rather extensive reef, with scanty coralgrowth. In the rockpools I made at low tide a rich collection of small fishes, using the indigenous fishpoison "tubah"; the juice of *Derris elliptica*, to get them.

The hill is covered with shrubs, the rest of the island is chiefly planted with cocoa trees, while on the westside of the island there is a large strip of Rhizophores. Saonek is visited daily by numerous birds, coming from the mainland of Waigeu to feed here. A list of the birds collected will be found further on. I will mention here that I was told that a *Zaglossus* (*Proechidna*), which a chinese trader had got in New Guinea, escaped on Saonek some years ago. This fact shows that such rare and difficult obtainable animals as *Proechidna* are kept alive and transported and that therefore, when obtaining zoological specimens from natives, the greatest care has to be taken to ascertain the real locality where the animal was found. It will never trouble a native to lie, when he understands that you should like to hear, that the animal he brings was procured at a certain spot.

A glance at the map shows us Waigeu as an island with a very irregular outline and with two bays, cutting in deep into the mainland. On almost all the places visited, with the exception of the extreme north of the Majalibit-bay, the soil consists of limestone, forming not very high mountains, which descend steeply in the sea, so that only here and there the shore consists of a sandy beach or muddy mangrove coast. Consequently the rivers are small and numerous and have only a short course and a great fall. These circumstances made the exploration of the freshwater fauna of Waigeu an easy task. With a rather large boat rowed by about 25 men and belonging to the radjah of Waigeu who, as well as the chinese trader K. K. Djau helped us in every possible way, we were able to penetrate in the two bays Tip Waigé and Tip Majalibit (Tip = bay). In some instances this boat carried us in the mouth of the rivers and a little while stream-upwards, but generally we had to go up-river

in a small canoe or even wading. Our methods of collecting consisted firstly in using the "tubah"-poison, mentioned above, in which case part of the stream had to be dammed, and in using nets, specially landing nets and loopnets. The use of last named nets however was impracticable in most cases, owing to the rapid current and stony ground of most rivers. For the same reason we could not use the small dredge, which formed part of our equipment.

The catch was always at once transmitted in a 4% formaline solution, which was afterwards changed for 70% alcohol. Only in the case of Amphibians, mollusks and crustacea we did not use the formaline. Smaller specimens were preserved in bottles, larger ones in zinc-tanks, enclosed in wooden boxes. These tanks proved very useful, now as in former instances. When throwing away the used formaline or the alcohol that had become too much deluted, I used to look round for a place where the soil was loose, over which I poured the fluid. As soon as the fluid sank in the ground, earthworms and other animals used to appear on the surface, hunted out of their holes by the fluid that penetrated in their retreats. In this way I got many specimens of Oligochaeta, Isopoda and terrestrial Amphipods.

By far the greater part of Waigeu is covered by forests, only north of the Majalibit-bay we found here and there slopes covered with coarse grass and low bushes. The forests have here the same aspect as on New Guinea and in the Moluccos. There is very little undergrowth, so that generally it is not difficult to penetrate in them. This greatly facilitates collecting; even the use of a butterfly net for catching Diptera was possible.

During our stay we had almost daily short but heavy showers, causing the rivers often to swell rapidly and temporally making fishing impossible.

The track of our different trips to Waigeu is shown in the accompanying map. All the places where we collected are marked on it. It was copied from the sea-charts; the Majalibit-bay however was drawn partly after the sketch made by Mr. J. W. van Hille and published in Tijdschr. Kon. Ned. Aardrijksk. Gen. 1905, partly after some rough observations made by myself with an ordinary and not very reliable pocket-compass. The map has therefore no pretence whatever to geographical exactitude, but as the existing charts of the Majalibit-bay, with exception of the sketch made by Mr. van Hille, proved to be utterly wrong, I had to make the best of it. As the hydrographical survey of the Royal Dutch Navy has almost reached this part of the archipelago, I expect that before long we will have an exact map of Waigeu.

To my great regret I had not any instrument to investigate the salinity of the water in the Majalibit-bay. The only thing I can say is that it was brackish.

I don't think that it will be necessary to give a full account of all the places visited. As told before, the soil and vegetation are nearly uniform and so the external circumstances don't differ much in the different localities.

On January 27 we left Saonek again by mailsteamer, which brought us back along the same route to Ambon. Here we arrived on February 6 and on the 15<sup>th</sup> of that month we sailed for Ceram, where we landed next day at Kairatu. From here we marched on the 17<sup>th</sup> to Honitetu, a military encampment in the mountains at an altitude of about 450 M. Here Lt. J. Bruynis gave us quarters and kindly, helped us sometimes even joining our excursions in the mountains. In these mountains, which consist of mica shists and which are covered by forest, the water has digged deep valleys with steep sides, at the bottom of which rapid torrents flow. These torrents unite and form the river Eme, which in its turn unites with the Riuapa, the river that flows in sea near Kairatu. Another side river of the Riuapa, the Tuba, was crossed by us on our way to Honitetu. On our way back to the coast we camped at its borders from February 27—28 and collected its fauna. We collected at different parts in the upper course of the Riuapa as well as near its mouth and in its tributaries. Neither did we neglect the land fauna in the mountains near Honitetu.

On the first of March we left Ceram again and sailed for Ambon. From here we sailed on March 5 and arrived at Surabaya on the 14<sup>th</sup> of that month via Banda, Buton, Macassar and Buleleng (Bali). On Java we only did some collecting at the well-known health resort Tosari in the Tenger mountains, at an altitude of about 2000 M.



