

Busck ('Report on the Mosquito Fauna of Panama,' 1908), who spent three months in the neighbourhood of Tabernilla near Colon. The ground slopes towards the Chagres River, and in the intervening country lies the bed of the old French sea-level canal which, even in the dry season, is covered with a series of shallow lakes connected by low marshes. Between these and the river are tall bamboos, sparsely interspersed with large hardwood trees, the crowns of which are covered with parasitic plants, orchids, and tillandsias, the last named affording a breeding place for several species of mosquito.

When Mr. Champion visited Panama in 1881-1883 he investigated the Pacific slope only, that on the Atlantic side being very inaccessible, and except at Colon and along the railway, or near the coast, there were no villages or means of obtaining food or shelter. He endeavoured to ascend the Volcano of Chiriqui, which attains an elevation of 11,000 feet, but the only route through the forest lay by narrow tracks made by tapirs, and on reaching the summit of a ridge, at 8000 feet, further progress was impossible, owing to the presence of an immense ravine, from which the upper part of the volcano could alone be seen. The night was spent in a hut erected by orchid collectors, but as no water could be obtained he was obliged to descend the following day.

On the western slopes of the volcano the savannas reach an altitude of about 6000 feet, while at 4000 feet cattle are pastured in large numbers for the Panama market. Higher up, to the north and west, a dense belt of forest covers the mountain side, but this does not extend to the summit. On the southern slope the forest had been cleared in many places for the cultivation of coffee, and a fine palm was locally abundant, but Coniferæ were entirely wanting. At Chorchá (300 feet) the dense forests descended to the coast and interrupted the continuity of the large savannas bordering the Pacific Ocean.

The Avifauna of Central America south of the Lake of Nicaragua, including Costa Rica, Chiriqui, Veragua, and Panama, is exceedingly rich. These countries contain more species than the whole of Europe, and nearly as many as the whole of America north of Mexico; 432 species have been found in Veragua, including Chiriqui.

Arcé's collections, like those of other naturalists who have since visited the country, were almost, if not entirely, made on the southern or Pacific slope.

Summarising his analysis of the birds of Veragua*, Salvin remarks (P. Z. S. 1870, pp. 178-179) as follows:—"The characteristic elements of the Central American fauna consist not so much in the amount of generic peculiarity, which is very small, as in the fact that a very considerable portion of South American forms are here represented, not as specifically identical, but, in a large number of instances, as definably distinct in degrees of varying value. The element of the Central American bird-fauna to be traced to the northern continent, on the other hand, maintains a very different relationship to the bird-fauna of that continent. With the exception of a few species

* Chiriqui was included by him under Veragua.