

ing plants. In several important papers (25, 26, 27) he gives an account of the region and of an ascent of Ruapehu, describing its topography, and noting the experiences of Mr. Birch, who ascended the mountain in 1881, and was probably the first white man to note the lake.

Mr. T. F. Cheeseman visited the volcanic plateau on three occasions. In January, 1907, he examined the western part of the plateau, ascending Haulungahi, Tongariro, and the slopes of Ngauruhoe and Ruapehu; but his work was much hindered by bad weather. He had previously, in 1905, and also at an earlier date, examined the country on the eastern side of the plateau from Lake Taupo to the Rangipo Plain. Some of his findings are recorded in his *Flora*, and others are noted in a paper in the forthcoming volume of the *Transactions of the New Zealand Institute*, but he published no detailed account of his explorations.

Dr. P. Marshall has visited the volcanoes on many occasions, and has ascended Ruapehu no fewer than eight times. His publications on the subject are only just appearing. He informs me that the various accounts *re* the crater-lake are correct, and that it varies much in temperature and colour. He also had the good fortune to be at Ngauruhoe during an actual eruption. I am indebted to him for the interesting photo. of Ngauruhoe on the title page, and he very kindly sent me a detailed account of the changes which have taken place in the crater of that volcano, but which unfortunately reached me too late for insertion in this report.

Dr. Friedlander, of Berlin, visited the volcanoes a few years ago, and published the very important paper cited in the *Bibliography*.

The Rev. F. H. Spencer has collected the plants of the volcanic plateau assiduously during recent years, and his results are embodied in Cheeseman's *Flora*.

As for my own investigations, I was employed by the Department of Lands and Survey to make a botanical survey of the Tongariro National Park in association with Mr. E. Phillips Turner, Inspector of Scenic Reserves, whose duties were to survey the boundaries of the Domain, and, along with myself, report on the park as a national reserve and offer such suggestions as seemed advisable *re* extending its boundaries. Our work was commenced on the 11th January, and the field-work was concluded on the 19th March. Unfortunately, a slight accident to my knee made me waste a considerable amount of valuable time, otherwise I could have made my investigations more complete. A good deal of time was spent in photographing the plants as they grew and the plant formations, and besides the purely scientific work some attention was paid towards investigating the scenic attractions of the park.

III. LEGENDS OF THE PARK.

The volcanoes and volcanic plateau, with their steaming mountains, dread sounds issuing from the earth itself, fearsome lakes in crater-hollows, moving deserts of sand, and strange stone figures rising from the black and glistening lava-flows, could not fail to be invested with many curious stories, and be, to the Maori, places which should be approached with the utmost caution or altogether shunned. Thus on Tongariro is one dire spot, to cross which is to meet face to face the unspeakable and indefinable horror. The Onetapu Desert is still known to every Taupo Maori as the death-bed of that mythical Taka, who, lured by a false friend with stories of much food to be there found, went forth joyously with his companions, only to die of starvation in the biting cold. As for the great volcanoes themselves, with them was originally a third, Taranaki by name. But he, seized with an evil passion, attempted to abduct Pihanga, the wife of his friend Tongariro. A fierce conflict took place between the two giants. Taranaki, badly beaten, fled, and in his hasty flight tore up the ground, making the deep channel where now flows the Wanganui, and, finally coming to rest near the sea, he, as snow-capped Egmont, still remains to prove the story. Also it is told how a certain Maori chieftain, accompanied by his slave Ngauruhoe, set forth on a voyage of discovery to explore the country on which he had just landed after the perilous voyage in the great canoe the Arawa, and how on his way southwards, performing meanwhile many marvellous feats, he saw in the distance a great cone-like hill. This he, like any true explorer, decided to ascend and so better view out the land. Its snows, however, were too much for the traveller fresh from the sultry north, so he cried aloud in his distress to his sisters at Whakari, the steaming island in the Bay of Plenty, to send him fire. This, two taniwhas, Pupa and Te Haeata, brought by a subterranean passage, but too late to save the life of his devoted slave, who, smitten by the bitter cold, had perished. But the sacred fire, which had burst forth from the summit of the mountain, which he named Ngauruhoe after his slave, still burns on—not there alone, but throughout the whole of the underground passage, from which at various places it bursts forth even yet, as at Rotorua, Oraikeikorako, Taupo, and elsewhere.

IV. CLIMATE.

So far as the climate of the volcanic plateau goes, few statistics are available, and these refer only to the rainfall, the very important matters of temperature and the direction and force of the wind being wanting. Judging by the distribution of the vegetation alone, one comes at once to the conclusion that a much more abundant rainfall occurs on the tree-clad west and south of the volcanic chain than is to be met with on its eastern side, which, it may be seen, lies between the volcanic mountains on the west and the Kaimanawas on the east. This position, it could well be expected, would lead to a comparatively dry climate on the flat eastern table-land, such as we find from similar causes at the present time in certain parts of the South Island—*e.g.*, the Awatere Valley in Marlborough, the Trelissick Basin in Canterbury, Central Otago, and the Canterbury Plains. The rainfall statistics bear out the above supposition. At Makatote, on the west, the total rainfall for 1907 was 99.26 in., on 231 days; whereas for the same period at Taupo it was only 60.05 in., on 112 days. Not only is the rainfall much greater at the above western than eastern station, but the number of days on which rain falls—that most important factor—are more than double. A comparison also of the appended tables will show how much greater the rainfall is on the west than on the east.