

APPENDIX C.

THE VEGETATION AND FLORA OF RAINBOW MOUNTAIN.

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GENERAL.

UNTIL coming into the vicinity of Taupo by way of the main road from Rotorua the most imposing natural object to be admired is Rainbow Mountain, or Maungakakamea of the Maori. This remarkable monument of Nature is situated at about twenty miles from Rotorua, on the left-hand side of the famous highway, close to its junction with the Galatea Road. The mountain at once attracts attention from the extensive area of bare, much eroded clay on its north-western face (Fig. 1), deeply stained various shades of red, orange, yellow, and purple (the result of acid steam decomposing the original volcanic rock), which has led to the apt English name and makes it a special feature of the Hot Lakes District. For a considerable number of years Rainbow Mountain has been a Scenic reserve, and amongst such reserves it must ever hold a foremost place.

Now, the work of Nature, however slow it may be, never ceases, and so soon as a soil becomes fit for occupation by plant-life, such will gain a footing, so that, by degrees, a more or less dense vegetation will become established. Unfortunately, in the case of Rainbow Mountain its new vegetation, in part manuka, is encroaching on the coloured surface, so that this occupies a smaller area than formerly, while in course of time—it may be many years—the mountain will lose its specially characteristic feature. The fear of this happening before very long has raised quite natural alarm in Rotorua, and a plea has been put forth that the encroaching vegetation should be removed. To accomplish this end, even were it desirable, the only agent to hand of sufficient cheapness is fire—the “good servant but bad master.” The scrub would need cutting down, and when dry burning, as in “bush-burns.” But a manuka association, unlike rain-forest, can be burned standing provided the heat be fierce enough, and there is no telling how far the fire would spread into the reserve and destroy that remarkable and all-important vegetation which this article seeks to depict and to explain also its national value. A raging fire, too, in the vicinity of plantations raised at great cost would never be tolerated. But even supposing eradicating the “objectionable” vegetation by fire were feasible, the evil would suffer only a temporary check, for either a similar plant association would come back before very long—for manuka grows fairly fast—or one composed of noxious weeds would desecrate the famous mountain!

Not only is the mountain of interest because of its rainbow-like face, but it is now covered for its greater part with a fairly dense vegetation (Fig. 2), which, though at present pleasing enough, bids fair to become truly beautiful in the years to come. Even now, from the tourist standpoint, the plant-covering renders the mountain excellent for picnics, especially as an easy bridle-track leads to the summit, while from the track itself there are delightful views of crater-lakes surrounded by greenery (Figs. 3 and 4) and picturesque cliffs (Figs. 5 and 12), and from the summit the landscape opens out in all directions, including a fine view of Mount Tarawera and the country affected by the outburst of 1886.

At the present time perhaps the most remarkable feature of the mountain is its vegetation, which, far from being of one uniform character, shows every gradation in density and height, together with the relative abundance of its species, according to its age, such depending upon the length of time which has elapsed since the soil was too hot, the fumaroles and solfataras too active, or the ground so charged with various salts, &c., as to make its occupation by ordinary plants impossible. But this procession of events may have been more or less modified by fires—the result of man's interference.

Changes such as just mentioned, where one combination of species gives place to another, is called “succession,” and on a proper knowledge of such—knowledge as yet in its infancy—largely depends that branch of forestry known as “silviculture.” Succession, too, is a fundamental concept in regard to vegetation in general, and a true understanding of its laws would be of inestimable benefit to both pure and applied science. In this regard what is now taking place on Rainbow Mountain becomes of particular interest, since the conditions regulating the incoming of the various types of vegetation are comparatively simple, and the extremely limited number of species (barely forty), if those of the crater forest and one or two of great rarity be excluded) engaged in the work is ridiculously small. In fact—leaving the question of fires on one side—Nature might have been designing a special experiment for those botanists (botanical ecologists) who study the dwelling-places of plants and the communities which such form. To tell briefly what is happening in regard to the vegetation of Rainbow Mountain, and of what plants it is composed, is the primary object of this paper. It will also form a basis for more detailed studies, and be of importance for making comparisons at different times with the future vegetation. The list of species (certainly not complete) at the end of the paper should be of some use to those botanically inclined who may visit the mountain.

Before concluding this introduction I must express my pleasure at the invitation of the Under-Secretary of Lands and Survey, Mr. J. B. Thompson, C.B.E., to once again—after a long lapse of time—write a botanical article for publication by his Department. I must also thank Mr. E. Phillips Turner, F.R.G.S., for putting at my disposal the notes he took and the map he made of the reserve in the first decade of this century. Further, I am under considerable obligation to Messrs. W. Boardman and James Hunter, who accompanied me when visiting the mountain in February of this year and rendered valuable assistance, and I must congratulate Mr. Boardman on the excellent photographs he secured.