

in the end kill the tree-fern, and, afterwards coalescing, serve as an ordinary tree-trunk. From irregular coalition the trunks have frequently quite a network appearance. The epiphytic habit is also very common with the *Panax* genus; and *Panax Edgerleyi* and *Panax arboreum* are frequently seen growing high up on the trunks of tree-ferns, which will eventually be killed by the treacherous embraces of the aerial roots of the *Panax*.

Another very plentiful plant in the bush is the red horopito (*Drimys colorata*), the bright-red leaves of which serve as compensation for the general absence of coloured flowers.

It is remarkable how plants that are the most assertive in the lower plains give way to others in this table-land. The manuka (*Leptospermum scoparium*) and bracken (*Pteris aquilina*), appear only as weakly specimens of their kind. Tree-ferns are far less plentiful than in lower districts, the two that are most seen being *Dicksonia fibrosa* and *Hemitelia Smithii*, both of which have their stems protected by a thick coating of fibre. *Cythea medullaris* disappears at an altitude of about 1,100 ft.

THE FOREST ECONOMICALLY CONSIDERED.

The Waimarino Forest probably carries in its timber the most valuable crop it will ever produce. In several localities rimu and matai are so plentiful that they are the chief forest-trees. The Maori owners of the land in some instances get as much as £8 an acre solely for the timber-rights. The bush worked by one sawmill in the Kakahi locality I was told was yielding 40,000 sup. ft. of rimu, totara, and matai to the acre. The bush in the Ohakune locality in several places yields over 20,000 sup. ft. of rimu, matai, and white-pine to the acre.

The kaikawaka, or mountain-cedar (*Libocedrus Bidwillii*) is very plentiful in the Waimarino district. The mills do not yet convert it, but when its value is known there should be a strong demand for it, for it is quite equal to Australian cedar.

Maire is very abundant, but, as steel is now so much used for the purposes for which it is valuable, the commercial value of it is doubtful. It is the strongest wood in the world, and it is also very durable.

The red-beech (*Fagus fusca*) is admitted to be durable and strong, but it has many defects which make it unsuitable for building purposes. It will soon, however, become of value for fencing purposes; and, Powellised, it may be of value for railway-sleepers; it is fairly tough and should hold the rails well.

THE WAIMARINO GRASS-STEPPE.

The altitude of the Waimarino plain or grass-steppe is 2,600 ft. above sea-level. The winters are severe; and the soil is of a poor pumiceous nature. The land, therefore, will never be of value for farming purposes; consequently, I think it would be a most suitable locality to reforest. Round the borders of the steppe trees of varied nature flourish, so there should be no difficulty in finding trees of commercial value to re-cover what (practically considered) is now almost a useless waste. Many portions of the plain are, indeed, boggy; but there is a good fall, and draining would be a matter of no difficulty.

E. PHILLIPS TURNER,
Inspector of Scenic Reserves.

LIST OF INDIGENOUS PLANTS IN WAIMARINO FOREST.

EXPLANATION OF ABBREVIATIONS USED.

N. = Northern botanical province of New Zealand. C = Central botanical province of New Zealand. S. = Southern botanical province of New Zealand. Ch. = Chatham Islands province. Sub. = New Zealand subantarctic islands province. Ker. = Kermadec Islands province. End. = Endemic. Aus. = Australia and Tasmania. S.A. = South American and subantarctic. Pol. = Polynesia. Mal. = Malay and South Asian. Cos. = Generally distributed in tropical or temperate lands.

Natural Order and Species.	Maori Name.	English Name.	Distribution.		
			Beyond New Zealand, or Endemic.	Within New Zealand.	In the Waimarino Forest.
RANUNCULACEAE.					
Clematis indivisa	Puawhananga ..	Clematis ..	End. ..	N. C. S.	Forest.
Ranunculus insignis .. ..	.. ..	Mountain-buttercup ..	End. ..	C. S. ..	Bed of Maungaturuturu River.
— nivicola .. ..	.. ..	.. ..	End. ..	C. ..	Hauhungatahi and river-beds.
— hirtus	Maruru ..	Common N.Z. buttercup ..	Aus. ..	N. C. S. Ch.	Grass-steppe.
— rivularis	Waoriki ..	Marsh-buttercup ..	End. ..	N. C. S. Ch.	By streams and swamps.
MAGNOLIACEAE.					
Drimys axillaris	Horopito ..	Pepper-tree ..	End. ..	N. C. S.	Lower forest.
— colorata	Horopito ..	Pepper-tree ..	End. ..	N. C. S.	Forest; abundant.