

Te Mata Peak, Havelock North

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The Te Mata Range is a sharply tilted block of Te Aute limestone about two and a-half miles long by a mile wide, sloping up to 1300 feet from a fault line parallel to the rim of the Heretaunga Plain, and ending in an abrupt scarp above the Tukituki fault, about six miles from the coast in central Hawke's Bay.

Several U-shaped valleys have formed in the limestone slope running west towards the plain, and in these valleys are relics of light bush of coastal type, formerly also found at a number of places below the eastern scarp. The higher part of the range is controlled by a Park Board who have fenced two of the main patches of bush and have extended them by planting native trees and shrubs. These were seedlings from a local garden and may or may not belong to the district; *Hoheria populnea* and *Pittosporum tenuifolium* appear to be newcomers. They have also planted considerable blocks in exotic trees.

Apart from the fenced areas most of the range is danthonia grassland which is grazed. In the park itself it is grazed under lease. There appear to have been four main plant communities—cliff, coastal forest, bracken heath, and small areas of swamp forest. Practically no trace of the last two remains, though one is commemorated in Te Kahika, the name of the main western stream. One plant of flax (*Phormium tenax*) at the foot of a cliff is the only observed survivor of swamp forest, and some fronds of bracken on a road margin are all that remains of the heath. A few small areas of manuka on shaded faces with abundant *Drosera auriculata* are probably induced. Where such occur in fenced areas a dense growth of seedlings, chiefly mahoe and akepiro (*Olearia furfuracea*), is coming up.

The remaining communities, limestone cliff and coastal forest, though affected to some extent by opossums, hares, sheep and cattle, are flourishing and contain features of interest.

Limestone Cliff. *Phormium colensoi* is dominant, and as in all this country, appears to be the main refuge of a dense opossum population. Opossum damage, however, is noticeably less conspicuous than in more isolated areas nearer the coast, and it seems as though the popularity of the park, and the disregard of its status as a sanctuary by gangs of youths often with dogs, is having, on balance, a beneficial effect. Kowhai, akepiro, *Pittosporum ralphii*, tutu (*Coriaria arborea*) and karamu (*Coprosma robusta*) are abundant wherever they can find a foothold, and may form almost a light forest in suitable localities. In the long grass on the slopes below cliffs that have been fenced off young kowhais are abundant.

Characteristic of the Peak is the cliff community consisting of *Senecio colensoi*, *Angelica rosaefolia*, *Celmisia gracilentia*, *Poa anceps*, and a *Hebe* with linear leaves and a long corolla tube—probably *H. angustifolia*. This latter occurs mainly above 1000 feet, where it is abundant and aggressive and is already colonizing the rock cuttings of the tourist road formed to the trig in the mid nineteen-thirties. It grows as a low sprawling bush.

The *Senecio colensoi* is a very constant form with densely woolly stems and leaves, rather rounded lobes and large yellow flower-heads. It is also found on Napier Bluff, the Kidnappers cliffs and near Waimarama. Between Kidnappers and Waimarama, on Bare Island and north of Napier its place is taken by a very fleshy, almost glabrous form, nearer to *S. banksii*. South from Waimarama there is another form, densely woolly but with very much sharper lobes. An extreme form of this makes its appearance near Waipukurau on Pukeora Hill. The plants of the Taruarau Gorge, sparsely hairy, are distinct again; and from the Ngaruroro at Whanawhana northwards, glabrous plants with smaller flower-heads are presumably an inland form of *S. banksii*.

On more level bare ground such as isolated blocks and the margins of outcrops and cliffs are *Vittadinia australis* and *Haloragis erecta*, and above 1000 feet occasional clumps of *Pimelia aridula*, a handsome plant with silky, silvery leaves. This is rather rare and seems to be easily smothered out by the growth of grass. Under the same conditions the small shrivelled-looking fern *Cheilanthes sieberi* occurs in one limited area.

Coastal Forest. Karaka is dominant with titoki, lacebark (*Hoheria sexstylosa*) and ngaio common, chiefly on the margins. *Macropiper excelsum* is the dominant undershrub, with mahoe plentiful and rangiora, five-finger (*Nothopanax arboreum*), *Pittosporum ralphii* and koromiko (*Hebe salicifolia*) common. Dense thickets of ongaonga (*Urtica ferox*) occupy stream-margins.

Before the forest was fenced (in the early nineteen-thirties) it was frequented by stock and the ground was completely bare. The first effect of fencing was a dense growth of karaka seedlings. Only one clump of these, now ten to twelve feet high, has survived. I am informed that they were protected by a fallen tree and that the rest were bitten back by hares. The ground is now bare again apart from a few seedlings of kawakawa, mahoe, and lacebark, but this appears to be in some degree the result of an exceptionally dense canopy formed by the karaka trees and the existing underscrub. Where this is lighter towards the foot of the cliffs rangiora tends to dominate, and here also *Clematis hexasepala* is found.

Open Country. On open grassland large cabbage trees are common in damper places, *Muehlenbeckia complexa* is abundant on drier ridges and a coarse species of *Carmichaelia* is common. Tauhinu (*Cassinia leptophylla*) is rather rare and only a solitary bush of *Olearia solandri* has been seen.