

"The middle view is dependent on the green leaves of the young trees and tall shrubs which everywhere meet the eye and hide the trunks of the taller trees. The large leaves of the kanono (*Coprosma grandifolia*) are especially instrumental in this regard.

"So dense here are the slender branches as to make progress very difficult, while the black, rigid stems of the supplejack (*Rhipogonum scandens*) spread in all directions and bar the way. *Cyathea dealbata*, with its spreading fronds on short petioles, also adds to the entanglement.

"The tree-tops, however, are quite distant, and the sky shows plainly through everywhere. *Beilschmiedia tarairi* is plainly dominant, and its trunk is frequently covered with mosses or encircled by the drooping shining fronds of *Blechnum filiforme*.

"We are on the top of a ridge. Here is a large tree of the rata (*Metrosideros robusta*), also the neinei (*Dracophyllum latifolium*), *Alseuosmia*, and *Coprosma grandifolia*.

"Here *Beilschmiedia tarairi* is still the leading tree, and there is an occasional totara (*Podocarpus totara*) and miro (*P. ferrugineus*). More frequent are the kohokohe (*Dysoxylum spectabile*), the rewarewa (*Knightia excelsa*), and the rata (*Metrosideros robusta*). These are more or less clothed with various mosses and liverworts, but especially do *Metrosideros scandens*, *M. florida*, *Freycinetia Banksii*, and *Blechnum filiforme* appear as lianes, the large pinnate leaves of the latter drooping and quite hiding the stems which it embraces. These also have, as epiphytes, *Astelia Solandri* and at times *A. trinervia*, *Pittosporum cornifolium*, *Griselinia lucida*, *Asplenium adiantiforme*, *Dendrobium Cunninghamii*, *Asplenium flaccidum*, and *Lycopodium Billardieri* (Photo 6). The *Metrosideros scandens* gives a green colour to the trunks when in its early stage its dorsiventral shoots are attached closely to the bark and make a mosaic, but finally its thick stems are pressed against them as woody ropes. The broad translucent fronds of *Hymenophyllum dilatatum* (a foot or so in length), and the kidney fern (*Trichomanes reniforme*), dark-green when old but almost emerald-green when young, play likewise a most conspicuous part, both as lianes, or perhaps epiphytes, and as mantles for fallen trees.

"As for the second tier of vegetation, young trees with stems unbranched for at least their lower two-thirds and of considerable stature, together with palms and tree-ferns, especially *Cyathea dealbata*, everywhere play the principal part. *Cyathea medullaris* is also present, sometimes in abundance, its black leaf-stalks rendering it conspicuous. The greater number of these young trees consist of *Beilschmiedia tarairi*, but at times in equal abundance is *Dysoxylum spectabile*, while the juvenile form of *Knightia excelsa*, with its long and narrow leaves, so different from those of the adult, is also frequent. In some places the rather dull-green *Coprosma grandifolia* is dominant, or nearly so. The principal of the smaller shrubs are *Senecio Kirkii* and *Alseuosmia macrophylla*, which are everywhere, as are the seedlings of the former. *Freycinetia* grows in tufts, straggling, as it so frequently does, on the ground, or climbs the trees, quite hiding the trunks with its dark-green sword-like leaves. Even when its support is gone it still keeps its position as an erect plant, thanks to the rigidity of its thick stem. *Lygodium* also, climbing from the ground, where it is frequently prostrate, winds round itself and binds together the branches of the smaller trees and shrubs, while these are also encircled by *Rhipogonum scandens*.

"On the ground, where dry, is a close covering of the delicate fronds of *Hymenophyllum demissum*, extending over many square yards, or in some places *Trichomanes reniforme*, the latter especially on dead, fallen trees, and the former on the driest ground and on roots raised above the ground-surface, where it is mixed with mosses. Large colonies of *Blechnum Frazeri* are everywhere, but the juvenile form only, sometimes to the exclusion of other ground-vegetation. On the floor also are various mosses and liverworts, in addition to the above-named filmy ferns, and at times a good deal of *Metrosideros hypericifolia*, while here, as in most parts of the forest, lie the dead brown leaves of the tarairi. Seedlings, too, of all the forest-plants abound, especially *Knightia*, *Podocarpus ferrugineus*, *P. dactyloides*, *Beilschmiedia tarairi*, and *Senecio Kirkii*.

"Further on, the tarairi forest becomes still more open. This particular part is quite remarkable for the multitudes of quite straight saplings of *Dysoxylum*, 15 ft. to 20 ft. tall. Hardly branched, and but little leafy, they form almost the entire undergrowth, and offer no obstacle to progress. I do not know what can be the ultimate fate of such young trees as these. Most will die by degrees, I suppose; some will probably be strangled by lianes; but at any rate a comparatively few years ought to show some great change in such a formation. At present there is here a distinct young forest growing beneath an older one of the same species. On the ground there is little but the brown dead leaves. Stone crops out everywhere, and on it is some *Blechnum filiforme* and *Metrosideros hypericifolia*. On the earth is some *Freycinetia*, a little *Asplenium bulbiferum*, and colonies of *Hymenophyllum demissum*. As for the general physiognomy, multitudes of slender grey stems chiefly meet the eye, while in the middle distance are the bright-green leaves of the saplings.

"At the north-west corner of the reserve, on the slope descending to the Wairau, a creek was crossed, almost dry and full of large stones, which were more or less moss and fern covered with *Polypodium Dictyopteris* and *Hymenophyllum dilatatum*. In the bed of the stream were noted *Macropiper excelsum*, *Carmichaelia australis* 6 ft. tall, *Rhopalostylis sapida*, and very large *Asplenium lucidum*. Probably there were other seed-plants and ferns and notably seedlings. The dominant tree is, as usual, *Beilschmiedia tarairi*, and palms are extremely numerous. Large rocks jut everywhere out of the ground, which there is for the most part bare but with tufts of *Freycinetia*, plenty of *Blechnum filiforme*, and many fallen tarairi leaves. *Coprosma arborea* is abundant, with slender stems, branching at a right angle, and abundant brownish leaves, also *Dysoxylum* with long stems, *Beilschmiedia tarairi*, and *Knightia*. Young *Weinmannia sylvicola* and *Brachyglottis repanda* are common, and the comparatively dry nature of the ground is testified to by the presence of *Adiantum fulvum*. Other plants of this portion are juvenile miro, *Fusanus Cunninghamii*, young *Olea montana*, plenty of *Uncinia australis*, some *Pteris comans*,