

Flowering in Titoki

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I HAVE been inclined to regard titoki (*Alectryon excelsus*) as dioecious; one sees trees smothered in staminate flowers and setting no fruit, and other trees full of fruit as though all the flowers (or at any rate most) were pistillate, considering that it is not often profusely flowering in any case. I have been wondering if there is any special factor such as nutrition, climate, age and development of tree, etc., which influences the sex and quantity of flowers. I have been watching our titoki, which grew for many years (perhaps ten or more) without any sign of flowers. Then we had some sparse ones, followed about three seasons ago by a very profuse flowering. They seemed to be all staminate flowers, and it was quite smoky with bloom for about two months or more. It was really quite a sight. Some months later I found a small number of fruits, not more than a dozen all told. The following year there were very few flowers, all staminate as far as I could see, and certainly no fruit set. This year there were more flowers, though not plentiful, but almost every cluster set some fruit, which is now (June, 1959) developing well.

Abandoned – Through Want of Space?

ECOLOGY as a distinct science began to develop only towards the end of last century but much earlier natural history presaged its beginning. In New Zealand, as elsewhere, botanists were beginning to consider plants in relation to their environment, but there was little motive to write down what was seen. After reading William Colenso's note of 1865, reprinted below, one is tempted to speculate on the information that might have been recorded in his "third division" had he not "been obliged to abandon it, chiefly through want of space". One suspects, however, that it was not lack of space that was the trouble but rather the lack of a favourable intellectual climate—more specifically the lack of ecological concepts—to stimulate him to record his observations. For in his subsequent voluminous writings in the Transactions and Proceedings of the New Zealand Institute between 1877 and 1898 the subject is not brought up again. When he died in 1899 the first general works specifically devoted to the new subject of ecology (by the Danish botanist Warming in 1895, and by the Swiss botanist Schimper in 1898) were barely out and still untranslated. It fell to Cockayne's lot to be stimulated by the new ideas and to advance the subject in New Zealand so tremendously. The year 1898 undoubtedly marks a turning point in the history of

Botany in New Zealand, for the volume of the Transactions for that year contains the last of Colenso's papers and the first of Cockayne's.

Colenso, 1865: "Par. 8. Note, b. I had also drawn a *third* division, or classification, of many of the plants of the North Island, according to its geognostic formation; but I have been obliged to abandon it, chiefly through want of space. No doubt, hereafter, it will be both interesting and useful to show the geognostic *habitats* of the various species,—whether on Clay or Alluvial Soils,—on Limestone, Sandstone (*Palaeozoic,*) or Volcanic formations, etc. I feel assured, that much more attention is absolutely needful to this branch of the science than has hitherto been given it, as a necessary step towards the solving of the great problem concerning the Distribution of Plants. I remember well (in 1845) being forcibly struck with seeing certain Bay-of-Islands plants (e.g. *Metrosideros scandens*, *Gaultheria antipoda*, *Cordyline stricta*, *Lindsaea linearis*, *Lycopodium volubile*, etc.,) on the clayey hills near Wellington.—Plants, which I had not before seen south of the Thames. I may also mention that, in 1844, Dr. Hooker published (in the "London Journal of Botany", vol. III,) the names, etc., of a Collection of 123 Plants made in the neighbourhood of Wellington by a visitor, of which number only 2, or perhaps 3, were not identical with the Bay of Island plants. Hence arose a suspicion, that the North Island of New Zealand possessed but a few species, seeing that the same plants were collected in latitudes so far apart. But the fact is, that the same geologic features obtain on those hills, as at the Bay of Islands, although but rarely intermediate. And many of those species (as far as I know,) are not elsewhere found between 36° South and Cook's Straits".

The note appears under the heading of "Notes" on page 55 of an essay published as a pamphlet for the New Zealand Exhibition, 1865. (Essay on the Botany of the North Island of New Zealand, by William Colenso, M.G.A., F.L.S., Napier. Printed for the Commissioners by Ferguson and Mitchell, Dunedin, Otago, N.Z. 58 p.) When this essay was reprinted in the first volume of the Transactions in 1869 the "Notes" were not included.

Footnote: Colenso's mention of the small, usually stemless, cabbage tree *Cordyline stricta* (now *C. pumilio*) from the "clayey hills near Wellington" is interesting. Cheeseman, too, records it as reaching Wellington. There does not appear to have been any recent sighting of it in the southern half of the North Island, but it might well occur on the poorer, scrub-covered hills about Wellington, in particular those to the east of the harbour.

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