

THE DISTRIBUTION AND CONDITION OF CORDYLINE INDIVISA ON POINT 21, MT.
KOHUKOHUNUI, HUNUA RANGES.

A.J. DAKIN.

Point 21 lies to the N.E. of Kohukohunui proper and has an altitude of 2146 ft. above sea level at the trig.

Rainfall in the area averages 94 inches (2400 mm.) per year and temperature ranges from a minimum of 30 degrees F. (- 0.9 degrees C.) in July, to a maximum of 73 degrees F. (23 degrees C.) in February.

The forest cover on the higher ground has been much modified since the early 1900's by the actions of man, animals and climatic factors; thus only portions of the remnant forest are to be found and much of the existing vegetation bears little resemblance to the primeval state.

Mr. J.W. St Paul, a long time resident in the area, records that the forest cover on all the high ground 60 years ago was heavy tawa forest with scattered totara, whilst plants such as Cordylina indivisa grew as part of the understorey in well lit forest openings.

C. indivisa was described as "being more abundant than it is today" and several large specimens were to be seen - these numbers have decreased over the intervening years, mainly due to changed forest environment and to browsing by goats, until at the present day only about 10 - 12 plants are still known to be alive in the area.

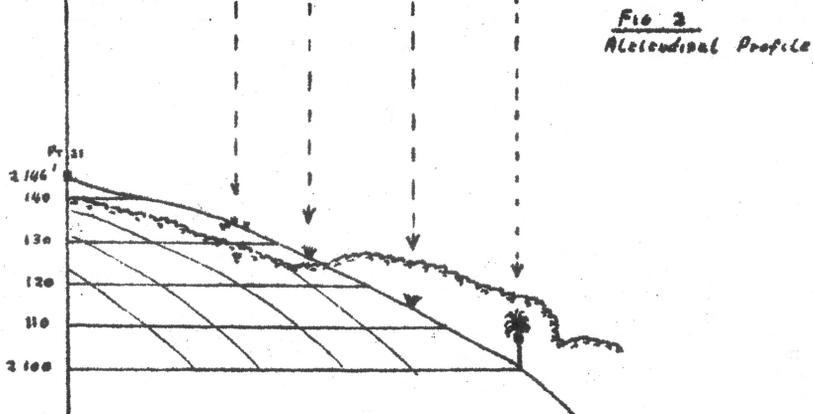
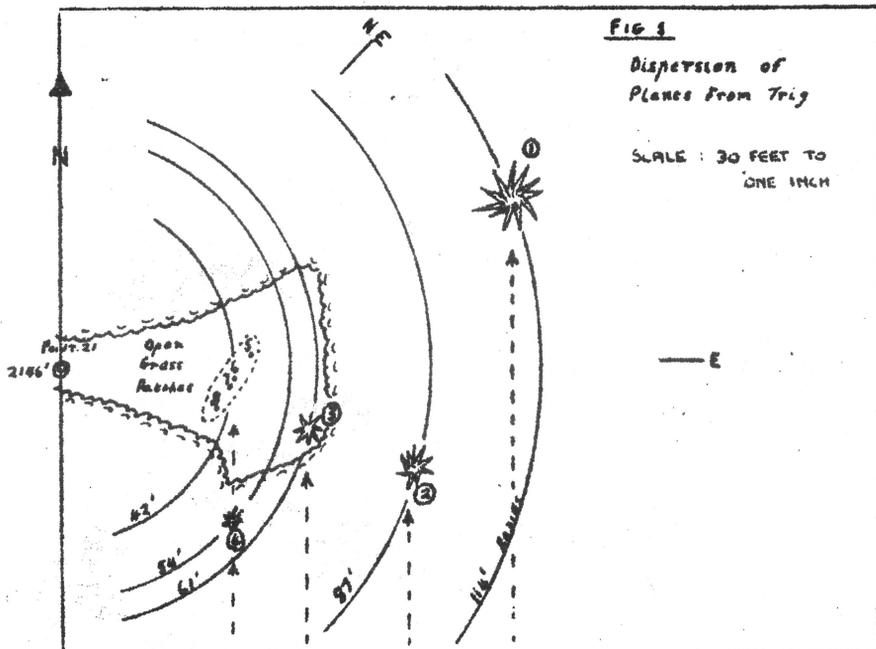
Of these 10 - 12 plants, eight are known to be in the vicinity of Point 21 and their distribution about the Point in 1971 is shown in Fig. 1., whilst altitudinal location is indicated in Fig. 2.

The condition of these plants is generally poor, they have been much browsed by goats and are also suffering from vigorous competition with plants such as Dicksonia squarrosa and Poaia scaberula plus an association of scrub hardwoods including Meliccytus ramiflorus, Carpodetus serratus, Quintinia serrata and others.

Plant 1 on the diagram is the largest known C. indivisa in the area and has attained a height of 10 - 12 feet with a diameter, breast height, of 4 inches. Because of its height, this plant is unaffected by goats and is able to have much of its crown in reasonable light; vigour is generally good and the foliage is healthy.

The other plants in the area are not so fortunate and are all generally small, the tallest (2) being not more than 2 feet. Plants 5 to 8 in the grassland are very small, 4 - 6 inches high, and much browsed by goats.

It is thought that most of these smaller plants are progeny of 1, seed having been able to germinate on the open ground in good light. The gradual encroachment of scrub vegetation, however, is slowly restricting the habitat of open ground suitable for germination and all plants are now more or less surrounded by competing vegetation.



DISTRIBUTION OF Cordyline Indivisa
ON POINT 21 Mt. KOUROHUNA HUNUA RANGES 1971

A.F.D.

It can be seen then that a steady decline in the numbers of C. indivisa on Mt. Kohukohunui has taken place since the intervention of man some 60 years ago and it would seem logical that even in the original forest C. indivisa occupied a niche which was finely balanced, and was only regenerating slowly, though sufficiently to maintain itself in the habitat. Without the intervention of man therefore, the species would probably have continued to survive.

It has been suggested that C. indivisa was a remnant of a previous sub-alpine vegetation and was out of phase in the Humuas with present day climate, but this is not well proved and other possibilities regarding past origins and climate exist.

From the evidence then it would appear that the numbers of Cordyline indivisa will decline still further to the extinction of the species in the Humuas, within the not too distant future. Only the action of man in providing protection could perpetuate the few remaining plants, and whether this protection should be undertaken or not, is a debatable issue.

CORTADERIA SPLENDENS : A NEW SPECIES.

A.D. MEAD.

In 1963 Zotov transferred the N.Z. members of the genus Arundo to Cortaderia, at the same time re-defining the various species somewhat. H.E. Connor has given the genus further study, and has, in the N.Z. Journal of Botany Sept. 1971, divided Zotov's C. toetoe and from part of it created a new species, C. splendens. This is a coastal species, occurring at intervals along the West Coast of the North Island from Kawhia to Cape Reinga, and on offshore islands from Coromandel Peninsula northwards. There is a fine stand of it at Piha in full flower now (January 1972). The name splendens is very appropriate, as it is the largest and most handsome indigenous species of the genus and our tallest native grass. This name was originally suggested by Solander but not validly published. One might have expected Connor to acknowledge the source of the name, but possibly the normal courtesies of life do not run the same way among taxonomists. In addition to its tall inflorescence, its leaves are the broadest of the genus, and the edges of the leaves are smooth or only slightly rasping, not coarsely so as are those of the other species. According to Connor the species C. toetoe as re-defined is limited to the southern half of the North Island. Zotov's C. fulvida (not wholly corresponding to Arundo fulvida as described in Cheeseman) stands; it is fairly widespread in the North Island. There is a South Island species C. richardii. All four native species are commonly known by their Maori name "toetoe". As far as the Waitakeres are concerned, we have the two species C. splendens on the coast and C. fulvida on stream banks inland.

There are two introduced species of Cortaderia in New Zealand - C. atacamensis and C. selloana, from South America. The former,