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 Hunuas 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 Hunuas, 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,

known as pampas grass, is common about Auckland, and in the Waitakeres tends to invade roadsides, power line and timber track clearings. It is easily distinguished from toetoe by its upright pink inflorescence. In the native types the flower heads have a pale cream or buff tint and a drooping habit. As the seeds ripen the flower colours bleach to white but the upright or drooping habit remains to assist identification.

SOME EXOTIC WATER WEEDS IN NEW ZEALAND.

Prof. V.J. CHAPMAN.

In recent years some exotic water weeds have achieved notoriety because of their explosive growth in some of our recreational waters, especially those in the central part of the North Island.

When the weeds first became apparent in the very early 1960's Miss Ruth Mason made a study of their distribution. Whilst their occurrence in the major bodies of waters is probably now well-documented there may still be smaller bodies of waters, especially farm ponds, where they have arrived but their prese nce has not been recorded. Members of the Botanical Society could well examine small bodies of water during their excursions in order to see if any of the species are present or not.

Those species which seem at present to be potential 'nuisance-makers' are as follows:

1. Elodea canadensis (Canadian pond weed).

This is a well-known species and was undoubtedly introduced to aerate aquaria. It is the original "oxygen weed" and can be recognized by the leaves being in whorls of 3.

2. Egeria densa

This has also been termed "oxygen weed" but it is a very much more recent introduction. It is abundant in the lower Waikato River lakes and around Huntly. It is also present in Western Springs as also is Elodea. It is a larger plant than Elodea with longer leaves that are generally arranged in whorls of 4, though whorls of 5 can also be found.

3. Lagarosiphon major.

This is the weed that has become a nuisance in some of the Rotorua lakes. It differs from the preceding species in that the leaves are arranged spirally. These first three species are all members of the Hydrocharitacea.