

1979

DSIR

Native plants

A. Dicotyledonous plants and gymnosperms

- Alectryon excelsus* titoki A few large trees at the western end of the north and central dune and some on the flat in the SE corner. It is more prominent on a dune in a nearby remnant.
- Aristotelia serrata* wineberry Few young plants in the bracken, on flats and on the forest margin on the northern dune.
- Beilschmiedia tawa* tawa Probably limited in distribution in the original forest because most sites would have been either too wet or too dry. The largest trees are on the lower slopes of the northern dune. Plants growing on the flats with pukatea are smaller. Tawa on dunes and flats was severely affected by the 1969-70 drought, many dying then. Others weakened by this drought died in later droughts.
- Callitriche muelleri* Locally plentiful in muddy semi-shaded places. Most will be replaced as these disturbed areas diminish.
- Cardamine debilis* Many plants in forest on flats in 1968, but fairly local since cattle were removed.
- Carmichaelia flagelliformis* N.Z. broom Few plants on flats and dunes. One is about 4 m tall. On the Manawatu sand country this species has red seeds with the exception of a single plant east of the reserve with green seeds.
- Carpodetus serratus* Marbleleaf, putaputaweta Abundant on the flats in 1968. There are now many young plants on wet, shaded flats but few older plants.

- Clematis foetida* Grows at all levels on dunes and is very prominent on both sides of the central dune when flowering.
- Clematis forsteri* . A few plants among bracken on the northern dune.
- Clematis paniculata* Occasional plants on dunes and flats.
- Coprosma areolata* Probably a significant part of the original vegetation. Now the most abundant plant in degraded forest areas on the flats. It is most rigorous where some shelter is given by other plants. There are fewer and smaller plants on the dunes.
- Coprosma australis* One plant seen in bush on a wet flat.
- Coprosma crassifolia* Widely distributed but in smaller numbers than C. areolata. It can stand situations which are drier and more exposed.
- Coprosma propinqua* A fair number of plants on wet flats. In some parts of the Manawatu it is abundant in this habitat. Hybrids with C. robusta are occasional on the flats.
- Coprosma rhamnoides* Abundant on the northern dune in 1968. Now probably just as plentiful but masked by kawakawa. There is some also on the flats.
- Coprosma rigida* A single plant noted on the flat by the totara and one near the SE corner. It is common in another remnant east of the reserve.
- Coprosma rotundifolia* Grows in a bush remnant east of the reserve.
- Corynocarpus laevigatus* karaka One tree seen in a bush remnant east of the reserve.

Cyathodes fasciculata mingimingi There are a number of plants on the forest margin on the northern dune and on the high western dune. A single plant was seen on the flat, apparently having fallen with Collospermum from a tree.

~~*Dodonaea viscosa*~~ akeake Fairly localised on dunes. There are some on the forest margin on the northern dune and some nearby in bracken on the sunny face. On the dune at the western end of the reserve a few plants grow with kanuka. There are seedlings near parent plants.

Elaeocarpus dentatus hinau One large tree grows on the forested south face of the central dune and another at the western end of the reserve. There are two trees SW of the reserve.

Elaeocarpus hookerianus pokaka There are three young small plants at the eastern end of the reserve. Further plants were seen east of the reserve.

Erechtites minima (*Senecio minimus*) A few plants in open places among trees on the flat.

Erechtites scaberula (*Senecio hispidulus*) A few plants noted on a stump of a fallen tree in 1968.

Erechtites sonchoides (*Senecio biserratus*) A single plant grew on open ground on the flat in 1968.

~~*Eugenia maire*~~ swamp maire A few trees in the west of the reserve where sand has encroached and covered bases of the trunks. Others grow on the flat on the south margin of the reserve. They survived the 1969-70 drought but several are now dead. Cpossums may have been responsible.

~~Fuchsia perscandens~~ Many in open forest on wet ground, a few on the dunes.

Geniostoma ligustrifolium hangehange Many on the wet flats, a few on south slopes of dunes in forest. It is likely to become more prominent. Some died in the 1978 drought.

Geranium potentilloides var. potentilloides There were a few plants in 1968 in grassy places on dunes. It is unlikely to persist in the absence of grazing.

Gnaphalium gymnocephalum In 1968 there were a few plants in open places on dunes but the species will not persist there.

Griselinia lucida shining broadleaf A regular percher on pukatea. It has been noticed also on cabbage tree, rewarewa, mahoe, kaikomako, Dicksonia squarrosa, swamp maire (and hinau to the SW of the reserve). The frequency of this species, and its occurrence on low trees such as mahoe and cabbage tree is striking, and is in contrast to the situation in Keebles Bush.

Haloragis erecta A few plants noted on the flat in 1968.

Hebe stricta A single plant grows on the high western dune.

Hedycarya arborea pigeonwood Fairly numerous in forest on the northern dune, fewer on the flats.

Hoheria sexstylosa lacebark Present in a bush remnant to the east of the reserve.

Hydrocotyle moschata A few plants noted in 1968.

Hydrocotyle novae-zelandiae Many on wet grassy flats.

Knightia excelsa rewarewa Fairly plentiful in 1968 but a number died in the 1969-70 drought. There are some on the flats but many more on dunes.

Laurelia novae-zelandiae pukatea Once an abundant tree with kahikatea. It was damaged and exposed when kahikatea was milled about 45 years ago. Many trees are unhealthy and a few have had their crowns blown out. Younger trees in the southern half of the reserve are more healthy. No deaths were noticed in the drought but on the north side of Paranui Rd all trees appear to have been affected. Prior to the area being set aside as a reserve pole pukatea were removed from the southern edge for wood chopping competitions. In the most swampy parts the raised mounds and barriers created by pukatea roots have been a refuge of native plants which otherwise would have been destroyed by cattle.

Leptospermum ericoides kanuka A few clumps by Paranui Rd, few on the northern dune on the forest margin and some on the high western dune. West of the reserve kanuka is fairly plentiful on sand which has probably drifted in the last few decades. Some trees near Paranui Road were apparently cut for firewood in 1978.

Lophomyrtus bullata ramarama A few plants in open forest in the south.

Lophomyrtus obcordata Seen in forest on the northern dune.

Macropiper excelsum kawakawa An increasing species. In 1968 there were a number of plants on dunes and flats with foliage above browse height or screened from animals by supplejack and other plants. Seedlings were numerous. By 1972 seedlings became abundant. In 1976 these had reached 1.5 m tall and dominated the understorey in parts, particularly on the northern dune. At this time (May 1976) defoliation by insects was very severe and it appeared that many plants would die.

Melicope simplex Abundant on the central dune, some on the northern dune. Some plants died in the 1978 drought.

Melicytus micranthus Present in a bush remnant to the east of the reserve.

Melicytus ramiflorus mahoe Important in less damaged forest on the flats and forming part of the canopy at 15 m. Scattered plants in forest elsewhere except in the most degraded parts. Seedlings are numerous and the species is likely to become fairly plentiful. Plants are also appearing through the bracken in a few places. Plants on crests of dunes were affected in droughts and some died in 1978. Where seedlings have established in very degraded bush on the flats it appears that they may play a major part in re-establishing the forest canopy.

Metrosideros colensoi var. *pendens* rata vine Occasional plants in forest on dunes and flats.

Metrosideros diffusa rata vine Some on forest margin on northern dunes.

Metrosideros perforata rata vine A few plants in forest on the dunes.

~~*Mida salicifolia*~~ A single plant noted on the northern dune in 1963.

Muehlenbeckia australis Many plants on the northern dune in bracken.

Muehlenbeckia complexa Few plants in bracken on northern side of the reserve and to the west.

~~*Myoporum laetum*~~ ngaio A few isolated trees in the bracken, some on the flat in forest and on the forest margin.

Myrsine australis mapou A few on dunes and flats in forest.

Myrsine salicina toro Only one tree noted. This died in the 1969-70 drought.

*Nestegis lanceolata*s white maire A few in forest on flats and dunes.

Olearia solandri There is a plant on the roadside just north of the reserve.

~~*Olearia virgata*~~ A few plants in the degraded forest on the wet flats.

Paratrophis microphylla milk tree A few plants on dunes and flats.

Parietaria debilis In 1968 this annual was abundant under trees on the northern dune on loose sand disturbed by livestock. It has decreased considerably with the changing habitat.

Parsonsia capsularis and *P. heterophylla* Occasional plants on dunes and flats.

Pennantia corymbosa kaikomako Plentiful in forest on the northern dune and many on the flats in open degraded forest. In 1968 it was considered to be the most widespread plant in forests. Young plants are hardy and can stand full exposure but some died in the drought.

~~*Pittosporum cornifolium*~~ Seen in a *Collosperrum* clump on pukatea.

Pittosporum eugenioides lemonwood Noted in 1968 in forest near the western high dune. Not seen recently.

Pittosporum tenuifolium A few plants on the forest margin on the northern dune and some on the flats. It is a common plant with kanuka, outside the reserve to the west.

Podocarpus dacrydioides kahikatea This species was milled out in the early 1930s producing some very large logs. There are two adult trees and minor stands of young plants which established since milling on the flats at the eastern end of the reserve, and some on the flat just east of the high dune. Outside the reserve to the east there is a dense stand of poles. Eight young emergent trees measured in 1971 and again in 1978 had grown an average of 1.8 m in height and 0.18 m in girth in seven years. Trees of juvenile form beneath the canopy would grow much more slowly than this, and may sometimes die back in droughts.

Podocarpus ferrugineus miro There was a small tree on the forest margin on the northern dune. One side of this tree was fire scarred. It died in the 1969-70 drought.

Podocarpus spicatus matai The single plant in the reserve is on the northern dune. In 1971 it was 6 m high and had 2 trunks, one 25 cm in girth, the other 21 cm. It has grown one metre in height and 8.7 and 10.9 cm in girth in 7 years. Several trees and young plants are present in bush remnants to the north of Paranui Road and to the east of the reserve.

Podocarpus totara totara A single tree (male) on a wet flat on the south margin of the reserve. In 1971 it had a height of 13.75 m and a girth of 1.12 m. It has grown 0.4 m in height and 16 cm in girth in 7 years.

Pratia angulata Patches in moist places in semi-open forest on the flats. In 1976, with no grazing to keep plants depressed, they climb up to 50 cm high over other plants.

- Pseudopanax arboreus* . . fivefinger Several plants are appearing through the bracken on shaded faces of the western high dune.
- Pseudopanax crassifolius* lancewood Many plants on the northern dune, some in forest on the flats.
- Ranunculus hirtus* Few plants in forest on the flats.
- Ranunculus rivularis* Locally plentiful in puddles in degraded forest.
- Rhopalostylis sapida* Nikau Several plants on wet flats in bush remnants to the north and NE of the reserve and one surviving in pasture to the south.
- Rubus australis* lawyer A few plants on the flat in forest.
- Rubus schmidelioides* lawyer A few plants in forest on flats and dunes.
- ~~*Rubus squarrosus*~~ lawyer A few plants with very reduced leaf blades on the forest margin on the northern dune and one on the flats.
- Schefflera digitata* pate Occasional young plants on the flats - mostly in forest; one in the area dominated by *Coprosma areolata*.
- Solanum aviculare* poroporo Several plants in semi-shade on flats and bases of dunes.
- Solanum nodiflorum* Prominent around the bases of large trees on the flats and many on the northern dune.
- Sophora microphylla* kowhai Two trees on the northern dune and a few to the west of the reserve.
- Stellaria parviflora* Occasional in forest on the dune.

Tetrapathaea tetrandra N.Z. passionvine Plentiful on dunes and flats. There was abundant fruiting in May 1976. Many fruits are damaged by rats or mice seeking the red flesh around the seeds. Present in bracken on the northern dune.

Urtica ferox tree nettle A few plants were seen in 1968 but these have disappeared. There was a general decline in the abundance of this species in the Manawatu district in the 1960s. During this time it disappeared from places where it had previously been prominent. Present still in bush remnants to the east of the reserve.

Urtica incisa nettle Many in shade on parts of the flats.

Wahlenbergia gracilis Fairly common on grassy dunes but will decrease as grass grows more rank.

B. Monocotyledonous plants

Acianthus fornicatus var. *sinclairii* orchid Few plants on high western dunes.

Agropyron scabrum blue wheat grass Few plants in grassy places on dunes.

Arthropodium candidum Occasional on the forest margin on the northern dune in 1968 but not seen in 1976. It is unlikely that these plants will persist among taller vegetation unchecked by grazing. Other small plant species will be lost in the same way.

~~Carex dipteraea~~ Occasional on wet flats.

Carex dissita Conspicuous on wet flats.

Carex geminata Many plants in wet open forest.

- Carex secta* Few in very wet parts. More numerous in remnants north of Paranui Road.
- Carex solandri* Many in moist places among trees.
- ~~*Carex testacea*~~ A number of plants on the forest margin on the northern dune.
- Carex virgata* Many in moist open places and among trees.
- Chiloglottis cornuta* orchid A few plants on flats in forest.
- Collospermum hastatum* Plentiful on most of the old pukatea; some on other trees on flats and dunes. Fallen clumps persist for a time as terrestrial plants.
- Cordyline australis* cabbage tree A few on wet flats in open parts, and some seedlings in the forest. There are a few on the dunes.
- Corybas trilobus* orchid Many patches in forest on the flats and dunes.
- Cyperus ustulatus* A few on wet grassy flats.
- Dendrobium cunninghamii* orchid A fallen plant noted in bush remnant to the NE of the reserve.
- Earina autumnalis* orchid Seen in 1963 but its location was not noted.
- Earina mucronata* orchid Many colonies on trees on flats and dunes.
- Echinopogon ovatus* Hedgehog grass Many plants on dunes and flats in semi-shade.
- Freycinetia banksii* kiekie Grows on most of the larger pukatea in profusion and there is some on the forest floor on the flats. On the north side of Paranui Rd many died in the drought but only a few in the reserve succumbed.

~~Gahnia xanthocarpa~~ There are a number of plants on the flats.

In spite of the harshness of the leaves the species has been closely cropped by cattle.

Gastrodia cunninghamii orchid Two plants seen on the flats in 1972.

Juncus australis rush Occasional plants on the flats and a few on old dunes.

Juncus pallidus rush Scattered plants on old dunes and flats.

Juncus sarophorus rush Many on flats in open parts.

Microlaena avenacea Occasional on the mounds at bases of trees on the flats.

Microlaena stipoides Common in dry grassy places in the reserve.

On the dunes it grows in semi-shade on forest margins as well as in open places.

Microtis unifolia Recorded in grassy places in 1968.

Notodanthonia racemosa danthonia Common on grassy parts of the central dune.

~~*Cyrtandra imbecillus*~~ Plentiful on shaded parts of flats and dunes in forest taking over ground previously bared by cattle. Mats were initially so dense that they were probably suppressing seedlings of other species, but more recently they have thinned out appreciably.

Ripogonum scandens supplejack Abundant in taller forest on the flats.

Scirpus nodosus Occasional on dunes in open places and among bracken.

Uncinia uncinata hooked sedge Many plants on dunes and flats.

Pterostylis banksii orchid Occasional in forest on the flats.

C. Ferns and fern allies

Asplenium bulbiferum Many in forest on dunes and flats having persisted inspite of cattle grazing there. It now appears to be increasing.

Asplenium falcatum Fairly common as an epiphyte in Collospermum clumps.

Asplenium flabellifolium A few plants on the high western dune in 1968.

Asplenium flaccidum Fairly common on tree trunks.

Asplenium lucidum Occasional in forest on the flats.

Athyrium australe A few plants in forest on the flats.

Blechnum capense A few plants in wet forest.

Blechnum filiforme Persisted on the wet flats where animals trampled heavily on firm ground.

Ctenitis decomposita Few in forest on flats.

Ctenitis glabella Few in forest on flats.

Cyathea dealbata silver tree fern Some in forest on dry parts of flats.

Cyathea medullaris mamaku Few on flats in forest.

Dicksonia fibrosa There was an unhealthy plant on the flat in 1968.

Dicksonia squarrosa Many on dry parts of the flats, a few on dunes.

Histiopteris incisa Colonies in wet semi-open forest.

Hymenophyllum rarum A patch was noted on a cabbage tree on the flat in 1968 either in the reserve or nearby.

- Hypolepis tenuifolia* Occasional in grassy places on flats and dunes.
- Lycopodium billardieri* club moss One plant seen on a cabbage tree at the eastern end of the reserve.
- Paesia scaberula* hard fern A few colonies on the flats.
- Pellaea rotundifolia* Many in forest on the northern dune, a few among tree roots on the flats.
- Phymatodes diversifolium* Few on trees on the flats.
- Phymatodes scandens* Abundant on the wet flats among tree roots, and climbing trunks to a limited degree. Some plants on the dunes.
- Polystichum richardii* Many on northern dune in forest.
- Pteridium aquilinum* bracken The most plentiful fern in the reserve, covering extensive parts on the dunes in the west in particular. The vigour of bracken was reduced in some places by the 1969-70 drought. The drought of 1973 caused death of the current year's fronds on the north faces of the dunes. The plants recovered later. Bracken has recently invaded some grassy parts of the experimental area.
- Pteris macilenta* Occasional in forest, mainly among pukatea roots.
- Pteris tremula* Scattered plants in forest on dunes and flats.
- Pyrosia serpens* Many plants, as epiphytes.
- Rumohra hispida* Grows in forest in a few places on the flats.
- Thelypteris pennigera* Few plants in wet places in forest.

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HIMATANGI BUSH SCIENTIFIC RESERVE -
HISTORY AND BOTANICAL FEATURES

BOTANY DIVISION REPORT



