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## Wild vascular plants of the Opotiki — East Cape region North Island, New Zealand

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**Abstract** The locality covers farmed lowlands and forested uplands in a region with very few plant records. Five hundred and forty native and 424 naturalised taxa are recorded with information on their abundance, distribution, and habitat.

**Keywords** flora; abundance; distribution; habitat

### INTRODUCTION

The Opotiki-East Cape region (Fig. 1 and 2) has received little attention from botanists. In the early days of European settlement few visitors ventured into this remote land with difficult access. East Cape was visited by W. Colenso in 1838, 1841, and 1843 and by A. Sinclair about 1849 or 1850. From 1872 onwards for some 25 years the Rt Rev. W. L. Williams travelled the region, though mostly to Hicks Bay from Gisborne, carefully noting the plants and collecting specimens. Among his discoveries were *Carmichaelia williamsii* at Hicks Bay, *Archeria racemosa* at Te Araroa, and *Pisonia brunoniana* at East Cape. It was largely the notes and specimens of W. L. Williams that formed the basis of a paper on the botany of the East Cape district by T. Kirk (Kirk 1896). In the 1890s J. Adams and D. Petrie found *Brachyglottis perdicoides* at Hicks Bay before travelling on to Te Araroa and Mt Hikurangi. About the same time H. Hill found *Dactylanthus taylori* at Te Araroa.

In 1914, amateur botanist and practising lawyer N. Potts settled in Opotiki where he studied, collected and grew native plants, established the live plant collection at Hukutaia Domain, and explored much of the region almost up to the time of his death in 1970. From 1952 M. Heginbotham accompanied Potts in the field and since 1975 made

the records of native and introduced plants which form the basis of this paper. The records have been supplemented by the unpublished list by A. P. Druce, Botany Division, DSIR — “Indigenous higher plants (psilopsids, ferns, gymnosperms, flowering plants) near the coast, from Hicks Bay to East Cape, including Te Araroa Hill, sea-level to 900 ft (275 m)”, List no. 82, 1972. Collections made in 1983 and 1984 by B. R. Clarkson and B. D. Clarkson are also recorded (see Acknowledgments).

A comprehensive collection of voucher specimens has been deposited in the herbarium of Botany Division, DSIR, Christchurch. More detailed records of distribution are contained in “Wild plants of Ohope to East Cape” by M. Heginbotham, a 1979 unpublished report held at Botany Division, Christchurch.

This paper presents an annotated list of the wild plants of the Opotiki – East Cape region known to us in October 1984, noting mainly abundance, distribution, habitat, and country of origin. Species are listed alphabetically under the headings; ferns and fern allies, gymnosperms, dicotyledons, and monocotyledons.

### THE STUDY AREA

#### Topography

The Opotiki – East Cape region is backed by the rugged, forested uplands of the Raukumara Range and mountains of Urewera National Park. On the western edge of the region Pleistocene and more recent terraces extend 20 km inland narrowing to 10 km near Opotiki. Then along a stretch of rocky coastline towards Cape Runaway the terraces are only intermittent on the fringe of hills of Jurassic age (Fig. 3). Below the 500 m contour (taken as the arbitrary division between the lowlands and the uplands) lie all the terraces, the lower slopes of the hills, and the floors of all the valleys (Fig. 1).

In the Cape Runaway – East Cape portion of the region the geological basis of the landscape is much more varied, the surface is undulating and generally lies below 500 m above sea level.

#### Climate

The lowlands have warm summers and mild winters. The normal temperatures at Opotiki are 18.2°C

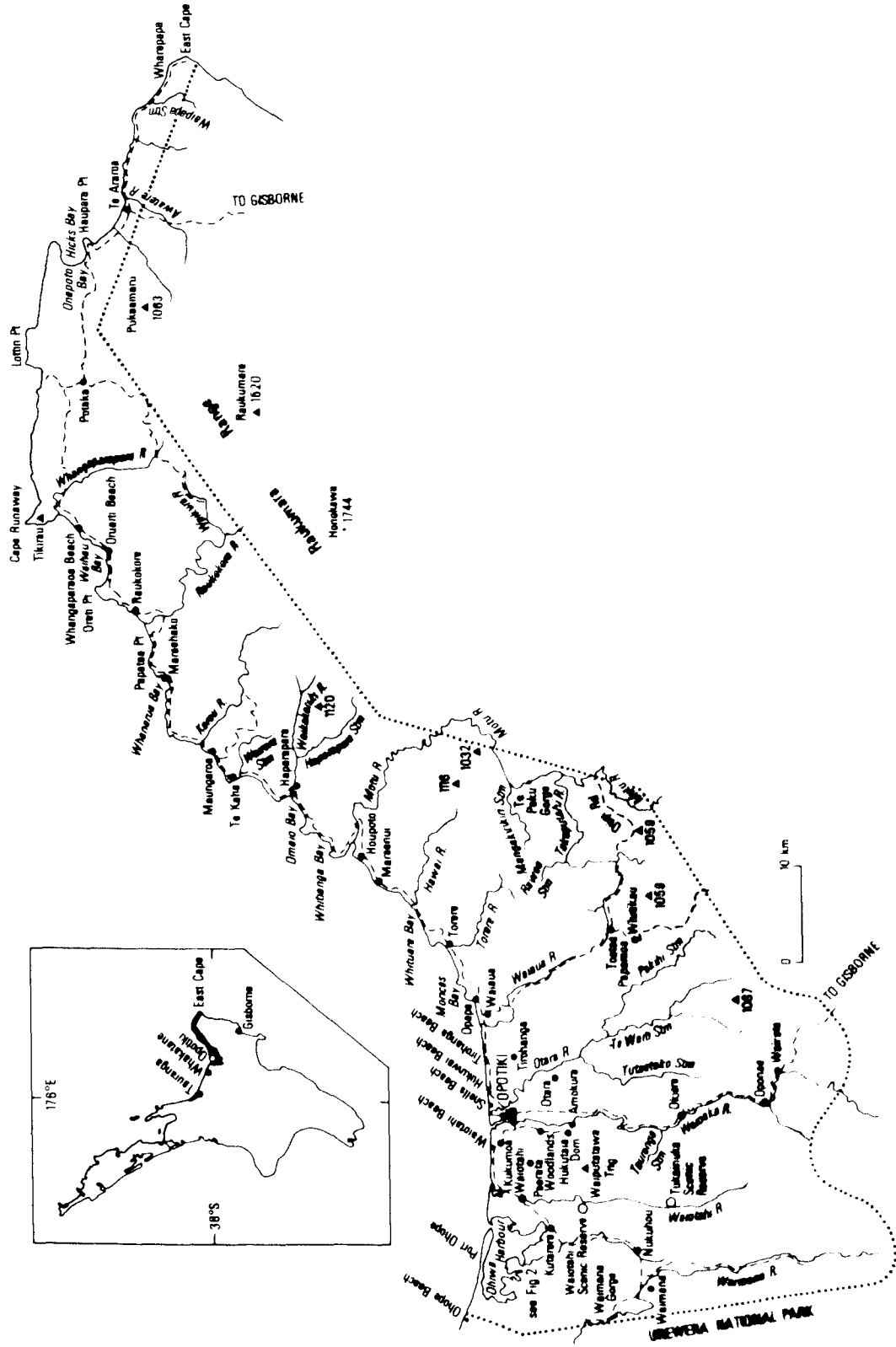


Fig. 1 The Opotiki — East Caps region. For convenience of reference in the text the Opotiki district is the land lying to the west of Torere River. The remainder is referred to as the eastern district.

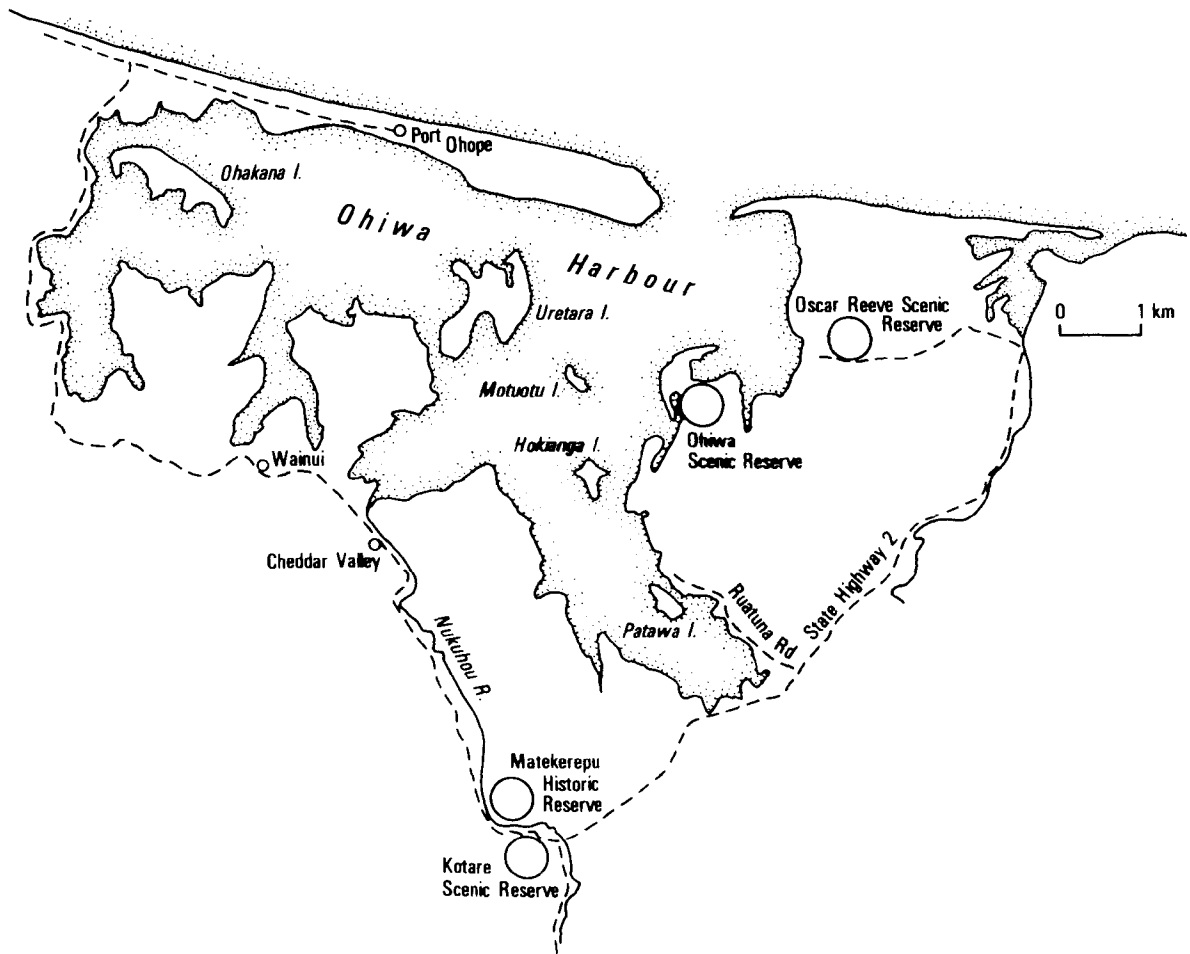


Fig. 2 Ohiwa Harbour and environs.

for January, and 9.2°C for July (NZ Meteorological Service 1973). Ground frosts are more frequent at Opotiki (27 per year) than at East Cape, and there is occasional snow in the high country. The lowlands lie in the 1000–1500 mm annual rainfall zone (Opotiki 1409 mm). Parts of the uplands probably receive more than 2000 mm. The region is subject to occasional very heavy rain storms.

### Vegetation

The main vegetation features of the region are forest, scrubland, fernland, and farmland. In the rugged uplands, forest remains intact where it could not be reached by timber millers and early settlers. Dominant trees in the primary forest are tawa (*Beilschmiedia tawa*), rimu (*Dacrydium cupressinum*), kamahi (*Weinmannia racemosa*), and northern rata (*Metrosideros robusta*). *Nothofagus* forest occurs in patches, some quite extensive in the higher country. Much upland has cut-over forest

depleted particularly of rimu, but matai (*Podocarpus spicatus*), totara (*Podocarpus totara*), and kahikatea (*Podocarpus dacrydioides*) have also been removed. Disturbance during logging has promoted secondary forest species such as wineberry (*Aristotelia racemosa*), lacebark (*Hoheria sexstylosa*), kohuhu (*Pittosporum tenuifolium*), and mahoe (*Meliclytus ramiflorus*). In some logged areas the forest has been cleared for farmland. Where farming has been abandoned the return to forest is marked by extensive areas of *Leptospermum* scrubland, and *Pteridium* and *Paesia* fernland.

Forest remnants in the lowlands are mainly pockets of secondary forest, mostly on land unsuitable for farming, or retained for their scenic worth. They comprise various combinations of pohutukawa (*Metrosideros excelsa*), puriri (*Vitex lucens*), tawa, rewarewa (*Knightsia excelsa*), tawaroa (*Beilschmiedia tawaroa*), taraire (*B. tarairi*), and kohekohe (*Dysoxylum spectabile*) depending on the



**Fig. 3** Omaio Bay. This is one of a series of bays typifying much of the coastline between Opotiki and Cape Runaway. Note the farmed coastal plain and the native forest and scrubland reaching close to the shore. Whites Aviation 18.5.60

type and extent of the disturbance, and some other habitat factors. On the coast, pohutukawa trees are a prominent scenic feature backing many rock-bound bays which are characteristic of the coastline of the eastern district. Less attractive tracts of scrubland and fernland mark areas where farming has not been successful.

Farmland covering about one-half of the region, is predominantly in the lowlands and used mostly for grazing sheep and cattle. The most productive pastures have white clover (*Trifolium repens*) and ryegrass (*Lolium perenne* and hybrids) as their main components. On poorer land there are more annual clovers, and grasses such as browntop (*Agrostis tenuis*), Yorkshire fog (*Holcus lanatus*), and sweet vernal (*Anthoxanthum odoratum*). Relatively small areas are cultivated.

Exotic forestry is increasing dramatically on abandoned farmland and on cut-over forest land, and there has also been considerable expansion of orcharding.

#### Habitats

The major habitats are forest, scrubland, fernland, grassy areas, wetland, disturbed soil and waste land

(a term for land which has been recently disturbed by earthworks, floods or cultivation, and is not mown, grazed or otherwise managed to promote a definite type of plant cover). The definition is not wide enough to embrace all roadside areas. Roadside communities are influenced by the nature of the local soil and the management of adjoining land. Earthworks creating ditch, bank and berm topography diversify the habitat, and the flora also. Roadsides are a refuge for some native plants and are receptors of many aliens. In this paper, open habitats are those with few or no woody plants. Open forest and open scrubland have less than 50% of the canopy provided by woody plants.

#### THE FLORA

Wild plants of the region include elements of the native vegetation and plants which have become naturalised. Only a few native plant species have been lost. Some such as *Planchonella novo-zelandica*, and *Carmichaelia williamsii* appear to be in quite low numbers. A number of trees and shrubs have their apparent limits of distribution in the region.

Table 1 Number of native and alien vascular plant species in the Opotiki — East Cape region.

	Native	Alien
Dicotyledons	277	317
Monocotyledons	148	101
Gymnosperms	9	4
Ferns and fern allies	106	2
Total	540	424

## Southern limits:

*Archeria racemosa*, *Beilschmiedia tarairi*, *Carmichaelia williamsii*, *Coprosma macrocarpa*, *C. spatulata*, *Dracophyllum sinclairii* (doubtfully present), *Olearia pachyphylla*, *Pisonia brunoniana*.

## Northern limits:

*Aleusosmia pusilla*, *Brachyglottis perdicoides*, *Coprosma rubra*, *Hebe* (3 unnamed entities), *Olearia paniculata*, *Pittosporum ralphii*.

In this survey 964 taxa were recorded in the wild state. The geographical region of origin is given with the annotations. Classification of those native to New Zealand and those introduced into this country (aliens) is presented in Table 1.

Included in the count of taxa are species, subspecies, varieties and hybrids other than hybrids between native species.

Most plants recorded as aliens are thoroughly naturalised, that is, are growing and reproducing unaided directly by man. Some are well established in other districts and occur here as casuals only. Many aliens made an early entry with the introduction of European-type agriculture and were encouraged by clearing of forests and by cultivation. Plants imported for horticultural purposes particularly, are finding conditions congenial for their spread and many are thoroughly naturalised. The semi-wild horticultural plants of yet uncertain naturalisation status are given in an appended list.

In the following annotations it can be assumed that the plants are moderately plentiful and moderately well dispersed unless otherwise stated. Plants which are said to have been noted, seen or found are seemingly restricted in numbers and distribution. Herbaria are referred to as CHR (Botany Division, DSIR, Christchurch); WELT (National Museum, Wellington); and WELTU (Victoria University, Wellington). There are also voucher specimens in the Forest Research Institute herbarium (NZFRI) at Rotorua collected by B. R. Clarkson, B. D. Clarkson, and others.

Nomenclature of the gymnosperms and angiosperms, in the main, follows Allan (1961), Moore & Edgar (1970), Healy & Edgar (1980), Healy (1984), and Cheeseman (1925). Most of the alien dicotyledons are also listed in a series of papers in

New Zealand Journal of Botany beginning in Vol. 16, p. 387, 1978 under the general title Checklist of dicotyledons naturalised in New Zealand. Nomenclature changes relating to native plants are reviewed by Edgar (1971) and Edgar & Connor (1978, 1983).

Plants not listed in these references are *Beilschmiedia tawaroa* A. E. Wright, *Geranium homeanum* Turcz., *Poa triodiodes* (Trin.) Zotov, *Senecio petasites* DC., *Abutilon megaponticum* St. Hil. et Naud. × *pictum* (Hook. et Arn.) Walp., *Campsis tagliabuana* (Vis.) Rehd., *Hydrangea macrophylla* Ser., *Phyllostachys nigra* (Lodd.) Munro, *P. viridis* (Young) McClure, *Pyracantha coccinea* Roem., *Yucca aloifolia* L., *Festuca nigrescens* Lam. and *Solanum rantonnei* Carrière.

The naming of fern and fern allies mainly follows Allan (1961) but there have been many changes since this publication — see Brownsey (1977) for *Asplenium*; Brownsey & Chinnock (1984) for *Hypolepis*; Chinnock (1975) for *Tmesipteris*; Parris (1972) for *Doodia*; Parris & Given (1976) for *Grammitis*. Other departures from Allan (1961) are: *Asplenium lucidum* to *A. oblongifolium* Col.

*Athyrium australe* and *A. japonicum* to *Diplazium australe* (R. Br.) Wakef. and *Lunathyrium japonicum* (Thunb.) Karata

*Blechnum lanceolatum* to *B. chambersii* Tindale

*Ctenitis glabella*, *C. decomposita*, and *C. velutina*

to *Lastraeopsis glabella* (A. Cunn.) Tindale, *L. microsora* (Endl.) Tindale ssp. *pentangularis* (Col.)

Tindale and *L. velutina* (A. Rich.) Tindale

*Grammitis heterophylla* to *Ctenopteris heterophylla* (Labill.) Tindale

*Rumohra hispida* to *Lastraeopsis hispida* (Swartz) Tindale

*Thelypteris pennigera* to *Pneumatopteris pennigera* (Forst. f.) Holtum

## PLANT LIST

## FERNS AND FERN ALLIES

*Adiantum cunninghamii* maidenhair Abundant in forest and scrubland. NZ

*Adiantum diaphanum* maidenhair Occurs in Waiotahi Scenic Reserve. A former colony near Waiotahi Beach has now been destroyed. NZ, Norfolk I, Aust, Pacific Is to China

*Adiantum fulvum* maidenhair Occasional in lowland forest. NZ

*Adiantum hispidulum* Occasional in forest and scrubland in the lowlands. NZ, Aust, Pacific Is to tropical Asia and Africa

*Anarthropteris lanceolata* Common in lowland forest on banks, rocks, and trees. NZ

*Arthropteris tenella* Occasional in lowland forest. NZ, Aust, Norfolk I, N Caledonia

*Asplenium bulbiferum* hen and chicken fern

- Subspecies *bulbiferum* is common in forests. Subspecies *gracillimum* grows in forest on Uretara Island. *A. bulbiferum* × *flaccidum* hybrids have been noted in Tukainuka Scenic Reserve. NZ
- Asplenium flaccidum* ssp. *flaccidum* Occurs as an epiphyte in forests throughout. NZ, Aust, Pacific Is
- Asplenium flaccidum* ssp. *haurakiense* Grows as a coastal rupestral plant in the region of Whanarua Bay. NZ
- Asplenium hookerianum* Noted in forest at Amokura and Tikirau. NZ
- Asplenium oblongifolium* Widespread and fairly plentiful in forest. NZ, Norfolk I, Lord Howe I
- Asplenium polyodon* Grows in forest throughout but is most plentiful in the Opotiki district. NZ, Aust, Pacific Is, S.E. Asia, Madagascar
- Azolla rubra* Occurs on ponds and slow moving streams in the lowlands. NZ, Aust
- Blechnum* sp. (*Lomaria latifolia* Col.) Noted in upland forest at Toatoa and near Otipi Rd. NZ
- Blechnum capense* kiokio (i) Common species — lower pinnae reduced in length. This, the most abundant *Blechnum* throughout the region forms large colonies on moist steep banks. (ii) Bog species (non *B. minus* sensu Allan 1961) = *B. minus* (R. Br.) Ettingsh. Noted in wetlands in the Opotiki district in the uplands and lowlands. (iii) Cliff species — lower pinnae not reduced in length. Noted on shaded cliffs at Hicks Bay. NZ
- Blechnum chambersii* Plentiful on stream margins in forest. NZ, Aust, Pacific Is
- Blechnum colensoi* Grows on steep moist banks in forest at Waioeka Gorge, at Whitikau and Takaputahi. NZ, Aust, Pacific Is
- Blechnum discolor* crown fern Locally abundant in forest from Waimana to Tikirau, and occasional at Te Kaha and Te Araroa. It also occurs in rough pasture on land being developed from forest. NZ
- Blechnum filiforme* Abundant in forest. NZ
- Blechnum fluviatile* kiwikiwi Grows mostly on moist shaded banks in forest. NZ, Aust
- Blechnum membranaceum* Noted on moist banks in forest in the Waiotahi Valley and at Takaputahi. NZ
- Blechnum nigrum* Found by M. Heginbotham in 1953 on a steep, well-shaded hillside in forest at Whitikau. No other sightings have been made. NZ
- Blechnum norfolkianum* Numerous in forest on Uretara Island, occasional in the Oscar Reeve Scenic Reserve, Ohiwa. NZ, Norfolk I
- Blechnum penna-marina* Plentiful in the hill pastures of Toatoa and upper Waioeka Valley and noted in the lowlands in the Waiotahi Valley. NZ, Aust, S America
- Blechnum vulcanicum* There are local populations in forest in upper Waimana and Waioeka Valleys, also at Toatoa and Whitikau. NZ, Aust, Pacific Is, Malaya
- Botrychium australe* Recorded in the Druce checklist. NZ
- Cheilanthes distans* Uncommon on cliffs at Torere and Houpoto. NZ, Aust, Norfolk I, N Caledonia
- Cheilanthes sieberi* Grows in rocky places, near the coast at Torere and Hawaii. NZ, Aust, N Caledonia
- Ctenopteris heterophylla* Occasional on trees and rocks in forest. NZ, Aust
- Cyathea cunninghamii* gully tree fern Grows near streams in lowland forest. NZ, Aust
- Cyathea dealbata* silver tree fern Plentiful in forest. NZ, Lord Howe I
- Cyathea medullaris* mamaku The most abundant and widespread of the tree ferns and is a conspicuous feature of most areas of native forest. NZ, Aust, Pacific Is
- Cyathea smithii* soft tree fern Plentiful in upland forest particularly west of the Motu River. NZ
- Dicksonia fibrosa* Plentiful in upland forest around Whitikau and Otipi Rd, but descending to the lowlands in many localities. The large fibrous trunks are used for garden landscaping and as a medium for orchid culture. NZ
- Dicksonia lanata* Noted in forest in the upper Waioeka Valley at 700 m and in the Toatoa area. NZ
- Dicksonia squarrosa* wheki Abundant in forest, particularly in the lowlands. Ability to resprout after fire enables it to become prominent in areas incompletely cleared of forest. NZ
- Diplazium australe* Fairly common in lowland forest near streams from Ohiwa to near Te Kaha. NZ, Aust, N Caledonia
- Doodia media* ssp. *australis* A common fern of scrubland and forest margins in the lowlands. NZ, Aust, Pacific Is
- Doodia squarrosa* Occasional in scrubland and on forest margins in the lowlands. NZ, Aust
- Gleichenia cunninghamii* umbrella fern Plentiful in lowland forest, occasional in upland forest. NZ
- Gleichenia dicarpa* umbrella fern Known from swamps near Whangaparaoa and at Houpoto. NZ, Aust, N Caledonia, Malaya
- Gleichenia microphylla* umbrella fern Plentiful in both wet and dry habitats in several places in the lowlands. NZ, Aust, N Caledonia, Malaya
- Grammitis billardieri* Occasional on trees and rocks in upland and lowland forests in the Opotiki district. NZ, Aust
- Grammitis ciliata* Grows in mossy places in forests at Papamoa and in hard beech forest near Opotiki. NZ
- Grammitis magellanica* ssp. *nothofagei* Noted in upland forest in the Motu River catchment and inland from Waiau. NZ
- Grammitis pseudociliata* Grows in upland forest in the Motu River catchment. NZ
- Histiopteris incisa* water fern Plentiful on forest margins and stream banks, particularly west of the Motu River. NZ, Aust, and other countries.
- Hymenophyllum bivalve* Common on the forest floor and as an epiphyte in forests above 700 m in the Toatoa area. NZ
- Hymenophyllum demissum* Plentiful in lowland forest, usually as a ground fern but sometimes on trees. It is probably the most common filmy fern in the region. NZ
- Hymenophyllum dilatatum* Common as a forest epiphyte west of the Motu River. NZ
- Hymenophyllum ferrugineum* Occurs on tree trunks in forest throughout. NZ, Chile
- Hymenophyllum stabellatum* Fairly common in lowland forest particularly. NZ, Aust, Tahiti
- Hymenophyllum flexuosum* Locally plentiful in parts of the upper Waioeka Valley growing on trees and banks in forest. NZ

- Hymenophyllum multifidum* Occasional on rocks and trees, growing both in forest and in the open. NZ
- Hymenophyllum rarum* Grows in forest in the Opotiki district. NZ, Aust
- Hymenophyllum revolutum* Grows in forest between Waimana and the Haparapara River. NZ
- Hymenophyllum sanguinolentum* A widespread fern in forest. NZ
- Hymenophyllum scabrum* Grows in forest throughout. NZ
- Hypolepis ambigua* Plentiful and widespread in the lowlands in rough pasture, on forest margins and in clearings. NZ
- Hypolepis distans* Noted in forest and scrubland in Waitohi Scenic Reserve, by a lowland tributary of the Waiau River and near Pakihi Stream. NZ
- Hypolepis lactea* Noted in forest near Waiputatawa Trig, Waitohi. NZ
- Hypolepis rufobarbata* Occasional on forest margins. NZ
- Lastreopsis glabella* Grows in forest in scattered lowland localities from Waimana to Tikirau. NZ, Pacific Is
- Lastreopsis hispida* Grows in forests, mainly in the lowlands. NZ, Aust
- Lastreopsis microsora* ssp. *pentangularis* Occasional; mostly in lowland forest. NZ, Aust, Norfolk I
- Lastreopsis velutina* Occasional in lowland forest. NZ
- Leptolepia novae-zelandiae* Occasional in forest between 180 and 450 m in the Opotiki hinterland. NZ
- Leptopteris hymenophylloides* Grows in forest; more plentiful in the uplands. NZ
- Leptopteris superba* Prince of Wales feather Noted in scrubland in the upper Waioeka Valley and in the Toatoa area. NZ
- Lindsaea trichomanoides* Plentiful in forest above 300 m in the Opotiki hinterland. NZ, Aust, Fiji
- Lunathyrium japonicum* Noted in forest in the Waioeka Gorge and Matekerepu Historic Reserve. NZ, Aust, Pacific Is to China and Japan
- Lycopodium cernuum* Scattered and local between Ohope and Potaka, on moist banks particularly. NZ, tropics, subtropics
- Lycopodium deuterodensum* Grows on islands and margins of Ohiwa Harbour and in poor soils in various places along the coast to Whangaparaoa. NZ, Aust, Norfolk I, N Caledonia
- Lycopodium fastigiatum* Noted in scrubland in the Upper Waioeka Valley. An unidentified colony in the Tutaetoko Valley may be of the same species. NZ, Aust
- Lycopodium scariosum* Occurs in open situations with other native plants between 150 and 760 m in the Opotiki hinterland. NZ, Aust
- Lycopodium varium* The epiphytic form (usually recorded as *L. billardieri*) is widespread in forest. The terrestrial form has been noted in scrubland at Toatoa. NZ, Aust
- Lycopodium volubile* Occurs at all altitudes on forest margins and in scrubland. NZ, Aust, Pacific Is, N Caledonia, Malaya
- Lygodium articulatum* mangemange Grows in forest near the Waioeka Gorge. NZ
- Marattia salicina* king fern Grows in several places in the Waioeka Gorge. NZ, Norfolk Is, Pacific Is
- Nephrolepis cordifolia* tuber sword-fern Established from garden refuse at Ohiwa. Tropics and subtropics
- Ophioglossum coriaceum* Found in grassland in 1953 in the upper Waioeka Valley. NZ
- Paesia scaberula* ring fern Abundant in hill country pastures, scrubland, and on forest margins. NZ
- Pellaea rotundifolia* Widely distributed in scrubland, particularly near the coast. NZ, Aust, Norfolk I
- Phymatosorus diversifolius* Widespread in forest on trees and rocks. NZ, Aust, Pacific I
- Phymatosorus novae-zelandiae* Seen in forest at Toatoa and in upper Waioeka Valley and in upland forest in the Motu River catchment. NZ
- Phymatosorus scandens* Widespread in forest. NZ, Aust, Norfolk I
- Pneumatopteris pennigera* Grows in moist shaded situations near streams in many localities. NZ
- Polystichum richardii* shield fern Grows along the coast in scrubland and forest, in some places extending into the uplands. NZ, Fiji
- Polystichum silvaticum* Plentiful in forest at Toatoa and Whitikau; occasional in other localities. NZ
- Polystichum vestitum* Grows on forest margins and in rough pasture at Toatoa and Whitikau, but more plentifully in the upper Waioeka Valley. NZ, Aust, S America
- Pteridium esculentum* bracken fern Forms extensive fernland where farmland has not been maintained, and occupies many other untended open habitats at all altitudes. NZ, Aust, Society Is
- Pteris comans* A few plants grow with native trees and shrubs at Ohiwa Beach. NZ, Aust, Pacific Is
- Pteris macilenta* Throughout in forest but not plentiful. NZ
- Pteris tremula* Widespread and versatile fern of the lowlands inhabiting a range of habitats from forest margins to open rocky places. NZ, Aust, Pacific Is
- Pyrrosia serpens* A widespread hardy fern growing on trees and rocks in well lit parts of forest. NZ, Aust, Pacific Is
- Rumohra adiantiformis* Occasional on tree ferns, mainly in the Opotiki district. NZ, Aust
- Schizaea dichotoma* Grows with hard beech and tawa near Opotiki. NZ
- Selaginella kraussiana* Established on shaded banks of the Waioeka River and at Takaputahi. Africa
- Tmesipteris elongata* ssp. *elongata* Grows in forest in many localities. NZ, Aust
- Tmesipteris lanceolata* Noted on tree ferns, particularly mamaku, in the Waioeka Gorge, at Whanarua Bay and in upland forest in the Motu River catchment. NZ, Aust, N Caledonia
- Tmesipteris tannensis* Noted in forest at Whanarua Bay and near Opotiki. NZ
- Trichomanes elongatum* A fern of shady places, usually near streams. It has been found at Woodlands, Otaru and in the Waimana and Waiau Valleys. NZ, Aust
- Trichomanes endlicherianum* Noted in one locality near the Waitohi River but is probably more widespread. NZ, Pacific Is



*Trichomanes reniforme* kidney fern Plentiful in upland forest, occasional in the lowlands. NZ  
*Trichomanes venosum* Plentiful on tree fern trunks, particularly in the Opotiki district. NZ, Aust

#### GYMNOSPERMS

*Chamaecyparis lawsoniana* Lawson's cypress Many self sown plants occur on roadside banks at Toatoa and Maraenui. California

*Cupressus macrocarpa* macrocarpa Self-sown on roadside cliffs at Waiotahi Beach. California

*Dacrydium cupressinum* rimu Occasional in forest remnants in the lowlands; more abundant inland. This was the main timber used by early settlers; and is still logged to some extent, mainly from Whitikau area. Regeneration is occurring in most places in the uplands. NZ

*Libocedrus plumosa* kawaka Grows in forests in the Waiotahi Valley, in the catchments of the Te Waiti and Rawea Streams, and at Wairata. NZ

*Phyllocladus glaucus* toatoa Fairly plentiful in the upland forests around Toatoa and in the headwaters of Te Waiti Stream and Waiioeka River. NZ

*Phyllocladus trichomanoides* tanekaha In lowland scrub and forest in many places. NZ

*Pinus pinaster* maritime pine Naturalised on several roadsides near Ohope, Ohiwa, Omaio, and Hicks Bay. Medit

*Pinus radiata* radiata pine Grows wild in many areas, mostly on roadsides but occasionally in native forest. Recent extensive commercial planting of this species will promote further naturalisation. California

*Podocarpus dacrydioides* (*Dacrycarpus dacrydioides*) kahikatea Poles and small trees grow in lowland forest on poorly drained soils. Kahikatea is not well represented inland because of the few flood plains. NZ

*Podocarpus ferrugineus* (*Prumnopitys ferruginea*) miro In small numbers throughout the lowlands, more plentiful in the uplands, particularly in the less accessible areas not reached by loggers. NZ

*Podocarpus hallii* Hall's totara Formerly a plentiful timber tree now in reduced numbers. Occurs mainly between the Waiotahi and Motu Valleys in upland and lowland forest. Some very large trees exist in the region of Toatoa and Whitikau. NZ

*Podocarpus spicatus* (*Prumnopitys taxifolia*) matai Occasional survivors of former vegetation grow in lowland forest and milled upland forest. Some larger trees occur near Takaputahi and other inland places remote from sawmills. NZ

*Podocarpus totara* totara A stand in the Tukainuka Scenic Reserve is probably typical of this species when it was more prevalent in the lowlands. Unmillable trees persist in forest remnants in the lowlands and adjoining uplands. NZ

#### DICOTYLEDONS

*Acacia dealbata* silver wattle Plentiful in Waiotahi Valley and about Ohiwa Harbour on roadsides and waste land. Aust

*Acacia decurrens* green wattle Occasional on roadsides and waste land between Waiotahi Valley and Whanarua Bay. Aust

*Acacia mearnsii* black wattle Thoroughly naturalised about the Ohiwa Harbour, Waimana, Waiotahi to Otara Valleys from early plantings when the bark was used for tanning. It has also spread to the eastern district occurring from Maraenui to East Cape at intervals. Aust

*Acacia verticillata* prickly acacia Occasional near roadsides at Waiotahi, Waioua, Morices Bay, and Maraenui, apparently having spread from hedges. Aust

*Acaena anserinifolia* pipiriri A widespread, abundant weed of pastures particularly on undeveloped farmland. It grows in open places on forest margins, waste lands, scrubland and on stream sides. NZ, Aust, N Guinea

*Acaena novae-zelandiae* pipiriri Grows in the same habitats as *A. anserinifolia*, but is less plentiful. NZ

*Acanthus mollis* Occasional on waste ground at Opotiki. Europe

*Achillea millefolium* yarrow Grows in grassy places at all altitudes from the Opotiki district to the Kereu River. Europe, Asia

*Albizia lophantha* brush wattle Plentiful in the Opotiki district; occasional in some other localities. It has escaped from cultivation and established on roadsides, waste land, scrubland and in open forest. W Aust

*Alectryon excelsus* titoki Grows in lowland forest remnants. The largest colonies are in the Waimana Valley and near Te Araroa. NZ

*Alseuosmia macrophylla* In forest on Papamoa Hill. NZ

*Alseuosmia pusilla* In upland forest in several places around Whitikau and Otipi Rd. NZ

*Aliernanthera sessilis* nahui Occasional in damp open places in the lowlands. NZ?, Aust, Tropical Pacific

*Amaranthus deflexus* prostrate amaranth Fairly widespread on footpaths and in waste places. It has also been found in forest clearings, an unusual habitat for this species. Europe

*Amaranthus lividus* purple amaranth Grows on disturbed waste land and road margins in Opotiki; occasional in some other localities. Tropics, subtropics

*Amaranthus powellii* redroot Locally plentiful on disturbed soil in the Opotiki district. N America

*Amaranthus viridis* green amaranth Locally plentiful in poor pasture at Morices Bay. Tropics

*Anagallis arvensis* scarlet pimpernel Widespread and plentiful on disturbed soil in the lowlands. Europe

*Anthemis cotula* stinking mayweed Widespread and conspicuous on roadsides, waste areas, and in poor pasture. Europe, Asia

*Aphanes microcarpa* parsley piert Noted in many grassy and disturbed places in the Opotiki district. Europe

*Apium prostratum* Occasional to plentiful on shores. Some fine-leaved forms occur in the eastern district. NZ, Aust

*Apium nodiflorum* water celery Occasional in bogs near Te Araroa and East Cape. Europe, Asia, N Africa

*Araujia sericifera* moth plant Occasional in waste land and on dunes at Port Ohope, Ohiwa Beach, and Tirohanga. Brazil

*Archeria racemosa* Grows on forest margins, more commonly at higher altitudes. NZ

*Arctium lappa* burdock Small infestations have been noted in poor pasture near forest in the Waiouka and Tutaetoko Valleys and at Tikirau. Europe, Asia

- Arctotheca calendula* Cape weed Grows abundantly in light soils in most coastal areas; occasionally inland. S Africa
- Arenaria serpyllifolia* sandwort Occasional on sand and shingle about Ohiwa Harbour. Europe
- Aristolelia serrata* wineberry Fairly plentiful in damaged forest throughout; much more prominent in upland forest. NZ
- Ascarina lucida* hutu Occasional on forest margins. NZ
- Aster subulatus* sea aster Fairly plentiful on disturbed soil near the coast. C & S America
- Atriplex patula* orache Occasional on beaches in the Opotiki district. Europe, Asia, N Africa
- Atriplex prostrata* hastate orache A predominantly coastal plant growing on disturbed soil in many localities. Europe, Asia, N Africa
- Australina pusilla* Noted in forest in the Waimana Valley. NZ, Aust
- Avicennia resinifera* mangrove Abundant on mudflats in tidal Ohiwa Harbour at the most southerly limit of mangrove communities. NZ
- Barbarea intermedia* winter cress Occasional on disturbed soil near Opotiki and Omaio. Europe
- Beilschmiedia tarairi* taraire Grows near Te Kaha, at Raukokore and beside Wairere Stream. There are reports of taraire extending from here along the ridges overlooking the Haparapara River, near Omaio and in the Kereu Valley. NZ
- Beilschmiedia tawa* tawa Probably the most abundant and widespread tree in the area, growing in both lowland and upland forests. Some tawa is being milled at present. NZ
- Beilschmiedia tawaroa* tawaroa Occasional with tawa and taraire near the coast, some extending into the upland forest. NZ
- Bellis perennis* daisy Grows at most altitudes in moist grassy habitats and on disturbed soil. Europe
- Berberis glaucocarpa* barberry Fairly plentiful on roadsides mainly, between Waimana Valley and Otara Valley, and at Toatoa. Occasional at Te Araroa. Used widely for hedges in the past. W Himalaya
- Bidens frondosa* beggars' ticks Grows on wet soils in many localities in the Opotiki district. N America
- Bidens pilosa* cobblers' pegs Occurs in several coastal wetlands and on waste land. Tropics
- Brachyglottis perdicioides* raukumara Recorded by A. P. Druce at Hicks Bay and noted there recently by B. R. Clarkson. NZ
- Brachyglottis repanda* rangiora An abundant shrub on forest margins and in scrubland. NZ
- Brassica napus* rape Many plants appeared on exposed subsoil at Woodlands. Europe
- Brassica oleracea* wild cabbage Noted on waste land in Opotiki and at Te Kaha. Europe, Medit
- Brassica rapa* ssp. *sylvestris* wild turnip Occurs in a number of disturbed waste places about Opotiki and on the coast between Whituare Bay and East Cape. Europe
- Buddleja davidii* buddleja There is a heavy infestation in the Haparapara Valley and evidence of spread in many other places. China
- Cakile edentula* sea rocket Plentiful on sandy shores in the Opotiki district, at Whangaparaoa and East Cape. N America
- Cakile maritima* sea rocket Plentiful on some beaches near Opotiki, occasional near East Cape. Europe, Medit
- Callitriche muelleri* Noted in small quantities on shaded mud in a few localities in the lowlands. NZ, Aust
- Callitriche stagnalis* starwort Widespread in ponded and slow moving water. Europe, Asia, Aust, NZ?
- Calystegia sepium* pohue Forms, probably both native and introduced, grow with native trees and shrubs in wetlands and on waste land. NZ, subcosmopolitan
- Calystegia soldanella* shore bindweed Abundant in coastal areas, mainly on sandy and gravel beaches. NZ, subcosmopolitan
- Calystegia tuguriorum* Fairly common in coastal areas in scrubland and on forest margins. Apparent hybrids with *C. soldanella* occur on foreshores at Hawaii, Te Kaha, Whanarua Bay, Raukokore, and East Cape. NZ, S America
- Capsella bursa-pastoris* shepherd's purse Occasional on disturbed soil about Opotiki and Torere. Europe
- Cardamine debilis* Occasional in forest west of the Motu River. NZ
- Cardamine flexuosa* wavy bitter cress Common in gardens; infrequent in grassy and disturbed habitats. Europe
- Cardamine hirsuta* bitter cress Grows in moist soil in gardens and on the margins of forests and streams. Europe
- Carduus nutans* nodding thistle Occasional in pasture, on roadsides and waste land in the Opotiki district mainly. Europe, Asia, N Africa
- Carduus pycnocephalus* slender winged thistle Grows in many pastures and other grassy places. Heaviest infestations occur from Hicks Bay to East Cape. Europe, Asia, N Africa
- Carduus tenuiflorus* winged thistle Occasional in pastures and other grassy places in the Opotiki district; plentiful at Whanarua Bay and Tikirau. Europe
- Carmichaelia cunninghamii* N.Z. broom Abundant along Te Waiti Stream on rocky banks bordering lowland forest. NZ
- Carmichaelia flagelliformis* N.Z. broom Occasional on forest margins near the banks of the Waioeka and Haparapara Rivers. NZ
- Carmichaelia solandri* N.Z. broom Occasional in coastal forest, usually on steep, shady banks. Occurs about the Ohiwa Harbour and at East Cape. NZ
- Carmichaelia williamsii* Occasional and diminishing in coastal forest between Whanarua Bay and the Raukokore River mouth. This now appears to be its only mainland locality, and is also its southern limit. In the past it grew in other mainland localities. NZ
- Carpobrotus edulis* ice plant Grows on dunes in the Opotiki district, in some localities possibly planted to stabilise the sand. S Africa
- Carpodetus serratus* putaputaweta Grows throughout, mainly on margins of streams, and is a prominent species in regenerating forest. NZ
- Cassinia leptophylla* tauhinu Occasional in the lowlands; more plentiful near East Cape. NZ

- Centaurea calcitrapa* star thistle A few plants occur on the roadside near Hicks Bay. Europe, Asia, N Africa
- Centaureum erythraea* centaury Frequent on open ground at most altitudes. A white-flowered plant was found at Wairata. Europe
- Centaureum tenuiflorum* Has been seen in grassy places at Waimana. Europe
- Centella uniflora* Abundant and widespread in both wet and dry places; more abundant near the coast. NZ
- Cerastium fontanum* ssp. *triviale* mouse-ear chickweed Grows in grassy places. Not recorded between Tikirau and East Cape. Europe
- Cerastium glomeratum* annual mouse-ear chickweed Frequent in grassy places and on disturbed soil. Europe
- Chamaecytisus palmensis* tree lucerne Grows wild on roadside banks in several inland and coastal localities. Canary Is
- Chenopodium album* fathen Grows in disturbed soil in the lowlands; abundant in some places. Europe, Asia, N Africa
- Chenopodium ambiguum* Noted in waste land bordering Ohiwa Harbour and on a sandy stream margin at Tirohanga. NZ
- Chenopodium ambrosioides* Mexican tea Occurs near the coast throughout; occasionally inland on disturbed soil. Tropical America
- Chenopodium erosum* Occasional in waste places about Opotiki. Origin unknown
- Chrysanthemum leucanthemum* oxeye daisy Fairly plentiful on roadsides and waste places throughout. Europe, Asia
- Cichorium intybus* chicory Plentiful on roadsides in the Opotiki district, at Omaio, Te Kaha, and Waihou Bay. Europe, Asia, N Africa
- Ciclospermum leptophyllum* slender celery Grows on roadsides near Lottin Point and Te Araroa. Aust, America
- Cirsium arvense* Californian thistle Throughout in grassy places. Europe, Asia, N Africa
- Cirsium palustre* marsh thistle Grows in moist places on forest margins, stream banks and roadsides, mainly in the Opotiki district. Europe, Asia, N Africa
- Cirsium vulgare* Scotch thistle The most abundant and widely distributed thistle in the region, occurring in pastures, on roadsides, waste land, and forest margins, mainly in the lowlands. Europe, Asia, N Africa
- Clematis cunninghamii* An abundant species in lowland forest west of the Otara River; occasional in the eastern district. NZ
- Clematis foetida* Occasional on lowland forest margins and in scrubland between Ohiwa and the Waikura Valley. NZ
- Clematis forsteri* Noted in scrubland and forest margins in scattered areas in the lowlands and at Otipi Rd. NZ
- Clematis paniculata* puwhanganga Occasional in forest. NZ
- Clematis vitalba* traveller's joy Grows wild in small quantities on roadsides at Toatoa, Waiotahi Valley and Hicks Bay, and abundantly in the Oscar Reeve Scenic Reserve at Ohiwa. Europe, Asia, N Africa
- Conium maculatum* hemlock Plentiful on waste land in the Opotiki district. Europe, Asia, N Africa
- Convolvulus arvensis* field bindweed Grows in a plant nursery in Opotiki. Europe
- Conyza bonariensis* wavy-leaved fleabane Noted on roadside at Hawai. S America
- Conyza canadensis* Canadian fleabane Occurs in the Waiotahi and Tutaetoko Valleys, and at Omaio and Maungaroa. N America
- Conyza floribunda* broad-leaved fleabane Abundant throughout on disturbed land, on roadsides, dunes, waste land, forest margins, and in poor pastures. S America
- Coprosma* sp. (*C. parviflora* var. *dumosa* Cheeseman 1906 non *C. parviflora* sensu Allan 1961 = *C. "taylorae"*) Grows by the Motu River at Otipi. NZ
- Coprosma acerosa* (*C. brunnea* type) Plentiful in several places on rocks bordering the Waioeka River and also occurs near the Motu River at Otipi. NZ
- Coprosma areolata* An uncommon lowland forest shrub noted at Waiotahi, Hicks Bay, Te Araroa and East Cape. NZ
- Coprosma australis* kanono Grows in forest from Kutarere to Te Kaha and at Hicks Bay. NZ
- Coprosma colensoi* (including *C. banksii*) Noted in forest on Papamoa Hill, and near the Otipi Rd. NZ
- Coprosma foetidissima* stinking coprosma Occasional in forest in the Opotiki hinterland. NZ
- Coprosma lucida* shining karamu Grows in scrubland and forest throughout. NZ
- Coprosma macrocarpa* Recorded near the coast from Whituare Bay and Motu River mouth to Cape Runaway and at East Cape. Only a few plants in each locality were seen. A probable hybrid with *C. propinqua* was found at Takaputahi in 1954. NZ
- Coprosma propinqua* Grows on wet ground around Ohiwa Harbour and on Patawa Island. Hybrids with *C. robusta* are common around the harbour and also at Whitianga Bay. NZ
- Coprosma rhamnoides* Grows in the shade of native trees and shrubs; more plentiful near the coast. NZ
- Coprosma robusta* karamu Plentiful in scrubland throughout. NZ
- Coprosma rotundifolia* Locally plentiful on roadsides and forest margins in the Opotiki hinterland. NZ
- Coprosma rubra* Noted on scrub margins at Toatoa. A specimen in CHR was collected by N. Potts in the upper Waioeka Valley. NZ
- Coprosma spathulata* Scattered throughout in lowland forest. NZ
- Coprosma tenuicaulis* A few plants grow in wetland at Ohiwa and Waioeka. NZ
- Coprosma tenuifolia* Grows on forested ridges near the confluence of the Mangakirikiri Stream and the Motu River. NZ
- Coriaria arborea* tree tutu An abundant colonising shrub where native plants persist on stream banks, roadsides, on waste land, and disturbed ground. NZ
- Corokia cotoneaster* Occasional on rocky coastal margins of forest remnants at Whanarua Bay, but more plentiful in coastal scrub above the cliffs of Hicks Bay. Plants seen near Opape in 1953 have now disappeared. NZ

- Corynocarpus laevigatus* karaka Present in all coastal forests and occasionally inland for a few kilometres around occupied and abandoned Maori settlements. NZ
- Coronopus didymus* twin cress Widespread on disturbed soil. Europe
- Coronopus squamatus* wart cress Noted on a street margin in Opotiki, but may be more widespread. Europe
- Cotoneaster glaucophyllus* f. *serotina* Grows wild among other shrubs in many localities in the lowlands. China
- Cotula australis* Grows on disturbed soil throughout. Aust
- Cotula coronopifolia* Local in open moist habitats. NZ?, S Africa
- Cotula dispersa* ssp. *dispersa* Found by N. Potts at Morices Bay and collected recently near the Waipapa Stream at East Cape. NZ
- Cotula squalida* ssp. *squalida* Locally plentiful in scattered places in the lowlands, mainly beside streams and roads. NZ
- Crassula multicava* pitted crassula Grows from garden refuse on a roadside at Port Ohope. S Africa
- Crassula sieberiana* Noted on the foreshore near Cape Runaway. NZ, Aust
- Crataegus monogyna* hawthorn Abundantly naturalised from farm hedges in many localities and proving troublesome. Europe
- Crepis capillaris* hawksbeard Common in grassy places. Europe
- Cyathodes fasciculata* mingimingi Plentiful in forest and scrubland. NZ
- Cyathodes fraseri* patotara A few plants noted in open scrubland at Ohope, Maungaroa, Whangaparaoa and Potaka. NZ
- Cyathodes juniperina* prickly heath There are local populations about the Ohiwa Harbour, in the Otara Valley, and from Maraenui to Whangaparaoa, often associated with mingimingi in scrubland and on forest margins. NZ, Aust
- Cytisus scoparius* broom Occurs on roadsides and waste land in several places in the Opotiki district and at Maraenui. Europe
- Dactylanthus taylori* This root parasite occurs near Te Araroa, and there are reliable reports of it growing in the Waikura and Waiotahi Valleys. NZ
- Datura ferox* Appeared at a farm entrance at Opotiki in 1981. E Asia
- Datura stramonium* thorn apple Grows on disturbed soil in the Opotiki lowlands. Variety *tatula* was found on waste land in Opotiki. Tropical & subtropical America
- Daucus carota* wild carrot Abundant at most altitudes throughout mostly on roadsides, waste land, and ungrazed river flats. Europe, Asia, N Africa
- Dendrobenthamia capitata* strawberry dogwood Occasional on roadsides in the Opotiki district. N India
- Dianthus armeria* Deptiford pink Noted on a roadside bank at Waimana. Europe, Asia
- Dichondra brevifolia* Grows in rocky places from Morices Bay to Tikirau. NZ
- Dichondra micrantha* Commonly used in home lawns but also grows wild in grassy places about Opotiki. Tropical & subtropical America
- Dichondra repens* Usually near the coast in grassland, on banks, and stream margins. NZ, subcosmopolitan
- Digitalis purpurea* foxglove Plentiful in many lowland localities, mostly on roadsides, in poor pastures, and margins of streams and forest. Europe
- Disphyma australe* N.Z. iceplant Fairly numerous and widespread on coastal cliffs. NZ
- Dipsacus fullonum* wild teasel Abundant on roadsides from Raukokore to Waihou Bay, and from Hicks Bay to East Cape; occasional on waste land at Waiotahi and Hawaii. Europe
- Dodonaea viscosa* akeake Has a very scattered distribution in the lowlands and plentiful only at Maraenui and Hicks Bay. At Torere it grows on the margins of coastal forest above cliffs fronting the sea. NZ, Aust
- Dracophyllum adamsii* Recorded in the Druce checklist from Te Araroa Hill and Awatere River, the type locality. NZ
- Dracophyllum latifolium* *neinei* Grows in forest between 90 and 900 m between the Waimana Valley and Te Kaha. NZ
- Dracophyllum sinclairii* A specimen growing in the Hukutaia Domain was collected by N. Potts from the vicinity of Potaka. This seems to be near its southern limit. NZ
- Dracophyllum strictum* Mostly coastal in well drained situations in scrubland about the Ohiwa Harbour, at Opape and Maraenui and with toru and beech at Whangaparaoa. NZ
- Dracophyllum traversii* Noted in forest above 760 m in two localities in the Toatoa area. NZ
- Drosera peltata* ssp. *auriculata* sundew Occasional in open scrubland. NZ, Aust
- Drosera binata* sundew Occasional in damp soil near Whangaparaoa. NZ, Aust
- Duchesnea indica* Indian strawberry Occasional in moist shady places near habitations. India
- Dysoxylum spectabile* kohekohe Grows in all coastal forests with greatest density from Cape Runaway to Te Araroa. Many grow on Uretara Island and inland in upper Woodlands, about 8 km from coast. One huge tree exists on a ridge east of Hawaii at an altitude of 108 metres and others south of Te Kaha to 600 m. NZ
- Echium plantagineum* Paterson's curse Noted on the footpath and adjoining waste land at Opotiki and on a roadside at Otara. Europe, N Africa
- Echium vulgare* viper's bugloss Grows on ungrazed grassy places and waste land near the coast, and is abundant at Torere and Waihou Bay. Europe, Asia
- Elaeocarpus dentatus* hinau Grows in forests throughout. NZ
- Elaeocarpus hookerianus* pokaka Occasional young plants were seen in the upper Waioeka Valley, near the Otipi Rd, at Whitikau, Toatoa, and on the Papamoia Hill. NZ
- Elaeagnus* × *reflexa* *elaeanus* Spreads from hedges in many localities. Origin unknown
- Emex australis* spiny emex Locally plentiful in pasture near Hukuwai Beach. S Africa
- Entelea arborescens* whau A coastal tree locally plentiful in forest remnants. NZ
- Epilobium alsinoides* ssp. *atriplicifolium* Noted in grassy areas at Rawea, Waiau, and Waimana Gorge. NZ

- Epilobium billardierianum* ssp. *cinereum* Noted on forest margins and roadside banks from Waimana Valley to the Waiaua Valley. There is a WELT specimen from Hicks Bay. NZ, Aust, Hawaii
- Epilobium brunnescens* ssp. *brunnescens* Very widespread between Waimana Valley and Potaka, growing at most altitudes in open or shade, on shingle, banks, and stream margins in dry or moist places. NZ
- Epilobium ciliatum* Occasional in moist open habitats. N America
- Epilobium hirtigerum* Noted in open vegetation near Ohiwa Harbour and Otipi Rd. There are WELT specimens from Hicks Bay and Awatere River. NZ, Aust, S America
- Epilobium insulare* Noted on a stream bank in the upper Waioeka Valley. NZ
- Epilobium microphyllum* Found on a sandy area near the mouth of the Motu River. There is also a CHR specimen from Kereu. NZ
- Epilobium nerteroides* Grows near streams between the Waimana and Kereu Rivers, also near East Cape. NZ
- Epilobium nummularifolium* Widespread in shade on stream margins and banks. NZ
- Epilobium pallidiflorum* Grows in a swamp at Houpoto. NZ
- Epilobium pedunculare* Grows on damp rocks and forest margins west of the Motu River. NZ
- Epilobium pubens* Widespread on banks, in rocky places, and on forest margins at most altitudes. NZ
- Epilobium rotundifolium* Occasional and scattered between Waimana Valley and near Potaka. Occurs usually in moist areas, on roadsides, shady banks, and river beds. There is a WELT specimen from Hicks Bay. NZ
- Erica cinerea* bell heather Pink-flowered plants grow in Te Waiti and Otara Valleys. Europe
- Erica lusitanica* There are local roadside patches on the western edge of the survey area; also in Te Waiti Valley. Europe
- Erigeron karvinskianus* Mexican daisy Occasional by tracks at Amokura and beside the Waioeka River. Mexico
- Eriobotrya japonica* loquat Occasional on roadsides at Woodlands, Maraenui, and Whanarua. Japan, China
- Erodium cicutarium* storks-bill Noted on a roadside at Waihou Bay and on silt at Te Araroa. Europe, Asia, N Africa
- Erodium moschatum* musky storks-bill Occasional on disturbed soil about Opotiki. Europe, Asia, N Africa
- Eschscholzia californica* Californian poppy Occurs in several roadside and waste areas at Ohiwa and Waihou Bay. N America
- Euphrasia cuneata* Grows on cliff faces along the Motu River at Te Paku Gorge and was noted by A. P. Druce near the Awatere River. NZ
- Eucalyptus* sp. Self-sown plants were recorded on roadsides near Waimana and beside Ruatuna Road, Ohiwa. Aust
- Euphorbia helioscopia* sun spurge Noted at Opotiki. Europe, Asia
- Euphorbia lathyris* caper spurge Locally plentiful on waste land at Port Ohope and Snells Beach. Europe, N Africa
- Euphorbia peplus* milkweed Grows in disturbed soil throughout the lowlands. Europe, Medit, Asia
- Ficus carica* fig Has escaped from cultivation to a limited extent in some localities. Europe, Asia
- Foeniculum vulgare* fennel Widespread in the lowlands, particularly on roadsides. Medit
- Fuchsia excorticata* tree fuchsia Grows on forest margins, roadsides and stream margins throughout; locally plentiful in upland forest. NZ
- Fumaria muralis* scrambling fumitory Frequent in disturbed soil in the lowlands. Europe, N Africa
- Galium aparine* cleavers Widespread and plentiful in waste land, grassy places and forest margins. Europe, Asia
- Galium divaricatum* slender bedstraw Grows in many localities in the lowlands in open habitats where there is little competition from other plants. Europe
- Galium palustre* marsh bedstraw Grows in wet open places in several scattered localities. Europe, Asia
- Galium propinquum* Occasional in open forest. NZ
- Gaultheria antipoda* Plentiful at all altitudes, usually in open situations such as roadside banks, forest margins, in scrubland and grassland from Ohiwa Harbour to Whangaparaoa. NZ
- Gaultheria oppositifolia* A large colony grows in scrubland near Whangaparaoa. There are also hybrids with *G. antipoda*. NZ
- Gaultheria paniculata* Grows on an abandoned Maori occupation site on the Motu River near the confluence with the Mangakirikiri Stream. NZ
- Geniostoma ligustrifolium* (*G. rupestre* var. *cras-sum*) hangehange Abundant throughout in scrubland and forest. NZ
- Geranium dissectum* cut-leaved geranium Grows in many grassy places in the lowlands. Europe, Asia
- Geranium homeanum* Grows in the lowlands from Waimana to Tikirau, but scattered and local. It is plentiful on the eastern side of Ohiwa Harbour on foreshore waste land, and in the Waiotahi Valley on forest margins. NZ, Aust
- Geranium molle* dove's foot Grows in grassy places and on disturbed soil in the lowlands. Europe, Asia, N Africa
- Geranium potentilloides* var. *potentilloides* Occasional from Waiotahi Valley to Morices Bay, and on the south side of Tikirau, mostly on grassed areas, banks, and beneath scrub, as well as on gravel flats. NZ, Aust
- Geranium pusillum* small-flowered geranium Occasional on waste land between Opotiki and Te Kaha; more common from Raukokore to Whangaparaoa, and from Hicks Bay to Te Araroa. Europe, Asia
- Geranium robertianum* herb Robert Occurs from Waioeka Valley to the Motu River, mostly on lowland forest margins. Europe, Asia
- Geranium solanderi* "coarse hairs" Found in grassy places near Ohiwa Harbour, near Te Kaha and at Hicks Bay. It is distinguished by the hairy upper surface of the leaf and the curved, retrorse and ascending hairs on the petioles and pedicels (see Gardner (1984)). Aust
- Gnaphalium audax* Found by A. P. Druce in 1950 on Te Araroa Hill. Encountered on rocks and stream banks at higher altitudes. Both subspecies may be present. NZ

- Gnaphalium gymnocephalum* Widespread and fairly plentiful on forest margins and in open scrubland. NZ, and other countries
- Gnaphalium involucreatum* Noted on the banks of a drain at Opotiki. NZ, and other countries
- Gnaphalium kerianse* Grows plentifully on wet banks at all altitudes in the Opotiki district. NZ
- Gnaphalium limosum* Noted in damp soil beside Otipi Rd. NZ
- Gnaphalium luteo-album* Widespread at most altitudes in open vegetation and denuded areas. NZ, and other countries
- Gnaphalium sphaericum* Moderately plentiful from Waimana to Maungaroa in waste places, on roadsides, and in grassed and gravel areas. NZ
- Gnaphalium simplicicaule* Locally plentiful on a logging track in the Waioeka Valley. S America
- Gnaphalium spicatum* Abundant and widespread in grassy places. S America
- Gnaphalium subrigidum* Found on Te Araroa Hill by A. P. Druce in 1950. NZ
- Gonocarpus aggregatus* Grows in seepages on the banks of the Motu River. NZ
- Gonocarpus micranthus* Occasional to plentiful in some boggy places from Waiotahi to Whangaparaoa. NZ, Aust, Asia
- Gonocarpus montanus* Seen only in open vegetation at Whitianga Bay. NZ
- Griselinia littoralis* broadleaf Occasional, mainly as an epiphyte in forest from Waimana to Motu River mouth and near Lottin Point. NZ
- Griselinia lucida* puka Epiphytic on native trees and tree ferns in many places. NZ
- Gunnera monoica* Fairly common between Waimana and Maungaroa at most altitudes, usually on forest margins and moist roadside banks. NZ
- Haloragis erecta* Widespread and plentiful at most altitudes in many habitats but usually close to taller plants. NZ
- Hakea gibbosa* downy hakea About ten plants grow on a roadside near Waiotahi Beach. Aust
- Hakea sericea* prickly hakea Grew near Waiotahi Valley and at Tirohanga, until eradicated recently. Aust
- Hebe* sp. (unnamed) This narrow-leaved hebe in the *H. parviflora* aggregate is quite widespread from the Motu River westwards and grows between Tikirau and East Cape. NZ
- Hebe* sp. "n" (unnamed) — see Eagle (1982) p. 345. Grows near the Motu River at the end of Otipi Rd. NZ
- Hebe stricta* form "i" — see Eagle (1982) p. 341. This entity distinguished by the long narrow leaves up to 15 cm long grows on rocky banks at the flood line along the Motu and Waioeka Rivers. NZ
- Hebe stricta* koromiko Variety *stricta* is plentiful in open situations with other plants. Variety *macroura* grows on the coasts throughout. NZ
- Hedycarya arborea* pigeonwood Plentiful throughout in lowland forest and adjoining upland forest. NZ
- Helianthus tuberosus* Jerusalem artichoke Occasional relics of cultivation grow in the lowlands. N America
- Helichrysum aggregatum* niniao Occasional on steep slopes in the Opotiki hinterland and at Oponae. A variant with leaves 2 or 3 cm long occurs on steep slopes at Torere, Whanarua Bay, Hicks Bay, and East Cape. NZ
- Helichrysum filicaule* Seen only at Otipi Rd on a weathered scree. NZ
- Hieracium pilosella* mouse-ear hawkweed Localised on grassy banks on farmland between Waiotahi and Waioeka Valleys. Europe, Asia
- Hoheria sexstylosa* lacebark Grows in forests throughout, usually near streams; plentiful in some places, particularly west of the Motu River. NZ
- Hydrocotyle americana* Frequent at all altitudes in grassy places and on forest margins. NZ, America
- Hydrocotyle dissecta* Seen in lowland forest near Pakihi Stream. NZ
- Hydrocotyle elongata* Grows in lowland forest throughout. NZ
- Hydrocotyle microphylla* Grows in moist grassy places and stream margins west of the Motu River. NZ
- Hydrocotyle moschata* Widespread and plentiful at all altitudes on forest margins, in scrubland and grassy places. NZ
- Hydrocotyle novae-zelandiae* Plentiful on lowland forest margins, open river flats, grassed areas and moist banks. The larger leaved var. *involucreata* is also plentiful in damp, shaded places. NZ
- Hypericum androsaemum* tutsan Plentiful on roadsides, forest margins, and waste land in the Opotiki district. Europe
- Hypericum gramineum* Occasional in the Waioeka, Otara, Waiotahi Valleys and at the end of Otipi Rd, mostly on forest margins and grassy areas. NZ, Aust, N Caledonia
- Hypericum humifusum* trailing St John's wort Seen on banks at Amokura and in the Otara, Waiau, and Waioeka Valleys. Europe, Macaronesia
- Hypericum japonicum* Grows on gravel on the margins of the Motu River. One plant was found on a shady bank at Woodlands. NZ, Aust, W Pacific
- Hypericum mutilum* Noted in wetland near a stand of kahikatea in the upper Waiotahi Valley. N America
- Hypericum tetrapterum* square-stemmed hypericum A few plants were noted on river banks near Waiau. Europe, Asia, N Africa
- Hypochoeris glabra* smooth catsear Noted on roadsides and in waste places in the Waiotahi Valley, at Raukokore and Hicks Bay. Europe, Asia, N Africa
- Hypochoeris radicata* catsear Abundant and widespread in open habitats throughout. Europe, Asia, N Africa
- Ipomoea indica* blue morning glory Occurs copiously on several roadsides between Waiotahi and Maraenui. Most colonies are probably from plantings. Tropical America
- Ipomoea palmata* (*I. cairica*) Two vines were discovered on the Hukuwai Beach dunes growing through boxthorn. The species is in cultivation in Opotiki. NZ, tropics
- Ixerba brexioides* tawari Abundant in upland forest from the Waimana Valley to near Te Kaha. NZ
- Jovellana repens* Noted on stream banks at Wairata in the Waioeka Valley and at Takaputahi. NZ

- Jovellana sinclairii* Fairly plentiful on shady stream banks in several localities. NZ
- Juglans ailantifolia* Japanese walnut Frequent in the Opotiki district on roadsides and waste land. Japan
- Knightia excelsa* rewarewa Abundant throughout in all native forests. It is one of the first trees to appear in forest regeneration after *Leptospermum* or *Pteridium*. NZ
- Lactuca serriola* prickly lettuce Occurs in the lowlands in unmown and ungrazed open places. Europe, Asia, N Africa
- Lagenifera pumila* Occasional at all altitudes in the shade of other native plants. NZ
- Lapsana communis* nipplewort Grows in moist, semi-shaded habitats in the lowlands. Europe, Asia, N Africa
- Lathyrus latifolius* everlasting pea In small quantities on a roadside at Waiotahi. Europe
- Laurelia novae-zelandiae* pukatea Common in semi-swamp conditions in lowland forest between Waimana Valley and Maraehako. Occasional trees grow in similar habitats in a few other places. NZ
- Lavatera arborea* tree mallow Well established on a roadside at Te Kaha. Europe, Asia, N Africa
- Leontodon taraxacoides* hawkbit Abundant in disturbed soil in the lowlands, particularly near the coast. Europe, Asia
- Lepidium africanum* (hairy form) Occurs on waste land, on dunes and roadsides from Port Ohope to Torere. Africa
- Lepidium bonariense* Noted on roadsides at Hawaii, Waihou Bay, and Whangaparaoa. S America
- Lepidium pseudo-tasmanicum* Noted on roadsides in small numbers at Torere and Whanarua Bay. Aust
- Lepidium virginicum* Noted on roadsides in the Waimana Gorge. N America
- Leptospermum ericoides* kanuka Abundant almost throughout on places cleared of forest but not maintained in pasture. The largest trees seen were on Patawa and Uretara Islands where trunks exceed 60 cm in diameter. NZ, Aust
- Leptospermum scoparium* manuka Throughout the region and much more abundant than kanuka. It grows in many habitats from swamps to dry infertile places and is particularly extensive on previously cleared land. Some of this land is regenerating to native forest; some is being planted in pines. NZ, Aust
- Leycesteria formosa* Himalaya honeysuckle Occasional on roadsides on the western margin of the survey region. Asia
- Ligustrum lucidum* privet Plentiful as an escape from hedges onto roadsides and waste land from the Waiotahi to the Waiaua Valley. China
- Ligustrum sinense* privet Widespread and plentiful on roadsides and in waste places. China
- Lilaeopsis* sp. Plentiful near East Cape on wet sand and in mud along the Waipapa Stream. This species has fruits 1.5 mm long × 1.25 mm wide, ± orbicular, ribs distinct. NZ
- Limosella lineata* Noted by A. P. Druce in 1969 on sand on the road to East Cape. NZ
- Linum bienne* Grows in grassy and disturbed places throughout. Europe, Medit, Asia
- Linum catharticum* purging flax Grows on grassy roadside banks at Tootoa and in the Waiotahi Valley. Europe, Asia
- Linum monogynum* Grows on coastal slopes in several localities. NZ
- Linum trigynum* yellow flax Grows in waste open places in many localities. Europe, N Africa
- Litsea calicaris* mangeao Occasional in some lowland forest remnants ascending to 380 m at Amokura. NZ
- Lobelia anceps* Plentiful and widespread in damp areas on the coast, occasionally inland. NZ, Aust, S America, S Africa
- Lonicera japonica* Japanese honeysuckle A widespread and plentiful vine infesting many hedges and forest margins. Asia
- Lophomyrtus bullata* ramarama Occasional in damp forest and by streams in the Waiotahi, Otara and Waioua Valleys; more plentiful in swampy forest near the Motu River mouth, at Cape Runaway, and at Hicks Bay. Hybrids with *L. obcordata* have been seen near Potaka. NZ
- Lophomyrtus obcordata* rohutu Occasional on forest margins in the Waioua and Waimana Valleys. NZ
- Lotus angustissimus* Throughout on roadsides and disturbed soil. Europe, Asia, N Africa
- Lotus pedunculatus* Widespread and abundant in many habitats but mainly in grassy places, on forest margins and disturbed soil. A plant with minute leaflets grew submerged in a backwater of the Waiotahi River for at least eight months. Europe, Asia, N Africa
- Lotus suaveolens* Plentiful and widely distributed between Ohope and Lottin Point, mostly in waste places and on roadsides. Europe, Medit, Asia
- Lotus tenuis* Occurs near the southern edge of Ohiva Harbour in a damp grassy area adjacent to a salt meadow. Europe, Asia, N Africa
- Ludwigia palustris* water purslane Widespread in swamps, streams, and seepages. N Hemi
- Lupinus arboreus* tree lupin Abundant on the coast throughout the region; occasional inland on roadsides and stream beds. California
- Lycium ferocissimum* boxthorn Has escaped from hedges and now grows freely on sand and shingle in many localities. S Africa
- Lysimachia nummularia* creeping Jenny A CHR specimen was collected from low lying pasture in Opotiki in 1959. Europe
- Lythrum hyssopifolia* loosestrife Noted on wet soil in scattered localities between Port Ohope and Lottin Point. Europe, W Asia, N Africa
- Macropiper excelsum* kawakawa An abundant lowland forest species throughout the whole region. NZ
- Malus domestica* apple Wild plants grow on roadsides and near picnic places. Hybrid origin
- Malva neglecta* dwarf mallow Noted on waste land at Torere and Te Araroa. Europe, Asia, N Africa
- Malva nicaeensis* French mallow Widespread on grassy roadsides and in waste disturbed ground but nowhere plentiful. Medit, Asia
- Malva sylvestris* large-flowered mallow Many plants were noted on waste land and a roadside at Opotiki. Europe, Asia, N Africa

- Marrubium vulgare* horehound Grows in open pasture from Waiotahi to Waiaua and at Tikirau and Hicks Bay. Europe, Asia, N Africa
- Matricaria matricarioides* rayless chamomile Locally plentiful on roadsides about Opotiki and Hicks Bay. Asia?
- Medicago arabica* spotted bur medick Occurs on disturbed soil and sand in scattered localities, mostly near the coast. Europe, Medit, Asia
- Medicago lupulina* black medick Occasional on waste land about the Ohiwa Harbour and at Raukokore. Europe, Asia, N Africa
- Medicago polymorpha* bur medick Grows on coastal waste land and roadsides at Port Ohope, between Te Kaha and Waihou Bay, at Hicks Bay and East Cape. Europe, Asia, N Africa
- Medicago sativa* lucerne Occasional as a wild plant at Port Ohope, Wainui, and Whitianga Bay. Medit, Asia
- Melicope simplex* poataniwha Occasional in open forest and on forest margins in the Opotiki district and near Haparapara River. A hybrid with *M. ternata* was noted at the northern end of the Waiouka Gorge. NZ
- Melicope ternata* wharangi A coastal species growing on forest margins and at the base of cliffs but ascending to 300 m inland from Whitianga Bay and to 550 m in the Maraehako Valley. NZ
- Melicytus lanceolatus* narrow-leaved mahoe A few trees grow on upland forest margins in the Opotiki hinterland. NZ
- Melicytus micranthus* Noted in forest at Waimana Gorge. A specimen in NZFRI was collected recently near Potaka. NZ
- Melicytus ramiflorus* mahoe One of the most prevalent trees in the region growing in forests at all altitudes. NZ, some Pacific Is
- Melilotus indica* King Island melilot Plentiful in loose soil and sand about Ohiwa Harbour and in scattered coastal places between Omaio and East Cape. Medit, Asia
- Mentha* × *citrata* (*M.* × *piperita* nm. *citrata*) bergamot mint Grows in damp, semi-shaded places in scattered localities. Hybrid origin
- Mentha cunninghamii* Grows in turf on margins of the Motu River near Otipi. NZ
- Mentha* × *piperita* peppermint Grows wild in damp soil in the upper Waiaua Valley and at Toatoa. Hybrid origin
- Mentha pulegium* pennyroyal Abundant throughout most of the region in damp grassy places and disturbed ground. Europe, Medit
- Mentha spicata* spearmint Occasional in damp waste places in the Opotiki district. Europe
- Mentha suaveolens* round-leaved mint Grows on many forest and stream margins, and in open waste land and pasture. Europe, Medit
- Metrosideros carminea* Recorded in several places in forest and scrubland near the Opotiki-Cape Runaway coast. Some large colonies have been seen. NZ
- Metrosideros colensoi* Seen in the Waimana Valley growing over fuchsia bushes on the roadside, in the upper Waiouka Valley, and on river flats near Maraehako. NZ
- Metrosideros diffusa* Widespread in forest. NZ
- Metrosideros excelsa* pohutukawa Plentiful on the coasts, rarely extending 8 km inland. At Te Araroa stands one of New Zealand's largest known specimens. Several yellow-flowered trees occur in a scenic reserve at Oruaiti Beach. Hybrids with *M. robusta* occur where both species grow together. NZ
- Metrosideros fulgens* Abundant in forest. NZ
- Metrosideros perforata* This hardy rata grows in forest throughout and persists in some grassy places as wind-shaped bushes after forest has been destroyed. NZ
- Metrosideros robusta* northern rata Uncommon in lowland forest areas but prominent in the uplands particularly between Waimana Valley and the hills behind Te Kaha. NZ
- Mida salicifolia* Isolated plants were noted in lowland and upland forest. NZ
- Mimulus moschatus* musk Occurs in several places in the Opotiki hinterland on open damp ground. N America
- Modiola caroliniana* creeping mallow Widespread but not in abundance in waste places. America
- Muehlenbeckia australis* Fairly common throughout on forest margins and in scrubland. NZ
- Muehlenbeckia complexa* wire vine Abundant throughout in diverse habitats from shady forest margins to exposed coastal rocks, in sand, on stream margins, roadsides, and in waste land and pasture. In coastal areas and some pastures it forms small bushes. Apparent hybrids with *M. australis* have been noted. NZ
- Mycelis muralis* wall lettuce Grows in and near forests in many areas. Europe, Asia, N Africa
- Myoporum laetum* ngaio Present in all coastal forests. NZ
- Myosotis arvensis* field forget-me-not Noted in waste places in a few localities. Europe, Asia
- Myosotis laxa* ssp. *caespitosa* water forget-me-not Grows in many seepages and bogs. Europe, Asia, N Africa
- Myosotis discolor* grass forget-me-not Grows in waste places and rough pasture in several localities. Europe
- Myosotis forsteri* forget-me-not Occasional in forest in the Waiouka and Waiotahi Valleys. NZ
- Myosotis petiolata* var. *pottsiana* Discovered by N. Potts in company with *M. Heginbotham* in the mid reaches of Te Waiti Stream. It has since been found in several places outside the catchment. NZ
- Myosotis sylvatica* garden forget-me-not Spread from garden debris in untended areas in a few places in the Opotiki district; more plentiful from Whanarua Bay to Tikirau. Europe, Asia
- Myriophyllum propinquum* Noted in ponds and streams in several localities. NZ, Aust
- Myrsine australis* mapou Widespread but most plentiful in the lowland forest and scrubland. NZ
- Myrsine salicina* toro Isolated plants were noted mainly in upland forest. NZ
- Nasturtium officinale* water cress Abundant in slow flowing water, seepages, and bogs. Europe, Asia, N Africa
- Navarretia squarrosa* Californian stinkweed Noted in gravel at the Waiaua River and Maungaroa. N America



- Neomyrtus pedunculata* rohutu Occasional on the coast at Omaio and at all altitudes in the Opotiki district. NZ
- Nepeta cataria* catmint Occasional near forest at Amokura, in the Waiotahi Valley, and at Toatoa. Europe, Medit. Asia
- Nertera depressa* (including *N. cunninghamii*) Plentiful in moist places, mostly in forests. NZ
- Nertera* sp. unnamed aff. *dichondraefolia* Occasional in forests in the Opotiki district. NZ
- Nestegis cunninghamii* black maire Three small trees were noted beside the Otipi Rd and one large tree in Tukainuka Scenic Reserve. NZ
- Nestegis lanceolata* white maire Occasional in forests. NZ
- Nestegis montana* narrow-leaved maire Occasional in forests. NZ
- Nothofagus fusca* red beech Plentiful on ridges in forests from the upper Waimana Valley to the Otipi Rd area, and also about East Cape, mostly above 750 m but descending below 500 m in the Opotiki hinterland. NZ
- Nothofagus menziesii* silver beech Locally plentiful in the Otipi Rd area between 750 and 900 m, and undoubtedly grows in other places in this altitudinal zone. NZ
- Nothofagus solandri* var. *solandri* black beech Locally abundant in the Waiotahi Scenic Reserve. At the junction of State Highway 2 and Ruatuna Road there is a small remnant of pole size trees, and another in the Oscar Reeve Scenic Reserve. The species once extended continuously along the western side of the Waiotahi Valley to the coast. Black beech occurs also on the terraces behind Te Araroa and in local patches to the east growing with hard beech. NZ
- Nothofagus truncata* hard beech Abundant throughout most of the region from the coastal hills and inland for 50 km or more. A small remnant grows near Reeves Road, close to Ohiwa Harbour. Hybrids occur between hard beech and black beech. NZ
- Oenanthe pimpinelloides* parsley dropwort Occasional in grassland at Hicks Bay. Europe, Asia
- Oenothera glazioviana* evening primrose A few plants have been seen on waste land near Opotiki and in the Waioka Gorge. This species is plentiful on roadsides outside the study area west of Ohope. Origin unknown
- Oenothera stricta* sand primrose Plentiful on waste land and roadsides at Port Ohope. Noted also at Ohiwa, Waimana, Omaio, and Te Araroa. Chile
- Olearia albida* Grows in well drained soils along the coasts; more plentiful near the mouth of the Motu River and at Whitianga Bay. Hybrids with *O. paniculata* have been seen at Whitianga Bay. NZ
- Olearia cheesemanii* Grows on cliff faces on the Motu River near Otipi Rd and in the Te Paku Gorge. NZ
- Olearia furfuracea* akepiro Grows at low altitudes in scrubland in many localities. NZ
- Olearia pachyphylla* Plentiful in scrubland on the coast and on stream banks at Opape, Morices Bay, and Torere. NZ
- Olearia paniculata* akiraho An isolated plant was seen beside the walking track in the East Cape lighthouse reserve. NZ
- Olearia rani* heketara In scrubland and forest throughout; less plentiful near the coast. NZ
- Olearia solandri* Plentiful on the shores of islands in the Ohiwa Harbour. NZ
- Opuntia vulgaris* prickly pear Seedlings grow around a garden outcast on Torere Beach. S America
- Ornithopus pinnatus* yellow serradella Noted on roadside sand at Port Ohope. Europe, Asia, N Africa
- Orobanche minor* broomrape Throughout in a wide range of open habitats and on forest margins. Europe, N Africa, Macaronesia
- Ourisia macrophylla* Grows in seepages on the banks of the Motu River near Otipi. NZ
- Oxalis articulata* Grows in gardens and on grassy roadsides where it has been dumped with garden refuse. S America
- Oxalis corniculata* ssp. *corniculata* Widespread in grassy places on forest margins and in gardens. Subcosmopolitan
- Oxalis exilis* Very widespread in grassy places, on waste land and in open forest and scrubland. NZ, Aust
- Oxalis incarnata* A garden weed but occurs also in semi-shaded places where garden refuse has been dumped. S Africa
- Oxalis lactea* Occasional on stream margins and roadside banks at Takaputahi and Whitikau. NZ, Aust
- Oxalis latifolia* Aggressive in gardens; occasional in other disturbed soil. S America, W Indies
- Oxalis perennans* Grows on dunes at Port Ohope, Ohiwa, and Whangaparaoa. NZ
- Oxalis pes-caprae* Common in gardens in the Opotiki district and where garden refuse has been dumped. S Africa
- Papaver rhoeas* field poppy Many plants appeared in disturbed soil on a roadside at Woodlands. Europe, Asia, N Africa
- Papaver somniferum* opium poppy Subspecies *somniferum* was noted on disturbed soil at Waiotahi Beach. Subspecies *setigerum* has been seen at Woodlands. Europe, Asia
- Parahebe catarractae* ssp. *diffusa* Grows on shaded rocky banks of the Waioka, Haparapara, and Motu Rivers. NZ
- Paratrophis microphylla* small-leaved milktree Widespread in small numbers on forest margins mainly in the lowlands but locally plentiful on the flats of the Kereu River. NZ
- Parentucellia viscosa* tarweed A weed of moist disturbed soil occurring in many localities. Europe
- Parietaria debilis* L. Occasional near Cape Runaway. NZ, and other countries?
- Parsonia capsularis* On forest margins in many places. The variety *ochracea* occurs at Toatoa and Waiau. NZ
- Parsonia heterophylla* Widespread on forest margins and in scrubland. NZ
- Passiflora edulis* black passionfruit Grows in waste places about Opotiki. S America
- Pastinaca sativa* wild parsnip A few plants occur in several roadside places in the Opotiki district. Europe, Asia
- Pelargonium inodorum* Occasional at Port Ohope, Woodlands and near Waiau. Noted at East Cape by A. P. Druce in 1967. NZ, Aust

- Pennantia corymbosa* kaikomako Plentiful in forest in the Opotiki hinterland; occasional plants in other places. NZ
- Peperomia tetraphylla* Grows as an epiphyte in the lowland forest in the Waioeka Valley, at Woodlands and Hicks Bay. NZ, Aust, Pacific Is
- Peperomia urvilleana* Occurs on many shaded coastal slopes, less frequently inland. NZ
- Physalis peruviana* cape gooseberry Occasional in gardens and on waste land. S America
- Phytolacca octandra* inkweed Prevalent throughout in waste land, rough pastures, on roadsides, dunes, stream banks, and forest margins. C & S America
- Picris echioides* oxtongue Noted at Opotiki, Lottin Point, Hicks Bay, and Te Araroa on roadsides and waste ground. Medit, Asia
- Pimelea longifolia* Occasional in open scrubland at Hicks Bay and Te Araroa. NZ
- Pimelea prostrata* Two varieties have been seen in the district. Many plants of var. *erecta* grow on a roadside bank near Ohiwa Harbour. Variety *prostrata* grows in some open habitats between Whitiare Bay and Whangaparaoa. NZ
- Pimelea tomentosa* Occasional near the coast in scrubland from Ohiwa Harbour to Whanarua Bay. NZ
- Pisonia brunoniana* parapara One 6 m tree remained at East Cape at the time of the survey. NZ, Hawaii, Norfolk, Lord Howe I, Aust
- Pittosporum* sp. Plants similar to *P. huttonianum* have been found in upland forest in the Motu River catchment. NZ
- Pittosporum colensoi* Growing with *P. tenuifolium* in many lowland forest remnants but is less plentiful and less widespread. NZ
- Pittosporum cornifolium* A few epiphytic plants have been noted at Opape, Omaio, Whanarua Bay and near Lottin Point, and inland about Te Waiti Stream and upper Waimana Valley. It grows as a rupestral plant at Whanarua Bay. NZ
- Pittosporum crassifolium* karo Grows on rocky coasts, mainly with pohutukawa. NZ
- Pittosporum ellipticum* The single tree found in the Waioeka Gorge by N. Potts is probably buried beneath roading earthworks. Allan (1961) noted that the species was also found at "Hawai River, inland from Opotiki". NZ
- Pittosporum eugenioides* tarata Grows mainly in lowland forest; some in regenerating forest at higher altitudes. NZ
- Pittosporum ralphii* Noted at Te Araroa where it is abundant on the hills near the town. NZ
- Pittosporum tenuifolium* kohuhu Abundant and widespread in scrubland and regenerating forest. NZ
- Plagianthus divaricatus* shore ribbonwod Locally plentiful on the edges of salt marshes. NZ
- Planchonella novo-zelandica* tawapou The southern limit of the species may now be East Cape, though it is recorded from Tolaga Bay (W. L. Williams). Fewer than 50 trees were seen near the East Cape lighthouse, and no seedlings. NZ
- Plantago australis* swamp plantain Grows in wet soils in many localities. America
- Plantago coronopus* buck's-horn plantain Grows on many shores. Europe, Asia, N Africa
- Plantago lanceolata* narrow-leaved plantain Widespread and abundant in grassy places and on disturbed soil. Europe, Asia
- Plantago major* broad-leaved plantain Widespread but not plentiful in grassy places and on disturbed soil. Europe, Asia
- Plantago picta* Noted at East Cape on an eroding, grassy hillside. NZ
- Plantago raoulii* Occurs in semi-shaded habitats in the Waitohi Valley, at Te Kaha, and Whitianga Bay. NZ
- Podranea ricasoliana* Naturalised but not troublesome at Waitohi and Maraenui. S Africa
- Polycarpon tetraphyllum* allseed Widespread in open habitats where there is little competition from other plants. Europe, Medit
- Polygonum arenastrum* wireweed Occasional in trampled places. Europe
- Polygonum aviculare* wireweed Locally plentiful in many localities particularly where trampling and wheeled traffic have made it difficult for other plants to survive. Europe, Asia
- Polygonum capitatum* pink-head knotweed Occasionally escapes from gardens in the Opotiki district. India
- Polygonum decipiens* Occasional in the backwaters of the Waimana and Haparapara Rivers. NZ
- Polygonum hydropiper* water pepper Grows on margins of streams and drains in many localities in the lowlands. Europe, Asia, N Africa, N America
- Polygonum lapathifolium* pale willow weed Noted by streams in the Otara and Tutaeotoko Valleys. N Hemi, S Africa
- Polygonum orientale* oriental knotweed Noted as a garden escape in Opotiki. Asia
- Polygonum persicaria* Grows in disturbed soil in many localities. N Hemi
- Pomaderris kumeraho* kumarahou Grows on roadside banks around Ohiwa Harbour. NZ
- Pomaderris phyllicifolia* var. *ericifolia* whatitiri Noted in open scrubland about Ohiwa Harbour, at Maungaroa, Whanarua Bay, and between Whangaparaoa and Potaka. NZ, Aust
- Populus alba* cv. Nivea silver poplar Occurs on a number of roadsides and stream margins, mainly spreading by suckers from plantings to stabilise soil. Europe
- Populus nigra* cv. Italica Lombardy poplar Several wild plants were noted on the roadside near Ohiwa Harbour. Asia?
- Portulaca oleracea* wild portulaca Mainly a weed of disturbed soil in gardens but occurs in other open habitats in many localities. Cosmopolitan
- Potentilla anglica* trailing cinquefoil Noted on wet soil at Papamoa, Toatoa, and Whitikau. Europe
- Potentilla anserinoides* Plants growing at Hukutaia Domain were stated by N. Potts to have come from near Cape Runaway. NZ
- Pratia angulata* Plentiful in moist shady places from Waimana Valley to Te Kaha. NZ
- Pratia perpusilla* Grows in seepages along parts of the Motu River. NZ

- Prunella vulgaris* selfheal Widespread and abundant in a wide variety of habitats from dry disturbed soil to open forest. Europe, Asia, N Africa, N America
- Prunus domestica* plum Occasional on roadsides and near picnic places. Asia?
- Prunus persica* peach Frequent on roadsides and waste land. This is the most common wild fruit tree in the region. China
- Pseudopanax anomalus* Occasional in upland forest in the Opotiki hinterland. NZ
- Pseudopanax arboreus* five-finger Occasional in regenerating forest. NZ
- Pseudopanax colensoi* Grows in upland forest at the confluence of the Mangakirikiri Stream and the Motu River, and on Otipi Rd. NZ
- Pseudopanax crassifolius* lancewood Fairly common in most lowland forest remnants. Coastal plants hybridise with *P. lessonii*. NZ
- Pseudopanax edgerleyi* ruakawa Grows mostly in upland forest. It is usually epiphytic on tree ferns. NZ
- Pseudopanax lessonii* houpara Common in forest on the coast. NZ
- Pseudopanax simplex* Occasional in upland forest at Toatoa. NZ
- Pseudowintera axillaris* horopito In forest mostly west of the Motu River at about 150 m. NZ
- Pseudowintera colorata* pepper tree Occasional in the upper reaches of the Motu River catchment. NZ
- Quercus robur* common oak Seedlings grow near plantings in Opotiki. Europe, Russia
- Quintinia serrata* Fairly plentiful in upland forest descending to near sea level in the Otara and Waiau Valleys. NZ
- Ranunculus acaulis* Grows on wet sand and mud near the coast in many localities. NZ, Aust, Chile
- Ranunculus hirtus* Occurs in lowland forest throughout. NZ, Aust
- Ranunculus parviflorus* small-flowered buttercup Occasional on grassy flats in the Waiotahi Valley. Europe, Medit
- Ranunculus repens* creeping buttercup Plentiful at all altitudes in open moist places. Europe
- Ranunculus rivularis* Occasional in Nukuhou and Haparapara Rivers and in a pond near East Cape. NZ, Aust
- Ranunculus sardous* hairy buttercup Occurs in pasture and disturbed soil in many scattered localities. Europe
- Ranunculus sceleratus* celery-leaved buttercup Occasional in a few lowland localities in very wet soils. Europe
- Raoulia glabra* Grows in several places beside the Otipi Rd. NZ
- Raoulia tenuicaulis* Plentiful in alluvial gravel from the Waimana River to the Kereu River, and at Te Araroa. Several forms were noted including var. *dimorpha*. NZ
- Raphanus raphanistrum* Subspecies *raphanistrum* (wild radish) has been noted on waste land at Snells Beach and Te Kaha, and subspecies *maritimus* (sea radish) in sand at Snells Beach, Waiotahi Beach, and Torere. Europe, Medit
- Raphanus sativus* radish Occasional on waste land at Port Ohope. Origin unknown
- Rhabdothamnus solandri* Plentiful in forest near the Haparapara River mouth. NZ
- Ricinus communis* castor oil plant Grows wild at Ohiwa, about Opotiki and East Cape on roadsides and waste land, possibly from garden refuse. Tropical Africa
- Robinia pseudacacia* robinia Suckering plants grow on roadsides where the species has probably been planted for erosion control. N America
- Rorippa gigantea* Noted on a wet roadside near Torere. NZ
- Rosa canina* dog rose Plentiful about Ohiwa Harbour and frequent on roadsides, coastal waste land, and in poor pastures between Whitianga Bay and East Cape. Europe, Asia
- Rosa rubiginosa* Plentiful on waste land and in poor pastures about Ohiwa Harbour, Torere and Hawaii, and occasional between Waimana and Omaio. Europe, N Africa
- Rubus australis* lawyer Occasional on forest margins and in scrubland. NZ
- Rubus cissoides* lawyer Plentiful in nearly all places where there is native forest. NZ
- Rubus fruticosus* blackberry A widespread and abundant weed throughout the entire region at all altitudes, occurring on roadsides, waste land, stream banks, in poor pasture, on forest margins, and in scrubland. Europe
- Rubus laciniatus* cut-leaved blackberry Occurs on roadsides near Oponae. Europe
- Rubus phoenicolasius* Japanese wineberry Fairly large colonies occur in a number of places between Wainui and Torere; occasional at Whitianga Bay. The worst infestations are in pasture at Torere and Morices Bay. Japan, China, Korea
- Rubus schmidelioides* lawyer Occasional on forest margins in the Opotiki district. NZ
- Rubus squarrosus* lawyer Seen on roadsides near Potaka and at Hicks Bay. NZ
- Rumex acetosella* sheep's sorrel Plentiful throughout on disturbed soil and in grassy places. Europe
- Rumex brownii* hooked dock Occasional in coastal areas on waste land. Aust
- Rumex conglomeratus* clustered dock Widespread in moist open habitats. Europe, Asia, N Africa
- Rumex crispus* curled dock Plentiful in many localities, particularly in wet open areas near the coast. Europe, Asia, N Africa
- Rumex obtusifolius* broad-leaved dock Conspicuous and widespread in many moist open habitats. Europe
- Rumex pulcher* fiddle dock In small numbers in grassy places in many localities. Europe
- Sagina apetala* annual pearlwort Occasional on thin soil subject to drought. Europe
- Sagina procumbens* pearlwort Grows in grassy places and disturbed soil in many localities. Europe
- Salicornia australis* (*Sarcocornia quinqueflora*) Plentiful on fringes of three islands in Ohiwa Harbour, on the tidal mudflats of Waiotahi River mouth and near rocks at Waihou Bay. NZ
- Salix* spp. Numerous kinds of willow have been planted for stream bank protection and ornament. *S. fragilis* (crack willow) is the most widespread and is troublesome in some places. Others have seeded or spread by fragmentation

and are sparingly naturalised — *S. alba* ssp. *vitellina* (golden willow), *S. babylonica* (weeping willow), *S. cinerea* (grey willow), *S. gracilistyla*, and *S. viminalis* (osier).

*S. cinerea* — Europe, Asia, N Africa  
*S. fragilis*, *S. alba* ssp. *vitellina*, *S. viminalis* — Europe, Asia

*S. gracilistyla* — Asia

*S. babylonica* — China

*Salsola kali* saltwort Occasional on foreshores at Cape Runaway and Te Araroa. Europe, Asia, N Africa, Aust

*Samolus repens* Abundant in many coastal fringes. NZ, Aust, N Caledonia, Easter I

*Scandia rosaefolia* Occurs on steep slopes in the Waioka Gorge, at Houpoto, Whanarua Bay, and Hicks Bay. NZ

*Schefflera digitata* pate In forest throughout, mostly near streams. NZ

*Scleranthus biflorus* Occasional on the shingle foreshore of Whangaparaoa Beach. NZ, Aust, S America

*Scrophularia auriculata* water betony An abundant plant of margins of drains and streams in the Opotiki district. Europe, N Africa

*Selliera radicans* Locally abundant on saline coastal fringes. NZ, Aust, Chile

*Senecio banksii* Noted in shade on cliffs at Hicks Bay and on bank seepages on Otipi Rd. NZ

*Senecio bipinnatisectus* Australian fireweed Abundant and widespread, mostly in semi-shaded disturbed soil. Aust

*Senecio biserratus* Occasional on forest track east of Waiputatawa Trig, Waiotahi. NZ

*Senecio glomeratus* Occurs in several localities between Ohiwa Harbour and Toatoa, mostly by roadsides and on waste land. NZ, Aust

*Senecio hispidulus* Noted in open situations in many localities. NZ

*Senecio kirkii* (*Urostemon kirkii*) kohurangi Grows in forest and on forest margins above 400 m at Toatoa, Otipi Rd and south of Te Kaha and Maraehako both as epiphytic and terrestrial plants. NZ

*Senecio lautus* Grows on beaches and elevated rocky places on the coast. NZ, Tasmania

*Senecio minimus* Grows at all altitudes on roadsides, waste land, and margins of forests and streams. NZ, Aust

*Senecio petasites* velvet groundsel Apparently naturalised on stopbanks at Opotiki and by roadsides at Waiotahi and Whanarua Bay. Mexico

*Senecio quadridentatus* Occasional on open waste land in the lowlands. NZ

*Senecio rufiglandulosus* Grows in seepages near the confluence of the Mangakirikiri Stream and the Motu River. NZ

*Senecio spathulatus* gravel groundsel Occasional on a roadside in the Cheddar Valley. Aust

*Senecio sylvaticus* wood groundsel Has been seen in a few disturbed waste places in the Opotiki district. Europe, Asia

*Senecio vulgaris* groundsel Frequent on disturbed soil, mainly in gardens. Europe, Asia, N Africa

*Sherardia arvensis* field madder Occasional in grassy places. Europe, Medit

*Sida rhombifolia* paddy lucerne Grows on beaches at Torere and Omaio. India, Aust

*Siegesbeckia orientalis* Occasional in waste places and lowland forest beside tracks. NZ, Aust

*Silene gallica* catchfly Throughout on disturbed soil. Europe

*Silybum marianum* variegated thistle Occasional in pastures, waste places and on roadsides in the Waiotahi and Otara Valleys, and at Opotiki; more plentiful from Waihou Bay to Tikirau and about East Cape. Europe, Asia, N Africa

*Sison amomum* stone parsley Locally plentiful on roadsides, forest margins, and waste land in the lowlands. Europe, Asia, N Africa

*Sisymbrium officinale* hedge mustard Grows in disturbed soil in many localities. Europe

*Sisymbrium orientale* oriental mustard Occasional on waste ground at Opotiki. Europe

*Solanum americanum* Grows mainly in semi-shade on forest margins, in scrubland and on dunes and coastal cliffs. NZ, subcosmopolitan

*Solanum aviculare* poroporo Grows in small numbers on forest margins and in waste land. NZ, Aust

*Solanum hermannii* apple of Sodom Noted at Cape Runaway. N Africa

*Solanum nigrum* black nightshade Widespread in disturbed soil. Subcosmopolitan

*Solanum pseudocapsicum* Jerusalem cherry Occasional in waste places near Opotiki and at Hicks Bay. S America

*Solanum sarrachoides* hairy nightshade Occasional on roadsides at Opotiki and Woodlands. S America

*Soliva pterosperma* Onehunga weed Found on shingle at Torere Beach and on a roadside at Waimana. S America

*Soliva sessilis* Onehunga weed Occasional in grassy areas at Te Kaha and Onepoto Bay. S America

*Soliva valdiviana* Onehunga weed Occurs in grassy places and waste land at Port Ohope, Opotiki, and Toatoa. Chile

*Sonchus asper* prickly sowthistle Scattered throughout on disturbed soil. Europe, Asia, N Africa

*Sonchus kirkii* Collected at Te Kaha by A. E. Wright in 1984. NZ

*Sonchus oleraceus* sowthistle Widely distributed on disturbed soil. Sought after as a vegetable by Maori folk. Europe, Asia, N Africa

*Sophora tetraptera* kowhai Local from Hawaii to Te Araroa where it is plentiful on the nearby slopes and flats. Another colony of at least 36 trees was noted at 300 m by the Motu River near Otipi Rd. NZ

*Spergula arvensis* spurrey Grows on disturbed soil in many localities. Europe

*Spergularia maritima* sea spurrey Found only on a roadside waste area near the Motu River mouth. NZ, subcosmopolitan

*Spergularia rubra* sand spurrey Occurs in shingle in some coastal places. Europe

*Stachys arvensis* staggerweed Mostly a weed of gardens. Europe

*Stachys sylvatica* hedge stachys Locally plentiful in some shady places in the Opotiki district. Europe,

- Stellaria alsine* bog stitchwort Occurs in seepages and on the sides of streams and drains usually with *Juncus articulatus*. Europe
- Stellaria graminea* stitchwort Occurs occasionally on grassy stream margins. Europe
- Stellaria media* chickweed Widespread in disturbed soil but not plentiful except in gardens. Europe
- Stellaria parviflora* Common in forest and on shingle river flats west of the Motu River. NZ
- Symphytum asperum* Occasional on roadsides at Opotiki. Asia
- Syzygium maire* A few plants were recorded on a swampy river terrace near Opotiki. NZ
- Tanacetum vulgare* tansy A small colony grows by the river near Okiore. Europe, Asia
- Taraxacum officinale* dandelion Occurs in fairly small numbers in grassland and waste land throughout. Europe
- Teline monspessulana* Montpellier broom A small patch was noted on a roadside at Te Kaha. Medit, Asia
- Tetragonia tetragonioides* N.Z. spinach Plentiful on coasts in the Opotiki district, occasional in some other localities. NZ, Aust, Pacific Is, Japan, S America
- Tetrapathaea tetrandra* (*Passiflora tetrandra*) N.Z. passionvine A plant of limited distribution in lowland forest in the Opotiki district at Hawaii and along the lower reaches of the Kereu River. NZ
- Teucrium scorodonia* wood sage Grows in rough pasture in the Waiau and Waiotahi catchments. Europe
- Tolpis barbata* tolpis Locally plentiful on a roadside at Hawaii. Medit
- Torilis arvensis* hedge parsley Occasional on waste land at Waiotahi, Torere, and Hawaii. Europe, Medit, Asia
- Torilis japonica* upright hedge parsley Found only in Te Waiti and Otara Valleys where it grows on the margins of roads and streams. Europe, Asia, N Africa
- Toronia toru* toru Grows in forest and scrubland on many dry sites in the lowlands. NZ
- Tragopogon porrifolius* salsify Rare on roadsides at Woodlands. Medit
- Trifolium angustifolium* narrow-leaved clover Occasional on a roadside at Whitianga Bay. Europe, Asia, N Africa
- Trifolium arvense* haresfoot trefoil Plentiful in open dry situations at Port Ohope, Hicks Bay, Hawaii and Maraenui. Europe, Asia, N Africa
- Trifolium campestre* hop trefoil Occasional in dry places, mainly in roadside gravel. Europe, Asia, N Africa
- Trifolium dubium* suckling clover Widespread and abundant in grassy places. Europe, Asia
- Trifolium glomeratum* clustered clover Occasional on light soils in some lowland localities. Europe, Asia
- Trifolium micranthum* lesser suckling clover Noted in some grassy places but probably overlooked in others because of its small size and seasonal growth. Europe, Asia
- Trifolium ornithopodioides* trigonel Fairly plentiful on roadsides at Hawaii. Europe, N Africa
- Trifolium pratense* red clover Fairly widespread in grassy places. Europe, Asia, N Africa
- Trifolium repens* white clover The most widespread and abundant of all clovers. It is grown extensively in pastures and is used for stabilisation of soils following earthworks. White clover has spread to almost every open habitat and has become a weed in gardens. Europe, Asia, N Africa
- Trifolium subterraneum* subterranean clover Moderately plentiful on light soils at Port Ohope and Raukokore. Europe, Asia, N Africa
- Tropaeolum majus* garden nasturtium Found in a few coastal waste places from Ohiwa to Waihou Bay as a garden outcast. S America
- Ulex europaeus* gorse Conspicuous in pasture and on untended areas in many localities. Europe
- Urtica dioica* perennial nettle Known only from small quantities in the Pakihi Valley. Europe
- Urtica ferox* tree nettle Seen in small numbers in the Opotiki hinterland to an altitude of 700 m and in Tukainuka Scenic Reserve. NZ
- Urtica incisa* Common in lowland forest in the Opotiki district and as far as the Haparapara River. NZ
- Urtica urens* nettle Noted at Opotiki and in Waiotahi Valley on waste land. N Hemi
- Verbascum thapsus* woolly mullein Throughout in open habitats where there is little competition from other plants; plentiful in some localities. Europe, Asia
- Verbascum virgatum* moth mullein Widespread but usually in low numbers. It grows on denuded soil, waste land and roadsides. Europe, N Africa
- Verbena bonariensis* purpletop Conspicuous, abundant, and widespread on waste land, roadsides and river flats. S America
- Verbena officinalis* vervain Occasional on roadsides and river banks. Europe, Asia, N Africa
- Verbena rigida* Noted on a Waiotahi roadside in 1969. S America
- Veronica anagallis-aquatica* Plentiful by many streams. Europe, Asia, N America
- Veronica arvensis* field speedwell Occasional on disturbed soil and in open grassy places. Europe, Asia, N Africa
- Veronica chamaedrys* germander speedwell Grows on a grassy roadside at Toatoa. Europe, Asia
- Veronica persica* scrambling speedwell Moderately plentiful in disturbed soil. Europe
- Veronica plebeia* Australian speedwell Occasional in rough pasture in the Waiotahi and Waiau Valleys. Aust
- Veronica serpyllifolia* turf speedwell Occurs in grassy places in a few scattered localities. Europe
- Vicia hirsuta* hairy vetch Seen in the upper Waioeka Valley and at Port Ohope. Europe, Asia, N Africa
- Vicia sativa* vetch Noted on some roadsides in the lowlands. Subspecies *nigra* (narrow-leaved vetch) has been seen by the Pakihi Stream. Europe, Asia, N Africa
- Vicia tetrasperma* four-seeded vetch Noted under manuka near the Pakihi Stream. Europe, Asia, N Africa
- Vinca major* periwinkle Plentiful about Opotiki and recorded in many other districts close to habitations. Medit
- Viola filicaulis* Noted in a forest clearing at Tikirau and in upland forest in many places. NZ

*Viola riviniana* dog violet Grows as a weed in Hukutaia Domain. Europe

*Vitex lucens* puriri Grows in forest up to 16 km from the sea. Most trees are of pole or small tree size, the larger trees having been used for fence posts and firewood. A few very large distorted trees still exist such as the historical burial tree of the Upokorehe hapu in the Hukutaia Domain reputed to be over 2000 years old. Such trees provide a haven for perching plants such as *Collospermum* and *Astelia*. NZ

*Vitis vinifera* grape Grows in several places between Waiotahi and Te Araroa mainly as a relic of cultivation. Orient

*Wahlenbergia gracilis* White-flowered plants of this species grow in many open habitats, mainly in the Opotiki district and along the Motu River. Blue-flowered plants of doubtful identity grow in grassland and scrubland throughout. white-flowered plants — NZ

*Weinmannia racemosa* kamahi Still one of the most abundant and widespread trees but possums have killed a vast quantity. NZ

*Weinmannia silvicola* towai This species has been observed in small quantities between Lottin Point and Te Araroa. It is a little uncertain where towhai begins in this area and kamahi ends. NZ

*Xanthium spinosum* Bathurst bur Plentiful on waste land in the Waiotahi Valley and Morices Bay; occasional in a few other localities. S America

## MONOCOTYLEDONS

*Acianthus fornicatus* var. *sinclairii* Noted in the Oscar Reeve Scenic Reserve at Ohiwa. NZ

*Adenochilus gracilis* Seen in upland forest at Papamoia Hill and the Waioeka Gorge. NZ

*Agapanthus orientalis* agapanthus Occasional on roadside banks between Kukumoa and Opape. At least some of the plants are garden escapes. S Africa

*Agropyron kirkii* (*Elymus multiflorus*) Occasional near coastal rocks between Lottin Point and Te Araroa. NZ

*Agropyron pungens* (*Elytrigia pungens*) sea couch Freely naturalised on the coast from Ohope to Opape. Europe

*Agropyron repens* (*Elytrigia repens*) couch Grows near the shore at Waiotahi Beach and on two islands in Ohiwa Harbour. Probably overlooked in some other localities. N Hemi

*Agrostis capillaris* browntop Grows abundantly throughout on roadsides, waste land, forest margins and clearings. Europe

*Agrostis stolonifera* creeping bent Throughout in damp grassy places. Europe, Asia, N America

*Aira caryophyllea* silvery hair grass Grows in many places on shallow soils, rock and shingle. Europe, Asia, Africa

*Alisma plantago-aquatica* water plantain Occasional in waterways in the Opotiki district. N Hemi

*Allium triquetrum* three-cornered garlic Abundant in a number of places in the Opotiki district in many shaded habitats. Flooding has aided its dispersal. Medit

*Allium vineale* wild onion Several plants were found in the Hukutaia Domain possibly having arrived in contaminated soil. N America

*Alocasia macrorrhiza* elephant's ear Occasional by roadsides and in waste places. Conspicuous in some coastal waste places. Tropics

*Alopecurus pratensis* meadow foxtail Noted in waste land at Torere. Europe, Medit, Asia

*Amaryllis belladonna* belladonna lily Occasional as a garden outcast on a roadside in Opotiki and in coastal waste places at Torere and Maraenui. S Africa

*Ammophila arenaria* marram grass Naturalised on the sand dunes behind a motor camp at Tirohanga Beach where it was apparently planted to stabilise the dunes. Europe

*Anthoxanthum odoratum* sweet vernal The most abundant and widespread grass in the region. It has been seen on dunes, waste land, forest margins, clearings and tracks, roadsides, and in pastures. Europe, Asia, N Africa

*Arthropodium candidum* Local on dry banks in open forest between the Waiotahi and Haparapara Rivers. NZ

*Arthropodium cirratum* rengarenga Widespread and plentiful on the coast; less plentiful inland. Steep coastal slopes are a typical habitat. NZ

*Arum italicum* Italian arum Noted with garden refuse on roadsides around Ohiwa, Waimana, and Opotiki. Europe

*Arundo donax* giant reed A small patch was noted on dunes at Waiotahi Beach. Europe

*Asparagus asparagoides* smilax Established on dunes at Hukuwai Beach. S Africa

*Astelia fragrans* Recorded in upland forest and Waiotahi Scenic Reserve. NZ

*Astelia nervosa* Noted in forest in the Motu Valley but the identification has not been confirmed. NZ

*Astelia solandri* Plentiful in forest at all altitudes; less so in the eastern district. Usually an epiphyte but occasionally dropping to the ground and growing there. NZ

*Astelia trinervia* kauri grass Grows in hard beech forest inland from Waiau and in the Motu River Valley. NZ

*Avena barbata* bearded oat Grows on the coast on dunes, cliffs, and waste land. Medit

*Avena fatua* wild oat Grows on steep ground at Hawaii Beach. Europe, Asia

*Avena sativa* common oat Noted at Port Ohope on dunes and coastal waste land. Medit?

*Axonopus affinis* narrow-leaved carpet grass Occasional on roadsides and waste land from Opotiki to Lottin Point where it is locally plentiful. America

*Baumea articulata* Locally plentiful in the lowlands in swamps, roadside drains, and beside streams. NZ, Aust, N Caledonia, N Hebrides, N Guinea

*Baumea juncea* Abundant on sandy fringes and mudflats of Ohiwa Harbour also near Lottin Point and Te Araroa. NZ, Aust, N Caledonia

*Baumea rubiginosa* Plentiful in the swamp near Motu River mouth. NZ, Aust, N Guinea, N Caledonia, Asia

*Baumea tenax* Plentiful in a roadside swamp near Whangaparaoa. NZ

*Baumea teretifolia* Recorded in the Druce checklist. NZ, Aust, N Guinea

*Briza maxima* quaking grass Plentiful on dunes at Port Ohope and Snells Beach. Medit

- Briza minor* shivery grass Plentiful near the coast on dunes and waste land; occasional inland. Europe, Asia
- Bromus diandrus* rigput brome Plentiful in spring and early summer on sand, shingle and waste land, particularly near the coast. Europe, N Africa
- Bromus mollis* Occasional inland on roadside banks, in pasture, and on waste land. Europe, Asia, N Africa
- Bromus sterilis* barren brome There are some colonies in shingle at Torere Beach. Europe, Asia
- Bromus unioloides* prairie grass Throughout the lowlands in grassy places, mainly roadsides and waste land. S America
- Bulbophyllum pygmaeum* Noted at Woodlands, Whanarua Bay, in the Waioeka Valley, and near the Haparapara River. Mostly epiphytic but commonly rupestral at Whanarua Bay. NZ, Lord Howe I
- Bulbophyllum tuberculatum* Noted on fallen trees near the Waiau River and near Opotiki. NZ, Lord Howe I
- Caladenia carnea* Recorded in the Druce checklist. NZ, Aust
- Carex breviculmis* Noted in Waimana Gorge and found by A. P. Druce in 1950 near Hicks Bay. NZ, Aust, N Guinea, Lord Howe I, Celebes
- Carex comans* In pastures and scrubland from Tikirau to East Cape in several places, plentiful in some. Both red and green forms grow at Tikirau. NZ
- Carex dipsacea* Occasional at Tukainuka Scenic Reserve. NZ
- Carex dissita* Fairly widespread in lowland forest and scrubland, usually in moist semi-open places. NZ
- Carex divulsa* Occasional on roadsides and in grassy waste places. Europe, Asia, N Africa
- Carex flagellifera* Widespread and abundant on coasts and open areas inland. NZ
- Carex forsteri* Occasional on margins of forests and streams from near Kutarere to Te Kaha. NZ
- Carex geminata* Fairly widespread and plentiful in wet areas. NZ
- Carex inversa* Grows in open grassy places in the lowlands. NZ, Aust, Norfolk I, Lord Howe I
- Carex lambertiana* Noted in coastal forest but probably more widespread than this. NZ
- Carex lessoniana* Fairly plentiful in wet areas from Waimana to Whanarua Bay. NZ
- Carex longibrachiata* Australian sedge Grows in a number of open coastal places between Torere and Tikirau, usually on waste land and poor pastures, often with *C. flagellifera*. Aust
- Carex maorica* Noted on wet land in Waimana Gorge and in Kotare Scenic Reserve. NZ
- Carex ovalis* Noted in limited quantities on the roadside and forest margin on Papamoa Hill. Europe, N Africa, N America
- Carex pumila* Abundant near fore dunes on sandy beaches. NZ, Aust, Lord Howe I, Asia, Chile
- Carex secta* niggerhead Grows in very wet places in scenic reserves at Ohiwa and Waiotahi. NZ
- Carex solandri* Grows on forest margins between Ohiwa and the Motu River. NZ
- Carex spinostris* Occasional in forest near the coast, and inland near the upper Motu River. NZ
- Carex virgata* Widespread in wet open places on forest margins, in scrubland, and pasture. NZ
- Carex vulpinoidea* Grows in forest clearings in the Waiotahi and Waioeka Valleys and on a roadside at Waimana. N America
- Chiloglottis cornuta* Noted in forest near Waimana Gorge and in the Toatoa area. NZ, Aust
- Chionochoa flavicans* Grows on the coastal cliffs at Whanarua Bay and from Hicks Bay to East Cape. NZ
- Collospermum hastatum* Abundant and widespread in forest throughout, mostly as an epiphyte. NZ
- Collospermum microspermum* Grows as an epiphyte in forest from Waimana to the Motu River; more plentiful at higher altitudes. NZ
- Colocasia esculenta* taro Grows in a few roadsides and waste areas between Kutarere and Whanarua Bay. Brought by the early Maoris from the Pacific Islands, it was once an important food, and is still cultivated to a small extent. Tropical Asia
- Cordyline australis* cabbage tree Common in the lowlands, particularly on river flats. Some very large trees grow in the Tukainuka Scenic Reserve. There are also some hybrids with *C. banksii*. NZ
- Cordyline banksii* ti-nghere Grows in forests throughout; more plentiful in the uplands. NZ
- Cordyline indivisa* broad-leaved cabbage tree Seen on upland forest margins in the Waioeka and Motu River Valleys above 700 m. NZ
- Cortaderia fulvida* toetoe Grows on forest margins, roadsides, and clearings in the lowlands. NZ
- Cortaderia selloana* pampas grass Plentiful in some areas between Ohope and Toatoa, less so from Maraenui to Hicks Bay. Formerly planted as stock food, it has now spread to roadsides, waste land, forest clearings, and forest margins. S America
- Cortaderia toetoe* toetoe Grows in forest clearings, on roadsides and on the coasts. Several robust plants growing beside Ruatuna Rd bordering Ohiwa Harbour have culms to 4 m long, panicles to 72 cm long, and flower in mid December. NZ
- Corybas macranthus* Occasional in coastal forest at Onepoto Bay. NZ
- Corybas oblongus* Grows in hard beech forest along the Motu River and in the Toatoa area. NZ
- Corybas orbiculatus* Locally abundant in damp shaded forest habitats in the Waiotahi Valley and beside the Pakihi and Te Waiti Streams. NZ
- Corybas rivularis* Probably more plentiful than the few sightings in upland and lowland forest indicate. NZ
- Corybas trilobus* Noted in lowland forest in several localities in the Opotiki district. NZ
- Crococsmia* × *crococsmiiflora* montbretia Naturalized from garden refuse in a number of places in the lowlands, mostly on roadsides and waste land. Plentiful in some localities. Hybrid origin
- Cynodon dactylon* Indian doab Abundant on the coast in sand and shingle; occasional in grassy places as far inland as Whitikau. Subcosmopolitan
- Cynosurus cristatus* crested dogstail Occasional in grassy places. Europe, Asia
- Cyperus brevifolius* Grows in scattered lowland localities in pasture, on stream margins, and waste land. Tropics & subtropics

- Cyperus congestus* Locally plentiful in scattered localities on roadsides, near old logging tracks in forest and in moist waste places. S Africa
- Cyperus eragrostis* The most widespread and abundant of the exotic sedges. It grows in wet areas on roadsides, in drains, on alluvial flats, waste land, and in poor pasture. America
- Cyperus rotundus* nutgrass There is an infestation on a roadside and adjoining property in Opotiki. Subcosmopolitan
- Cyperus tenellus* Collected from a roadside bank near Cape Runaway. Aust, S Africa
- Cyperus ustulatus* Abundant and widespread throughout the lowlands. It grows in wet situations in open waste land and on margins of harbours, forests, roads, and streams. NZ
- Dactylis glomerata* cocksfoot Widespread and abundant on roadsides and waste land but absent from several areas where there appears to be suitable habitats. Europe, Asia
- Dendrobium cunninghamii* Widespread in forest but not plentiful. NZ
- Desmoschoenus spiralis* pingao Occasional on sandy beaches from Ohiwa sandspit to Tirohanga; also at Whangaparaoa. NZ
- Deyeuxia avenoides* var. *brachyantha* Noted in grassy places in Te Waiti and upper Waiau Valleys, at Whitianga Bay and Maungaroa. NZ
- Deyeuxia billardieri* Grows on dunes, coastal cliffs, and banks near the sea. NZ, Aust
- Deyeuxia quadriseta* Occasional plants have been recorded on Motuotu Island. NZ
- Dianella nigra* turutu Fairly plentiful in forest and scrubland between Waimana Valley and Maungaroa at all altitudes; occasional at Hicks Bay. NZ
- Dichelachne crinita* plume grass Frequent on roadsides, open forest, cliffs, and waste land. NZ, Aust
- Digitaria ischaemum* smooth summer grass Noted in small quantities on disturbed soil at Woodlands and Maungaroa. Subcosmopolitan
- Digitaria sanguinalis* summer grass Common in disturbed soil about settlements; occasional in disturbed soil and sand in some other places. Subcosmopolitan
- Drymoanthus adversus* Occasional in lowland forest; in one reserve growing on willows. NZ
- Earina autumnalis* Grows mainly in lowland and upland forest west of the Motu River. NZ
- Earina mucronata* Grows as an epiphyte in forests throughout. NZ
- Echinochloa crus-galli* barnyard grass Occasional in moist disturbed soil from Waimana to Opotiki. Subcosmopolitan
- Echinopogon ovatus* hedgehog grass Frequent on forest margins, and occasional in waste places near forest. NZ, Aust
- Eleocharis acuta* Occasional in open wet areas. NZ, Aust, Norfolk I
- Eleocharis gracilis* Noted in wetland in the Whiti kau area. NZ, Aust, Norfolk I
- Eleocharis sphacelata* Noted in a pond at Whangaparaoa. NZ, Aust
- Eleusine indica* crowfoot grass Grows in open places in a few scattered localities in the lowlands. Tropics
- Eragrostis brownii* baygrass Noted in grassy places near the Tauranga Stream and at Whiti kau. Aust
- Festuca arundinacea* tall fescue Plentiful in many grassy habitats in the lowlands. Occasional hybrids with perennial ryegrass have been seen. Europe, Asia, N Africa
- Festuca multinodis* Recorded for Hicks Bay in the Druce checklist. NZ
- Festuca nigrescens* chewings fescue Plentiful in lawns, occasional in pastures. Europe
- Freyinetia baueriana* ssp. *banksii* kiekie In forest throughout; less abundant near the coast and at East Cape. NZ
- Gahnia lacera* Grows in open forest and scrubland in Waimana Valley, at Whiti kau and a number of coastal areas from Whitianga to East Cape. NZ
- Gahnia pauciflora* Noted on forest margins in several lowland and upland areas between the Waimana and Motu Rivers, and near Lottin Point. NZ
- Gahnia setifolia* Abundant in scrubland and forests. It is very noticeable on roadsides from Ohope to near Potaka. NZ
- Gastrodia cunninghamii* Grows naturally in the Hukutaia Domain. NZ
- Gladiolus natalensis* Occurs on coastal banks at Hawaii, Whitiare Bay, and Raukokore as a garden escape. S Africa
- Glyceria declinata* floating sweet grass Occasional in wet depressions and on stream margins in the lowlands. Europe
- Glyceria maxima* Seen in wet areas at Opotiki, Hawaii, and Hicks Bay. Europe, Medit, Asia
- Hedychium gardnerianum* wild ginger Grows on roadsides in scattered places from near Waimana to Whanaru Bay as a garden outcast, and from bird-borne seeds. India
- Holcus lanatus* Yorkshire fog Abundant throughout in grassy places at all altitudes. Europe, Asia
- Hordeum leporinum* barley grass Fairly plentiful in waste land and pasture near Lottin Point and at Hicks Bay. Medit
- Hordeum marinum* salt barley grass Noted on shingle at Hawaii and Wai hau Bay. Europe
- Hordeum murinum* barley grass Some local heavy infestations in pasture and on waste land in scattered places. Europe, Asia, N Africa, N America
- Isachne globosa* Grows on river flats in the Waitotahi Valley and damp areas on Patawa I. NZ, Aust
- Juncus amabilis* Noted in a damp area at Hawaii. Aust
- Juncus articulatus* jointed rush Abundant and widespread at all altitudes in wet depressions, drains, on stream margins, in backwaters and waste places. Europe, Asia, N Africa, N America
- Juncus australis* A widespread and plentiful rush of damp grassy places at all altitudes. NZ
- Juncus bufonius* toad rush The variety *bufonius* is abundant and widely distributed at all altitudes on roadsides and waste places, both wet and dry. The variety *congestus* is less common. Subcosmopolitan



- Juncus caespiticius* Occasional in a bog near East Cape. NZ, Aust
- Juncus effusus* Widespread and plentiful in wet grassy places. Subcosmopolitan
- Juncus gregiflorus* The most abundant and widespread pasture rush in the region occurring in damp pastures and swampy areas. NZ
- Juncus holoschoenus* Grows in wet depressions in drains and along forest tracks from Ohiwa Harbour to Maungaroa. NZ, Aust
- Juncus maritimus* var. *australiensis* Noted in a number of coastal places from Ohiwa Harbour to Opape, at Hicks Bay and Te Araroa in salt meadows and stream outlets. NZ, Aust
- Juncus microcephalus* Grows in many localities at all altitudes in seepages, drains, on river banks, roadsides, and waste land. S America
- Juncus pallidus* Occurs at irregular intervals, mainly in swamps and on river margins in coastal areas from Ohiwa Harbour to Whangaparaoa. NZ
- Juncus planifolius* Grows at all altitudes from Ohiwa Harbour to Maungaroa in wet depressions and drains, and on disturbed soil in open forest. NZ, Aust, S America, Hawaii
- Juncus prismatocarpus* Noted in wet soil near Rawa. NZ
- Juncus pusillus* Noted at 120 m in the Waimana Valley. NZ
- Juncus sarophorus* Noted in wet pasture at Waiotahi and Maraenui. NZ, Aust
- Juncus tenuis* Widespread in pastures, on tracks, roadsides, and waste places. N America
- Lachnagrostis filiformis* Plentiful on waste land at Port Ohope, occasional in open areas in the Otara and Tutae-toko Valleys, beside the Otipi Rd, and at Te Araroa. NZ
- Lagurus ovatus* haretail Abundant on dunes and sandy waste land. Channel Is
- Lemna minor* duckweed Grows on wet soil and in open water in backwaters, ponds, and drains. NZ, cosmopolitan
- Lepidosperma australe* Noted in wet places at Houputo and Potaka. NZ
- Leptocarpus similis* Plentiful throughout in salt marshes and at stream outlets except from Opape to Lottin Point. NZ
- Libertia grandiflora* Widespread in forest and scrubland in the lowlands. NZ
- Libertia peregrinans* Some plants growing in the Hukutaia Domain were stated by N. Potts to come from the Te Araroa area. The species has not been seen there recently. NZ
- Libertia pulchella* Locally plentiful in moss in forests at Papamoa. NZ, Aust ?, N Guinea?
- Lolium perenne* perennial ryegrass Abundant and widespread in high producing pasture, on roadsides and in waste land. Hybrids with *L. multiflorum* are sown in pastures and naturalise freely. Europe, Asia, N Africa
- Lolium rigidum* Collected from Torere Beach. Europe
- Lolium temulentum* darnel Noted on a roadside near Waimana township. Europe, Asia, N Africa
- Luzula congesta* woodrush Noted on a roadside bank near the Waimana River. Europe
- Luzula picta* var. *picta* Throughout on steep open slopes and on forest margins. NZ
- Luzuriaga parviflora* Grows in forest at Toatoa. NZ
- Machaerina sinclairii* Abundant on wet banks in the Waiotahi Valley, at Morices Bay and from Whangaparaoa to East Cape; also on islands in Ohiwa Harbour. NZ, Malaysia
- Microlaena avenacea* (*Ehrharta diplax*) bush rice grass Plentiful in forests at all altitudes. NZ
- Microlaena stipoides* (*Ehrharta stipoides*) Abundant almost throughout, particularly in lowland and coastal areas. It grows in scrubland and waste land, pastures, and sandy areas. NZ, Aust
- Microtis unifolia* Widespread in open situations such as on denuded banks, greywacke screes, in pasture, on roadsides, and waste land. NZ, Aust, N Caledonia, Java, Asia
- Miscanthus nepalensis* Himalaya fairy grass In abundance from about the Ohiwa Harbour to Maungaroa and spreading rapidly at all altitudes on roadside banks, forest margins, and disturbed ground. India
- Morelotia affinis* Plentiful throughout on banks in open forest and scrubland. NZ
- Narcissus tazetta* narcissus Occurs wild by several roadsides in Opotiki and Maraenui, and on coastal waste land at Torere. Medit
- Nassella trichotoma* nassella tussock Occasionally found at Amokura where the infested area has been planted in radiata pine. S America
- Oplismenus imbecillus* Widespread and abundant in lowland forests and scrubland. NZ, Pacific Is
- Orthoceras strictum* Noted on banks near Ohope, at Waioea and along the Motu River. Recorded from near Hicks Bay on the Druce checklist. NZ, Aust, N Caledonia
- Panicum capillare* witch grass Occasional on a roadside at Nukuhou. N America
- Panicum dichotomiflorum* smooth witchgrass Recorded at Woodlands in small numbers. N America
- Paspalum dilatatum* paspalum A useful pasture species now abundant in grassy places. S America
- Paspalum paspalodes* Mercer grass Locally plentiful in wetlands. S America
- Paspalum urvillei* Vasey grass Locally plentiful on roadsides at Maungaroa. N & S America
- Pennisetum clandestinum* kikuyu grass Grows in a number of coastal places also in the upper Waioua Valley and at Amokura. Has been planted more to conserve soil and stabilise sand than as a pasture plant. Africa
- Pennisetum macrourum* Several roadside infestations occur between Opotiki and Ohiwa Harbour. S Africa
- Phalaris aquatica* Fairly plentiful on stopbanks and roadsides from Wainui to Te Kaha and in some inland areas. Origin uncertain
- Phalaris minor* Grows on stopbanks at Opotiki. Europe, Asia, N Africa
- Phleum pratense* timothy Locally plentiful on a roadside near Waimana. It may have been overlooked in other places. British Isles

- Phormium cookianum* Fairly widespread; more plentiful in the eastern district. Not recorded in the Waimana and Waioeka Valleys. Very prevalent about the coast on cliffs, banks, and rocky places. NZ
- Phormium tenax* NZ flax In scattered wet places in small quantities, mainly near the coast. NZ, Norfolk I
- Poa anceps* The variety *anceps* is plentiful almost throughout in forest and scrubland, usually on shaded banks, roadsides, cliffs, and stream sides. Variety *condensata* grows on rocky banks near Lottin Point and Hicks Bay. The Druce checklist recorded hybrids between the varieties in the Hicks Bay to East Cape region. NZ
- Poa annua* A widespread and abundant winter annual grass occurring in disturbed soil throughout. Cosmopolitan
- Poa "caespitosa"* silver tussock Occasional on banks and cliffs between Te Kaha and Hicks Bay. The Druce checklist recorded hybrids between this and *P. anceps* var. *anceps* in the Hicks Bay to East Cape region. NZ
- Poa pratensis* Noticed in the upper Waiaua Valley, near the Tutaetoko River and at Whitianga Bay on dry gravel, but could be more widespread. Europe, Asia, N Africa, N America
- Poa seticulmis* Plentiful on shaded banks near Puketapu Point (Whitianga Bay) and occasional at Maraehako Bay. NZ
- Poa triodioides* (*Austrofestuca littoralis*) Occasional plants on dunes at Ohope and at Hicks Bay; more plentiful near East Cape. NZ, Aust
- Poa trivialis* Abundant in winter and spring in the lowlands in damp grassy places. Europe, Asia, N Africa
- Polypogon monspeliensis* beard grass Occasional on coastal sand and inland on river beds. Europe, Medit, Africa
- Potamogeton cheesemanii* Very localised in ponds, streams and backwaters of rivers. NZ, Aust
- Pterostylis alobula* Local at Whanarua Bay. Recorded from Te Araroa Hill in the Druce checklist. NZ, Aust, N Caledonia
- Pterostylis banksii* Scattered distribution in lowland forest. NZ
- Pterostylis graminea* var. *graminea* Fairly plentiful in upland forest at Papamoa Hill and Toatoa. NZ
- Pterostylis trullifolia* Noted in several lowland forest remnants in the Opotiki district. NZ
- Rhopalostylis sapida* nikau In lowland forest throughout; abundant in some localities in the Opotiki district. NZ
- Ripogonum scandens* supplejack In forests throughout; most plentiful in valleys. NZ
- Ruppia polycarpa* Noted in the Nukuhou Stream. NZ
- Rytidosperma gracile* The most abundant and widespread of the danthonias, occurring in forest clearings, beside tracks, roadsides, and on denuded banks. NZ, Aust
- Rytidosperma penicillatum* Almost as widespread as *R. gracile* and occupying similar habitats but not so plentiful. Aust
- Rytidosperma pilosum* Noted in the Waioeka Valley and at Hawaii. Aust
- Rytidosperma racemosum* In many scattered areas from Ohiwa Harbour to Maungaroa in dry places, on banks, roadsides, waste land, and forest margins. Aust
- Rytidosperma unarede* Widespread in open forest, on roadsides, banks, and cliffs. NZ
- Schoenus apogon* Collected from a roadside bank near Cape Runaway. NZ, Aust, N Guinea, Japan
- Schoenus brevifolius* Many plants noted on wetland on Ohakana Island and Waioeka flats. NZ, N Caledonia, Bonin I
- Schoenus maschalinus* Occasional in open, damp places in forest from Waitotahi to Whanarua Bay. NZ, Aust, N Guinea, Philippines
- Schoenus tendo* Plentiful on islands and Ohiwa Harbour edges, also on denuded banks in scrubland in the lowlands. NZ
- Scirpus caldwellii* Noted in wetland at Waitotahi Beach and Ohiwa Harbour. NZ, Aust
- Scirpus cernuus* Widespread and abundant on foreshores. NZ, subcosmopolitan
- Scirpus chlorostachyus* Plentiful almost throughout in muddy depressions, on stream banks, in bogs, and swampy areas. NZ, S Africa, Madagascar, Tristan da Cunha, Aust
- Scirpus fluviatilis* Noted near the coast in soft mud on Waitotahi River margins and by the Haparapara River. NZ, subcosmopolitan
- Scirpus inundatus* Occasional in muddy places in native vegetation. NZ, Aust, Norfolk I, Malaysia, S America
- Scirpus lacustris* Locally plentiful on stream margins and in swamps. Not seen between Torere and Lottin Point. NZ, subcosmopolitan
- Scirpus medianus* Locally plentiful on the coast in swamps and by tidal and freshwater streams. NZ, Aust
- Scirpus nodosus* Abundant throughout near the coast on dunes, clay banks and among rocks. NZ, S Hemi
- Scirpus pottsii* Occasional in damp areas on roadsides, forest margins and tracks in the Opotiki hinterland. This plant is named after N. Potts. NZ
- Scirpus pungens* three-square Locally plentiful in saline and freshwater wetlands near the coast. NZ, subcosmopolitan
- Scirpus reticularis* Occasional on margins of the Nukuhou and Waiaua Rivers. NZ
- Scirpus sulcatus* var. *distigmatosus* Noted in a swamp in the Waitotahi Valley. NZ
- Setaria geniculata* knot-root bristle grass Occasional on a roadside at Wainui and on sand at Tirohanga and Torere. America
- Setaria glauca* yellow bristle grass Locally plentiful by the roadside at Nukuhou; occasional on a roadside at Otara and near the beach at Torere. Europe, Asia
- Setaria verticillata* rough bristle grass Noted on a roadside at Woodlands. Europe, Asia, Indonesia
- Setaria viridis* green bristle grass Plentiful at Hukuwai Beach on grassed dunes. Europe, Asia, N Africa
- Sisyrinchium* spp. A blue-flowered plant grows in a camping area at Hicks Bay. A yellow-flowered plant fitting the description of *S. iridifolium* is well established near Lottin Point. Violet-flowered plants grow at Whanarua Bay. S America
- Sorghum halepense* Johnson grass Several clumps were found in a maize paddock at Te Kaha. The source of the infestation is unknown. Medit

*Sparganium subglobosum* Grows in a swamp at Houputo. NZ, Aust

*Spartina × townsendii* Colonies are established on the shore at Ohiwa. Hybrid origin

*Spinifex hirsutus* Plentiful on dunes from Port Ohope to Opape, at Oruaiti Beach and Whangaparaoa, and near East Cape. NZ, Aust, N Caledonia

*Sporobolus africanus* ratstail Abundant and widespread in grassy places. S Africa

*Stenotaphrum secundatum* buffalo grass Occurs on sand at Waiotahi and Hukuwai Beaches, and at Whangaparaoa. Africa, America

*Stipa stipoides* Occasional on the coast at Port Ohope and on Uretara Island. NZ

*Thelymitra longifolia* Scattered throughout in varying quantities and growing at all altitudes in open situations; in some places occurring very close to the sea. NZ, Aust, N Caledonia

*Thelymitra pauciflora* Noted on denuded banks at Waimana, Wainui, and Waioeka but may be more widespread. NZ, Aust

*Tradescantia fluminensis*, wandering Jew Abundant throughout in the shade of trees in forests and gardens. It is a very troublesome weed because of its shade tolerance and ability to overwhelm small plants. S America

*Triglochin striatum* Grows in mud and wet sand from Ohiwa Harbour to Morices Bay, and from Hicks Bay to East Cape. NZ, Aust, Africa, America, Europe

*Trisetum* sp. (unnamed; aff. *T. antarcticum*) Noted on a rocky outcrop in Whanarua Bay and on the track to East Cape lighthouse. NZ

*Typha orientalis* raupo Widespread and plentiful in open places with restricted drainage; more prevalent near the coast. NZ

*Uncinia banksii* Grows in all forests. NZ

*Uncinia clavata* Widespread in upland forest. NZ

*Uncinia ferruginea* Grows along streams in the Motu River catchment and in the Toatoa area. NZ

*Uncinia filiformis* Noted with kanuka in Waimana Valley at 300 m. NZ

*Uncinia laxiflora* A specimen in NZFRI was collected from a stand of pohutukawa and puriri at the mouth of the Motu River. NZ

*Uncinia rupestris* Occasional on forest margins at Tukainuka Scenic Reserve. NZ

*Uncinia scabra* Is the dominant ground cover in the goat-damaged forest at the confluence of the Mangakirikiri Stream and the Motu River. It has also been seen in the Waiotahi Scenic Reserve. NZ

*Uncinia uncinata* The most abundant and widespread of the species. It occurs in forests throughout. NZ

*Uncinia zotovii* Grows in forest in the Waioeka Gorge and in the Toatoa area. NZ

*Vulpia bromoides* vulpia hairgrass Fairly plentiful throughout in well drained soils in open habitats in spring and early summer. Europe, Medit, Asia, Africa, N America

*Vulpia myuros* vulpia hairgrass Similar to *V. bromoides* in its habitats but less plentiful. Europe, Asia, N Africa

*Zantedeschia aethiopica* arum lily Scattered through-

out the coastal areas. It grows mostly on roadsides, on river flats, dunes, and some wet waste places but is not troublesome. S Africa

*Zostera muelleri* sea grass Occurs in Ohiwa Harbour and is plentiful among rocks on the foreshore at Waihou Bay. NZ, Aust

*Zoysia minima* Many plants occur on the sandy beach near Wharepapa, East Cape. NZ

*Zoysia pauciflora* Occasional on the sandy shoreline of Uretara Island and on the shingle beach at Hawai. NZ

### Horticultural plants growing in the semi-wild state

e garden escape; o garden outcast; r relic of cultivation; p possible planting

*Abutilon darwinii* × *pictum* (Tutaetoko Stm) r

*A. megapotamicum* × *pictum* (Opotiki) e

*Actinidia chinensis* (Motu R.) e

*Agave americana* (Torere) e

*Ajuga reptans* (Te Waiti V., Pakihi V.) e

*Akebia quinata* (Te Araroa) r

*Allium neapolitanum* (Opotiki) e

*Alnus glutinosa* (Woodlands, Ohiwa Harb.) e

*Anemone* × *hybrida* (Pakihi, Houputo) r

*Angelica pachycarpa* (Whanarua Bay) e

*Anredera cordifolia* (Kukumoa, Snells Beach, Hicks Bay) o

*Aquilegia vulgaris* (Takaputahi) r

*Artemisia absinthium* (Ohiwa) o

*A. verlotiorum* (Opotiki, Tirohanga) o

*Arundinaria japonica* (Wainui, Opotiki) p, o

*Aster* — Michaelmas daisy (Opotiki) o

*Brugmansia candida* (Ohiwa) p, (Kereu) o

*Campsis* × *tagliabuana* (Opotiki) e

*Canna* × *generalis* (lowlands) o

*Cestrum aurantiacum* (Tutaetoko Stm) e

*Chrysanthemum maximum* (Otara, Whanarua Bay) e

*Clinopodium vulgare* (Opotiki hinterland) r

*Cymbalaria muralis* (Opotiki) e

*Dietes bicolor* (Waioeka) r

*Dracunculus vulgaris* (Woodlands) e

*Echium candicans* (Ohiwa) o

*Fatsia japonica* (Opotiki) o

*Gazania rigens* hybrids (Port Ohope) o

*Hedera helix* (Ohiwa) e

*Hedychium flavescens* (Opotiki, Woodlands) e

*Homeria collina* (Ohiwa Harb.) e

*Hydrangea macrophylla* (Opotiki) o

*Impatiens sodenii* (Te Araroa) e

*Iris orientalis* (Opotiki) o

*Jasminum mesnyi* (Kutarere, Maraenui) e

*Lantana camara* (Woodlands, Hukuwai Beach, Whanarua Bay) e

*Leucium aestivum* (Opotiki, Maraenui) r

*Lychnis coronaria* (Waimana) e

*Maclura aurantiaca* (Otara) e

*Melianthus major* (Otara) e

*Melissa officinalis* (Waioeka R.) e

*Parthenocissus inserta* (Opotiki) r

*Pelargonium capitatum* (Ohiwa) o

*P. peltatum* (Port Ohope) o

*Phyllostachys nigra* (Opotiki) p

*P. viridis* (Opotiki, Kutarere) p

*Plectranthus ciliatus* (Opotiki) o  
*Primula vulgaris* (Waioeke V.) r  
*Pyracantha coccinea* (Ohiwa to Waiaua) e  
*Ranunculus ficaria* ssp. *ficaria* (Waioeke) o  
*Rhododendron ponticum* (Pakihī) e  
*Rhus typhina* (Otara) o  
*Rosa* sp. — white scrambler (Ruakokore, Waihou Bay, Te Araroa) p, e  
*Rosa* sp. — red scrambler (lowlands) p, e  
*Salix matsudana* 'Tortuosa' (Opotiki) o  
*Salpichroa origanifolia* (Te Kaha) e  
*Sambucus nigra* (Hicks Bay) o  
*Senecio angulatus* (lowlands) p, e  
*S. mikanioides* (Te Araroa) o  
*Senna multiglandulosa* (Waiaua, Te Araroa) e  
*S. septentrionalis* (Houpoto) o  
*Solanum rantonnei* (Ohiwa) o  
*Solidago canadensis* (Kukumoa, Waioeke) o  
*Sorbus aucuparia* (Paerata) e  
*Symphytum* × *uplandicum* (lowlands) o  
*Tamarix chinensis* (Waiotahi R.) o  
*Tecomaria capensis* (Houpoto, Maraenui) e  
*Tetrapanax papyriferus* (Torere, Opape) e  
*Watsonia bulbifera* (Ohiwa) o  
*W. meriana* (Ohiwa) o  
*Wisteria sinensis* (Waiotahi, Opotiki) e  
*Yucca aloifolia* (Waiotahi, Hawaii) o

In addition there are non-persistent vegetable and crop plants — *Citrullus lanatus*, *Cucurbita maxima*, *C. pepo*, *Lolium multiflorum*, *Lycopersicon esculentum*, *Solanum tuberosum*, *Sorghum* hybrids, *Zea mays*, and other cereals from seed spillages.

#### ACKNOWLEDGMENTS

This paper is dedicated to the memory of Norman Potts (1886–1970) who for nearly half a century was the authority on the native plants of the region. M. Heginbotham accompanied him on many plant hunting trips, and in 1975 began records of localities from which this paper grew. The valuable experience and advice of A. P. Druce has always been available, and we have been helped and encouraged by the staff of Botany Division, DSIR, Christchurch and B. R. Clarkson and B. D. Clarkson at the Botany Division Regional Station at Rotorua. As this paper was nearing completion, surveys of Scenic Reserves and other areas of native vegetation were undertaken by the Clarksons, S. M. Beadel and W. B. Shaw, and the Protected Natural Areas survey team in the Motu Ecological District. This work yielded many new records which were freely offered for inclusion in this paper. These records appear in the annotations as indicated below.

*Asplenium* hybrids  
*Dicksonia lanata* Toatoa  
*Gleichenia dicarpa* Houpoto  
*Grammitis ciliata* Opotiki  
*G. magellanica* Waiaua, Motu  
*G. pseudociliata* Motu  
*Hymenophyllum bivalve* Toatoa  
*Leptopteris superba* Toatoa  
*Phymatosorus novae-zelandiae* Motu  
*Schizaea dichotoma* Opotiki  
*Tmesipteris lanceolata* Motu  
*T. tannensis* Opotiki  
*Trichomanes elongatum* Waiaua

*Libocedrus plumosa* Rawea  
*Australina pusilla* Waimana  
*Coprosma* sp. (unnamed) Otipi–Motu  
*C. acerosa* Otipi–Motu  
*C. rubra* Toatoa  
*C. tenuifolia* Mangakirikiri–Motu  
*Dracophyllum traversii* Toatoa  
*Dysoxylum spectabile* Te Kaha  
*Elaeocarpus hookerianus* Toatoa  
*Eleocharis gracilis* Whitikau  
*Epilobium alsinoides* Waimana  
*E. pallidiflorum* Houpoto  
*Euphrasia cuneata* Motu  
*Gaultheria paniculata* Mangakirikiri–Motu  
*Gonocarpus aggregatus* Otipi–Motu  
*Hebe* sp. (long-leaved) Motu, Waioeke  
*Hypericum japonicum* Motu  
*Laurelia novae-zelandiae* Maraehako  
*Melicope* hybrid  
*Mentha cunninghamii* Otipi–Motu  
*Metrosideros* hybrids  
*M. colensoi* Maraehako  
*Myosotis petiolata* several localities  
*Nestegis cunninghamii* Tukainuka  
*Olearia cheesemanii* Otipi, Motu  
*Ourisia macrophylla* Otipi–Motu  
*Parahebe catarractae* Motu  
*Pittosporum* sp. Motu  
*P. cornifolium* rupestral at Whanarua  
*Pratia perpusilla* Motu  
*Pseudopanax colensoi* Mangakirikiri–Motu  
*P. simplex* Toatoa  
*Senecio banksii* Otipi–Motu  
*S. kirkii* Te Kaha, Maraehako  
*S. rufiglandulosus* Mangakirikiri–Motu  
*Syzygium maire* Opotiki  
*Tetrapathaea tetrandra* Kereu  
*Viola filicaulis* upland forest  
*Astelia fragrans* Waiotahi  
*A. trinervia* Waiaua, Motu  
*Bulbophyllum pygmaeum* Whanarua  
*B. tuberculatum* Waiaua, Opotiki  
*Carex breviculmis* Waimana  
*C. maorica* Waimana, Kotare  
*Chiloglottis cornuta* Toatoa, Waimana  
*Corybas oblongus* Toatoa, Motu  
*C. rivularis* several localities  
*C. trilobus* several localities  
*Deyeuxia quadriseta* Motuotu  
*Isachne globosa* Patawa  
*Luzuriaga parviflora* Toatoa  
*Orthoceras strictum* Motu  
*Pterostylis trullifolia* Ohiwa, Kotare, Waimana  
*Sparganium subglobosum* Houpoto  
*Stipa stipoides* Uretara  
*Uncinia ferruginea* Toatoa  
*U. scabra* Mangakirikiri–Motu, Waiotahi  
*U. zotovii* Toatoa, Ohope

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